Does Judicial Efficiency Lower the Cost of Credit?

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Abstract

We investigate the effect of judicial efficiency on banks' lending spreads for a large cross-section of countries. We measure bank interest rate spreads for 106 countries at the country level and for 32 countries at the level of individual banks. We find that judicial efficiency and inflation rates are the main drivers of interest rate spreads across countries. Our results suggest that improvements in judicial efficiency and judicial enforcement of debt contracts are critical to lowering the cost of financial intermediation for households and firms.

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Abstract

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1. Introduction

An efficient judiciary that enforces legal contracts is generally thought to enhance a country's investment climate, lead to lower interest rates, and thereby improve the performance of a country's economy. A transparent and efficient court system is likely to provide a better protection of creditors' rights and may improve the amount and speed of loan recovery. A larger amount of recovery and a shorter time to repossess collateral in the event of loan default allows banks to reduce lending rates and extend credit to previously rationed customers.

While prior research has found a positive correlation between judicial efficiency and the supply of external finance – both across countries (see, for example, La Porta et al., 1997, Demirguc-Kunt and Maksimovic, 1998, and Galindo, 2001) and across states within countries (see, for example, Bianco, Jappelli, and Pagano, 2001, Castelar, Pineiro, and Cabral, 2001, and Cristini, Moya, and Powell, 2001) – there exists mixed evidence of the effect of judicial reform on the cost of finance.

Theoretical research shows that the impact of judicial efficiency on lending spreads is ambiguous due to the presence of two countervailing effects. One is the positive effect of increased recovery in the event of default. The other is the negative impact of a composition effect as a result of which riskier and previously rationed bank customers may access bank credit (Bianco, Jappelli, and Pagano, 2001). The new cohort of risky customers will be charged higher interest rates that may offset the potential reduction in interest rates for existing borrowers. Banks with a dominant market position may also benefit from a more efficient courts by extracting higher rents from their borrowers.

On the empirical side, the evidence is mixed. Bianco, Jappelli, and Pagano (2001) do not find significant effects of judicial efficiency on bank spreads in the Italian loan market, while Meador (1982) finds significant effects for the U.S. mortgage market. Demirguc-Kunt and Huizinga (1999) find a significant relationship for a large number of countries between judicial efficiency and the ratio of banks' net interest income over total assets. Unfortunately, the latter association is not sufficient to infer the effect of judicial efficiency on the cost of credit because the ratio of banks' net interest income over total assets is an imperfect measure of the ex-ante cost of financial intermediation, and because this ratio may be affected by several asset composition effects. For example, a decrease in net interest income may derive from an increase in the share of fixed assets or government bonds relative to the share of loans in total assets. Another bias could arise from the inclusion of non-interest accruing non-performing loans in the calculation of total bank assets. In an analysis of the determinants of bank interest rate margins, Ho and Saunders (1981) and Saunders and Schumacher (2000) have tried to control for these factors using a two-stage regression procedure, but none of these studies focuses explicitly on the effects of judicial efficiency on lending spreads.

In this paper we use a measure of the ex-ante cost of bank credit – the spread between lending and deposit rates – to study the relationship between judicial efficiency and the cost of financial intermediation. We find that judicial efficiency is an important determinant of interest rate spreads across countries. Our results suggest that improvements in judicial efficiency and judicial enforcement of debt contracts are critical to lowering the cost of financial intermediation for households and firms.

By quantifying the relationship between judicial efficiency and the level of lending spreads, we can estimate the potential gains from increased protection of creditors' rights and reduced adverse selection in credit markets on the cost of financial intermediation. Such an analysis will also help to identify which one of the competing forces affecting lending rates dominates.

Our work is closely related to the paper by Demirguc-Kunt, Laeven, and Levine (2004) who find that banks charge lower net interest margins in countries with better institutions (including better property rights). Our work is also related to a recent paper by Bae and Goyal (2003) who examine how property rights affect the pricing of international bank loans. They find that banks charge higher loan rates in countries with weaker property rights. Their results are, however, limited to international bank loans. We study pricing of loans and deposits in domestic banking markets.

The paper proceeds as follows. Section 2 presents the criteria followed in the construction of different measures of lending spreads, describes the explanatory variables and provides some descriptive statistics of the data. Section 3 presents the estimation methodology and illustrates the main empirical results. Section 4 concludes.

2. Methodology and Data

2.1 Description of bank lending spread variables

Our empirical analysis is based on a cross section of bank lending spreads and assesses the sensitivity of such spreads to the quality of the legal system and to a number of other country-specific variables. The dependent variable is represented by the spread between the average lending rate and the average cost of funds, either measured directly at the

country level or measured at the level of individual banks but aggregated at the country level.

Focusing on interest rate spreads has several advantages over comparing net interest margins. First, net interest margins are typically expressed in terms of total assets, while for a correct construction of interest rate spreads only interest income should be related to bank assets and interest payments should be related to bank liabilities. Second, net interest margins typically do not control for the presence of non-interest-earning assets such as non-performing loans. Third, net interest margins are typically based on total interest income, which also includes interest from non-lending operations, therefore limiting comparability across banks.

We construct country-level interest rate spreads following two distinct approaches and data sets in order to address possible concerns about measurement errors and the robustness of our empirical results. First, we use country-level data on average lending rates and deposit rates from the International Monetary Fund (IMF)'s International Financial Statistics (IFS) database. The lending rate in IFS (line 60p) is defined as the bank rate that usually meets the short- and medium-term financing needs of the private sector, and the deposit rate (line 60l) is defined as the average of the rates offered to resident customers for demand, time, and savings deposits. We compute the interest rate spread for each country as follows:

$$spread_t = \frac{1+i_t^L}{1+i_t^D} - 1 \qquad (1)$$

where i^L is the average lending rate (line 60p) and i^D is the average deposit rate (line 60l) for the year t. We calculate the spread in equation (1) for the year 2000 for each country. In what follows, we refer to this country-level variable as SPREAD1.

The advantage of this proxy for lending spreads is that the data are available for a large set of countries. Unfortunately, a number of countries do not collect comparable average rates on either deposits and/or loans. For countries with a large component of dollarized assets or liabilities it is difficult to verify whether the reported interest rates refer to assets or liabilities denominated in domestic currencies or to the average of domestic currency or dollar interest rates. Also, the reference group for which IFS reports interest rates differs across countries. For some countries, the lending rate reflects the average rate for prime borrowers in the country, while for other countries it reflects the average rate for a borrower of average quality.

