

OECD DEVELOPMENT CENTRE

Background Paper
for the
Perspectives on Global Development 2010
Shifting Wealth

ACCES TO FINANCIAL SERVICES IN EMERGING POWERS: FACTS, OBSTACLES AND POLICY IMPLICATIONS

by

Liliana Rojas-Suarez
(with Veronica Gonzales)
Senior Fellow
Center for Global Development
Washington DC

March 2010

GLOBAL DEVELOPMENT BACKGROUND PAPERS

This series of background papers was commissioned for the *Perspectives on Global Development 2010: Shifting Wealth*. These papers have been contributed by the Non-Residential Fellows of the Perspectives on Global Development, eminent scholars from developing and emerging countries, to provide insight and analysis on the areas covered by the main report.

The opinions expressed and arguments employed in this document are the sole responsibility of the author and do not necessarily reflect those of the OECD or of the governments of its member countries.

Comments on this paper would be welcome and should be sent to the OECD Development Centre, 2 rue André Pascal, 75775 PARIS CEDEX 16, France; or to dev.contact@oecd.org. Documents may be downloaded from the OECD Development Centre website www.oecd.org/dev/pgd, or obtained via e-mail (dev.contact@oecd.org).

©OECD (2010)

Applications for permission to reproduce or translate all or part of this document should be sent to rights@oecd.org.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	4
I. INTRODUCTION	5
II. ACCESS TO FINANCIAL SERVICES IN EMERGING POWERS: SOME STYLISED FACTS.....	7
Defining Emerging Powers in this Study	7
Financial Access in Emerging Powers: How Does it Compare with Other Country Categories?	8
III. OBSTACLES TO FINANCIAL ACCESS IN DEVELOPING COUNTRIES: WHERE DO EMERGING POWERS STAND?	16
Socio-Economic Factors that Limit Financial Access	16
Macroeconomic Constraints to Financial Access	18
Financial Sector Inefficiencies and Inadequacies.....	19
Institutional Deficiencies.....	21
Regulatory Obstacles	22
IV. HOW DO ALTERNATIVE OBSTACLES CONTRIBUTE TO INSUFFICIENT FINANCIAL ACCESS IN EMERGING POWERS? AN ECONOMETRIC ANALYSIS.....	25
Estimating Financial Access: Does being an Emerging Power Matter?	25
Exploring Emerging Powers' Differential Behaviour to Obstacles to Financial Access	31
V. POLICY IMPLICATIONS.....	35
ANNEXES.....	37
REFERENCES	41

ACKNOWLEDGEMENTS

The authors are grateful to Arturo Galindo and Francisco Vazquez for important suggestions and to Burcu Hacibedel and an anonymous reviewer for valuable comments. Any remaining errors are, of course, our own.

I. INTRODUCTION

In addition to financial stability and efficiency, access to financial services for large segments of the population is increasingly recognised 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 can contribute to the reduction of poverty. 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 and for the enlargement and deepening of markets for goods and services.

Though its importance is widely recognised (with a substantial amount of supporting literature), 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 per cent in Brazil, 48 percent in India and 46 per cent in South Africa. These figures compare with over 90 per cent in the developed world.¹

While important for all categories of countries, improved access to financial services is particularly relevant for Emerging Powers. The fundamental reason is that, from an economic perspective, size (both in terms of GDP and population) ultimately matters as a *source of economic power* to the extent that it translates into large and *growing* domestic markets that are participating in the *global* demand for and supply of products and services. Insufficient access of the population (households and firms) to financial services can result in a severe constraint on the development of a dynamic middle-class with increasing consumption capabilities and of a buoyant entrepreneurial sector, including small and middle-size enterprises. Thus, in this paper, we take the view that improved access to financial services in Emerging Powers is necessary for the long-term *sustainability* of their *economic power*.²

This paper builds on existing research to address two fundamental questions: First, why do big emerging economic powers like Brazil, India, Mexico and South Africa display low ratios of access to financial services for large segments of their populations? And second, do the obstacles to financial access in Emerging Powers differ from those faced by other

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.

² By focusing on an issue related to the sustainability of economic power, this paper abstracts from issues related to political and military forces. Armijo (2007) contains an interesting discussion on the alternative sources of power of a subset of Emerging Powers: the BRIC countries.

emerging/developing countries? It is important to note that this study will focus only on financial services accessed through the formal financial system. Consistent with previous research, this paper considers the creation of adequate incentives for the increased provision of and demand for services in the formal financial sector as an important policy challenge.

To conduct the analysis, the rest of the paper is organised 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 it presents a number of stylised facts that characterise access to financial services by this group of countries, emphasizing differences between developed countries and emerging/developing countries. Section III identifies obstacles to access to financial services and provides graphic evidence and partial correlations between financial access and some of the most important impediments to 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) is the relative importance of alternative constraints to financial access in Emerging Powers different from other emerging/developing countries? Answers to questions (a) and (b) then shape Section V, which derives policy implications and conclusions.

II. ACCESS TO FINANCIAL SERVICES IN EMERGING POWERS: SOME STYLISTED FACTS

Defining Emerging Powers in this Study

There is no single definition of an *Emerging Power*. As discussed in Reisen (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 as the four BRIC countries (Brazil, Russia, India and China). However, a number of papers propose including other countries as groups with increasing global influence. For example, Gratius (2008) suggests that Mexico 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 is a very diverse group composed of: Bangladesh, Egypt, Indonesia, Iran, Korea, Mexico, Nigeria, Pakistan, Philippines, Turkey and Vietnam.

Acknowledging that the definition is inherently arbitrary, in this paper we define Emerging Powers as emerging market economies with: (a) large populations (i.e. among the top 20 per cent most populated countries in the world) (b) sizable real GDPs (i.e. in the top 20 per cent 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 path;³ and (d) with either “high” or “medium” levels 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 growing 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 country 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 requirements, *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 it 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”.

³ 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.

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.

Financial Access in Emerging Powers: How Does it Compare with Other Country Categories?

From the outset it is important to stress that data constraints are a serious limitation for any study on financial access. Indeed, to date there is no time series data that permits cross-country comparisons. Thus, studies of the characteristics of access to finance involving a variety of countries around the world are strictly confined to cross sectional analysis. With this consideration in mind, Tables 1 to 3 are based on an indicator of access to financial services elaborated by Honohan (2007). The indicator estimates the percentage of the adult population using formal financial intermediaries. By including only the adult population in each country, this estimate corrects, at least partly, for large demographic differences across countries that could distort the measurement of access to finance. For example, among Emerging Powers, the population under 15 years of age in India and Egypt is about one third of the total population. This compares with only 18 per cent in Korea and a number of developed countries. Thus, in spite of a number of shortcomings recognised by the author, to our knowledge, Honohan's indicator is the best indicator to date for cross-country comparisons.⁴

Table 1 shows the estimates of financial access for Emerging Powers. Interestingly, despite the wide diversity of countries in the sample, the estimated percentage of the adult population with access to financial services ranges between 40 and 50 per cent 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 per cent of the adult population with access to formal financial services, Mexico's access is similar to that of low-income African countries.⁵ By contrast, Thailand and, especially Korea and Russia, show ratios of financial access above the mean for the Emerging Powers group.

⁴ 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.

