Effects of Corruption on Bank Lending: Evidence From Sub-Saharan Africa

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Abstract

The aim of the paper is to investigate the impact of corruption on bank lending in Africa. The study contributes to existing literature by investigating the effect of corruption on bank lending from the African perspective. In addition, it creates better understanding of the factors associated with financial and economic development in African economies.

Key words: corruption, bank lending, Sub-Saharan Africa

Introduction

The role of banks in economic development is widely documented in the literature. Financial institutions perform this role by mobilizing funds from savers and lending them to borrowers in an efficient manner. The efficiency of funds mobilization can be undermined by corrupt practices.

Corruption problem is of endemic proportion in developing countries due to prevailing environment characterized by lapses in the rule of law, inefficient judicial system, weak prudential regulations, and weak development of institutions crucial for good governance. The corruption perception index of Transparency International consistently ranked Sub Saharan African countries highly corrupt in the World (TI 2010). Some studies link high incidence of corruption in part to weak economic growth and consequently argue that improved economic condition would

significantly abate incidence of corruption. However evidence from countries having high economic growth rate with persisting high corruption presents contrary result.[a]

The direct and indirect cost of corruption can be phenomenal. When banks' lending is inefficient and driven by selfish desire to lend to borrowers with poor investment opportunities, fewer credits are available for borrowers with good investment opportunities. This ultimately hinders economic growth as good investments opportunities are stifled of critical funds. From poverty reduction perspective, Barth, Caprio, and Levine, (2006) note that innovative ideas from the poor and non influential people which potentially could lift them out of poverty are vulnerable to inattention and neglect when funds are denied to these class of entrepreneurs.

The aim of the paper is to investigate the impact of corruption on bank lending in Africa. The hypothesis guiding the study is that high level of corruption impedes bank lending in an economy. High level of corruption in an economy increases corruption perception in key institutions of governance and consequently raises uncertainty from banks' perspective on the ability of the court to enforce contract, Weill L (2010). This may lower banks incentives to lending to firms. On the other hand, increased risk averse by bank managers engendered by uncertainty in the credit market could reduce lending, thereby prompting borrowers to resort to desperate and often illegal methods to obtain loans from banks.

The study contributes to existing literature by investigating the effect of corruption on bank lending from the African perspective. In addition, it creates better understanding of the factors associated with financial and economic development in African economies. The relationship between bank lending and economic growth has been a prominent theme in academic discussion. (Levine and Zervos, 1998; Levine, Loayza and Beck, 2000), and following the lead from Weill, L, (2009), the study examines the determinants of bank lending in African countries with a view to assessing the effects of corruption on economic development of bank credit in Sub Saharan Africa. Furthermore, the study will generate region specific information useful for comparative analysis of corruption in bank lending among regions. From policy perspective, the study will be useful for formulating anticorruption measures to safeguarding banks and strengthening their ability to engage in efficient lending to private sector firms.

Despite considerable literature on corruption, no study has focused on the impact of corruption on bank lending from the African perspective. Recent research efforts in this area target largely developed and transitional economies with no effort directed at the determinants of corruption in bank lending to firms in sub Saharan Africa countries. This research deficiency exists despite the fact that Sub Saharan African rank among the world's corruption affected region. Studies by Beck, et al (2006), Barth R. J. et al (2009) among others rely on cross country data heavily dominated by developed and transition economies to measure corruption in bank lending. The rest of the paper is organized as follows. Section 2 presents discussion on the role of corruption on bank lending. Section 3 presents data variables, and methodology. Results and concluding remarks are presented in sections 4 and 5 respectively.

Corruption in Africa

Among the developing regions of the world, countries of the sub-Saharan Africa cluster in the lower scale of the Transparency International corruption perception index. Development

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[a] See Shleifer and Treisman, (2000), and Levin and Satarov (2000, p.113)

economists associate poor economic growth and development in the region in large part to corruption epidemics that permeate fabrics of public and private institutions. Attempt to abate the problem led to the establishment of various development focused initiatives such as NEPAD, an economic development cooperation program between Africa and the developed countries designed to usher in good governance inter alia.