Our second proxy is given by average interest rate spreads computed at the level of individual banks using data from Bankscope and successively aggregated at a country level. Bankscope reports balance sheet and income statement data for a large number of banks and countries. The advantage of using bank-level data is that it allows for comparison of interest rates charged by similar types of banks in different countries, while the IFS data merely reflects the spread for the average bank in the country, therefore enhancing the comparability across countries. The challenge when using bank-level data on balance sheets and income statements, such as the one provided by Bankscope, is that interest rates have to be imputed from information on interest income, as data on bank-level interest rates are not reported. In many countries, banks are not obliged to report interest income on loans separately from total interest income, which also includes interest from interbank operations and interest-earning securities, such as government and corporate bonds. Using total interest income, although more widely available, is not a realistic indicator of the ex-ante return on the lending operations of

each bank, and would create an upward bias of the estimated lending rate if expressed in terms of total loans. In addition, we need data on non-performing loans for each bank because we are interested in the ex-ante interest rates charged by the bank, not the ex-post interest rates earned by the bank.

To enhance comparability across countries, we compute bank-level interest rate spreads for the ten largest banks in each country, if available, and construct country-level interest rate spreads by averaging bank-level interest rate spreads across these ten banks for each country. Again, we calculate the spreads for the year 2000, the most recent year for which data are available.

In order to construct variables that measure the return on interest-earning assets and the cost of funding of those operations, we need data on interest income on the loan portfolio, interest expense, total loans, problem loans, total deposits, money market funds, and other funds. Since Bankscope does not have such an extensive coverage for the interest income on the loan portfolio or for the amount of problem loans, we had to restrict our sample to the 35 countries that offer this level of information. After selecting the ten largest banks in each country, we also collected the data on problem loans and interest income on the loan portfolio from the banks' annual reports in order to cross-check the data reported by Bankscope and insure their reliability. For a few cases (12 banks in seven countries to be precise), we found a discrepancy between the data reported by Bankscope and the data contained in the published annual reports.[1] For these banks, we have replaced the Bankscope data with the data from the annual reports. Becausee we

[1] In principle, there should not be a difference between the Bankscope data and the data from the annual reports since both report audited financial statements. In case of differences, we rely on the published annual report. Our results are not affected if instead we use Bankscope data for all banks.

are dividing a flow variable (interest income or expense) by a stock variable (loans or deposits), we calculate the average of the stock variable between *t* and *t*-1. In sum, we calculate the bank-level lending rate i_t^L and the bank-level deposit rate i_t^D for bank *i* in period *t* as follows:

$$i_{it}^{L} = \frac{II_{it}}{\frac{1}{2}\left(L_{i,t-1} + L_{it}\right)} \tag{2}$$

$$i_{it}^{D} = \frac{IE_{it}}{\frac{1}{2}\left(D_{i,t-1} + D_{it}\right)} \tag{3}$$

where II_{it} is the interest income from the loan portfolio of bank *i* during year *t*, IE_{it} is the interest expense of bank *i* during year *t*, L_{it} represents the total performing loans (being the difference between total gross loans and total non-performing loans) of bank *i* at the end of year *t*, and D_{it} represents the total borrowed funds (which equals the sum of total deposits, money market funds, and other funds) of bank *i* at the end of year *t*. All variables are expressed in local currency. The bank-level spread of bank *i* for the year *t* is computed as follows:

$$spread_{it} = \frac{1 + i_{it}^{L}}{1 + i_{it}^{D}} - 1 \tag{4}$$

In what follows, we refer to the country-level spread computed by averaging the bank-level spreads in equation (4) across all banks in the country for the year 2000 as SPREAD2.

2.2 The explanatory variables

We use two broad measures to capture judicial efficiency and enforcement of property rights. The first variable is PROP which captures the degree of property rights protection in the country. This variable is gathered from the Index of Economic Freedom constructed by the Heritage Foundation. The index ranges from 1 to 5, with a higher score indicating more protection of private property (we reverse the scale of the original index). This variable captures (1) the freedom from government influence over the judicial system; (2) commercial code defining contracts; (3) sanctioning of foreign arbitration of contract disputes; (4) government expropriation of property; (5) corruption within the judiciary; (6) delays in receiving judicial decisions; and (7) legally granted and protected private property. We use this variable as a proxy for the degree to which property rights are enforced in general, and the value of collateral for bank loans in particular.

The second variable is LAW which captures the rule of law in the country. This variable is the assessment of the law and order tradition in the country from the International Country Risk Guide (ICRG) produced by the country-risk rating agency Political Risk Services Group. This variable has broader scope of coverage than the previous one in that it catches a broader notion of compliance with legal provisions. This index has previously been used by La Porta et al. (1998), among others, as a proxy for the quality of the legal system and the enforcement on legal contracts. We use the average of the monthly index for the year 2000. The scale of the index ranges from 0 to 6, with higher scores for more tradition for law and order.

The correlation between the PROP and LAW variables is high (0.64), consistent with earlier findings by La Porta et al. (1998), providing credibility to using the average

of the two variables as an aggregate measure of judicial efficiency. We define the variable JUDICIAL as the average of PROP and LAW. We rescale the LAW variable so that the index ranges from 1 to 5. As a result, JUDICIAL is an equally-weighted index of the PROP and LAW variables. The scale of JUDICIAL ranges from 1 to 5, with a higher score indicating more judicial efficiency. In the regression analysis, we will use JUDICIAL as a broad measure of judicial efficiency. As potential instrument for our judicial efficiency variable we use the legal origin variable ORIGIN first considered by La Porta et al. (1998). We expand their list of countries and update the legal origins for a number of transition countries using the World Bank's Doing Business Database.

Several control variables will be considered to account for a country's macroeconomic and bank regulatory environment. First, we control for the rate of inflation, INFL, using data from the IMF's IFS database. We use inflation as a measure of macroeconomic instability. Consistent with this view, Boyd, Levine and Smith (2001) show that countries with high inflation have underdeveloped financial systems and banks. Huybens and Smith (1999) argue that inflation exacerbates informational asymmetries and therefore leads to larger interest spreads. Whether inflation captures macroeconomic instability or informational asymmetries, we expect a positive relationship between inflation and interest rate spreads.

Second, we control for the level of economic development. As a proxy for general economic development, we use GDPPC which is per capita income in real dollar terms. We obtain data on real GDPPC from the World Development Indicators database maintained by the World Bank. We add the inflation and per capita income variables to check whether a possible link between judicial efficiency and spreads is robust when

controlling for general economic conditions. We expect that countries with higher inflation and lower per capita income have higher interest rate spreads.

Third, we control for a number of bank regulatory characteristics using the Barth, Caprio, and Levine (2004) database, such as whether the country imposes liquidity requirements, whether banks are allowed to engage in non-bank financial activities, and on the degree of entry into banking. All these features may affect the degree of competitiveness prevailing in the banking and financial markets or introduce quasi-fiscal elements that may affect the level of bank lending spreads. LIQREQ is a dummy variable that takes value of one if the authorities enforce liquidity (or reserve) requirements, and zero otherwise. To the extent that reserve holdings are not remunerated or remunerated at less-than-market rates, these regulations impose a tax on the bank. We therefore expect that liquidity (or reserve) requirements are reflected in higher lending spreads, as banks are forced to pass on this additional tax to the consumers of bank's lending services.