⁵ 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 in 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)

It is important to note that, by providing estimates at the country level, the indicator of financial access used throughout this document does not reveal the existing huge differences in access between urban and rural populations. By and large, the percentage of urban populations enjoying access to financial services is much larger than populations in rural areas. Although it could be argued that efforts towards modernisation and urbanisation, characteristic of most Emerging Powers, help to partly explain the large difference in financial access between urban and rural populations, the truth of the matter is that this divide is present in the large majority of non-developed economies, be they Emerging Powers or not. For example, in Colombia, a middle-income country but not an Emerging Power, the provision of banking services is highly concentrated in urban areas. By 2008, 65 per cent of bank branches (adding both private and public banks) were located in urban areas. Explaining the factors determining the differential behaviour in the usage (both demand and supply factors) of financial services between urban and rural areas is beyond the scope of this paper.⁶

Table 2 divides the world into four groups of countries: developed, Emerging Powers, other upper middle-income countries and the rest of the developing countries. This classification is based on aggregations utilised by the World Bank. Developed countries are those classified as “high income” by the World Bank. The group “other upper-middle income” countries corresponds to the category of countries classified as “upper-middle income countries” by the World Bank, excluding the countries identified as Emerging Powers in this paper. Finally, the

⁶ It is interesting to note that, according to data by the World Bank Development Indicators (WDI) by 2007, the median value of the rural population as a percentage of total population in Emerging Powers was 39 percent; a figure higher than the median of 32 per cent in “other” upper middle-income countries, but much lower than the value of 55 per cent in the rest of developing countries. (See Table 2 for the definition of country group categories). The median value is a relevant statistic in this case as it is a measure of the “representative” country in each group. Among Emerging Powers, India stands out for displaying a ratio of about 70 per cent of population living in rural areas.

group “rest of developing countries” corresponds to the aggregation of the categories “lower-middle income” and “low-income” countries by the World Bank.⁷

As shown in the Table and not surprisingly, the average ratio of access in developed countries is much larger than those in other categories of countries: almost double than in Emerging Powers and almost quadruple than in the rest of the developing countries. An interesting result is that, on average, financial access in countries categorised as “other upper middle-income” is slightly larger than in the Emerging Powers group. The former category, however, also displays the largest dispersion, as measured by the standard deviation. This is because the group includes a very heterogeneous set of countries like the Czech Republic, where access is above 80 per cent and Venezuela, where access is less than 30 per cent. On an overall basis, the information in Table 2 illustrates the large gap in access to finance between industrial countries and other country categories. As stated in the introduction, a major challenge for Emerging Powers is to reduce the size of this gap, as inadequate access to financial services could constrain the development of a middle class with sufficient income and wealth capabilities to facilitate their participation, both as consumers and producers, in the global economy. This in turn might bring into question the sustainability of their economic power.

Table 2

Indicators of Access to Financial Services: Emerging Powers and other Income Groups		
Income Group	Indicator of Access	
	Average	Standard Deviation
Developed Countries	88.84	13.84
Emerging Powers	47.57	12.17
Other Upper-Middle Income Countries	51.28	17.92
Rest of Developing Countries	23.62	11.48

Source: Honohan (2007)

Ideally, a more precise comparison would be between access to financial services in Emerging Powers *now* and access in developed countries when they were at similar stages of development as the current Emerging Powers. As already mentioned, data availability prevent such comparisons. However, current data allow for an alternative exercise, namely, using current information to compare financial access in Emerging Powers relative to that in countries of the same degree of *social* development.

⁷ The econometric analysis presented in Section IV is based in this classification of countries. The precise list of countries used for that analysis is contained in Annex I.

Such an exercise is presented in Table 3, which 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).⁸

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

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

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 Mexico and Korea (and China to some extent), 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 since it implies that most Emerging Powers are advancing faster than their peers (in terms of social development) in the provision of financial services to their populations.

However, some of the results in Table 3 deserve further elaboration. For example, in terms of financial access, Mexico lags significantly relative to its social-development peers. Mexico belongs to the eighth decile of the index, which is composed of upper middle-income countries. Thus, Mexico'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 impede further economic progress there. The cases of India and South Africa contrast with that of Mexico. The two former countries belong to the third

⁸ 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 (tenth decile) of the constructed social subindex. Countries are categorised 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.

decile of the HDI and, therefore, their relative position in Table 3 is compared to a number of lower income countries, such as Ghana, Congo and Nepal. Thus, a first impression from Table 3 is that while social underdevelopment might not be a binding constraint for improving financial access in Mexico (other factors seem to be at play), it might be an important obstacle in India and South Africa.⁹

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 accounted for rather than just the banking system. However, no data of that sort exists for world-wide comparisons, thus these two indicators provide useful, albeit limited additional information.

We now explore these two indicators. Table 4 presents financial depth and there are four salient features of 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 the category “rest of developing countries”. Second, during the period 2007-09, the ratios of financial depth were larger on average for the Emerging Powers than they were for the “other upper-middle income countries”. This, however, can be fully explained by the rapid expansion of the balance sheets of China’s banks in the 2000s. Indeed, excluding China, the average ratios for financial depth in Emerging Powers are not very different from those for the group of “other upper-middle income” countries; a result consistent with the findings for financial access, presented in Table 2. Third, 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 in developed countries.¹⁰ Fourth, 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.

⁹ Korea also lags relative to its peers, but to a much lesser extent than Mexico. Also, it is important to note that Korea belongs to the ninth decile of the HDI social index (the second highest decile), which includes some of the most developed countries in the world such as the United Kingdom, Germany and Austria. Thus, the *standards for comparison* are much tougher for Korea than for Mexico.

¹⁰ 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.

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 Upper-Middle Income Countries	39.45	52.73	33.56	42.28
Rest of Developing Countries	20.43	26.60	15.63	19.47

Source: Thorsten Beck, Asli Demirgüç-Kunt and Ross Levine, (2007), "A New Database on Financial Development and Structure," World Bank Economic Review 14, 597-605.

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 is 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 an outcome can be achieved in countries that are more democratic.¹¹

¹¹ A number of studies have argued that in democratic countries, the achievement of sustainable growth requires a broadly sharing of 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.

The lack of correlation between financial access and financial depth in Emerging Powers also implies that the latter cannot be used as a proxy for the former for the purpose of conducting time-series analysis.¹²

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, the fact that financial services providers are more than just bank branches and ATMs is an important caveat in making 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 utilise 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 Upper-Middle Income Countries	11.7	22.4	34.1
Rest of the Developing Countries	4.7	6.2	10.8

Source: Beck, Demirgüç-Kunt & Martinez Peria

Consistent with previous indicators, the figures in Table 5 demonstrate the large gap between developed 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 *and the sustainability of economic power*

¹² In contrast to information on access to financial services, there exists time series data for both deposits and credit ratios dating from the 1960s.

requires an expansion of traditional channels like branches and ATMs (and, of course, expanded internet banking). This is because higher development brings about more complex financial transactions that require 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 a “high-income” country by the World Bank. Consistent with these features, bank coverage in Korea has reached levels observed in developed 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 for access to finance, both on the supply and the demand side. 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 (2010) 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.