Though corruption is endemic and perverse in the region, for brevity, a brief review of corruption cases in two key sectors, namely the banking and judiciary is presented. The region is under banked and concentrated, resulting in low competition in the industry. At the same time the existence of information asymmetry gave bank managers wide ranging discretionary powers on lending decisions. Unlike normal lemons market, where only borrowers with bad investment projects seek to borrower at high interest rate, the African credit market characterized by dearth of loanable funds forces both good and bad borrowers to compete for available funds. Irrespective of the initiator of bribe payment, what is paramount is that the prevailing shortage of loanable funds, amid wide discretionary powers of bank managers and low regulatory enforcement provide opportunities for bank managers to seek or be receptive to private rent from lending transaction. Evidence of this relates to the fact that while the 2008 and 2009 global financial crises was engendered mainly by mortgage sector bubble, in Africa especially in Nigeria a different kind of financial crises was engendered by non performing loans. In Nigeria, the central bank injected 50 billion Naira to rescue five domestic banks that were entangled with massive N747billion bad loans made under questionable circumstances. Eleven bank directors and three stock brokers are subsequently charged for suspicious loans worth over 504 billion naira and reckless abuse of office.

Also, the Nigeria's corruption agency is investigating the corruption scandal in which a N528.010m shares in Oceanic Bank owned by a regional government, Delta State Government was used as collateral for a phantom loan worth over N44billion granted to a private company, Ascot Offshore Nigeria Limited by Intercontinental Bank Plc.

Confidence in the judicial system is a major factor in facilitating business transactions including bank lending. Such confidence can be developed through efficient and independent judiciary that ensures fair contract enforcement and also ensure that abuse of office for private rent are subject to fair judicial process. The judiciary is not immune from corruption that pervades the fabric of public and private sectors in the region. Weak regulatory environment, external influence, and poor working conditions are among the factors that encourage corruption in the judiciary.

Judicial corruption undermines justice by denying victims and the accused the right to a fair and impartial trial. While it erodes national and international effort at combating crimes, it also adversely impacts on free trade and economic growth. According to Transparency International, when judicial corruption is evident, "corrupt judiciaries fracture and divide communities by keeping alive the sense of injury created by unjust treatment and mediation. Judicial systems debased by bribery undermine confidence in governance by facilitating corruption across all sectors of government. In so doing, they send a blunt message to the people: in the country that corruption is tolerated".[b]

Estimation approach and data variables

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[b] TI Combating Corruption in the Judicial System Advocacy Toolkit (2008).

The approach follows cross-country regressions of bank credit on a set of variables consisting of corruption and various control variables. The explained variable is *Bank Credit*, which is defined as the ratio of total credit to private firms by deposit money banks and other financial institutions to GDP. The data are obtained from Beck, Demirgüc-Kunt and Levine (2000). The variable is widely used in cross-country studies on bank credit (e.g. Beck and Levine, 2004; Djankov, McLiesh and Shleifer, 2007, and Weill, L. 2010).

The main explanatory variable is corruption. We measure corruption using two indices alternatively in different models: Namely: the Corruption Perceptions Index (CPI) of Transparency International (*Corruption-CPI*), the index of corruption (*Corruption-WB* developed by the World Bank). Méon and Sekkat, (2005), and Weill. et. al (2010) use the indices as alternative measure in cross country studies of corruption. The first measure is the integral index for the perception of corruption (*Perception*). The indices are composite aggregates of survey responses, based on the indices of public trust and corruption perception of everyday corruption and business corruption by individuals and businesses. Use of the indices is preferred because despite differences in the sets of composite indicators of corruption that they aggregate; they complement each other (Weill, L (2010). The CPI developed by Transparency International ranges from zero, the most corrupt situation, to ten, the least corrupt[c] Consistent with the literature, we reverse the index scale to lower values for least corrupt to higher values for most corrupt, Weill, L. (2010). The World Bank's index ranges from -2.5 to 2.5, with higher values indicating less corruption. This is also rescaled from 0 to 10 so that higher values indicate more corruption, while lower values indicate less corruption.[d]

Competition

Measure of banking competition as key independent variable is used in past studies. Justification for use is based on the notion that competition in banking industry will mitigate corruption in lending by lowering the interest rate and the bargaining power of the bank official (Weill, L.2010). Concentration ratio is widely used as measure of bank competition (see Demirguc-Kunt, Laeven and Levine, 2004). The share of the five largest banks in total bank deposits (Banking Concentration (Deposit)) obtained from BCL (2006) is used to measure bank concentration. Higher bank concentration implies less competition in the industry. As alternative measure of concentration, share of total assets held by the five largest banks in the industry (*Banking Concentration (Asset)*) is used.

