

Access to Financial Services in Emerging Powers: Why hasn't Increased Economic Force Improved Access?

Liliana Rojas-Suarez
(with Veronica Gonzales)

Center for Global Development

I. Introduction

In addition to financial stability and efficiency, access to financial services for large segments of the population is increasingly recognized as crucial for development. Access to finance, broadly defined as the share of households and firms that are able to use financial services if they choose to do so, can have substantial effects on welfare and contribute to the reduction of poverty, especially if better access to finance stimulate higher levels of education. In particular, financial access allows individuals and firms to move away from short-term decision making toward an inter-temporal allocation of resources. This encourages savings and removes the straitjacket of self finance, thus improving incentives for productive investments.

Though its importance is widely recognized (with a substantial amount of literature supporting it), financial access remains extremely low in a large number of countries. Among these countries are Emerging Powers like Brazil, India and South Africa. According to World Bank calculations in 2007 the percent of adults with access to an account with a financial intermediary was only 43 percent in Brazil, 48 percent in India and 46 percent in South Africa. These figures compare with over 90 percent in the industrialized world.¹

This paper will build on existing research to ask a fundamental question: why, in spite of increasing economic power, have big emerging economic powers like Brazil, India, Mexico and South Africa been unable to improve access to financial services for large segments of their populations? It is important to note that this study will focus only on financial access provided by the formal financial system. Consistent with previous research, this paper takes the view that an important policy challenge is to create adequate incentives for an increased provision of services in the formal financial sector.

To conduct the analysis the rest of this paper is organized as follows: Section II defines the concept of Emerging Powers that will be used in this study and identifies the countries in that group. Then the section presents a number of stylized facts that characterize access to financial services by this group of countries, emphasizing differences with industrial countries and other emerging/developing countries. Section III identifies obstacles for access to financial services and provides graphic evidence and partial correlations between financial access and some of the most important impediments for access. Section IV presents an econometric investigation aimed at answering two questions: (a) is financial access in Emerging Powers limited by the obstacles defined in Section III?; and (b) given a change in a constraint, does the response of access to finance in Emerging Powers differ from the response in other categories of countries in the world? Section V derives policy implications and concludes the paper.

II. Access to Financial Services in Emerging Powers: Some Stylized Facts

a. Defining Emerging Powers in this Study

¹ These ratios most likely have declined, at least in industrial countries, in the context of the current financial crisis. The discussion here, however, does not focus on the short- and medium-term problems associated with the crisis.

There is no single definition of an *Emerging Power*. As discussed in Reinsen (2009), with respect to global impact, China belongs to a class of its own among emerging market economies. To most analysts, however, Emerging Powers are identified with the four BRIC countries (Brazil, Russia, India and China). However, a number of papers propose including other countries as forming part of groups with increasing global influence. For example, Gratius (2008) suggests that México and South Africa are becoming emerging powers in terms of their economic weight, while Pakistan and Iran can be identified as emerging powers with global influence in terms of military power. Also, Wilson and Stupnytska (2007) have coined the term “the Next Eleven” (N-11), which refers to a group of countries that could potentially rival the G-7 the way the BRICs do. The main criterion to be part of the N-11 is population size (beyond the BRICs). The N-11, a very diverse group, is composed of: Bangladesh, Egypt, Indonesia, Iran, Korea, Mexico, Nigeria, Pakistan, Philippines, Turkey and Vietnam.

Acknowledging the definition is inherently arbitrary, in this paper we define Emerging Powers as emerging market economies with: (a) large populations (i.e., among the 20 percent most populated countries in the world) (b) sizable real GDPs (i.e., in the top 20 percent of economies in terms of real GDP); (c) high rates of growth (at least before the onset of the global crisis) and the potential to continue on a rapid growth path²; and (d) with either “high” or “medium” level of human development according to the United Nations Human Development Index (HDI). This definition allows us to include countries beyond the BRICs that have a large and increasing economic presence in the world. The inclusion of the HDI as a criterion ensures that severe lack of social development does not constrain sustained growth. For example, Nigeria, a country included in the N-11 group, is the ninth largest countries in terms of population size and has experienced a high rate of growth in the last decade, but it is not included in our sample because it occupies the 158th position (in a sample of 177 countries) in the HDI.

Given these conditions, *Emerging Powers* in this paper include the following: Brazil, China, Egypt, India, Indonesia, Korea, Mexico, Russia, South Africa, Thailand and Turkey. The inclusion of Korea is marginal, since this is already classified as a “high income country” by the World Bank and most of its economic indicators show that the country has already “emerged”. We kept Korea in the sample for the sake of completeness and because, as discussed in Section III, its inclusion does not significantly alter the econometric results.

b. Financial Access in Emerging Powers: How does it compare with other Country Categories?

Tables 1 through 3 are based on an indicator of access to financial services elaborated by Honohan (2007). The indicator estimates the percentage of adult population using formal financial intermediaries. In spite of a number of shortcomings recognized by the author, to our knowledge this is the best indicator to date for cross-country comparisons.³

Table 1 shows the estimates of financial access for the Emerging Powers. Interestingly, despite the wide diversity of countries in the sample, the estimated percentage of adult population with access to financial services ranges between 40 and 50 percent in most countries. Four countries significantly deviate from this range, however: Mexico, Russia, Korea and Thailand. Mexico stands out for its very low ratio of financial access. With only 25 percent of the adult population with access to formal financial services, Mexico’s access is similar to that in low-income African countries.⁴ By contrast, Thailand and, especially Korea and Russia, show ratios of financial access above the mean for the Emerging Powers group.

² The assessment of countries with *potential* for continuing on a high-growth trend, especially after the global crisis ends, is based on a recent literature review. Among those studies are: Wilson and Stupnytska (2003, 2007) as well as a number of market reports.

³ A major constraint in estimating access to finance is the lack, in a large number of countries, of household surveys containing information relevant to access.

⁴ Of course, it is possible that important segments of the population have access to financial services provided in the *informal sector*. However, as mentioned in the introduction, this paper takes the view that there are important benefits to the provision of financial services through formal channels.

Table 1
Emerging Powers: An Estimate of the Percentage of
Adult Population with Access to Financial Services

Brazil	42.70
China	41.93
Egypt	40.67
India	47.50
Indonesia	40.36
Korea	63.21
Mexico	25.00
Russia	68.69
South Africa	46.00
Thailand	58.68
Turkey	48.50
Average Emerging Powers:	47.57

Source: Honohan (2007)

Table 2 divides the world in three groups of countries: developed, Emerging Powers and other emerging/developing countries. This classification is based on aggregations utilized by the World Bank. Industrial countries are those classified as “high income” by the World Bank. The group “other emerging/developing countries” corresponds to the aggregation of countries classified as “middle” and “low” income by the World Bank, excluding the countries identified as Emerging Powers in this paper.