RESTRICT is a variable that indicates the degree to which restrictions are imposed on banks to engage into non-bank financial activities, including real estate, insurance and securities. We expect that activity restrictions have an important impact on interest rate spreads by reducing competition and limiting economies of scope. The indicator potentially ranges from 0 to 4, where higher values indicate greater restrictions.

ENTRY is a variable that indicates the restrictions on entry into banking and is measured as the fraction of entry applications accepted. This variable ranges from 0 for countries such as Bangladesh, Egypt, Kenya, and Thailand that denied all entry applications to 1 for countries such as Germany, Switzerland and the United States that granted licenses to all applicants. This measure has been used earlier by Demirguc-Kunt,

Laeven, and Levine (2004). We expect that entry restrictions, by reducing competition, are associated with higher interest rate spreads.

From the same database, we draw the variable STATE which is the share of state ownership in the banking system of the country, where state-owned is defined as 50 percent or more state-ownership. This variable measures government involvement in the banking industry. In our sample of countries, Bangladesh, Egypt, and Russia have banking systems where state-owned banks account for more than 60 percent of the market. Banking systems dominated by state-banks tend to be inefficient and less open to entry (La Porta, Lopez-de-Silanes, and Shleifer, 2002). We therefore expect that interest rate spreads will tend to be higher in countries dominated by state banks.

To control for the impact of the structure of the banking system, we use the bank-5 concentration ratio from the same database. Our bank concentration variable CONC is defined as the ratio of deposits of the largest five banks in the country to the total deposits held by banks in the country. This variable has been used before by Demirguc-Kunt, Laeven, and Levine (2004) as a measure of the market structure. As they show, theory offers conflicting predictions about the relationship between concentration and interest rate spreads. One common view is that more concentrated banking systems are less competitive, in which case we would expect a positive relationship between concentration and interest rate spreads.[2]

We also use a broader measure of restrictions on banking from the Heritage Foundation. This variable, which we will refer to as FBANK, measures the degree of freedom in banking, and captures the degree of (i) government ownership of banks; (ii)

[2] For an overview of the various theoretical predictions about the relationship between concentration and interest rate spreads, we refer the reader to Demirguc-Kunt, Laeven, and Levine (2003).

restrictions on the ability of foreign banks to open branches and subsidiaries; (iii) government influence over the allocation of bank credit; (iv) government regulations in banking; and (v) freedom of banks to offer different types of financial services, securities, and insurance policies. We expect that more competitive banking systems have lower interest rate spreads. This is consistent with findings by Claessens, Demirguc-Kunt, and Huizinga (2001), who investigate the role of foreign banks in a cross-country study and show that foreign bank entry reduces net interest margins.

We also control for the degree to which credit information is publicly available. Using data from the World Bank Credit Registries database, we construct a dummy variable PCR that takes value of one if the country has a public credit register, and zero otherwise. We expect that the presence of a public credit register, by improving the availability (and possibly the quality) of credit information, will reduce asymmetric information in credit markets and therefore reduce lending spreads. Castelar and Cabral (2001) provide evidence in the case of Brazil that credit bureaus can enhance the availability of credit information, reduce the cost of financial intermediation, and improve access to credit.

Finally, we will check whether the results are affected by the degree of dollarization in the country. The interest rate spreads we calculate do not distinguish between local currency and foreign currency. In countries where a large share of deposits and/or loans are denominated in (or linked to) a foreign currency, we are therefore likely to mismeasure somewhat the average interest rate spread. Ideally, one would want to calculate interest rates on loans and deposits in local currency. Unfortunately, such data is not widely available on a cross-country basis. We gather information on the degree of

dollarization in each country from De Nicolo, Honohan, and Ize (2004). DOLL is the share of deposits in foreign currency. All variables are for the year 2000, except for the variables from the Barth et al. (2004) database that are for either the year 1999 or 2000. Table 1 shows the summary statistics of the main variables and the table in Annex 1 shows the country-averages of all the variables.

After matching the available information for explanatory and dependent variables we ended up with a sample size of 106 countries for the estimation of the SPREAD1 regression. While some variables, such as SPREAD1, are available for all sampled countries, others, such as SPREAD2, have a much smaller coverage as banks in many countries are not required to report interest income on loans separately from total interest income. As a result of lower data availability the number of countries for which we were able to obtain data for the explanatory and dependent variables for the SPREAD2 regression was limited to a total of 32.

As a first assessment of whether spreads are indeed lower in countries with better judicial efficiency, we look at the correlations between our country variables. The correlation matrix is reported in Table 2. We find that SPREAD1 and SPREAD2 are highly correlated with a correlation of about 0.6, despite the fact that they are constructed on the basis of a different set of data. We also find that several country characteristics are significantly correlated with the spreads. Consistent with our priors, both measures of spreads appear to be significantly higher on average in countries with a weaker macro environment (as measured by higher inflation and lower per capita GDP), and in countries with more restrictions on banking (as measured by the general degree of freedom in banking). We also find that both measures of spreads are significantly higher

in highly dollarized economies, possibly suggesting that the dollarization variable captures more general weaknesses in the economy. Contrary to our expectations, bank concentration and the existence of a public credit register do not appear to be correlated with banks' interest rate spreads.

The correlations between interest rate spreads and liquidity requirements, activity restrictions, entry restrictions, and state ownership, are as expected (i.e., higher liquidity requirements, more activity restrictions, more entry restrictions, and more state ownership are all associated with higher interest rate spreads), although these correlations are statistically significant only if we use SPREAD1 as measure of interest rate spreads.

Most importantly, we find a strong and statistically significant correlation in the expected direction between our measure of judicial efficiency (JUDICIAL) and our two measures of spreads. In fact, this correlation is the highest among all the variables considered (the correlation between SPREAD1 and JUDICIAL is about -0.6 and the correlation between SPREAD2 and JUDICIAL is about -0.8).

3. Empirical Results

3.1 An aggregate specification

We use a multivariate approach to investigate the degree to which judicial efficiency affects the level of interest rate spreads across countries. Table 3 reports the results of the OLS regressions of SPREAD1 on our measure of judicial efficiency JUDICIAL together with the selected set of control variables. Table 4 reports the results for similar regressions with SPREAD2 as dependent variable.