Also, we measure bank competition and concentration with Herfindahl-Hirschman Index (*HHI*), estimated as equal to the sum of the squares of the market shares (deposits) of each individual bank in individual countries in the sample. The (normalized) Herfindahl-Hirschman Index ranges from 0 to 1 with a higher value indicating greater monopoly power.

It has been shown that concentration ratios may not capture potential competition or contestability in an industry and its measures may endogenously reflect the market-share gains of efficient firms rather than represent an exogenous measure of competition, (Weill, L. 2010). Also, Berger et al. (2004) consider bank competition as multifaceted to the extent that it is impacted by other factors such as regulatory restrictions, including entry barriers and other legal impediments

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[c] The CPI from the Transparency International is obtained from the organization's website.
[d] See Kaufmann, Kraay and Mastruzzi (2007).

that impede competition. Consistent with Barth, L.et al (2006), we address the problem by adding two more measures of bank competition, namely Entry Barrier and Application Denied. Both variables are obtained from Barth et al.(2006). Entry Barrier variable measures the stringency of entry requirements into the banking industry. Barth, L. et al (2006), survey questions inquire whether various types of legal submissions (i.e., draft by-laws, intended organization chart, financial projections for the first three years, financial information on the main potential shareholders, the background of future directors and managers, sources of funds to be disbursed in the capitalization of the new bank and market differentiation intended for the new bank) are required to obtain a banking license. Entry Barrier index ranges from 0 (low entry requirement) to 8 (high entry requirement). The *Application Denied* variable captures the fraction of new bank applications not approved by the authorities in the past five years.

Bank level characteristics

The nature of bank ownership can affect corruption in bank lending. Government and foreign ownership in the banking sector tend to abate corruption in bank lending, because of their proclivity toward better managerial incentives, market competition and culture of nurturing good corporate reputation (Barth, et Al (2006). To measure bank ownership structure in the banking industry, Foreign Bank Ownership and Government (Public) Bank Ownership variables are used. Foreign Bank Ownership is the fraction of the banking system's assets in banks that are 50% or more owned by foreign investors. Government (Public) Bank Ownership is the fraction of the banking system's assets in banks that are 50% or more owned by private investors. Ownership is controlled with dummy variable for public ownership (Public) and foreign ownership (Foreign)

As lending activities of banks can be affected by the differences in bank size, we account for the possible size effect on lending by measuring the size of bank (*Size*), using logarithm of total assets Also, the role of age, defined as the number of quarters since the creation of the bank to control for the difference between old and newly established banks has been noted in the literature. Indeed existing knowledge[e] find *Age* variable, to be positively associated with the credit market, whereby older banks seemingly are in better position to mitigate asymmetric information and consequently lend more loans than the relatively new banks. The argument is that Banks with long history of business operation tend to have higher corporate name and capital assets over relatively new banks. Due to dearth of data, we are unable to include Age variable at this point. Sources of financing can affect the lending behavior of banks with banks with larger deposits having the capability to lend more than banks with low deposits. We control the estimations using ratio of deposits to total assets (*Deposits to Assets*).

Macroeconomic control variables

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[e] See Sharpe, (1990).

In the analysis, we control for several firm specific attributes and the operating environment. Some studies emphasize the importance of legal environment and contract enforcement on corporate governance, firm valuation, and reinvestment decisions[f]. Our hypothesis predicts that an improved legal environment and law enforcement discourage bank-lending corruption The empirical analysis includes two variables related to legal environment and contract enforcement. The legal environment variable is based on a question that asks about the fairness and impartiality of the court system in resolving business disputes (*Court Fairness*). The law enforcement variable relates to a question that asks about the enforceability of a court's decision (*Law Enforcement*). The survey offers respondents six choices: 1 (never), 2 (seldom), 3 (sometimes), 4 (frequently), 5 In some studies legal origin substitute legal environment (e.g La Porta, et. al 1997). For sub-Saharan Africa, we strongly feel that prevalence of corruption is related to weak governance which the governance indicators capture.