As shown in the table, financial access in developed countries is far greater than in the other two groups. The average ratio of access in industrial countries is almost double that in Emerging Powers and almost triple that in the rest of the world. Not surprisingly, the group “other emerging/developing” countries shows the largest dispersion, as measured by standard deviation. This is because the group includes middle-income countries like Chile, where access is above 60 percent, as well as low-income countries like Tanzania, where access is only 5 percent. Nevertheless, the most important conclusion from Table 2 is that Emerging Powers are far from attaining the high levels of access to financial services enjoyed by most industrial countries.

Table 2
Indicators of Access to Financial Services: Emerging Powers and other Income
Groups¹

Income Group	Indicator of Access	
	Average	Standard Deviation
Developed Countries	87.95	14.40
Emerging Powers	47.57	12.17
Other Emerging/Developing Countries	31.56	18.51

Source: Honohan (2007)

1/ The classification of countries by income categories is taken from the World Bank. The category “industrial countries” corresponds to the category “High Income countries” in the World Bank. The category “Other Emerging/Developing Countries” is the aggregation of the categories “Middle Income” and “Low Income” in the World Bank (excluding countries classified in this paper as Emerging Powers).

Comparing the Emerging Powers countries to countries of the same degree of *social* development is another useful metric. Table 3 shows the difference between the access indicator for each Emerging Power

and the average for the group of countries with similar social development, as defined by the Human Development Index (HDI).⁵

Table 3
Access to Finance in Emerging Powers Relative to Countries
with Similar Social Development ¹
(percentage points)

Brazil	-33.34
China	14.49
Egypt	-1.06
India	15.69
Indonesia	35.21
Korea	-14.72
Mexico	15.01
Russia	6.88
South Africa	11.53
Thailand	21.95
Turkey	20.45

Source: Honohan (2007), United Nations Development Programme (2008)

1/ Values are expressed as the percentage points deviation of the indicated country's indicator of access from average access among a group of countries in the same decile on the social subindex of Human Development Index as the indicated country.

With the exception of Brazil (and Egypt to some extent), all Emerging Powers show greater levels of financial access than the average level of financial access in countries with a similar degree of social development. This is an important observation, especially for the two East Asian countries in the sample (Indonesia and Korea). Brazil is noteworthy since this country's progress in social indicators has not translated into equivalent advances in the provision of financial services. In fact, insufficient participation of the population in the formal financial system may alone impede further economic progress there.

Two additional indicators can be used to complement the access indicator: (a) the ratio of financial depth, defined as either the stock of loans or deposits as a percentage of GDP, and (b) banking system penetration through channels like bank branches and ATMs. Ideally, the activities of the entire formal financial system would be counted rather than just the banking system. However, no data of that sort exists for world- wide comparisons, so these two indicators provide useful but limited additional information.

We now explore these two indicators. Table 4 presents financial depth. There are three salient features from this table. First, like financial access, financial depth, especially the credit ratio, is significantly lower in most Emerging Powers than in industrial countries and significantly higher than in other emerging/developing countries. Second, the ratios of financial depth vary across Emerging Powers significantly. For example, the ratios of financial depth in Mexico, Russia and Turkey have remained extremely low over the last two decades, while those of China and Thailand have reached levels observed

⁵ The HDI has three components. The first relates to health, the second to education and the third to income. To group countries by level of social development, we construct a social sub-index using the first two components (equally weighted). The economies in the advanced group are those in the top decile of the constructed social subindex. Countries are categorized as having a similar degree of social development if they belong to the same decile of the social subindex. Each number shows the percentage point difference between the corresponding Emerging Power's indicator of access and the average indicator of access for the relevant group of countries. Thus, a negative number implies that the country's indicator of access is below the average indicator of the relevant comparator.

in industrial countries.⁶ Third, while there is an important correlation between financial depth and financial access worldwide, this correlation is low in Emerging Powers. While the correlation coefficient between the indicator of financial access and the ratio of credit to GDP is 0.78 worldwide, the value of this coefficient is only 0.34 in Emerging Powers.

Table 4
Indicators of Financial Depth
(in percentage)

	Deposits/GDP		Credit/GDP	
	Average 1990-99	Average 2000-07	Average 1990-99	Average 2000-07
Emerging Powers	39.94	57.21	51.26	56.35
Brazil	28.00	45.75	35.63	29.69
China ^{1/}	52.53	118.35	59.36	101.94
Egypt	64.87	73.49	30.02	49.83
India	34.13	50.03	22.82	33.46
Indonesia	40.11	39.00	45.72	20.06
Korea	36.39	66.94	52.30	87.67
Mexico	23.31	22.95	23.05	15.46
Russia	11.66	19.21	9.03	19.88
South Africa	46.77	53.22	57.13	66.72
Thailand	78.75	99.29	118.29	94.91
Turkey	22.77	41.12	15.26	20.83
Developed Countries	58.50	79.47	65.58	97.11
Other Emerging/Developing Countries	26.31	34.63	20.55	26.24

Source: Thorsten Beck, Asli Demirgüç-Kunt and Ross Levine, (2007), "A New Database on Financial Development and

1/ The data for China come from the IMF, International Financial Statistics (2007)

This last feature merits further discussion. While the indicator of access provides information about the percentage of the population that uses the services offered by the formal financial sector, financial depth demonstrates the degree to which the financial system contributes to a country's economic activity. In some countries, like Mexico, both the availability of domestic finance (as indicated by the ratio of credit to GDP) as well as the percentage of the population benefiting from those financial services are very low. On the other hand, in China domestic credit has expanded rapidly in recent years, though the expansion has been rather concentrated and has not reached the majority of the population. Thus, in the case of China, we observe a high ratio of financial depth and a low ratio of financial access.

An important observation from China is that high economic growth can be achieved with low access to financial services. An important question not addressed in this paper is whether such outcome can be sustainable in countries that are more democratic.⁷

⁶ In Indonesia, the indicators of financial depth fell sharply since the 1997 crisis in East Asia and, though they are recovering, have not reached their pre-crisis levels.

⁷ A number of studies have argued that in democratic countries, the achievement of sustainable growth requires a broadly sharing the benefits from growth throughout the population, including the capacity to access the financial system. See Rojas-Suarez (2009) for a discussion of these issues in the context of Latin America.