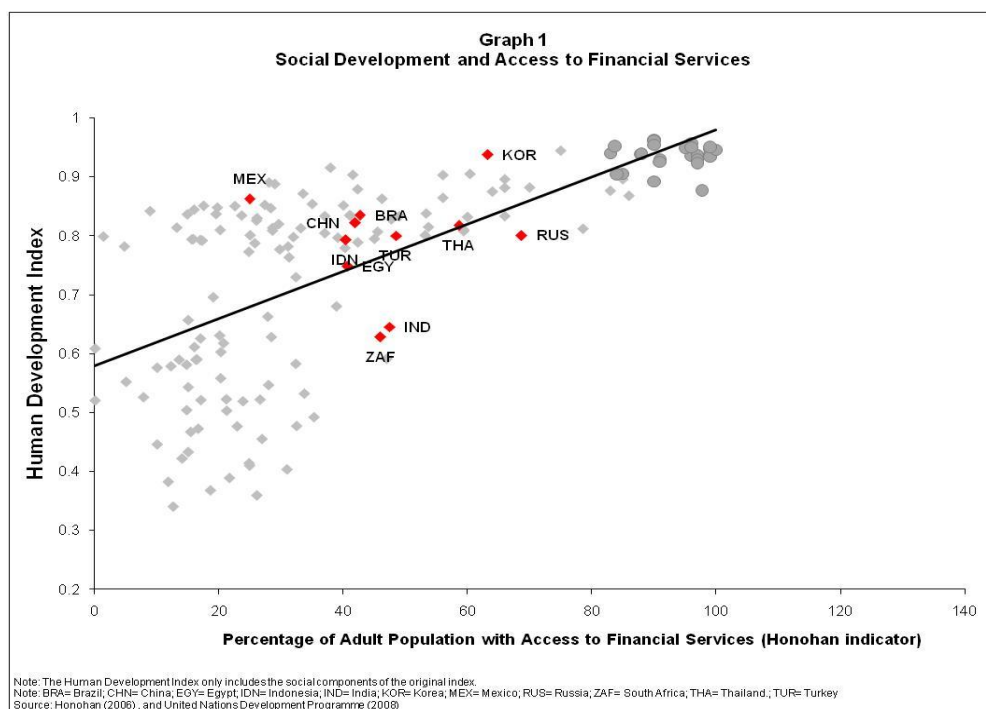
Obstacles to finance fall into five categories. The first category relates to socio-economic constraints that limit both the supply of and the demand for financial services. The second deals with weaknesses in the macroeconomic environment that deter large segments of the population from using the services 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.

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.¹³ 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 per cent 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

¹³ Other factors such as demographic differences also play a role. As discussed above, the choice of an indicator that focuses only on access to financial services by the adult population partly, although not entirely, takes these differences into account.

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.

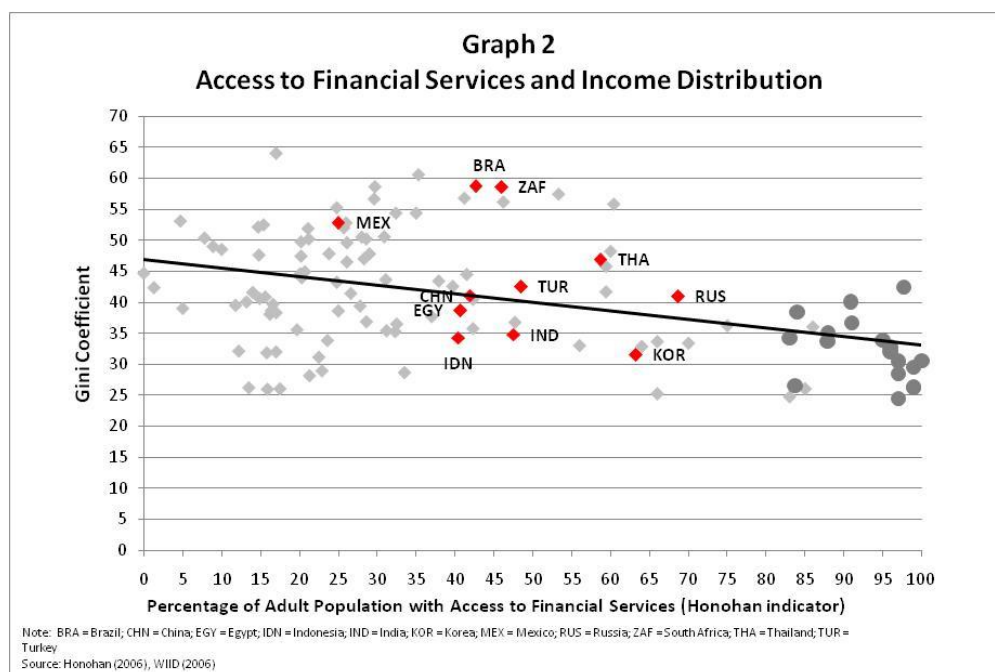


Most Emerging Powers are above the fitted line, suggesting that, *ceteris paribus*, there is potential for improving access given their degree of development. Thus, other variables are constraining access (explored in Section IV's econometric investigation). Consistent with data shown in Table 3, Mexico stands out. Its degree of financial access is well below what can be expected given its 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 and demand for financial services in the formal sector.

Income inequality is another social variable cited as having an important interrelationship with the degree of financial access.¹⁴ 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 per cent level. Once again, developed 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 with the greatest degree of access to finance.

¹⁴ See for example Beck *et al.* (2006) and Demircuc-Kunt and Levine (2008).

Likewise, Mexico, the country with the lowest degree of financial access, is among the Emerging Powers with the highest value of the Gini coefficient.

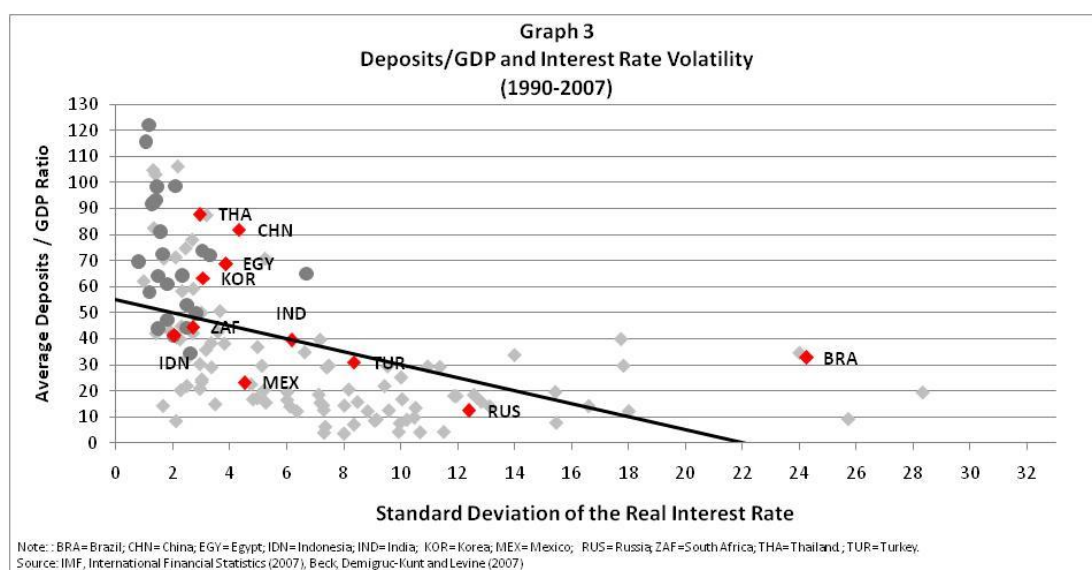


Macroeconomic Constraints to Financial Access

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 emerging/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 destroys the value of savings in the financial system were among the causes. As a result, many emerging/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 correlation coefficient of -0.5, significant at the 1 per cent level. Once again, the developed countries are indicated with a dot. Clearly the

developed 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 meagre 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 channelled into consumer loans and only 20 per cent to mortgage loans.