The two indices of corruption do not disaggregate or distinguish between various types of corruption. However, the World Business Environment Survey provides specific information on corruption in bank lending. The strength of the link between corruption and bank credit is examined by controlling for other potential determinants of bank credit in the regression analysis. A variety of country controls are included in our sensitivity analysis: Inflation rate (*Inflation*), defined as the consumer price index growth rate is included in the model following findings that inflation has effect on financial development (Boyd, Levine and Smith (2001.) Also, Beck, Demirgüc-Kunt and Levine (2003) document that latitude helps explain financial development. Based on this we include *Latitude*, which is defined as the country's distance from the equator. To control for differences in economic development and institutions across sub Saharan African countries, we include variable *GDP per capita,* expressed as the logarithm of GDP per capita in the analysis. Higher GDP per capita is associated with less corruption, (Svensson, 2005). Barth et al 2006 note that policies designed to restrict market and political competition could influence the extent of corruption in a country. Thus, we account for openness to trade by taking the ratio of trade to GDP (*Trade*), (Beck, Demirgüc-Kunt and Levine (2001).

Also, state or foreign ownership of the firm may be associated with fewer bribery payments. We therefore include two dummy variables that identify a firm's ownership type. Dummy variable *Government* equals 1 if any government agency or state body has a financial stake in the ownership of a firm, and 0 otherwise. Dummy variable *Foreign* equals 1 if any foreign investor has a financial stake in the ownership of a firm, and 0 otherwise.

Following BDL (2006), we also include overall financing obstacle as an additional control variable (*General Financing Obstacle*) based on a firm's response to the question "how problematic is financing for the operation and growth of your business?" (1-no obstacle, 2-a minor obstacle, 3-a moderate obstacle, 4-a major obstacle). As BDL (2006) point out, if a firm manager is particularly pessimistic by simply complaining about other factors on the firm's performance, this should be reflected in its response to general financing obstacle and its response to corruption in lending as well. Incorporating this control could therefore lower the likelihood that the results are biased by idiosyncratic firm responses.

Additional banking sector and country control

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[f] (La Porta, Silanes, Shleifer, and Vishny, 1998, 1999, 2000, 2002)

We include World Governance Indexes[g] from Kaufmann et al., 2006) for robustness test. The indexes measure various dimensions of governance such as voice and accountability, government effectiveness, political instability, regulatory quality, rule of law, and control of corruption. Table 1 presents the definitions of the indices. Of the six governance indicators, we use four indicators comprising of voice and accountability, government effectiveness, rule of law, and control of corruption.

We checked the correlations among the banking variables and firm-characteristic variables for possible serious multicollinearity problem and find none. Most of the correlation coefficients are minimal and below .7, making it possible to include these variables in the models. With the exception of constant variables controlling for latitude, the rest of the variables are expressed as a 5-year average (2005 to 2009), to smooth out business cycle effects. Table 1 presents descriptive statistics for all variables.

The dataset for the study is taken from the following major sources: (i) the World Business Environment Survey (WBES) (ii) the Barth, J., Caprio, G., Levine, R., 2006 (BCL) dataset on bank supervision and regulation and (iii) the World Bank World Economic Indicators dataset (2010) (WBWEI) and (iv) the Bankscope. The WBES provides data on corruption in over 80 countries. The BCL (2006) dataset on bank supervision and regulation covers over 152 countries. Part of firm-level data for the study was obtained from the WBES survey. The 2000 survey conducted by the World Bank team surveyed managers from over 9,000 firms in more than 80 countries with a standard questionnaire. The purpose of the survey is to identify impediments to enterprise performance and growth in many countries. The questionnaire coverage on firm's operations is extensive capturing corruption, regulation, and institutional environment. The advantages of WBES data in bank corruption studies according to BDL (2006), is that it provides better in sight on the extent to which corruption in lending poses an obstacle to firms. Also the fact that firms in the survey exhibit different characteristics in terms of size, ownership (both public and private), industrial sector, and organizational structure makes the dataset a preferred choice over other surveys. While other surveys concentrate mostly on large companies, WEBS dataset covers a large proportion of small- and medium-size enterprises. Finally, the firm-level survey data allow for control of firm-specific characteristics and consequently better judgment on the relationships between corruption and other bank variables.