We find that our measure of judicial efficiency is strongly correlated with both our measures of interest rate spreads, even after controlling for a number of other country

characteristics. In column 1, we only include JUDICIAL as explanatory variable. In column 2 we control for inflation. We find that inflation has a positive effect on spreads. Next, we also control for per capita income (column 3). The effect of judicial efficiency on spreads survives the inclusion of per capita income. In fact, differences in per capita income do not add much explanatory power. Since per capita income and judicial efficiency are highly correlated, we exclude per capita income from the remaining regressions in tables 3 and 4, although the inclusion of per capita income would not alter our main results. In column 4, we include judicial efficiency and control variables for inflation, liquidity requirements, market concentration, and the presence of restrictions for banks to engage in non-bank activities. Both the regressions of SPREAD1 and the regressions of SPREAD2 show that our measure of judicial efficiency remains strongly significant after the inclusion of these additional control variables. In both regressions, the coefficient on JUDICIAL is of a similar order of magnitude. Among the control variables only the level of inflation appears to be consistently associated with banks' spreads. In the regression with SPREAD1 as dependent variable, the presence of liquidity requirements also enters significantly, with the expected sign (i.e., higher reserve requirements are associated with higher interest rate spreads).[3]

Some further robustness tests are carried out (columns 5 to 9 of Tables 3 and 4) by adding to the specification in column 4 indicators of activity restrictions, extent of state ownership, the presence of a public credit register, and the extent of entry restrictions. None of these additional controls appears to have a significant effect on banks' spreads as measured by SPREAD1. However, the results in columns 7 and 9 of

[3] Two countries (Brazil and Uruguay) are strong outliers in all of the regressions. When these countries are excluded, we obtain similar results.

Table 4 suggest that the presence of a public credit registry and the degree of overall banking freedom positively affect spreads as measured by SPREAD2. Importantly, none of these additional control variables significantly affects the explanatory power of the judicial efficiency measure in explaining cross-country variation in spreads: the JUDICIAL variable remains strongly significant throughout all specifications in both Tables 3 and 4.

Finally, we test whether the results are affected by the fact that a large number of countries in our sample have highly-dollarized banking systems, i.e., a significant share of bank intermediation is carried out in foreign currency. We find that the exclusion of countries with an extensive degree of dollarization – defined as a dollarization ratio in excess of 50 percent – does not alter our main conclusion as our proxy of judicial efficiency remains significant (column 10 of Tables 3 and 4). The coefficient of the JUDICIAL variable becomes somewhat smaller when we exclude dollarized economies, though still highly significant, suggesting that the positive impact of an improvement in judicial efficiency on reducing bank spreads is greatest in dollarized economies.

Apart from the effect associated to the exclusion of the dollarized economies, the coefficients of JUDICIAL show remarkable stability across the different regression specifications. If we take the specification reported in column 4 of Tables 3 and 4, it follows that a one standard deviation improvement in JUDICIAL (equivalent to an increase of 0.97) would bring about a reduction in bank spreads (as measured by SPREAD1) of about 2.3 percentage points. A similar calculation using SPREAD2 as measure of bank spreads, shows a reduction in bank spreads of about 2.6 percentage points. Compared to an average spread of 7.8 percent for SPREAD1 and 5.6 percent for

SPREAD2 in our sample of countries, these reductions in spreads that could be achieved by an upgrade of a country's property rights and legal institutions are economically significant. While it is evident that these simulations should be considered as indicative, they nevertheless help to quantify the order of magnitude of the benefits that an economy could derive from improving its property rights and legal institutions. Note also that such calculations provide only a lower bound estimate of the social cost of an inefficient judicial system, because an inefficient judicial system, as discussed in Section 1, not only affects the cost of intermediation, but also negatively affects the supply of bank credit itself.

We conduct a robustness test in order to control for the potential presence of endogeneity between judicial efficiency and interest rate spreads. It is possible that in countries where a high level of spreads induces a low level of intermediation, governments face public pressure to improve the legal framework for lending. As a consequence, the level of spreads would cause changes in the level of judicial efficiency. To control for such potential reverse causality, we use the legal origin of the country as an instrument for judicial efficiency. The first-stage results suggest that legal origin is a valid instrument. The second-stage results are presented in Table 5. The dependent variable in columns 1 and 2 is SPREAD1, while SPREAD2 is the dependent variable in columns 3 and 4. Columns 2 and 4 exclude countries with a dollarization ratio of more than 50 percent. The IV results are broadly consistent with the OLS results in Tables 3 and 4, indicating that our results are generally robust to the use of instrumental variables. The effect of JUDICIAL on SPREAD1 is somewhat stronger when using instrumental

variables, while the effect of JUDICIAL on SPREAD2 is somewhat weaker when using legal origin as an instrument for judicial efficiency.

Our results are broadly consistent with those derived by Demirguc-Kunt, Laeven, and Levine (2004), notwithstanding the difference in the measure of the cost of financial intermediation. In both studies, institutional indicators such as the protection of private property rights, rather than bank regulations and bank structure, robustly explain cross-country variation in the cost of financial intermediation.

3.2 A disaggregate specification

Previous specifications did not control for the potential effects of differences in bank size on the level of prevailing spreads. It is possible that large banks benefit from scale economies and can thus charge lower spreads. It could also be the case that such a size effect varies across countries by the level of judicial efficiency, because large banks may have preferential access to the judiciary. We therefore introduce bank size as an additional control variable and replicate the previous sequence of estimations. The large concentration of banks that report interest income and expenses decomposition in a limited number of countries (France, Italy, and Japan) has not made possible to resort to a simple cross-section estimate based on individual banks data. In order to preserve a balance between the observations coming from different countries we have selected an alternative strategy.

For each country, we split the observations into a group of larger banks and a group of smaller banks, using as a definition of bank size the ratio of the bank's total assets over the country's GDP and as a threshold for inclusion in the group of smaller

banks values smaller than 1 percent. We use a "relative" notion of size (relative to each country's GDP), as opposed to an "absolute" one (such as total assets) to test whether banks that are larger in their own country would face lower judicial costs as a result of different levels of political influence. We consider the median-size bank in each size group as representative, respectively, of the small and the large banks in the country, and we compute the value of SPREAD2 for the median-size bank in each group.

Next, we run a regression with as dependent variable SPREAD2 calculated for both the representative large and small bank in each country. We include a size dummy variable SMALL that takes a value of one in case the observation refers to the group of small banks in the country, and a value of zero if it refers to the group of large banks in the country. Since we are interested whether a potential size effect varies by the efficiency of the legal system of the country, we also include an interaction of the SMALL and JUDICIAL variables. The other control variables are identical to those used previously. In the regressions, we also control for clustering at the country level.

The regressions results are reported in Table 6. We find that the "relative" size variable does not appear to have a significant effect (nor in isolation nor when interacted with the judicial efficiency proxy) on bank spreads. Thus, we do not find evidence that judicial inefficiency unevenly affects the spreads of bank institutions of different size in the same country. However, the significant relationship between judicial efficiency and bank spreads remains and the estimated coefficients on JUDICIAL appear to be of a similar magnitude as those reported previously (in Tables 3 and 4), suggesting that the interest rate spreads of both large and small banks are lower in countries with greater judicial efficiency.

4. Conclusions

We use measures of bank interest rate spreads for a large number of countries, both at the country level and at the level of individual banks, to test the effect of judicial efficiency and enforcement of debt contracts on the cost of bank credit. In particular, we investigate the extent to which judicial efficiency affects bank lending spreads across countries after controlling for a number of other country characteristics, including the general level of economic development. Judicial efficiency, in addition to inflation, appears to be the main driver of interest rate spreads. Not only the statistical significance of the effect of judicial efficiency on banks' spreads appears to be large, but also the economic significance appears to be substantial: with a one standard deviation improvement in judicial efficiency, the average country could achieve a reduction of banks' lending spreads of about 2.3-2.6 percentage points on average. This suggests that in addition to improving the overall macroeconomic climate in a country, improvements in the judicial enforcement of debt contracts are critical to reduce the cost of financial intermediation.