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 in conducting 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 the 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 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).¹⁵

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.

¹⁵ See, Latin American Shadow Financial Regulatory Committee (2004) for further discussion of these issues in the context of Latin American countries.

High administrative costs, which tend to increase the fixed costs of each loan, and high levels of banking concentration might 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.¹⁶ 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 behaviour 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.

Institutional Deficiencies

The previous sections have discussed the importance of institutional quality in the provision of financial services.¹⁷ The institutional environment in which financial entities operate plays a central role in the provision of financial services.¹⁸

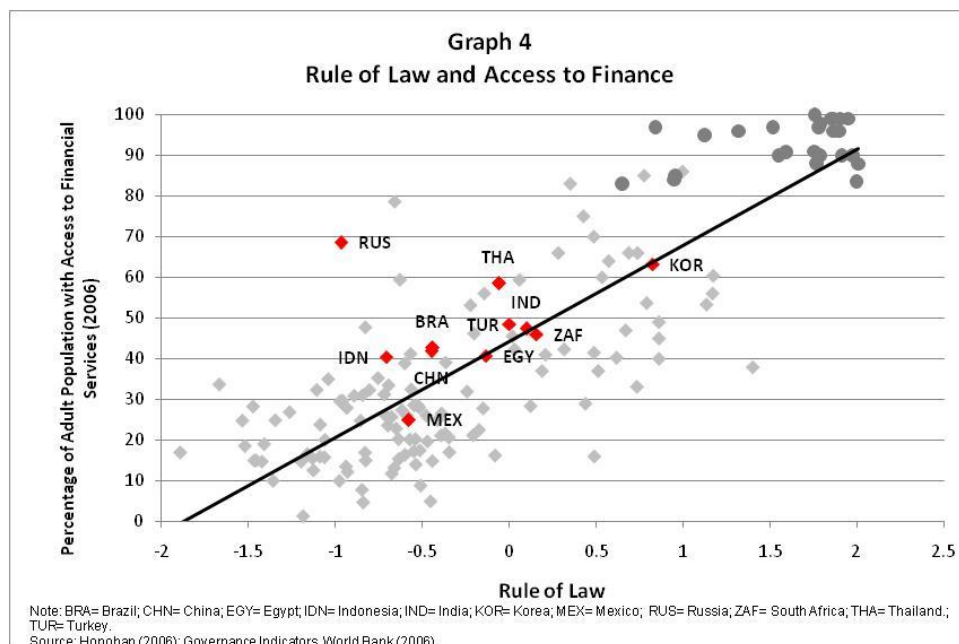
To measure institutional quality, this paper uses World Bank indicators known as the *Governance Indicators*. Previous studies have demonstrated that the financial system will develop more fully in countries with observance of the law, political stability, fair and efficient enforcement of the rule of 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 per cent level.

¹⁶ See, for example, Claessens (2005)

¹⁷ An analysis of the effect of institutional quality on access to bank services is found in Beck et al. (2003).

¹⁸ Another very important factor is the regulatory framework that banks face. This subject will be discussed in the next section.



As in previous graphs, dots denote developed countries. As expected, this group of countries is concentrated in the upper right corner of the graph, indicating that high institutional quality in developed 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 in Russia than it is for the rest of the Emerging Powers. Nevertheless, Russia's access indicator is far below those of most developed countries.

Regulatory Obstacles

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 are multiple, vary from country to country, and it is very difficult to generalise. 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 rate 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 a very important risk assessment distortion. Basel I recommends that banks assign zero risk weighting to OECD government debt and a 100 per cent 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 developed 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, whereas safe government debt has been an unsafe assumption historically given the financial crises many of these countries have experienced. To that end, the peak of the 2008-09 global financial crisis 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 per cent risk weight to all private sector loans (with the exception of residential mortgage loans, which carry a risk weight of 50 per cent). Most emerging/developing countries implemented this recommendation. Banks were thus incentivised 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.¹⁹ In other words, banks have incentives to reduce financing to the private sector during a recession, which then deepens the recession.²⁰

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 and a large number of households which, in contrast to large enterprises and wealthy individuals, do not have alternate sources of formal 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 for government revenue collection purposes. Such taxes are typically introduced when governments face fiscal problems because they allow governments to collect revenue quickly and administering them is simple.²¹

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

¹⁹ This is due to the fact that in recession periods, there is a higher ratio of loans in arrears or problems to the total loan portfolio.

²⁰ 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.

²¹ The banks and the Central Bank are generally the ones in charge of withholding and collecting the tax.

increasing the cost of bank usage, the TFT diminishes access to 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.

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 tax.²²

Also, 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 higher than the maximum rates allowed by law. Similarly, it has been argued that the excessive money laundering regulations have hindered access to finance for SMEs and individuals in many emerging/developing countries.

Finally, the delays in passing and uncertainty in implementing necessary regulations to allow certain innovations to support financial access are worth noting. India is a case in point. In this country, the Reserve Bank of India, the central financial regulator, has been constantly reviewing and updating regulation concerning the functioning of the *business-correspondent* model, through which third-party agents offer certain banking services on behalf of banks. Uncertainties regarding the rules of the game have constrained the expansion of this innovation for improving financial access.

²² It is worth noting that in Brazil a variety of distortionary taxes apply to banking activities.

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. As discussed in the introduction and in Section II, identifying the most important obstacles constraining the supply of and demand for financial services in Emerging Powers is of great relevance for this group of countries, as insufficient access to finance limits the development of a vibrant entrepreneurial sector and of a middle class with adequate purchasing power capacity. This in turn, curbs the expansion of domestic markets as participants in the global economy, which is a key source of the economic power for this group of countries.

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 (2010) and estimate the following equation:

$$(1) \quad FinAccess_i = \alpha_0 + \sum_{j=1}^n \alpha_j Y_{ji} + \beta_1 EPower_i + \beta_2 Developed_i + \beta_3 MiddleIncome_i + \varepsilon_i$$

Where i denotes a country; $FinAccess$ is the percentage of the adult population with access to financial services as estimated by Honohan (2007), Y_j is a matrix of variables representing the different type of obstacles constraining access, $EPower$ is a dummy indicating if a country is an Emerging Power, $Developed$ is a dummy indicating if a country is a developed economy, $MiddleIncome$ is a dummy indicating if a country belongs to the category “other upper-middle income countries” as described in Section II 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 three country dummies because, in accordance with our discussion in Section II, the world is divided into four groups: developed countries (*Developed*), Emerging Powers (*EPower*), other upper-middle income countries (*MiddleIncome*) and the rest of developing countries (*Other*) Thus, the

significance of each of the dummies should be interpreted in relation to the group *Other*. Annex I presents the list of countries within each category included in the econometric work.

To conduct the analysis, variables from the five categories of obstacles were identified. Annex II presents a list of variables considered and their sources. An important criterion for including variables in the estimated regression was the availability of information for Emerging Powers.²³ This precluded the use of a number of variables, especially because of the 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, the ratio of banks' bad loans was highly correlated with the capital adequacy ratio. Also, a number of the variables that reflect the quality of institutions (see Annex II) were highly correlated. This information helped us in the process of selecting the variables that entered into the regressions.