Data for bank concentration and ownership are sourced from BCL (2006). The dataset are generated from a World Bank survey on bank regulation and supervision in 152 countries during 2001-2003. Other data sources used in the study include the World Development Indicator (WDI, 2004), the World Governance Indicator assembled by Kaufmann et al. (2006), and Triesman (2000), to control for macro- and institutional factors that might affect level of bank corruption in a country.

Empirical results

This section presents a review of methodology and results. The methodology is regression analysis of bank lending on a set of key variables and subsequent control variables to test the

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[g] World Governance Indexes is based on 276 individual variables from 31 different sources produced by 25 different organizations.

robustness of the results. To examine corruption in bank lending, we assume that the firm's behavior would be represented by variables in this model:

$$\text{Bank Credit}_{j,k} = \alpha + \beta_1 \text{Government}_{j,k} + \beta_2 \text{Foreign}_{j,k} + \beta_3 \text{Trade}_{j,k} + \beta_5 \text{Latitude}_{j,k} + \beta_6 \text{Bank competition}_{j,k} + \beta_7 \text{Firm Size}_{j,k} + \beta_8 \text{Deposit to asset} + \beta_9 \text{Inflation}_k + \beta_{11} \text{Corruption CPI}_k + \text{Corruption WB}_k + \beta_{12} \text{GDP per capita}_k + \text{Risk aversion}_k + \text{Loans to Government}_k + \text{Loans to private sector}_k + \varepsilon_{j,k}.$$

The j and k subscripts depict firm and country indicators respectively.

The research data is grouped into two major components:

(i) Corruption data

To measure corruption, two indices of corruption based on survey conducted by Transparency International (*Corruption-CPI*), and the World Bank index of corruption. Both indices assign 0 to country with the smallest level of corruption and 1 to country with the highest level of corruption. (See Weill, L 2010, Lambsdorff, 2003, Méon and Sekkat, 2005).

(ii) Bank-level data and control variables

Four quarters of bank-level data is used for the sample. We measure bank lending using the logarithm of total customer loans comprising of all loans except interbank loans. The method is consistent with the literature. (See Haselmann, Pistor and Vig (2006)). Furthermore, bank-level control variables are used to account for bank characteristics such as the size of the bank (*Size*), measured by the logarithm of total assets. Ownership is controlled with dummy variables for public ownership (*Public*) and foreign ownership (*Foreign*).

To control for the environment, two region-level variables namely: *Bank Concentration* and *Per Capita Income* are used. *Bank Concentration* is estimated with the Herfindahl index of country bank concentration for loans from the dataset. *Per Capita Income* is estimated as the logarithm of gross domestic product per capita to control for economic development.

Main estimation

Table 3 presents results of regression analysis of bank lending on corruption and other variables. Both Transparency International and World Bank measures of corruption were used alternatively in the regression analysis. We obtain a negative coefficient of *Corruption*, significant at 1% confidence level. The result generated from both corruption measurements are not significantly different, thus supporting the observation that corruption variable is not dependent on its measurement. Also, the result is robust to the set of control variables output. We infer that bank lending is impeded by corruption. The variable size has positive sign and can be explained by the fact that big banks given their relative higher financial resources tend to make more loans than small banks. The variable *Deposits to Assets* is negative. The observation is consistent with the notion that banks that rely more on deposits tend to be less aggressive on lending (Weill, L.2010). The dummy variables for foreign and public ownership are both significantly negative.

After controlling for size of the bank, our finding shows that domestic public banks lend more than foreign banks. The variable Bank Concentration is not significant, indicating that concentration has little or no effect on lending in the industry. Also, we find variable Per Capita Income positive and significant. This tends to support widely shared notion of positive association between economic growth and financial development.[h] In Russia and few other countries, (Weill, L.(2010) document significant negative association between economic growth and bank lending.