More work is needed to investigate the specific channels through which improved legal efficiency reduces the cost of financial intermediation. Does it help to improve asset resolution and reduce the volume of unproductive nonperforming loans sitting on banks' balance sheets, or is a reduction in the time required to repossess collateralized assets the most effective way to reduce the cost of financial intermediation? How relevant are these benefits for different classes of borrowers? Although we do not find a significant difference in the impact of judicial efficiency across banks of different size, there may exist differential effects for lending to different classes of borrowers or for different types of loans. For example, it may be the case that judicial reforms have a different impact on

the pricing of loans of borrowers with access to foreign sources of finance. Or it may be true that an improvement in judicial efficiency has a differential effect on the pricing of loans with different maturity, seniority, or amount of collateral. The extension of the present analysis to the impact of judicial efficiency on the cost of credit for different types of borrowers and the pricing of different loan products is left for future research.

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Table 1: Summary statistics

SPREAD1 is the spread between the average lending rate and deposit rate from the IMF's International Financial Statistics database. SPREAD2 is the spread between the average lending rate and deposit rate as calculated using bank-level data from Bankscope. JUDICIAL is an index of judicial efficiency. INFL is the inflation rate. GDPPC is the real GDP per capita in thousands of U.S. dollars. LIQREQ is a dummy variable taking value of one if the country imposes reserve requirements on banks, and zero otherwise. RESTRICT is an indicator of the degree of activity restrictions for banks. ENTRY is the fraction of entry applications accepted in banking. STATE is the share of state ownership in banking. CONC is the 5-bank concentration ratio in terms of deposits. FBANK is a measure of overall banking freedom. PCR is a dummy variable that takes value of one if the country has a public credit registry, and zero otherwise. DOLL is the fraction of dollarization in the country, in percentages. All data are for the year 2000. Exact sources and definitions of each variable can be found in the main text.

Variable	Number of country obs.	Mean	Median	Standard deviation	Minimum	Maximum
SPREAD1	106	7.82	6.01	6.22	0.56	33.81
SPREAD2	32	5.60	4.86	3.27	1.55	14.96
JUDICIAL	98	3.52	3.35	0.97	1.33	5.00
INFL	103	6.42	3.43	11.75	-3.75	96.09
GDPPC	100	8.71	3.43	11.09	0.11	44.38
LIQREQ	78	0.77	1.00	0.42	0.00	1.00
RESTRICT	73	9.58	9.00	2.58	4.00	14.00
ENTRY	61	0.80	0.94	0.71	0.00	1.00
STATE	64	18.72	11.91	21.08	0.00	69.86
CONC	72	65.27	69.05	20.53	12.00	100.00
FBANK	105	3.26	3.00	0.89	1.00	5.00
PCR	84	0.44	0.00	0.50	0.00	1.00
DOLL	72	29.28	23.15	26.16	0.10	93.20

Table 2: Correlation matrix

SPREAD1 is the spread between the average lending rate and deposit rate from the IMF's International Financial Statistics database. SPREAD2 is the spread between the average lending rate and deposit rate as calculated using bank-level data from Bankscope. JUDICIAL is an index of judicial efficiency. INFL is the inflation rate. GDPPC is the real GDP per capita in thousands of U.S. dollars. LIQREQ is a dummy variable taking value of one if the country imposes reserve requirements on banks, and zero otherwise. RESTRICT is an indicator of the degree of activity restrictions for banks. ENTRY is the fraction of entry applications accepted in banking. STATE is the share of state ownership in banking. CONC is the 5-bank concentration ratio in terms of deposits. FBANK is a measure of overall banking freedom. PCR is a dummy variable that takes value of one if the country has a public credit registry, and zero otherwise. DOLL is the fraction of dollarization in the country, in percentages. All data are for the year 2000. Exact sources and definitions of each variable can be found in the main text. P-values between brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

	SPREAD1	SPREAD2	JUDICIAL	INFL	GDPPC	LIQREQ	RESTRICT	ENTRY	STATE	CONC	FBANK	PCR	DOLL
SPREAD1	1.00												
SPREAD2	***0.58	1.00											
	(0.00)												
JUDICIAL	***-0.58	***-0.79	1.00										
	(0.00)	(0.00)											
INFL	***0.55	***0.52	***-0.36	1.00									
	(0.00)	(0.01)	(0.00)										
GDPPC	***-0.53	***-0.78	***0.80	***-0.41	1.00								
	(0.00)	(0.00)	(0.00)	(0.00)									
LIQREQ	***0.34	0.02	**-0.33	0.22	-0.13	1.00							
	(0.01)	(0.93)	(0.02)	(0.12)	(0.36)								
RESTRICT	**0.29	0.13	***-0.53	0.03	***-0.42	0.09	1.00						
	(0.04)	(0.58)	(0.00)	(0.83)	(0.00)	(0.55)							
ENTRY	*-0.26	-0.07	***0.52	-0.07	***0.55	-0.26	***-0.41	1.00					
	(0.09)	(0.78)	(0.00)	(0.66)	(0.00)	(0.10)	(0.01)						
STATE	***0.50	0.36	**-0.32	0.20	*-0.29	**0.33	***0.37	***-0.50	1.00				
	(0.00)	(0.16)	(0.04)	(0.19)	(0.06)	(0.03)	(0.01)	(0.00)					
CONC	0.12	0.39	-0.04	0.10	-0.19	-0.09	-0.12	-0.05	0.08	1.00			
	(0.43)	(0.11)	(0.80)	(0.49)	(0.20)	(0.56)	(0.43)	(0.78)	(0.61)				
FBANK	***-0.47	*-0.37	***0.65	**-0.27	***0.45	**-0.30	***-0.52	**0.33	***-0.58	0.07	1.00		
	(0.00)	(0.08)	(0.00)	(0.03)	(0.00)	(0.03)	(0.00)	(0.03)	(0.00)	(0.64)			
PCR	0.12	0.21	**-0.27	0.02	*-0.22	0.13	0.11	-0.10	0.21	-0.22	***-0.33	1.00	
	(0.36)	(0.38)	(0.04)	(0.85)	(0.10)	(0.39)	(0.45)	(0.55)	(0.19)	(0.14)	(0.01)		
DOLL	***0.49	***0.69	***-0.35	**0.31	***-0.42	0.09	0.06	-0.08	**0.33	0.22	**-0.27	0.09	1.00
	(0.00)	(0.00)	(0.01)	(0.02)	(0.00)	(0.59)	(0.71)	(0.64)	(0.05)	(0.17)	(0.04)	(0.51)	