Since there is no time series data available for the variable on financial access, we are restricted to using a cross-section data set in the estimation. Equation (1) is estimated using Weighted Least Squares (WLS) due to the likely presence of heteroskedasticity.²⁴

Unless noted, most of the explanatory variables were estimated as averages for the period 1999-2007. This time period was selected for two reasons. The first is that this is the high growth period that characterised Emerging Powers (with the exception of China and India that displayed a high growth path since the 1990s).²⁵ The second is that we avoided temporary distortions in the analysis of access to finance by excluding the period of the recent global financial crisis (2008-2009).

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

²³ Of course, a number of countries in all categories were not included in the regression analysis due to lack of information. As mentioned in the main text, Annex I shows the list of countries included in the regressions.

²⁴ Heteroskedasticity is usually a problem in cross-sectional databases since each observation comes from a different agent and, therefore, from a different probability distribution (i.e., has a different variance). The presence of heteroskedasticity can cause the variance of each estimated coefficient to be underestimated if an OLS (ordinary least square) model is used in the estimation. This, in turn, implies that the confidence intervals and T tests cannot be relied upon. To correct for this problem, we apply a WLS model. WLS uses OLS for the estimation of the coefficients, but corrects the variance-covariance matrix of the model by weighting each observation (it tries to give each data point its proper amount of influence over the estimated coefficient). This methodology aims at maximizing the efficiency of the estimation and makes good use of small data sets, like the one we are dealing with. We also checked for (and rejected) the presence of outliers in our database since WLS is most effective in the absence of outliers.

²⁵ It also excludes the period of the Russian and East Asian crises (1997-98) that affected the growth performance of a number of Emerging Powers.

VolGDPgrowth = volatility of real GDP growth; measured as the standard deviation of annual real GDP growth in the sample period (1999-2007). This variable, constructed from the World Economic Indicators of the World Bank, 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 1999-2006.²⁶ 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 there was not data available for every year in the sample, but this is a very slow-moving variable, we took the values for 2006. This variable belongs to the category of *socio-economic obstacles*.

BankCon = Bank concentration, measured as the assets of the 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 1999-2007 and is within the category of *financial sector inefficiencies and inadequacies*.

BankInefficiency: An indicator of banking system inefficiencies, measured as the ratio of overhead costs to total assets. 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 median for the period 1999-2007 and is within the category of *financial sector inefficiencies and inadequacies*.²⁷

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 1999-2007 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 1999-2007 and belongs to the category *institutional deficiencies*.

²⁶ 2006 was the last year with available data from this source.

²⁷ For this variable we took the median, rather than the mean, because of the presence of large extreme values in the data. In this case, the median is a better indicator of the "representative" value.

RegulatoryCons = This variable measures the degree to which *regulatory constraints* impede the development of financial markets. The variable is a transformation of the *Financial Freedom Index*, which assesses the extent of government regulation of financial services; the extent of state intervention in banks and other financial services; the difficulty of opening and operating financial services firms; and government influence on the allocation of credit. The original value ranged from 0 to 100. *RegulatoryCons* is calculated by taking 100 minus the value of the *Financial Freedom Index*. The variable used in the regression is the average for the period 1999- 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.²⁸ The exceptions are, of course, the dummy variables *EPower*, *Developed* and *MiddleIncome*.

²⁸ In addition, we dealt with the issue of a potential endogeneity problem regarding the social variables included in the model: *SocialUnderDev* and *Gini*. Indeed, there is no consensus in the literature about the direction of causality between social development and access to finance and, therefore, it is an empirical question as there are arguments supporting each direction of causality. Thus, we conducted endogeneity tests that allowed us to conclude that the two variables could indeed be incorporated as exogenous variables in our model. The endogeneity of these variables was tested after using a 2SLS estimation where the variable “percentage of population living in rural areas” was included as an instrument in the estimation of the *Gini* and the variables “percentage of the population covered by mobile telephony” and “Poverty Headcount Ratio at National Poverty Line (% of population)” were included as *alternative* instruments in the *SocialUnderDev* equation. All other independent variables included in equation (1) were also included as instruments for the estimation of the *Gini* and *SocialUnderDev*.

Table 6
WLS Regressions
Dependent Variable: FinAccess

Variables	(1)	(2)	(3)	(4)
VolGDPgrowth	-0.829 (0.617)	-1.069* (0.600)	-1.090* (0.584)	-1.292** (0.511)
BankCon	-0.036 (0.073)	-0.058 (0.064)		
BadLoans	-0.136 (0.233)			
Bankinefficiency	-1.174 (0.741)	-0.966* (0.580)	-1.004* (0.582)	
WeakLaw	-0.160 (0.102)	-0.176** (0.081)	-0.148* (0.078)	-0.231*** (0.076)
RegulatoryCons	-0.171* (0.096)	-0.154** (0.078)	-0.167** (0.073)	-0.123* (0.070)
Gini	-0.339** (0.158)	-0.312** (0.156)	-0.299* (0.154)	-0.323** (0.145)
SocialUnderDev	-11.124 (12.197)	-13.692* (8.398)	-14.508* (8.195)	-19.066** (7.837)
EPowers	16.779*** (4.997)	17.933*** (4.695)	19.058*** (4.780)	18.796*** (4.529)
Developed	41.527*** (6.075)	42.122*** (5.565)	43.109*** (5.600)	40.709*** (5.573)
MiddleIncome	17.626*** (5.374)	19.027*** (4.860)	19.874*** (4.729)	18.695*** (4.844)
Constant	75.961*** (9.992)	73.602*** (9.273)	68.395*** (8.720)	68.899*** (8.824)
Number of Observations	83	104	105	109
Adjusted R-squared	0.856	0.858	0.858	0.854
F Test	94.69***	110.93***	128.05***	150.02***

note: *** p<0.01, ** p<0.05, * p<0.1
Robust Standard Errors are in parenthesis

The results in the table show that the coefficients of the dummies for *Emerging Powers*, *Developed* and *MiddleIncome* are highly significant in all the alternative specifications of the equation. These results indicate that the behaviour of access to finance in Emerging Powers, developed countries and other upper middle- income countries differ significantly from that of the rest of developing countries (which is a group formed by low-income countries, as explained in Section II and listed in Annex I). For example, if all explanatory variables were to take equal values across country categories, on average, Emerging Powers would enjoy greater access to finance than the rest of developing countries (between 16 to 19 per cent more, depending on the specification of the model). Also, as expected, developed countries would have significantly greater access than the group “rest of developing countries” (over 40 per cent more in all specifications of the model). Moreover, the estimated coefficients of the dummy for *MiddleIncome*, which represents the group: “other upper-middle income countries”, are not very different (albeit slightly higher in some specifications of the model) from those for the dummy *Emerging Powers*. Taken together, these results are consistent with the discussion in Section II.

Column (1) in Table 6 presents the results from the regression when all the variables defined above, representing the five categories of obstacles to finance, are included. An important result from that regression is that none of the variables representing banking characteristics (*BankCon*, *BadLoans* and *BankInefficiency*) were significant.²⁹ Moreover, due to limited data, the inclusion of *BadLoans* drastically reduced the number of observations in the regression, which appears to have reduced the significance of some other variables in the model.

Thus, column (2) excludes the variable *BadLoans* from the regression. As suspected, almost all the rest of the variables in the model became significant. The only exception was *BankCon* and it was, therefore, excluded from the specification presented in column (3).