Banking system penetration indicators are taken from a survey of regulatory authorities conducted by Beck et al (2005) and presented in Table 5. The indicators consider the number of bank branches and ATMs per 100,000 inhabitants. As mentioned, that financial services providers are more than just bank branches and ATMs is an important caveat in reaching conclusions based on this data. For example, in Brazil, banks' most important form of outreach to rural areas is through non-bank correspondents, which extend financial services through non-banking entities. This model has become increasingly popular and has started to be applied in other Emerging Powers such as India and Mexico. Similarly, in other countries like India the large expansion of microfinance activities does not utilize branches or ATMs

Table 5

**Emerging Powers: Access to Financial Services through Branches and ATMs
(per 100,000 people)**

Country	Number of Branches	Number of ATMs	Number of ATMs + Branches
Emerging Powers	7.20	19.37	26.57
Brazil	14.59	17.82	32.41
China	1.33	3.8	5.13
Egypt	3.62	1.78	5.4
India	6.3	n.a.	n.a.
Indonesia	8.44	4.84	13.28
Korea	13.4	90.03	103.43
Mexico	7.6	16.6	24.3
Russia	2.2	6.3	8.5
South Africa	6.0	17.5	23.5
Thailand	7.2	17.1	24.2
Turkey	8.5	18.0	26.5
Developed Countries	41.8	80.0	121.8
Other Emerging/Developing Countries	6.7	11.3	18.0

Source: Beck, Demirgüç-Kunt & Martinez Peria

Most importantly, the figures in Table 5 demonstrate the enormous gap between industrial countries and Emerging Powers in bank coverage (with the exception of Korea). Even if other channels of provision of financial services are expanding rapidly in some Emerging Powers, the path towards greater development requires an expansion of traditional channels like branches and ATMs (and, of course, the expanded internet banking). This is because higher development brings about more complex financial transactions that require the more sophisticated services. Korea is a good example of this. It is the most developed country in the group of Emerging Powers and is classified as “high-income” country by the World Bank. Consistent with these features, banks coverage in Korea has reached levels observed in industrial countries.

III. Obstacles to Financial Access in Developing Countries: Where do Emerging Powers stand?

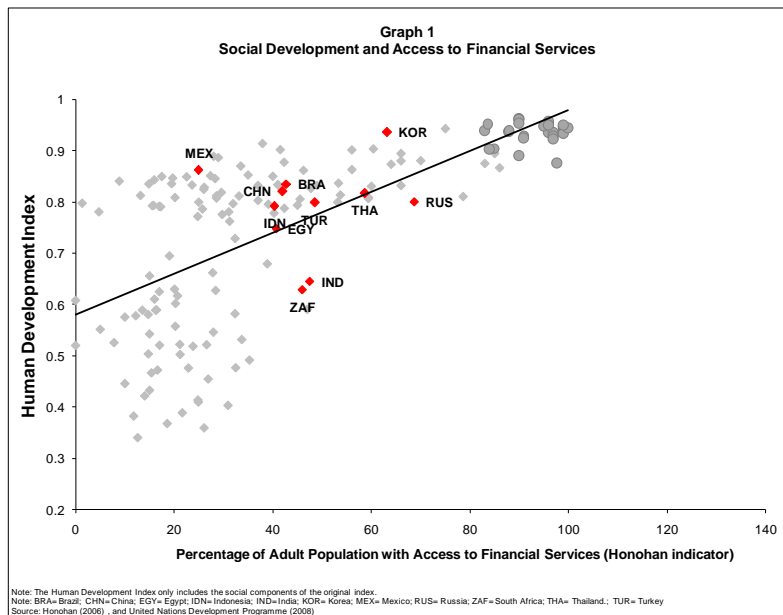
The vast literature on access to finance has identified a number of constraints to the provision of financial access. In this section, we follow the classification of obstacles to finance suggested by Rojas-Suarez (2007) and further explored by Reinhart, Rojas-Suarez and Vazquez (2009) and provide graphic evidence and partial correlations between access and some of the most important indicators of obstacles to access.

Section IV conducts a more rigorous econometric investigation aimed at establishing the relative importance of these obstacles in the provision of financial services in Emerging Powers.

Obstacles to finance fall into five categories. The first category relates to socio-economic constraints that limit both the supply of and the demand for financial services. The second deals with weaknesses in the macroeconomic environment that deters large segments of the population from using the services provided by the formal financial system. The third identifies characteristics in the operations of the formal financial system that impede the adequate provision of financial services to households and firms. The fourth focuses on institutional deficiencies, with emphasis on the quality of the legal framework and the governability of countries. The fifth category identifies regulations that tend to distort the provision of financial services.

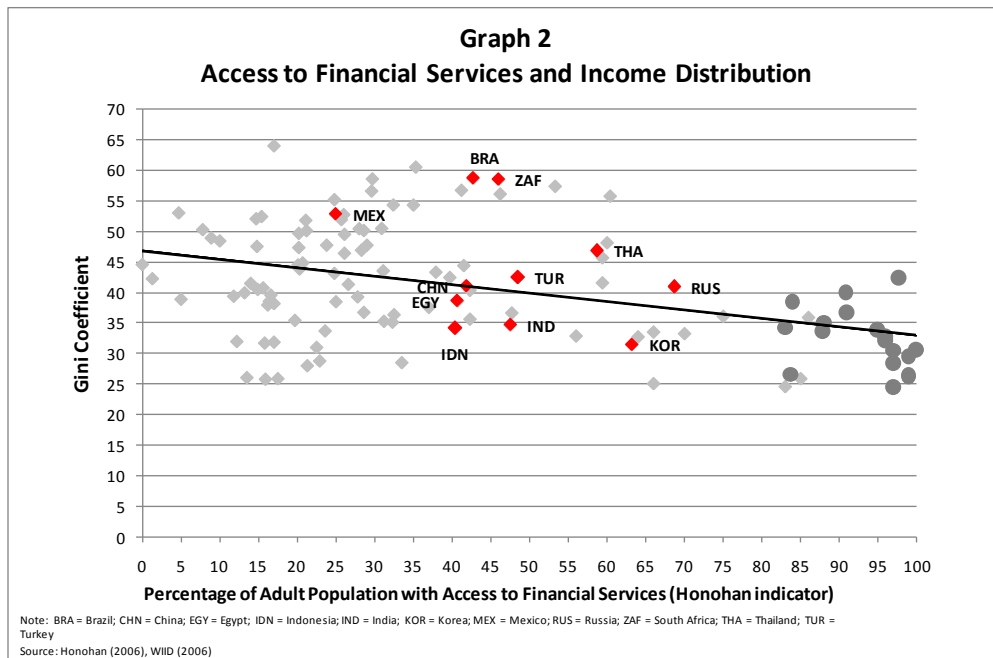
a. Socio-Economic Factors that Limit Financial Access

A number of papers have discussed the importance of socio-economic development in explaining the degree of financial access. Low levels of social indicators are often associated with lower demand for and supply of financial services. As stated by Claessens (2005), the financial *exclusion* of people from credit is normally part of a wider social exclusion, which involves education level, type of employment, training, etc. Graph 1 shows this relationship by comparing the data on the HDI and the indicator of financial access. The correlation coefficient between these two variables is 0.7 and is significant at the 1 percent level. In general, countries with greater access to social services and a better quality of life are countries that have also developed a stronger “financial culture” in which the use of financial services through formal markets becomes indispensable. In the graph, the countries identified with dots are those classified as developed countries. As expected, these countries display the highest values of both the HDI and the indicator of access.