Table 3: Spreads and Judicial Efficiency: OLS Results

Dependent variable is SPREAD1. Column 10 excludes countries where dollarization exceeds 50 percent. All data for the year 2000. JUDICIAL is an index of judicial efficiency. INFL is the inflation rate. GDPPC is the real GDP per capita in thousands of U.S. dollars. LIQREQ is a dummy variable taking value of one if the country imposes reserve requirements on banks, and zero otherwise. CONC is the 5-bank concentration ratio in terms of deposits. RESTRICT is an indicator of the degree of activity restrictions for banks. STATE is the share of state ownership in banking. PCR is a dummy variable that takes value of one if the country has a public credit registry, and zero otherwise. ENTRY is the fraction of entry applications accepted in banking. FBANK is a measure of overall banking freedom. Exact sources and definitions of each variable can be found in the main text. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
JUDICIAL	-3.123***	-2.900***	-2.894***	-2.329***	-2.216**	-2.155**	-2.362***	-1.940**	-2.240**	-1.139***
	[0.473]	[0.503]	[0.891]	[0.793]	[1.005]	[0.919]	[0.795]	[0.893]	[0.909]	[0.325]
INFL		0.019	0.018	0.279***	0.333***	0.278***	0.279***	0.265***	0.296***	0.362***
		[0.034]	[0.036]	[0.065]	[0.070]	[0.086]	[0.077]	[0.070]	[0.064]	[0.063]
GDPPC			-0.004							
			[0.050]							
LIQREQ				1.364*	1.571**	1.195	1.123	1.524*	1.284*	0.542
				[0.697]	[0.728]	[0.860]	[0.800]	[0.845]	[0.664]	[0.585]
CONC				0.010	0.015	0.014	0.016	0.000	0.008	0.008
				[0.017]	[0.018]	[0.016]	[0.020]	[0.019]	[0.017]	[0.016]
RESTRICT					0.070					
					[0.188]					
STATE						0.032				
						[0.045]				
PCR							0.941			
							[1.157]			
ENTRY								-2.683		
								[3.447]		
FBANK									0.352	
									[0.555]	
Observations	98	95	91	63	57	52	53	50	62	44
R-squared	0.26	0.26	0.26	0.36	0.38	0.37	0.38	0.34	0.38	0.67

Table 4: Spreads and Judicial Efficiency: OLS Results

Dependent variable is SPREAD2. Column 10 excludes countries where dollarization exceeds 50 percent. All data for the year 2000. JUDICIAL is an index of judicial efficiency. INFL is the inflation rate. GDPPC is the real GDP per capita in thousands of U.S. dollars. LIQREQ is a dummy variable taking value of one if the country imposes reserve requirements on banks, and zero otherwise. CONC is the 5-bank concentration ratio in terms of deposits. RESTRICT is an indicator of the degree of activity restrictions for banks. STATE is the share of state ownership in banking. PCR is a dummy variable that takes value of one if the country has a public credit registry, and zero otherwise. ENTRY is the fraction of entry applications accepted in banking. FBANK is a measure of overall banking freedom. Exact sources and definitions of each variable can be found in the main text. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
JUDICIAL	-2.875***	-2.476***	-1.727**	-2.636***	-2.931***	-3.345***	-2.104***	-3.541***	-3.546***	-1.814***
	[0.543]	[0.491]	[0.771]	[0.552]	[0.589]	[0.563]	[0.627]	[0.512]	[0.502]	[0.425]
INFL		0.257*	0.277**	0.359**	0.302**	0.252**	0.357**	0.193*	0.313***	0.285***
		[0.142]	[0.131]	[0.148]	[0.138]	[0.112]	[0.161]	[0.108]	[0.108]	[0.093]
GDPPC			-0.064*							
			[0.035]							
LIQREQ				0.582	0.336	0.205	0.797	-0.044	0.637	-0.061
				[0.787]	[0.718]	[0.552]	[0.697]	[0.789]	[0.631]	[0.754]
CONC				0.005	0.004	0.011	0.014	-0.003	0.006	0.021
				[0.015]	[0.015]	[0.014]	[0.012]	[0.015]	[0.014]	[0.015]
RESTRICT					-0.166					
					[0.161]					
STATE						-0.020				
						[0.023]				
PCR							1.060*			
							[0.552]			
ENTRY								-0.013		
								[1.426]		
FBANK									1.523**	
									[0.548]	
Observations	32	32	32	24	24	21	21	18	24	17
R-squared	0.62	0.68	0.71	0.72	0.73	0.83	0.75	0.85	0.80	0.67

Table 5: Spreads and Judicial Efficiency: Instrumental Variables Results

Dependent variable is either SPREAD1 in columns 1 and 2 or SPREAD2 in columns 3 and 4. As instrument for JUDICIAL, we use the country's legal origin. JUDICIAL is an index of judicial efficiency. INFL is the inflation rate. LIQREQ is a dummy variable taking value of one if the country imposes reserve requirements on banks, and zero otherwise. CONC is the 5-bank concentration ratio in terms of deposits. We only report the second-stage regression results. Columns 2 and 4 exclude countries where dollarization exceeds 50 percent. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

	(1)	(2)	(3)	(4)
JUDICIAL	-3.313***	-1.872***	-2.512***	-1.646***
	[1.018]	[0.641]	[0.808]	[0.407]
INFL	0.228***	0.317***	0.323*	0.280***
	[0.076]	[0.063]	[0.153]	[0.069]
LIQREQ	0.588	0.351	0.808	0.318
	[0.997]	[0.718]	[0.770]	[0.676]
CONC	0.014	0.010	0.010	0.012
	[0.025]	[0.019]	[0.013]	[0.017]
Observations	53	41	21	16
R-squared	0.35	0.67	0.72	0.67

Table 6: Spreads, Judicial Efficiency, and Bank Size: OLS Results with clustering