The regression in column (3) was our preferred specification until we conducted a robustness test. The test consisted in estimating the model using Quantile Regression as an alternative estimation technique. Specifically, we used the most common form of Quantile Regression, the median regression, which estimates the median of the dependent variable, conditional on the values of the independent variables.³⁰ This is a very convenient methodology to use in the possible presence of heteroskedasticity. That regression is presented in Appendix III (column A in the table) and shows that the variable *BankInefficiency* becomes non-significant, probably due to the presence of great dispersion in the values of that variable.

Lacking robustness, the variable *BankInefficiency* was excluded from the regression and the results are presented in column (4) of Table 6. This regression is also robust when estimated using the alternative method of Quantile Regression (shown in column B in the table in Appendix III).

The most important result from this exercise is that, with the exception of column (1), where the sample size is too small, the coefficients of the macro, social, regulatory and institutional variables are always highly significant across the different specifications of the model. Specifically, and consistent with the discussion in Section III, increased output volatility, high-income inequality, low levels of social indicators, regulatory constraints and weak enforcement of the rule of law deter access to financial services.

Banking system variables did not play a significant role, nor were robust, at least in the cross-section analysis being undertaken in this paper. In addition to the variables described above, several other variables reflecting banking conditions (listed in Annex II) were tried with similar results. A possible explanation for this outcome is that the (average of the) period of analysis in the cross-section regressions can be characterised as a “tranquil” period for financial systems around the world. For example, before the global financial crisis of 2008-09, bad loans ratios remained low in most banking systems. It appears, therefore, that time series analysis is needed to appropriately capture the impact of banking system characteristics on financial access.

²⁹ We were able to include the three alternative variables representing bank characteristics since they did not show a significant degree of correlation.

³⁰ “Median regression finds a line through the data that minimizes the sum of the absolute residuals rather than the sum of the square residuals, as in an ordinary regression” StataCorp. 2009 Stata Release 11. Statistical Software. College Station, TX: StataCorp LP. pp. 1450

As noted throughout the paper, however, in the absence of sufficient data on access to finance across the world, such an analysis remains the goal of future research.

Exploring Emerging Powers' Differential Behaviour to Obstacles to Financial Access

The analytical exercise so far provides a positive answer to the question posed in this subsection: 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 categories of countries.

For that purpose, for each category of countries, we calculated the implied contribution of the alternative obstacles to financial access, using the estimated parameters of our preferred specification (equation (4) in Table 6). Specifically, for each variable, this calculation is undertaken by multiplying the corresponding estimated parameter by the average value of the variable.

These calculations are presented in Table 7. To facilitate the reading of the table, consider the group "other developing countries". According to Table 7, if all obstacles to access identified in the regression were absent, this group would enjoy, on average, an access ratio (the percentage of adult population with access to financial services) of 69 per cent. Instead, the financial access ratio for this group of countries reaches only 24 per cent (see Table 2). Similarly, absent the obstacles to finance identified in this empirical analysis, 89 per cent of the adult population in Emerging Powers would enjoy access to financial services. In reality, however, only 48 per cent of the population does.³¹

³¹ For the case of developed countries, the table indicates that in the absence of obstacles, the access ratio would reach over 100 per cent (109.5 per cent). This only means that the estimated equation overestimates actual access.

Table 7**Obstacles to Financial Access: Implied Contributions from Preferred Specification by Category of Countries**

Explanatory Variable	Regression Coefficients	Contribution of Alternative Obstacles to FinAccess			
		Developed	Emerging Powers	Other Upper-Middle Income	Rest of Developing Countries
VolGDPgrowth	-1.292	-2.389	-2.728	-4.739	-4.470
WeakLaw	-0.231	-3.544	-12.272	-9.504	-16.406
RegulatoryCons	-0.123	-3.564	-7.110	-4.823	-7.387
Gini	-0.323	-10.531	-14.015	-12.583	-13.753
SocialUnderDev	-19.066	-1.555	-3.997	-3.233	-6.666
EPowers	18.796	0.000	18.796	0.000	0.000
Developed	40.709	40.709	0.000	0.000	0.000
MiddleIncome	18.695	0.000	0.000	18.695	0.000
Constant	68.899				

The most important results from the Table are as follows. First, Emerging Powers are much closer to developing than to developed countries regarding the importance of institutional and regulatory obstacles as constraints to financial access. Indeed, these two kinds of obstacles to access seem to be the crucial factors distinguishing developed countries from Emerging Powers. Thus, this finding sheds light on policy recommendations for the purpose of improving financial access in Emerging Powers.

Second, and in contrast to the previous result, Emerging Powers are much closer to developed than to developing countries (and other middle-income countries) regarding the importance of macroeconomic obstacles. While there are significant differences between countries in the Emerging Powers group (to be discussed below), on average, macroeconomic instability does not appear to be a crucial constraint for improving financial access in this group of countries.³²

Third, income inequality, as represented by the Gini coefficient is a major obstacle to financial access *across all categories of countries*. Moreover, for most categories of countries, this obstacle appears to be the most important constraint to financial access among the variables identified in the analysis.³³ The exception is the category “rest of developing countries”, where

³² A comparison between this result and that from Graph 3 indicates that the achievement of macroeconomic stability in most Emerging Powers is a recent phenomenon. The large volatility of real interest rates shown for some Emerging Powers in Graph 3 mostly reflects data from the 1990s. In contrast, the regression results are based on data from the 2000s.

³³ Of course, being the *most important constraint* has different meanings among different categories of countries. The implications in developed countries, where access to finance reaches almost 90 per cent of the adult population, are very different from those in Emerging Powers where access to finance is enjoyed by only 47 per cent of the population.

institutional weaknesses stand out as the most important constraint. The central importance of income distribution as a constraint to financial access lends support to an emerging theoretical literature on the subject and requires further research to fully understand the transmission mechanisms involved. This empirical result, however, indicates difficult challenges for policymakers aiming to improve access to financial services.

Finally, the results regarding the social variable, which comprises indicators of health and education, follow an expected pattern. While significant, this variable is the least important constraint (among obstacles considered in this paper) in developed countries, and it reaches a high importance in the group “rest of developing countries”. As will be discussed below, the relative importance of this variable varies significantly among countries categorised as Emerging Powers.

Next, we calculated the implied contribution of the alternative obstacles to finance in individual Emerging Powers, using the same methodology as in Table 7. The results are presented in Table 8.

Table 8
Obstacles to Financial Access: Implied Contributions from Preferred Specification by in Emerging Powers

Explanatory Variable	Regression Coefficients	Contribution of Alternative Obstacles to FinAccess										
		Brazil	China	Egypt	India	Indonesia	Korea	Mexico	Russia	South Africa	Thailand	Turkey
VolGDPgrowth	-1.292	-2.448	-2.199	-1.980	-2.924	-2.047	-2.836	-2.723	-2.041	-1.404	-1.729	-7.678
WeakLaw	-0.231	-12.675	-13.138	-10.828	-10.385	-18.234	-6.733	-13.627	-18.558	-9.915	-10.186	-10.709
RegulatoryCons	-0.123	-6.304	-8.519	-8.519	-9.201	-9.030	-6.134	-4.941	-8.349	-5.282	-6.134	-5.793
Gini	-0.323	-18.692	-14.011	-12.151	-11.743	-10.970	-10.195	-16.662	-13.591	-18.424	-13.876	-13.853
SocialUnderDev	-19.066	-3.127	-3.394	-4.786	-6.768	-3.947	-1.182	-2.612	-3.794	-7.073	-3.470	-3.813
EPowers	18.796	18.796	18.796	18.796	18.796	18.796	18.796	18.796	18.796	18.796	18.796	18.796
Developed	40.709	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MiddleIncome	18.695	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Constant	68.899											
Estimated Access		44.45	46.43	49.43	46.67	43.47	60.62	47.13	41.36	45.60	52.30	45.85
Observed Access		42.70	41.90	40.70	47.50	40.40	63.20	25.00	68.70	46.00	58.70	48.50

While the results from Table 7 for Emerging Powers *as a group* also hold for the majority of countries *at the individual level*, Table 8 shows important differences between countries that deserve to be highlighted.