Most Emerging Powers are above the fitted line, suggesting that, *ceteris paribus*, there is potential for improving access given their degree of development. Thus, other variables are constraining access (explored in Section IV’s econometric investigation). Mexico and Korea stand out. Their degree of financial access is well below what can be expected given their degree of social development. Although the direction of causality between social development and financial development is controversial, the consensus is that both variables are complementary and that efforts aimed at improving the social indicators of countries should go hand in hand with efforts to develop the financial infrastructure that can support increased provision of financial services.

Income inequality is another social variable cited as having an important interrelationship with the degree of financial access.⁸ The argument is that in highly unequal economies (in terms of income distribution) large segments of the population cannot afford the costs (monetary and otherwise) of using services in the formal financial system. Graph 2 shows this relationship using the Gini coefficient. The correlation coefficient is -0.5 and is significant at the 1 percent level. Once again, industrial countries (designated with dots in the graph) display greater financial access and lower income inequality. Among Emerging Powers, Korea, with the least unequal income distribution is among the countries (together with Russia) with the greatest degree of access to finance. Likewise, Mexico, the country with the lowest degree of financial access, is among the Emerging Powers with the highest value of the Gini coefficient.



b. Macroeconomic Constraints to Financial Access.

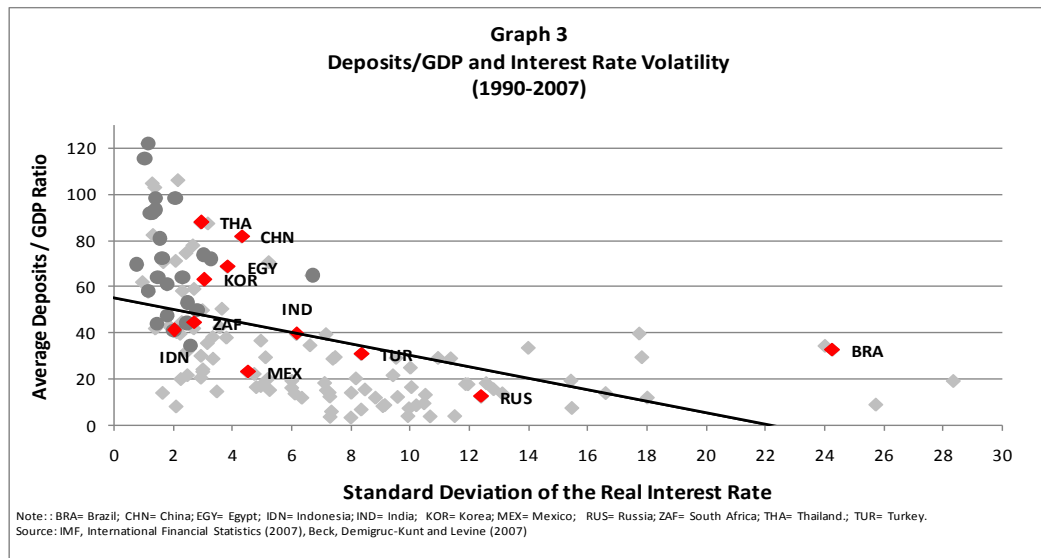
The adverse effects of macroeconomic instability on financial development, depth and access are well documented in the literature. Significant macroeconomic imbalances are associated with financial crises, sharply slowing the provision of financial services. But the problems from macroeconomic instability go beyond credit supply effects. The adverse effects on the demand for financial services are usually quite severe and may

last well after the end of the financial crisis. The reason is that the demand for deposits and savings products offered by the formal financial system depends largely on the people's *trust* in the soundness of the system. The economic and financial crises in developing countries in the last three decades have resulted in significant losses for depositors in terms of the real value of their wealth. Deposit freezes, interest rate ceilings, forced conversion of deposits in foreign currency into local currency using undervalued exchange rates, and hyperinflation that practically destroys the value of savings in the financial system were among the causes. As a result, many developing countries around the world have experienced enormous interest rate fluctuations, which in some periods took on negative values.

High inflation volatility and real interest rates perhaps best capture the adverse effect of macro instability on the demand for financial services. Graph 3 shows the negative correlation between the volatility of real interest rates (approximated by the standard deviation in 1990-2007) and the ratio of deposits to GDP for a sample of countries worldwide. The inverse relationship between these variables is reflected in a

⁸ See for example Beck et al (2006) and Demirguc Kunt and Levine (2008).

correlation coefficient of -0.5, significant at the 1 percent level. Once again, the developed countries are indicated with a dot. Clearly the industrial countries have the least real interest rate volatility and the highest deposits/GDP ratios, indicating a high willingness to demand (and supply) services offered by the formal financial system. Of the Emerging Powers, Brazil has the greatest real interest rate volatility, followed by Russia. This high volatility in part reflects the extremely high inflation rates in the early 1990s and the speculative balance of payments crises in the late 1990s in both countries. Both countries show the lowest rates of deposits to GDP among Emerging Powers. By contrast, Korea and Thailand display the lowest real interest rate volatility and have the highest ratios of deposits to GDP.



The lesson is clear: stimulating demand for financial services requires a sense of trust that the real value of payment and savings instruments will be preserved. Absent this trust, not only will *financial system usage* stagnate, but the meager deposits in the banking system and other financial firms will tend to be short-term. Short-term bank liabilities, available for quick withdrawal at the slightest sign of trouble, limit the banks' ability to extend the terms of their assets (loans), thus inhibiting long-term financing. Brazil provides a clear example of this problem, given that 80 per cent of the bank credit to individuals is channeled into consumer loans and only 20 per cent to mortgage loans.

c. Financial Sector Inefficiencies and Inadequacies

Based on Rojas-Suarez (2007), in this category we include obstacles to financial access encountered by individuals and firms that can be attributed to financial entities' methods and practices to conduct their operations.

For individuals, poor quality of customer service, extremely long waiting time to make financial transactions, and inadequate information about the financial services offered affect all income segments. Certain obstacles are more significant for low-income individuals and families. They include: (a) insufficient bank branches, ATMs and POS (points of service), especially in small rural communities, (b) high documentation requirements to open a bank account (or account from another type of financial institution) and (c) high costs of maintaining a bank account (or account from another type of financial institution), including minimum balances requirements. Beck et al (2005, 2006) present global surveys that measure these constraints. The first two problems stem from both the financial entities' methods of operation and the institutional framework in which they function. For example, private banks cannot profitably operate branches in areas with low population density, like rural areas, because low demand may not cover fixed costs of a branch. Lack of branches may also be influenced by security problems (protection against crime), which constrains bank expansion to remote areas in many countries. Table 5

showed that coverage through branches and ATMs per inhabitant in most Emerging Powers is extremely low.