Dependent variable is SPREAD2. Column 11 excludes countries where dollarization exceeds 50 percent. JUDICIAL is an index of judicial efficiency. SMALL is a dummy that takes the value of 1 when referring to the group of smaller banks in each country. SMALL*JUDICIAL is the interaction between the size dummy and the judicial index. INFL is the inflation rate. GDPPC is real GDP per capita in thousands of U.S. dollars. LIQREQ is a dummy variable that takes value of one if the country imposes reserve requirements on banks, and zero otherwise. CONC is the 5-bank concentration ratio in terms of deposits. STATE is the share of state ownership in banking. ENTRY is the fraction of entry applications accepted in banking, RESTRICT is an indicator of the degree of activity restrictions for banks. FBANK is a measure of overall banking freedom. LAW is a measure of the law and order in the country. PROP is a measure of the degree of property protection in the country. PCR is a dummy variable that takes value of one if the country has a public credit registry, and zero otherwise. DOLL is the fraction of dollarization in the country. ORIGIN is the legal origin of the country. Regressions correct for clustering at the country level. Robust standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
JUDICIAL	-3.063***	-3.014***	-3.014***	-2.434**	-2.352***	-2.659***	-2.351***	-2.163***	-2.460***	-3.447***	-2.369***
	[0.939]	[0.713]	[0.713]	[1.159]	[0.372]	[0.466]	[0.343]	[0.509]	[0.565]	[0.627]	[0.543]
SMALL	0.660	1.151	1.151	0.222	-1.151	-2.137	-0.846	-3.295	-1.475	-3.065	-5.243
	[0.688]	[4.517]	[4.517]	[4.230]	[6.365]	[6.730]	[6.750]	[6.820]	[7.505]	[6.625]	[6.290]
SMALL*JUDICIAL		-0.124	-0.124	0.141	0.538	0.764	0.517	1.000	0.602	0.984	1.417
		[1.091]	[1.091]	[1.019]	[1.478]	[1.576]	[1.550]	[1.582]	[1.742]	[1.534]	[1.468]
INFL				0.378	0.157	0.108	0.007	0.206	-0.051	0.147	0.153
				[0.255]	[0.152]	[0.120]	[0.104]	[0.152]	[0.100]	[0.120]	[0.176]
GDPPC				-0.023							
				[0.053]							
LIQREQ					0.242	-0.077	-0.375	0.697	-1.082	0.427	-0.196
					[1.145]	[0.891]	[0.573]	[1.119]	[0.857]	[0.993]	[1.194]
CONC					0.035*	0.031*	0.048***	0.025	0.040**	0.035**	0.038*
					[0.017]	[0.017]	[0.013]	[0.018]	[0.015]	[0.015]	[0.018]
RESTRICT						-0.187					
						[0.218]					
STATE							0.008				
							[0.022]				
PCR								0.591			
								[1.041]			
ENTRY									0.425		
									[1.141]		
FBANK										1.557*	
										[0.746]	
Observations	42	42	42	42	33	33	29	30	26	33	27
R-squared	0.43	0.43	0.43	0.53	0.46	0.48	0.63	0.44	0.59	0.53	0.44

Annex Table 1: Data

SPREAD1 is the spread between the average lending rate and deposit rate from the IMF's International Financial Statistics database. SPREAD2 is the spread between the average lending rate and deposit rate as calculated using bank-level data from Bankscope. JUDICIAL is an index of judicial efficiency. ORIGIN is the legal origin of the country. INFL is the inflation rate. GDPPC is the real GDP per capita in thousands of U.S. dollars. LIQREQ is a dummy variable taking value of one if the country imposes reserve requirements on banks, and zero otherwise. RESTRICT is an indicator of the degree of activity restrictions for banks. ENTRY is the fraction of entry applications accepted in banking. STATE is the share of state ownership in banking. CONC is the 5-bank concentration ratio in terms of deposits. FBANK is a measure of overall banking freedom. PCR is a dummy variable that takes value of one if the country has a public credit registry, and zero otherwise. DOLL is the fraction of dollarization in the country, in percentages. All data are for the year 2000. Exact sources and definitions of each variable can be found in the main text.

COUNTRY	SPREAD1	SPREAD2	JUDICIAL	ORIGIN	INFL	GDPPC	LIQREQ	CONC	RESTRICT	STATE	PCR	ENTRY	FBANK	DOLL
Albania	12.74		1.83	French	0.05		1				0		2	27.80
Argentina	2.54	4.96	4.08	French	-0.94	8.00	1	48.00	7	30.00	1	1.00	4	64.70
Armenia	11.42		2.75	Transition	-0.81		1	50.10			0		4	81.20
Australia	4.48		5.00	English	4.48	22.13	0	72.50	8	0.00	0	1.00	5	
Austria	3.67	3.08	5.00	German	2.35	30.34	1	38.00	5	4.10	1	0.93	4	2.30
Azerbaijan	5.98		2.67	Transition	1.77		1	82.10			0		2	78.00
Bahamas	1.85		4.17		1.61	12.58							4	2.80
Bahrain	5.58		4.58		-0.70	9.40	1	70.53	9			0.67	4	
Bangladesh	6.39		1.87	English	3.92	0.34	1	64.80	12	69.86	1	0.21	2	0.50
Belgium	4.24		4.58	French	2.55	28.33	1	74.00	9		1	1.00	4	
Bolivia	21.28		2.75	French	4.60	0.94	1	68.00	12	0.00	1	1.00		92.40
Botswana	4.76		3.67	English	8.60	3.55	1	100.00	10	2.39	0	0.67	4	
Brazil	33.81	13.39	2.33	French	7.04	4.49	1	57.60	10	51.50	1	0.26	3	
Bulgaria	8.17		3.17	German	10.32	1.42	1	63.00			1		3	54.30
Cameroon	16.19		1.94	French	-2.05	0.63					1		2	
Canada	1.49	3.84	5.00	English	2.75	20.55	0	75.70	7	0.00	0	0.87	4	
Chile	5.17		4.58	French	3.84	4.99	0	59.40	11	11.70	1		3	9.00
China	3.52	7.35	2.98	Transition	0.26	0.68		75.00	14		0	0.75	3	8.90
Colombia	5.92		1.99	French	9.53	2.38					0		4	
Costa Rica	10.15		3.17	French	10.99	3.64					1		3	41.10
Croatia	8.03	6.93	3.08	German	5.27	3.85	1	57.32	7	36.99	0		3	71.10
Cyprus	1.41		4.08		4.14	12.52	0	80.00	8	3.30		1.00	4	
Czech Republic	3.62		4.08	German	3.90	5.16	1	74.00	8	19.00	1	0.64	5	13.20
Denmark	4.77	2.25	5.00	Scandinavian	2.92	35.97	1	78.64	8	0.00	0	0.92	4	4.40
Dominican Rep.	7.77	14.96	2.67	French	7.72	1.71					1		3	
Ecuador	7.19		2.75	French	96.09	1.54					1		3	53.70
Egypt	3.43		3.17	French	2.68	1.11	1	64.70	13	66.60	1	0.00	2	23.30