In terms of the variable reflecting macroeconomic instability, Turkey stands out. In contrast to the rest of Emerging Powers, a high volatility of real GDP is an important obstacle for improving financial access in Turkey and provides a clear policy implication for policymakers in that country.

Institutional weakness, identified as a major obstacle for access to finance in Emerging Powers is particularly important in Indonesia and Russia. According to the empirical investigation in this paper, deficiencies in compliance with the *rule of law* are the most important constraint for improving access to financial services in these two countries. China and Mexico are

close runner-ups, where the variable reflecting institutional deficiencies is the second most important constraint (immediately following the Gini coefficient).

Regulatory constraints are more important as an obstacle to financial access in China, Egypt, India, Indonesia and Russia than in the rest of the Emerging Powers. It is interesting to note that this sub-group includes three of the four countries categorised as BRICs. This result is significant to the extent that improving the regulatory framework might be a less daunting task for regulators than improving institutional deficiencies or income inequalities.

An additional interesting result is that, among Emerging Powers, Korea is perhaps the most different. In this country, the indicator of social development has reached sufficiently high levels as to not be a major obstacle to financial access. Indeed, the results from Korea are more similar to those in the *developed countries* group than in the Emerging Power group (see Table 7).

In this regard, a comparison between Mexico and Korea is quite interesting. Like in Korea, the contribution of the obstacle SocialUnderdev is very low in Mexico (even lower than the variable representing macroeconomic instabilities). However, the similarities between these two countries end there, especially because the estimated regression for Mexico provides the worst fit among countries in the sample. While actual financial access reaches only 25 per cent of the adult population in Mexico, the regression predicts a ratio of access of 47 per cent. This means that the estimated regression has not captured all the important obstacles for access in Mexico. Possible missing variables include those representing inadequacies and inefficiencies in the financial sector.³⁴ The high level of concentration in the banking sector in Mexico comes to mind. Thus, fully understanding obstacles to financial access in Mexico will require further research well beyond the scope of this paper.

The model also does not fit Russia very well; but contrary to Mexico, the model underestimates actual access to finance. Clearly, there are factors particular to Russia, and not considered in the model, that explain the relative high ratio of financial access in this country. Like in Mexico, however, analysis of those country-specific factors is not the subject of this paper.

Interestingly enough, the model fits China (as well as two of the other BRICs: Brazil and India) quite well. While many researchers of the Chinese economy have pointed to the uniqueness of China, this study leads to the conclusion that, at least with regards to obstacles for financial access, China behaves similarly to most of its peers in the Emerging Powers group.

³⁴ As discussed above, these types of variables were not included in the preferred specification because they were found to lack robustness under an alternative estimation method.

V. POLICY IMPLICATIONS

This paper has taken the view that adequate access to financial services by households and firms in Emerging Powers is essential to develop and *sustain* these countries' economic force at the global level. The argument is rooted in the recent literature that points to a lack of financial access as a major constraint for the development of a healthy middle class with adequate purchasing power capacity and the growth and prosperity of small and medium-size enterprises. A dynamic middle class and a strong entrepreneurial sector are at the core of a large and potentially growing domestic market, which is the main source of the *economic* force of Emerging Powers. Size, in terms of GDP and population has significantly increased the potential for economic force in the group of countries classified as Emerging Powers. Fully realising that potential, however, requires meeting the expectation that their domestic demand for and supply of goods in the global economy will continue increasing, not only in size but also in depth and sophistication. The main policy implication of this view is that to strengthen and *sustain* their economic force, Emerging Powers need to implement policies and initiatives aimed at eliminating, or at least significantly reducing, the obstacles that limit the usage of financial services by large segments of the population.

The empirical research in this paper sheds light on the needed direction of policy actions to improve financial access in Emerging Powers. It demonstrates that this group of countries can indeed be differentiated from other categories of countries when assessing the importance of different obstacles to access to finance. For example, the analysis shows that the contribution of macroeconomic factors in determining financial access is quite similar to the corresponding contribution in developed countries. The major progress achieved by Emerging Powers, as a group, in reaching macroeconomic stability implies that economic disruptions do not constitute major constraint for access. For most Emerging Powers, therefore, the policy implication is to maintain and consolidate these advances. There is one exception though: Turkey's high volatility of real GDP has had adverse implications on financial access. In this country, policy initiatives, including fiscal and monetary policy, to achieve stability on a sustainable basis are essential. Unlike its peers in the Emerging Powers group, Turkey is still facing problems in controlling inflation.

In contrast to macroeconomic behaviour, institutional deficiencies are key obstacles preventing the improvement of financial access in all Emerging Powers, albeit with important differences between countries. The policy challenge in this regard is daunting as the variables influencing the quality of institutions are the most difficult to change. Indonesia and Russia stand out. Indicators from a variety of sources suggest that these two countries face the largest challenge, among Emerging Powers, in improving institutional quality. For example, an indicator from Transparency International places both countries among those with the highest perceived levels of corruption. A similar result is obtained when using an index from the World

Economic Forum on “Irregular payments in judicial decisions”. As such, reforms to the judicial system, among other institutions, are needed policy actions in these two countries if financial access is to improve significantly. Ignoring the need for these policies for too long might seriously question the sustainability of these countries as Emerging Powers.

Not surprisingly, the policy prescription also calls for improvements in the regulatory framework. According to our empirical results, this factor, together with institutional weaknesses, constitutes the most important difference between Emerging Powers and developed countries when analysing obstacles to financial access. There is, however, good news in this regard. For example, in India, where regulatory constraints contributes the most as an obstacle to financial access among Emerging Powers, the RBI (Reserve Bank of India) has recently undertaken a process of financial reform to facilitate the provision of financial services by financial institutions. Similar initiatives have started in other Emerging Powers. At this stage, however, it is too early to assess results from these policies.

Finally, further improvements in social indicators are needed to reduce obstacles on the demand side. This constraint is the largest in India and South Africa, but is no longer an important obstacle in Korea. The type of policies required to support greater demand for financial services from the population have been extensively analysed elsewhere and do not need further discussion here. A most interesting result is the high importance of income inequality as an obstacle to financial access in all Emerging Powers. The policy implications of this result call, at the very least, for conditional transfers and other government programmes that would allow for a reduction in income inequalities while avoiding a reduction in incentives for investment in capital (human and physical) and technology. Specific policy recommendations at the country level are well beyond the scope of this paper and are the subject of future research.

The discussion in this paper has served to illustrate the complexities involved in improving financial access in Emerging Powers. The difficulties of those challenges, however, should not deter policymakers from undertaking needed policy initiatives and reforms to significantly increase the percentage of the population that can use financial services and products. The sustainability of the economic power of this group of countries may depend on achieving this goal.