Collection and information process inefficiencies by the banks and other financial institutions may cause the prohibitively high documentation requirements. Institutional and socioeconomic problems that make the financial evaluation of a bank customer difficult may also contribute to this problem. For example, often there are no titles for assets, and the proliferation of informal employment markets mean there are no contracts specifying a worker's salary.

Finally, the high costs of maintaining an account (including minimum balance requirements) are directly related to features of the financial system itself. Operational inefficiencies, lack of competition, or simply the high financial cost of providing services on a small scale are all contributors. Measuring the impact of these factors is, of course, exceedingly difficult.

With respect to firms, the first hurdle small and medium-sized enterprises (SMEs) face is that they are generally riskier borrowers than larger enterprises for the following reasons: (a) they are insufficiently diversified with respect to sources of income (with the possible exception of consumer-oriented SMEs); (b) they are highly sensitive to changes in the operations of large enterprises, which generally exert a monopolistic power over the SMEs that supply them with inputs; (c) they lack sufficient collateral; (d) their tax liabilities are uncertain or unpredictable; and (e) their balance sheets lack transparency (i.e., inadequate accounting practices, no distinction between the financial activities of a company and its owner, etc).⁹

Beyond these risk factors, lenders to this sector also face high monitoring costs, because banks and other financial institutions face fixed costs *per project* that do not necessarily depend on the amount of the loan. The smaller the amount of a loan, the higher the cost of monitoring relative to the income earned from the loan.

The high costs of monitoring and the sector's greater risk induce financial institutions to require more security and collateral and to charge higher interest rates to SMEs than to larger-sized enterprises. Also, the credits tend to be short-term and geared toward financing working capital.

High administrative costs, which tend to increase the fixed costs of each loan, and the levels of banking concentration also inhibit lending to SMEs. With respect to banking concentration, recent studies have found that highly concentrated banking systems obstruct SMEs' access to credit in those countries with weak institutions and strong restrictions on the range of permissible banking activities.¹⁰ Where severe difficulties exist for the enforcement of contracts, the monopolistic power arising from a high banking concentration leads to greater discrimination against riskier borrowers (like SMEs) than there would be in a more competitive banking system.

Finally, fragilities in the financial system are clear obstacles to sustainable financial access. Weak banks and other financial institutions are in no position to expand their operations and services to large segments of the population. They usually encounter severe financial difficulties when they do expand because they take on excessive risk. Unfortunately, when financial crises erupt as a result of excessive risk-taking behavior financial access declines significantly, especially for low and middle income individuals and firms. Thus, indicators of financial solvency are necessary to ensure that improvements in financial access take place on a sustainable basis.

d. Institutional Deficiencies

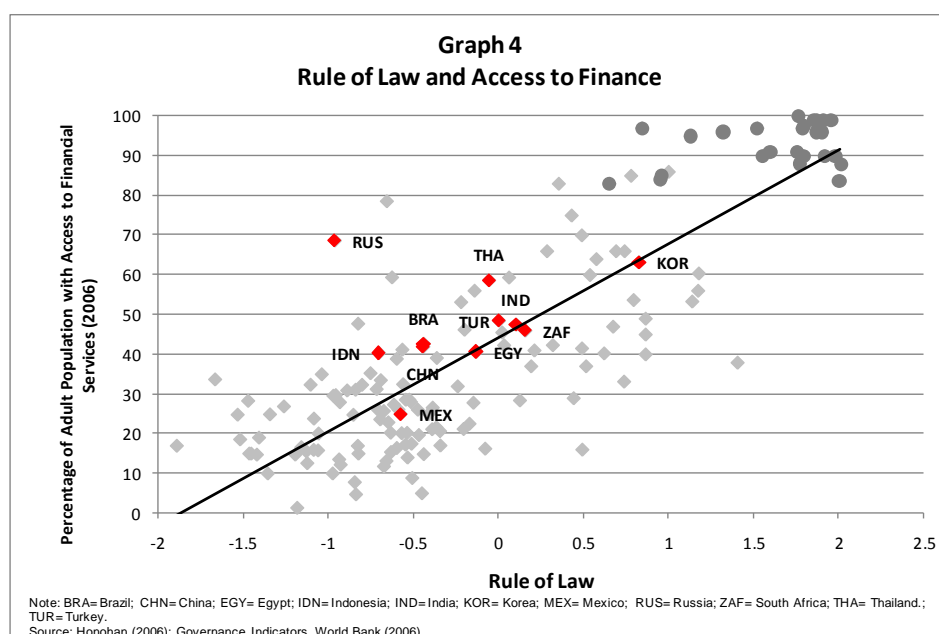
⁹ See, Latin American Shadow Financial Regulatory Committee (2004) for further discussion of these issues in the context of Latin American countries.

¹⁰ See, for example, Claessens (2005)

The previous sections have discussed the importance of institutional quality in the provision of financial services.¹¹ The institutional environment in which financial entities operate plays a central role in the provision of financial services.¹²

To measure institutional quality, this paper uses indicators developed by Kaufmann Kraay and Mastruzzi (2006) known as the *Governance Indicators*. Previous studies have demonstrated that the financial system will develop more fully in countries with observance of the law, political stability, fair and efficient enforcement of the rule of law and respect for creditors' and debtors' rights. When contracts between creditors and debtors are observed depositors have incentives to entrust their savings to banks and other financial institutions. Also, financial firms have incentives to lend at better rates and longer terms to enterprises, since they can seize collateral when debts are in default and are compensated according to pre-established rules in a bankruptcy.

Graph 4 illustrates the relationship between institutional quality and financial access using the *Rule of Law* component of the *Governance Indicators*, which measures agents' confidence in and commitment to abiding by the rules of society, the quality of contract enforcement, the police, the courts and the likelihood of crime and violence. The graph shows a clear positive relationship between adherence to the rule of law and financial access. The correlation coefficient is 0.78 and is significant at the 1 percent level.



As in previous graphs, dots denote industrial countries. As expected, this group of countries is concentrated in the upper right corner of the graph, indicating that high institutional quality in industrial countries is consistent with high levels of financial access. Among Emerging Powers, Korea is the closest to industrial countries in terms of both quality of institutions and access to finance. At the opposite extreme, Mexico, Brazil, China and Indonesia display low institutional quality and low access to finance. Russia is the exception. In spite of its low institutional quality, access to finance is higher than it is for the rest of the Emerging Powers. Nevertheless, Russia's access indicator is far below those in most industrial countries.

e. Regulatory Obstacles

¹¹ An analysis of the effect of institutional quality on access to bank services is found in Beck et al. (2003).