We further examine if other factors such as risk aversion other than corruption factor impedes bank lending, Corruption is a twosome or multiple actors' game in which bribery initiative could come from any of the actors. It has been noted that high risk aversion by banks would lower credit lending, thus prompting desperation from loan seekers to resort to bribes to ensure successful loan application. An environment characterized by low industry competition and credit risk as is the case in sub-Saharan Africa can be capitalized on by rent seeking bank officials to pressure loan seekers to facilitate loan applications with bribe offers. In either scenario, increase banks' reluctance to grant loans will encourage bribery activities. Thus while corruption may have negative effects on lending, it is important to ascertain if the effect is dampened by banks risk aversion

Consistent with the literature, we use risk aversion variable to examine the possible effect of risk aversion on bank lending (See McShane and Sharpe (1985), Maudos and Fernandez de Guevara, 2004).[i] Risk aversion is defined as the ratio of equity to total assets. Also, according to Maudos and Fernandez de Guevara, (2004), the equity/assets ratio is a measure of capitalisation, *presenting* limitations as a measure of risk aversion given the influence of regulation on minimum equity. However, caution is advised when interpreting the result. Table 4 presents the results of these estimations. As expected, the coefficient of Risk Aversion is negative and significant, supporting the view that risk-averse banks tend to lend less. Also, the finding shows that negative impact of corruption on bank lending is not influenced by the degree of bank risk aversion.

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[h] See Levine and Zervos, 1998

[i] Alternative *Risk aversion* measurement approach focusing on the difference between the value of the capital adequacy ratio (N1) and the requirement for this ratio were used in some studies eg Weil, L. 2010.

Estimation by categories of loans

Next we add categories of borrowers to ascertain if different groups of borrowers are affected differently by corruption in bank lending. Due to data constraints, we categorize borrowers into private (household and firms) and government (comprising all three levels of government). The usual approach is to test the proposition that corruption is less detrimental for bank lending to the proposition.

The existence of information asymmetry and low confidence on the effectiveness of contract enforcement, are expected to impact adversely on bank lending. In other words, the greater the degree of information asymmetries and low confidence in the effectiveness of contract enforcement, the higher the adverse effect on bank lending. However, government backed by its taxing powers habours less information asymmetry and faces less lending restrictions compared to private borrowers. (Haselmann and Wachtel 2006) On the other hand, as noted by Weill, l. (2010) corruption is associated with institutional inefficiencies, thus seeking answers on whether corruption affects bank lending to government agencies.

To examine these issues, logarithm of category of loans to private sector and government are indicated as explained variable and tested. Table 5 presents the results of the analysis. The coefficient for *Corruption* is negative and significant for explained variable loans to private sector. The conclusion is that corruption hampers bank lending to households and to firms. For explained variable loan to government, positive and significant coefficient for *Corruption* is observed. The observation is consistent with earlier studies indicating that corruption selectively favors bank lending to government, but not the private borrowers.

The tendency of banks to lend to government agencies may be explained by minimal information asymmetries. Explanation for the positive impact according to Weill, L. (2010) may be related to dishonest civil servants capitalizing on prevailing weak institutions of governance to extort money from banks. Caution is advised in the interpretation of the result given that lending to government does create crowding out effect detrimental to economic growth and development.

Robustness tests

Robust test was conducted using the following alternative variable to measure banks lending: The coefficient of *Corruption* remains negative and significant "while the control variables are unaffected" For brevity, table for robust checks is not shown here.

Concluding remarks

The study examined the role of corruption on bank lending in Sub Saharan African countries using regional data for corruption and bank-level data for lending. Our results indicate that corruption adversely affects bank lending. Also, when risk aversion factor is taken into account, the adverse effect is not weakened. Also, when categories of borrowers are considered, the results indicates that banks tend to favour government agencies due to the latter's lower information asymmetry. In

conclusion, corruption is detrimental to bank lending in sub Saharan African region. It creates uncertainty in the financial market and the courts system.