ANNEXES

Annex I

Countries Included in the Empirical Analysis

Developed Countries	Emerging Powers	Other Upper-Middle Income Countries
Bahamas, the	Brazil	Argentina
Belgium	China	Chile
Canada	Egypt	Costa Rica
Cyprus	India	Croatia
Finland	Indonesia	Czech Republic
France	Korea	Estonia
Germany	Mexico	Hungary
Greece	Russian Federation	Latvia
Ireland	South Africa	Lithuania
Italy	Thailand	Malaysia
Luxembourg	Turkey	Mauritius
Netherlands		Panama
Norway		Poland
Portugal		Romania
Singapore		Slovakia
Slovenia		Uruguay
Spain		Venezuela
Sweden		
Switzerland		
United Kingdom		
United States		

Rest of the Developing World		
Albania	Ghana	Nepal
Armenia	Guatemala	Nigeria
Azerbaijan	Guinea	Pakistan
Bangladesh	Guyana	Paraguay
Belarus	Haiti	Peru
Benin	Honduras	Philippines
Bolivia	Jordan	Rwanda
Bosnia and Herzegovina	Kazakhstan	Senegal
Bulgaria	Kenya	Sierra Leone
Burkina Faso	Kyrgyz Republic	Suriname
Cambodia	Lesotho	Swaziland
Cameroon	Macedonia, FYR	Tajikistan
Colombia	Madagascar	Tanzania
Côte d'Ivoire	Malawi	Tunisia
Djibouti	Mali	Ukraine
Dominican Republic	Mauritania	Uzbekistan
Ecuador	Moldova	Vietnam
El Salvador	Mongolia	Yemen
Ethiopia	Morocco	Serbia and Montenegro
Georgia	Mozambique	Zambia

Annex II

Variables Considered in the Empirical Analysis

Type	Name	Source
Regulatory Variables	Burden of Government Regulations	World Economic Forum
	Property Rights	World Economic Forum
	Financial Freedom Index	The Heritage Foundation Index
	Prudential Regulation Reserve Requirements.	Barth, Caprio & Levine. Bank Regulation and Supervision.
	Legal Rights Index	Doing Business
Social Variables	Gini Coefficient	World Income Inequality Database
	Rural population (% of total population)	World Development Indicators
	Social Human Development Index	Human Development Reports – UNDP
	Population Covered by mobile telephony	World Development Indicators
	Poverty Headcount Ratio at National Poverty Line (% of population)	World Development Indicators.
Macroeconomic Variables	Volatility of Inflation	IFS – IMF
	Difference in the Volatility of Inflation	IFS – IMF
	Volatility of GDP Growth	World Development Indicators
	GDP Growth	World Development Indicators
Banking Conditions	Bank Concentration	Thorsten Beck, Asli Demirgüç-Kunt and Ross Levine, (2000), and updates "A New Database on Financial Development and Structure"
	Bank nonperforming loans to total loans (%)	World Development Indicators
	Bank capital to assets ratio (%)	World Development Indicators
	Ratio of Overhead Cost to Total Assets	Thorsten Beck, Asli Demirgüç-Kunt and Ross Levine, (2000) and updates "A New Database on Financial Development and Structure"
	Median Overhead Cost	Thorsten Beck, Asli Demirgüç-Kunt and Ross Levine, (2000) and updates, "A New Database on Financial Development and Structure"
Institutional Variables	Rule of Law	World Governance Indicators
	Crime	World Development Indicators
	Political instability	World Governance Indicators

Annex III

Quantile Regression - Median Dependent Variable: FinAccess

Variables	A	B
VolGDPgrowth	-1.196 (0.896)	-0.788* (0.474)
BankInefficiency	-0.452 (0.822)	
WeakLaw	-0.214* (0.126)	-0.335*** (0.059)
RegulatoryCons	-0.161 (0.102)	-0.102** (0.052)
Gini	-0.332* (0.193)	-0.304*** (0.099)
SocialUnderDev	-12.938 (12.398)	-19.328*** (6.337)
EPowers	18.842*** (5.447)	17.076*** (2.860)
Developed	43.063*** (7.831)	38.338*** (4.163)
MiddleIncome	18.968*** (5.700)	15.873*** (3.093)
Constant	70.738*** (10.836)	72.828*** (6.008)
N	105	109
Adjusted R-squared	0.674	0.666

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

Robust Standard Deviations are in parenthesis

REFERENCES

Armijo, Leslie Elliot, 2007, *The BRICS Countries As an Analytical Category: Mirage or Insight?* Asian Perspective, Vol. 31, No. 4, pp. 7-42.

Beck Thorsten, Asli Demirguc-Kunt and Ross Levine, 2007, *A New Database on Financial Development and Structure*, World Bank Economic Review 14, 597-605.

Beck Thorsten, Asli Demirguc-Kunt and María Soledad Martínez Peria, 2006, *Banking Services for Everyone? Barriers to Bank Access and Use around the World*, World Bank Policy Research Working Paper 4079, December.

Beck, Thorsten, Asli Demirguc-Kunt and Maria Soledad Martínez Peria, 2005, *Reaching Out: Access to and use of Banking Services across Countries*, World Bank Policy Research Paper No. 3754, October.

Claessens, Stijn, 2005, *Universal Access to Financial Services: A Review of the Issues and Public Policy Objectives*, OECD-World Bank, Fifth Services Experts Meeting. OECD, Paris, February.

Demirguc-Kunt, Asli, and Ross Levine, 2008, *Finance and Economic Opportunity*, Policy Research Working Paper No. 4468, The World Bank, January.

Gratius, Susanne, 2008, *The International Arena and Emerging Powers: Stabilizing or Destabilizing Forces?* Comment, FRIDE, April.

IMF, 2007, *International Financial Statistics*, International Monetary Fund, Washington DC.

Honohan, Patrick, 2007, *Cross-Country Variation in Household Access to Financial Services*, The World Bank, January.

Latin America Shadow Financial Regulatory Committee, 2004, *Small and Medium-Size Enterprises in Latin America: Developing Markets, Institutions and Instruments*, Statement No. 11, Washington DC, September.

Reinhart, Carmen, Rojas-Suarez and Francisco Vazquez, 2010, *Financial Access and the Poor: The Cross-Country Evidence*, Center for Global Development, forthcoming.

Reisen, Helmut, 2009, *Shifting Wealth: Is the US Dollar Empire Falling?*, Vox.eu 20th June.

Rojas-Suarez, Liliana, 2009, ed. "Growing Pains in Latin America: An Economic Growth Framework as Applied to Brazil, Colombia, Costa Rica, Mexico and Peru", Center for Global Development, July.

Rojas-Suarez, Liliana, 2007, *The Provision of Banking Services in Latin America: Obstacles and Recommendations*", Working Paper No. 124, Center for Global Development, June.

Singh, Anoop, Agnes Belaisch, Charles Collyns, Paula de Masi, Reva Krieger, Guy Meredith and Robert Rennhack, 2005, *Stabilization and Reform in Latin America: A Macroeconomic Perspective on the Experience Since the Early 1990s*, IMF Occasional Paper 238, February.

UNDP, 2008, *Human Development Report*, UNDP, New York.

WIID, 2006, *World Income Inequality Database*, UNU-WIDER, Helsinki.

Wilson, Dominic and Anna Stupnytska, 2007, *The N-11: More than an Acronym*, Global Economic Papers No 153, Goldman Sachs, March.

World Bank, 2006, *World Bank Governance Indicators*, World Bank, Washington DC. Available at <http://info.worldbank.org/governance/wgi/index.asp>.