¹² Another very important factor is the regulatory framework that banks face. This subject will be discussed in the next section.

The global financial crisis has highlighted in the starkest terms the importance of adequate financial system regulation. Even with good intentions, some regulations can result in significant distortions that threaten the stability of the financial system. Moreover, inadequate regulation can discourage financial markets development, hinder the adoption of safe financial products and can even promote inefficiencies. Regulatory distortions vary from country to country, and it is very difficult to generalize. However, some of the most important regulatory hurdles facing emerging/developing countries are: (a) risk assessment distortions stemming from the adoption of capital adequacy regulation, (b) distortionary taxes, like taxes on financial transactions and (c) interest rates ceilings and other rules. The adverse impacts of these regulations are explored below.

Treatment of government debt in the calculation of capital requirements pursuant to Basel I has created one of the most important risk assessment distortions. Basel I recommends that banks assign zero risk weighting to OECD government debt and a 100 percent weighting to non-OECD government debt (unless the debt is issued and underwritten in local currency). The idea, of course, is that government assets in developed countries can be considered *safe* (non-risky) assets. The Basel recommendations were designed for the financial systems of industrialized countries. However, most regulators in emerging/developing countries implemented the recommendations and assigned a zero risk weighting to their own governments' debt (whether issued in local currency or not). In other words, banks in emerging/developing countries calculate their capital requirements as if their governments' debt were a safe asset, which has been an unsafe assumption historically given the financial crises many of these countries have experienced. To that end, the current global financial crisis has witnessed a flight from emerging country government debt to US Treasury bonds, the asset considered the safest financial instrument in the world (along with gold).

By way of comparison, Basel I recommended assigning a 100 percent risk weight to all private sector bonds. Most emerging/developing countries implemented this recommendation. Banks were thus incentivized to keep a significant share of their assets in their governments' debt rather than lending to the private sector. This effect intensifies during economic contraction, since banks find it more difficult to maintain capital adequacy.¹³ In other words, banks have incentives to reduce financing to the private sector during a recession, which then deepens it.¹⁴

Capital requirements are, of course, not the only reason that government securities *crowd out* lending to the private sector. However, crowding out effects of bank capital requirements matters a lot especially to SMEs, which, in contrast to large enterprises, do not have alternate sources of financing.

The tax on financial transactions (TFT) is another example of a regulation that significantly distorts the provision of financial services. This tax applies to bank liabilities, including withdrawals from checking and savings accounts through checks, automatic teller machines, debit cards, etc. There is no disagreement on the adverse effects of the tax, because it is not intended to correct a problem in the banking system, but rather strictly for strictly government revenue collection purposes. Such taxes were typically introduced when governments faced fiscal problems because they allow governments to collect revenue quickly administering them is simple.¹⁵

The TFT has two salient negative consequences. First, the TFT encourages financial disintermediation since depositors (individuals and enterprises) try to avoid paying the tax by making fewer transactions through banks and increasing the number of cash transactions. By increasing the cost of bank usage, the TFT diminishes the access of financial services. Second, the weight of the tax is heavier on enterprises with fewer resources. Larger companies can avoid the TFT through offshore transactions and derivative operations, but SMEs cannot.

¹³ This is due to the fact that in recession periods, there is a higher ratio of loans in arrears or problems to total loan portfolio.

¹⁴ The proposed Basel II would not have solved this problem as many emerging countries either have no plans to implement the new Accord at least in the short to medium-term (including China) or are implementing the "simplified version" of Basel II, which basically is just a slightly modified version of Basel I.

¹⁵ The banks and the Central Bank are generally the ones in charge of withholding and collecting the tax.

Singh et al. (2005) documents the decrease in financial intermediation in Brazil as a result of this tax. In Brazil, bank deposits as a percentage of GDP decreased from 25.6 per cent to 24.1 per cent from 1998-2000, in part due to the fact that investors could redirect funds toward mutual funds, which were not subject to the tax¹⁶.

Finally, it is important to mention other controversial regulations. One is the so-called *usury law*, which establishes maximum interest rates for bank credits to prevent banks from imposing excessive rates on debtors. Despite the good intentions underlying this regulation, many analysts argue the regulation is counterproductive. It has hindered access to credit for certain SMEs, which, because they are riskier than large firms, merit interest rates loans higher than the maximum rates allowed by law. Similarly, it has been argued that the excessive money laundering regulations have hindered access finance for SMEs and individuals in many emerging/developing countries.

IV. How do Alternative Obstacles Contribute to Insufficient Financial Access in Emerging Powers? An Econometric Analysis

This section conducts an econometric investigation to determine: (a) whether the degree of access to financial services in Emerging Powers is influenced by the obstacles discussed in the previous section and (b) whether access to finance in Emerging Powers responds to obstacles differently than financial access in other categories of countries.

a. Estimating Financial Access: Does being an Emerging Power Matter?

As discussed above, obstacles are taken from the theoretical and empirical literature on the determinants of financial access and can be classified in five categories (following Rojas-Suarez (2007)). Based on that literature, we follow the same methodology in Reinhart, Rojas-Suarez and Vazquez (2009) and estimate the following equation:

$$(1) \quad FinAccess_i = \alpha_0 + \sum_{j=1}^n \alpha_j Y_{ji} + \beta_1 EPower_i + \beta_2 Ind_i + \varepsilon_i$$

Where i denotes a country; $FinAccess$ is the percentage of adult population with access to financial services as estimated by Honohan (2007), Y_j is a vector of variables representing the different type of obstacles constraining access, $EPower$ is a dummy indicating if a country is an Emerging Power, Ind is a dummy indicating if a country is an industrialized (developed) economy and ε is assumed to be a disturbance with the usual properties of zero mean and constant variance. It is important to emphasize that there are two country dummies because, in accordance with our discussion in Section II, the world is divided into three groups: industrial countries (Ind), Emerging Powers ($EPower$) and other emerging/developing countries ($Other$) Thus, the significance of each of the dummies should be interpreted in relation to the group *Other*.

To conduct the analysis, variables from the five categories of obstacles were identified. Annex I (to be completed) presents a list of variables considered and their sources. An important criterion for including variables in the estimated regression was availability for Emerging Powers. This precluded the use of a number of variables, especially because of lack of information for China. For example, a number of variables associated with the characteristics of the formal financial system (such as property ownership) were eliminated from the analysis since we were not able to find data for China. Nevertheless, we were able to find variables representing all categories of obstacles.