References

1. Bardhan, Pranab, 1997. "Corruption and Development: A Review of the Issues," *Journal of Economic Literature* 35, 1320-1346.
2. Bartha, James R. Chen Linb, Ping Linb and Frank M. Songc (2009)* " Corruption in Bank Lending to Firms: Cross-Country Micro Evidence on the Beneficial Role of Competition and Information Sharing" Journal of Financial Economics.
3. Beck, Thorsten, Asli Demirgüc-Kunt and Ross Levine, 2000. "A New Database on Financial Development and Structure," *World Bank Economic Review* 14, 597-605.
4. Beck, Thorsten, Asli Demirgüc-Kunt and Ross Levine, 2001. "Legal Theories of Financial Development," *Oxford Review of Economic Policy* 17, 4, 483-501.
5. Djankov, Simeon, Caralee McLiesh and Andrei Shleifer, 2007. "Private Credit in 129 Countries," *Journal of Financial Economics* 84, 2, 299-329.
6. Goel, Rajeev, 2008. "Regulatory Bottlenecks, Transaction Costs and Corruption: A Cross-Country Investigation," BOFIT Discussion Paper 10/2008, Bank of Finland.
7. Goel, Rajeev, and Michael A. Nelson, 2008. "Causes of Corruption: History, Geography, and Government," BOFIT Discussion Paper 6/2008, Bank of Finland.
8. Haselmann, Rainer, Katharina Pistor and Vikrant Vig, 2006. "How Law Affects Lending," Columbia Law and Economics Working Paper No. 285, September 2006.
9. Haselmann, Rainer, and Paul Wachtel, 2006. "Institutions and Bank Behavior," NYU Stern Economics Working Paper No. 06-16.
10. Karas, Alexei, Koen Schoors and Laurent Weill, 2008. "Are Private Banks More Efficient than Public Banks? Evidence from Russia," BOFIT Discussion Paper 3/2008, Bank of Finland.
11. Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi, 2007. "Governance Matters VI: Governance Indicators for 1996-2006," World Bank Policy Research Paper n°4280.
12. Khwaja, Asim, and Atif Mian, 2005. "Do Lenders Favor Politically Connected Firms? Rent Provision in an Emerging Financial Market," *Quarterly Journal of Economics* 120, 4, 1371-1411.
13. Lambsdorff, Johann, 2003. "How Corruption Affects Productivity," *Kyklos* 56, 4, 457-474.
14. La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny, 1997. "Legal Determinants of External Finance," *Journal of Finance* 52, 1131-1150.
15. La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny, 1999. "The Quality of Government," *Journal of Law, Economics and Organization* 15, 222-279.
16. Levine R., 1998. "The Legal Environment, Banks and Long-Run Economic Growth," *Journal of Money, Credit and Banking* 30, 3, 596-620.
17. Levine, Ross, 1999. "Law, Finance and Economic Growth," *Journal of Financial Intermediation* 8, 8-35.

18. Levine, Ross, Norman Loayza and Thorsten Beck, 2000. "Financial Intermediation and Growth: Causality and Causes," *Journal of Monetary Economics* 46, 31-77.
19. Levine, Ross, and Sara Zervos, 1998. "Stock Markets, Banks, and Economic Growth," *American Economic Review* 88, 3, 537-558.
20. Maudos, Joaquin, and Juan Fernandez de Guevara, 2004. "Factors Explaining the Interest Margin in the Banking Sectors of the European Union," *Journal of Banking and Finance* 28, 9, 2259-2281.
21. Mauro, Paolo, 1995. "Corruption and Growth," *Quarterly Journal of Economics* 110, 3, 681-712.
22. Méon, Pierre-Guillaume, and Khalid Sekkat, 2005. "Does Corruption Grease or Sand the Wheels of Growth," *Public Choice* 122, 1-2, 69-97.
23. Qian, Jun, and Philip Strahan, 2007. "How Laws & Institutions Shape Financial Contracts: The Case of Bank Loans," *Journal of Finance* LXII, 6, 2803-2834.
24. Sharpe, Steven, 1990. "Asymmetric Information, Bank Lending and Implicit Contracts: A Stylized Model of Customer Relationships," *Journal of Finance* 45, 4, 1367-1400.
25. Shleifer, Andrei, and Daniel Treisman, 2000. *Without A Map*, MIT Press, 2000.
26. Stiglitz, Joseph, and Andrew Weiss, 1981. "Credit Rationing in Markets with Imperfect Information," *American Economic Review* 71, 393-410.
27. Svensson, Jakob, 2005. "Eight Questions about Corruption," *Journal of Economic Perspectives* 19, 3, 19-42.
28. Treisman, Daniel, 2000. "The Causes of Corruption: A Cross-National Study," *Journal of Public Economics* 76, 3, 399-457.
29. Weill, L. How Corruption Affects Bank Lending in Russia Econ. Syst (2010). Doi:10.1016/j.ecosys.2010.0.005
30. Weill, L.2009 Does Corruption Hamper Bank Lending: Macro and Micro Evidence IFS Working paper.