COUNTRY	SPREAD1	SPREAD2	JUDICIAL	ORIGIN	INFL	GDPPC	LIQREQ	CONC	RESTRICT	STATE	PCR	ENTRY	FBANK	DOLL
El Salvador	4.25		3.25		2.27	1.71	1	75.00	13	7.00		0.79	4	8.90
Estonia	3.54	8.15	3.67		4.03	3.66	0	95.00	8	0.00		1.00	4	23.90
Ethiopia	3.95		3.08	English	0.65	0.11					0		2	
Finland	3.91		5.00	Scandinavian	3.37	27.79	1	96.50	7	21.90	0	1.00	3	2.10
France	3.97	2.70	4.08	French	1.70	27.72	1	70.10	6		1	1.00	3	
Gabon	16.19		2.75		0.50	4.61							4	
Gambia	10.22		3.58		0.84	0.35	1	100.00	14	0.00		0.14	2	
Germany	6.03		4.86	German	1.95	30.79	1	12.00	5	42.00	1	1.00	3	
Greece	5.83		3.25	French	3.15	11.90	0	70.00	9	13.00	0	1.00	2	29.80
Guatemala	9.72		2.33	French	5.98	1.50	1	38.00	13	7.61	0	0.70	4	0.10
Guyana	7.90	10.69	3.17		6.15	0.81	1	13.60	9	19.00		0.75	3	
Haiti	11.84	10.34	1.33		13.71	0.37							2	39.10
Honduras	9.39		2.33	French	11.06	0.71	1	52.00	9	1.10	1	0.80	3	28.70
Hong Kong	4.48		4.58	English	-3.75	22.63					0		5	47.10
Hungary	2.71		3.81	German	9.78	4.71	1		9	2.50	0	0.67	4	21.80
Iceland	9.05	3.82	5.00		5.16	28.49	1		11	64.00		1.00	3	
Indonesia	5.29		2.33	French	3.72	1.04	0	52.87	14	44.00	1	0.40	2	20.80
Ireland	4.67		5.00	English	5.56	21.60	1		8		0	1.00	4	
Israel	3.91	1.97	4.08	English	1.12	16.30	0	80.00	13		0		3	18.70
Italy	4.34	3.03	4.50	French	2.54	19.65	0	25.10	10	17.00	1	0.74	4	4.20
Jamaica	10.50		2.83	English	8.17	1.75	1	73.50	12	56.00	0		3	23.00
Japan	2.00	1.55	4.62	German	-0.67	42.39	1	31.05	13	1.15	0	1.00	3	5.80
Jordan	4.52	7.29	3.67	French	0.67	1.61	1	68.10	11	0.00	1		4	
Kenya	13.17		2.33	English	9.98	0.34	1	62.00	10		0	0.15	4	15.50
Korea, Rep. of	0.56	4.08	4.17	German	2.25	11.47	1	47.50	9	29.70	0		3	3.40
Kuwait	2.81	3.03	4.58		1.81	15.94	1		10				3	
Latvia	7.17	7.61	3.58	German	2.65	2.18	1		8		0	1.00	4	45.20
Lebanon	6.24		3.17	French		2.88	1	39.70	11	0.00	0	1.00	4	62.30
Lithuania	7.98	7.98	3.17	French	1.01	1.91	1	90.00	9	44.00	1	0.50	3	45.70
Madagascar	10.00		2.75	French	12.03	0.24					1		2	
Malawi	14.92		3.17	English	29.58	0.15	1	73.30	13	48.90	0	0.71	3	22.00
Malaysia	3.30	5.49	3.25	English	1.53	4.54	1	30.00	10	0.00	1		3	3.30
Malta	2.30		4.29		2.37	9.24	1	100.00		0.00		1.00	3	
Mexico	11.25		2.33	French	9.50	3.39		80.00	12	25.00	1		2	10.40
Moldova	7.14		3.58	Transition	31.29	0.67		70.63	7	7.05	0	0.67	3	48.80
Mongolia	13.65		3.17	Transition	11.60	0.44					1		3	43.70
Morocco	7.75	6.03	4.00	French	1.89	1.34	1	75.00	13	23.90	1	1.00	3	
Mozambique	8.52		2.25	French	12.72	0.17					1		3	45.00
Namibia	7.35		4.50		8.99	2.09	1	100.00	11			0.33	4	
Netherlands	1.85		5.00	French	2.52	28.45	0	88.00	6	5.90	0	1.00	5	4.70

COUNTRY	SPREAD1	SPREAD2	JUDICIAL	ORIGIN	INFL	GDPPC	LIQREQ	CONC	RESTRICT	STATE	PCR	ENTRY	FBANK	DOLL
New Zealand	3.63		5.00	English	2.62	16.70	0	91.00	4	0.00	0	1.00	5	3.40
Nigeria	8.58		2.25	English	14.52	0.25	1	51.18		13.00	1	1.00	2	5.40
Norway	1.40		5.00	Scandinavian	3.09	35.90					0		3	3.50
Oman	2.26	5.66	3.58		-1.11	5.67	1	76.70	13	0.00		1.00	2	
Panama	3.18		2.75	French	1.50	3.12	1	30.40	8	11.56	0	0.94	5	
Paraguay	9.56		2.25		8.98	1.81							4	62.20
Peru	12.91		2.75	French	3.76	2.33	1	81.20	8	2.50	1	1.00	4	68.30
Philippines	2.40		3.28	French	4.32	1.12	1	45.59	7	12.12	0	0.66	3	32.30
Poland	5.11	6.28	3.67	German	10.13	3.22	0	57.20	10	43.70	0	1.00	3	17.50
Portugal	2.37	4.72	4.08	French	2.87	11.58	0	81.70	9	20.80	1	1.00	3	
Russia	16.83		2.75	Transition	20.75	2.21	1	80.00	8	68.00	0		2	37.40
Singapore	4.05		5.00	English	1.36	25.37	1		8	0.00	0		4	
Slovak Republic	5.94		3.41	German	12.04	3.81	1	71.30			1		3	17.60
Slovenia	5.20	5.70	4.08	German	8.87	10.23	1	63.80	9	39.60	1	1.00	3	34.50
South Africa	4.86		2.33	English	5.25	3.92	1	85.00	8	0.00	0	0.74	3	4.20
Spain	2.16		3.67	French	3.43	15.86	0	49.00	7	0.00	1	1.00	4	1.80
Sri Lanka	6.40		2.75	English	6.18		1		7	55.00	0		3	
Sweden	3.59	2.08	4.50	Scandinavian	1.00	28.26	0		9	0.00	0	0.93	4	2.10
Switzerland	1.25	2.53	5.00	German	1.58	44.38	1	65.00	5	15.00	0	1.00	5	0.60
Tanzania	13.21		3.58	English	5.92	0.18					0		3	30.20
Thailand	4.40	3.62	4.08	English	1.55	2.84	1	74.83	9	30.67	0	0.00	3	1.40
Trinidad & Tob.	7.72		4.17		3.56	4.53	0	75.30	9	15.00		0.75	4	27.80
Uganda	11.91		3.17	English	2.83	0.32					0		3	29.90
Ukraine	24.46		2.67	Transition							1		2	38.40
United Kingdom	1.71	3.27	5.00	English	2.93	20.19	0		5	0.00	0		5	15.10
United States	2.61		5.00	English	3.38	29.25	0	20.80	12	0.00	0	1.00	4	
Uruguay	32.95		3.25	French	4.76	6.11					1		4	81.60
Venezuela	7.65		3.17	French	16.20	3.47	1	63.82	10	4.87	1	0.89	3	0.20
Vietnam	6.65	4.76	2.58	Transition	-1.71	0.31	1	65.00	14		1		2	41.20
Zambia	15.43		3.17	English		0.39	1	83.00	13	23.00	0	1.00	4	53.20
Zimbabwe	12.01		2.04	English	55.87	0.69					0		3	
Average	7.37	5.60	3.52		6.62	9.22	0.76	65.80	9.48	18.24	0.45	0.80	3.32	27.80