Within each category of obstacles, there were a number of variables that were highly correlated. For example, within the variables indicating the quality of the formal financial system, non-performing loans

¹⁶ It is worth noting that in Brazil a variety of distortionary taxes apply to banking activities.

was highly correlated with capital adequacy. Also, a number of the variables that reflect the quality of institutions (see Annex I) were highly correlated. Moreover, within the macroeconomic variables, the rate of inflation, the volatility of inflation and real interest rate volatility were also highly correlated. This information helped us in the process of selecting the variables that entered in the regressions. Since there is no time series data available for the variable on financial access, we estimated a cross-section data set using OLS.¹⁷

The explanatory variables included in the regressions presented in Table 6 are:

Vollnf = inflation volatility, measured as the standard deviation of the annualized monthly inflation rate from 1995 to 2007. This variable, constructed from *IFS* data from the IMF, represents the category *macroeconomic obstacles*.

Gini = Gini coefficient taken from WIID (World Income Inequality Database from the United Nations University). We took the average of the variable for the period 1995-2006. This variable belongs to the category of *socio-economic obstacles*.

SocialUnderDev = Social Under-development is based on the value of the social component of the HDI (Human Development Index) of the United Nations (discussed in Sections II and III), which ranks from 0 to 1. *SocialUnderDev* is calculated by subtracting the social component of the HDI from 1. Since this is a very slow-moving variable, we took the values for 2006. This variable belongs to the category of *social economic obstacles*.

BankCon = Bank concentration, measured as the assets of three largest banks as a share of assets of all commercial banks. This variable was taken from the data set created and updated by Beck, Demirguc-Kunt and Levine (initiated with their paper *A New Database on Financial Development and Structure*, 2000, World Bank Economic Review 14. The original data is from the Fitch BankScope database. The variable used in the regression is the average for the period 1995-2007 and is within the category of *financial sector inefficiencies and inadequacies*.

BadLoans = The banking system ratio of non-performing loans to total loans. This variable was taken from the *World Development Indicators* of the World Bank. The variable used in the regression is the average for the period 2000-2006 and belongs to the category of *financial sector inefficiencies and inadequacies*.

WeakLaw = This variable represents lack of enforcement of the rule of law and is a transformation of the variable “rule of law” taken from the World Bank Governance Indicators. The original variable “rule of law” was rescaled to a range from 0 to 100. Weak law is calculated by taking 100 minus the rescaled variable. The variable used in the regression is the average for the period 2000-2007 and belongs to the category *institutional deficiencies*.

RegulatoryObst = This variable measures the degree to which collateral and bankruptcy laws impede the expansion of access to credit. The variable is a conversion of the variable *Legal Rights Index* taken from the *Doing Business Indicators* of the World Bank. The original value ranged from 0 to 10. *RegulatoryObst* is calculated by taking 10 minus the value of the *Legal Rights Index*. The variable used in the regression is the average for the period 2000- 2007 and belongs to the category *regulatory obstacles*.

Table 6 reports the results from estimating equation (1). Since all the variables (originally or rescaled) represent *obstacles to financial access*, it is expected to obtain a negative sign for all the coefficients. The exceptions are, of course, the dummy variables *EPower* and *Ind*.

¹⁷ In revising this document, we’ll try out alternative methodologies of estimation.

	(1)	(2)	(3)	(4)	(5)
VolInf	-0.016*** (0.004)	-0.016*** (0.004)	-0.014*** (0.003)	-0.014*** (0.003)	-0.009*** (0.003)
BankCon	-0.073 (0.075)		-0.118* (0.069)	-0.117* (0.067)	-0.193*** (0.063)
BadLoans	-0.421* (0.254)	-0.395 (0.251)			
WeakLaw	-0.325*** (0.116)	-0.307*** (0.118)	-0.460*** (0.093)	-0.452*** (0.087)	-0.567*** (0.088)
RegulatoryObst	-0.392 (0.786)	-0.458 (0.763)	0.110 (0.630)		
Gini	-0.565** (0.224)	-0.539** (0.219)	-0.339** (0.167)	-0.399** (0.165)	-0.479*** (0.170)
SocialUnderDev	-40.334*** (13.367)	-44.553*** (11.468)	-31.389*** (10.159)	-31.725*** (10.213)	
EPowers	6.215 (3.840)	6.896* (4.020)	6.935* (4.002)	7.075* (4.001)	7.576* (4.147)
Ind	18.788*** (6.275)	19.103*** (6.278)	22.421*** (6.485)	20.977*** (6.169)	21.334*** (6.409)
Constant	102.924*** (11.105)	96.925*** (10.441)	92.743*** (10.352)	95.440*** (10.172)	102.041*** (10.552)
Observations	81	81	105	106	106
R-squared	0.814	0.8123	0.7961	0.791	0.7749
F test	57.08	63.71	69.46	72.9	85.8
P - Value	0.000	0.000	0.000	0.000	0.000

note: *** p<0.01, ** p<0.05, * p<0.1; Robust standad errors in parenthesis

An important result from Table (6) is that the coefficients of the social, macro and institutional variables are always highly significant across the different specifications of the model. Specifically, and consistent with the discussion in Section III, high inflation rate volatility, weak enforcement of the rule of law, and high income inequality deter access to financial services. Low levels of social development are also significantly associated with low access to finance, but the interpretation of this variable will be further discussed below.

The results in the table also show that the coefficient of the dummy for *Ind* is significant at the 1 percent level in all the alternative specifications of the equation. The coefficient of the dummy for *EPowers* is also significant in all specifications, but one¹⁸. These results indicate that the behavior of access to finance in both industrial and Emerging Powers differ significantly from that of other emerging/developing countries. If all explanatory variables took equal values, on average, Emerging Powers would enjoy greater access to finance than the rest of emerging/developing countries (about 7 percent more). Also, as expected, industrial countries would have a significantly greater access than the rest of emerging/developing countries (over 20

¹⁸ The dummy for *EPower* is not significant in column (1), but as discussed above, column (1) is not the preferred specification of the model.

percent more under some specifications of the model). These results are consistent with the discussion in Section II.

Column (1) includes all the variables described above representing the five categories of obstacles to finance previously identified. Although the variables representing banking characteristics (*BankCon* and *BadLoans*) and the variable representing regulatory obstacles (*RegObst*) have the expected sign, it is not clear whether these variables should remain in the estimated equation. Columns (2), (3) and (4) deal with this issue. Columns (2) and (3) include each banking variable separately. In-sample predictions led us to conclude that model (3), which included *BankCon*, was superior to model (2).¹⁹

The variable *RegulatoryObst* remained non-significant under alternative specifications and is therefore excluded in column (4). The elimination of this variable is an unfortunate development since there are strong reasons to believe that inadequate regulations have played an important role in limiting financial access (see the discussion in Section III). Our assessment is that the variable selected does not appropriately capture regulatory constraints. After all, the variable only focuses on problems with collateral and bankruptcy laws, which are just two of the many regulatory problems facing emerging and developing countries. As discussed in Section III, transaction taxes, interest rate controls, and other regulatory distortions are quite important in emerging/developing countries. Unfortunately, we have not been able to find an adequate variable to capture these obstacles for a large number of countries, and construction of a new dataset on regulatory obstacles is beyond the scope of this paper. Thus, worldwide exploration of the role of regulatory constraints in limiting financial access remains a topic for future research.

The role of the variable *SocialUnderDev* (included in models 1 through 4) deserves special attention. There is no consensus in the literature about the direction of causality between social development and access to finance, and this remains an empirical question, as there are arguments supporting each direction of causality. The model in column (5) presents an alternative estimation that excludes the variable *SocialUnderDev*. The most important result from the model in column (5) is that, relative to all previous specifications, the size of the coefficient for *WeakLaw* increases significantly. This result support the theory of development that argues that degree of development is highly dependent on the quality of institutions.²⁰ According to this view, institutions are the deep fundamental cause of development. Consequently, it seemed correct to exclude the variable *SocialUnderDev* in the equation for financial access.

b. Exploring Differential Behavior to Obstacles to Financial Access

The analytical exercise above provides a positive answer to the question posed in sub-section **a.** above: On average, being an Emerging Power matters for access to finance. This section explores whether changes in alternative obstacles impact financial access in Emerging Powers differently than in other emerging/developing countries. The same analysis is done for industrial countries.

For that purpose we estimate the following equation, where differential effects from Emerging Powers and Industrial countries are allowed.

$$(2) \quad \begin{aligned} FinAccess_i = & \gamma_0 + \sum_{k=1}^4 \gamma_k Z_{ki} + \sum_{k=1}^4 \delta_k Z_{ki} * EPower_i + \sum_{k=1}^4 \theta_k Z_{ki} * Ind_i + \varphi_1 EPower_i \\ & + \varphi_2 Ind_i + \mu_i \end{aligned}$$

¹⁹ In-sample predictions using model (3) produced a better fit than predictions using model (2). Thus, the standard deviation of the prediction vector is greater in model (2) than in model (3). An additional argument for choosing model (3) over model (2) is the significant loss of observations under the latter.

²⁰ See Acemoglu et al (2005).

Where Z_i is the vector of variables representing the four obstacles identified in our preferred model (column 5) in table 6 (thus, k goes from 1 to 4). μ_i is the error term with the usual assumed characteristics.

The equation is formed by the explanatory variables and by the interaction between those variables and the dummies for Emerging Powers and for industrial countries. The results from the estimation are presented in Table 7.

Table 7
Dependent Variable: FinAccess

	Coefficient	S.E.
<i>VolInf</i>	-0.011***	0.003
<i>VolInf*Ind</i>	3.784	4.329
<i>VolInf*EPowers</i>	0.003	0.029
<i>BankCon</i>	-0.245***	0.086
<i>BankCon*Ind</i>	0.160**	0.112
<i>BankCon*EPowers</i>	-0.039	0.194
<i>WeakLaw</i>	-0.634***	0.094
<i>WeakLaw*Ind</i>	0.139	0.298
<i>WeakLaw*EPowers</i>	0.523*	0.255
<i>Gini</i>	-0.324**	0.183
<i>Gini*Ind</i>	-1.075**	0.437
<i>Gini*EPowers</i>	0.086	0.356
<i>EPowers</i>	-22.511	23.672
<i>Ind</i>	40.066*	19.674
Constant	103.222***	12.370
Observations	106	
R-squared	0.7998	
F test	91.76	
P - Value	0.000	

note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

A key result is that the coefficients attached to the explanatory variables representing obstacles to finance remain highly significant and negative (as in equation 6). This can be interpreted as evidence that access to finance in countries classified as “other emerging/developing” depends significantly on the behavior of the four explanatory variables included in the model.

With respect to inflation volatility, the results indicate that an increase in the value of this variable—an indicator of macroeconomic fragility—has an adverse and similarly marginal effect on the provision of financial services in all three categories of countries. In the regression, the coefficients attached to the interactions between *VolInf* and the dummies of both Emerging Powers and Industrial countries are not significant. Combined with the significant coefficient obtained for *VolInf*, these results imply that the response of financial access to changes in the volatility of inflation is not different among Emerging Powers, other emerging/developing countries and industrial countries.

A very different and interesting result is obtained when analyzing the effects of a change in bank concentration. The results suggest that bank concentration is not an issue for industrial countries when

dealing with the topic of financial access. By contrast, it is important for the rest of the world, Emerging Powers or not. The regression coefficients confirm these results. The coefficient attached to the interaction between *BankCom* and the dummy for Emerging Powers is not significant, suggesting that the response of financial access in Emerging Powers to an increase in banking system concentration is negative and of similar magnitude to other developing/emerging countries. On the other hand, the coefficient attached to the interaction between *BankCom* and the dummy for industrial countries is significant. However it has a positive sign and its value (0.23) is very similar in absolute terms to the value of the coefficient attached to the individual variable *BankCom* (-0.26). Together this means the *joint effect* of *BankCom* is close to zero for industrial countries. These results might explain, at least partially, why the issue of banking concentration is so important in emerging/developing countries but receives much less attention in industrial countries.

The results from analyzing the response of access to the quality of institutions are somewhat puzzling. The econometric analysis suggest that lack of enforcement of the rule of law adversely affect access to finance in all categories of countries, but that the impact on Emerging Powers is less than in the other two country categories. These results are demonstrated by: (a) the *WeakLaw* and industrial country dummy interaction coefficient's lack of significance; and (b) the *WeakLaw* and the Emerging Powers dummy interaction coefficient's positive significance. This last result implies that the *joint effect* (the addition of the coefficients for *WeakLaw* and *WeakLaw*Emerging Power*) is -0.1 for Emerging Powers, well below the coefficient for the two other country categories (0.64).

The fact that the Emerging Powers group contains relatively few countries that are quite diverse provides a plausible explanation for this result. For example, Russia's value of the indicator "rule of law" is very low, yet it ranks among the top between Emerging Powers when considering the percentage of population with access to finance. Further analysis of this result will be included in the revised version of this document.

Finally, deteriorating income distribution has a negative effect on financial access in all three country categories. While the results indicate that Emerging Powers and other emerging/developing countries share the same value of the estimated coefficient, they also suggest that the coefficient for industrial countries is significantly larger.

In conclusion, all obstacles considered in this analysis adversely affect access to finance in Emerging Powers. The effect, however, is not always similar to that in the other two categories of countries. For example, there is no differential effect between country groups to a change in inflation volatility. However, access in Emerging Powers and other developing countries responds negatively to changes in banking concentration, whereas banking concentration has negligible effects on access in industrial countries. Also, the impact of institutional quality (in this analysis, the rule of law) on Emerging Power is smaller than it is on countries in the rest of the world. Finally, access to finance in Emerging Powers and other emerging/developing countries respond equally to changes in income distribution, but their response differs from that in industrial countries.

V. Policy Implications

(to be completed)

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