

Development of the Financial System In India: Assessment Of Financial Depth & Access

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Abstract
In this paper we have a look at the development of the financial system in India during 1990 till 2010 based on the World Bank Global Financial Development data base. More specifically we focus on two dimensions, financial depth and access, and two segments, financial institutions and financial markets. Germany is used as benchmark country. We found that India has a well developed stock market and market capitalization in Bombay stock market is higher than that of Germany. But financial system in India mainly market based and dominated by financial market relative to financial institutions. As a result well developed stock market is not able to compensate the underdeveloped financial institutions and bond market in India.
Keywords: Financial Development, Growth, Liberalization and Recession.

1. Introduction:

In this paper we have a look at the development of the financial system in India during 1990 till 2010 based on the World Bank Global Financial Development data base. More specifically we focus on two dimensions, financial depth and access, and two segments, financial institutions and financial markets. There are several indicators to measure financial depth and access and we selected respectively 11 and 3 variables, which are presented in section 2 and 3. Germany is used as benchmark country. In section 4, conclusions and some policy recommendations are made. First, we give a short introduction about India and its economic liberalization that started in 1991 and still ongoing.

We know, if a country's financial institutions perform well and properly monitored it will enhance growth. On the other hand if its financial institutions perform poorly, it will hinder growth. In our analysis, we take Germany as a reference country. First we give a short introduction about India.

Economic liberalization in India:

We would like to extent the introduction a bit and talk also about the economic liberalization that took place in India from 1990 till today including several reforms that were done. India is a large country with high density of population. The Indian financial sector is increasing with her population. Banking in India is generally fairly mature in terms of supply of services; product range and try to reach in rural India still remain some challenges. Online banking is not well spread all over India. On the other hand nonbanking financial institutions are an important part of Indian financial system but also face some challenges.

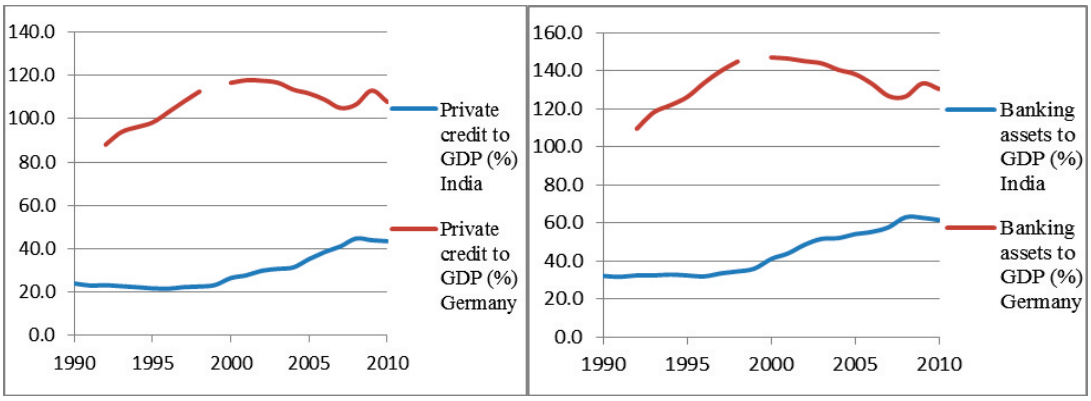
2. Financial depth

2.1. Financial Institutions depth

a) Private credit to GDP and banking assets to GDP

The most commonly used indicator to measure financial institution depth is private credit as a percentage of GDP. An alternative measure which is also often used, is total banking assets to GDP, which includes in addition to private credit also credit to the government and bank assets other than credit (Cihàk et al., 2012). For India, the evolution over time of the variables "Private credit by deposit money banks and other financial institutions to GDP (%)" and "Deposit money bank assets to GDP (%)" are shown in the graphs below and are compared with Germany.

Figure 1: Private credit to GDP and banking assets to GDP



Source: World Bank GFDD

From 1990 up to now, credit to the private sector relative to GDP has been growing substantially in India, from 24% in 1990 to 26.5% in 2000 and increasing further to 43% in 2010. The strongest growth took place in the last 10 years, this is in line with the significant growth in GDP per capita (constant 2000 USD) which was on average 6.25% during 2003-2007. As cited by Honohan & Beck (2007), credit to the private sector is most closely correlated with economic growth as this variable measures the degree to which savings are allocated to productive uses which can stimulate economic growth. Not surprisingly, the ratio private credit to GDP is in Germany much higher and since 1996 above GDP (88% in 1990, 116.5% in 2000 and 107.7% in 2010). While private sector credit to GDP was constantly increasing in India till 2008, it showed a slightly more volatile pattern in Germany. The small decline in private credit to GDP in 2009-2010 in India might be the result of the financial crisis, which had a limited impact on India.

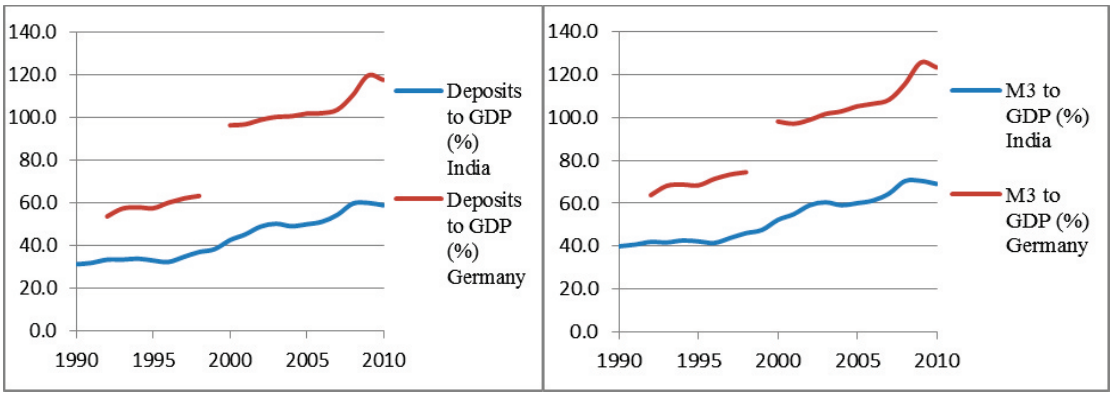
The variable deposit money bank assets to GDP also shows a strong increasing trend for India, from 32% in 1990 to 41% in 2000, rising further to 61.5% in 2010. The comparison between India and Germany for banking assets to GDP results in similar conclusions as for the variable private credit to GDP: total banking assets are considerably higher in Germany (109.5% in 1990, 147% in 2000 and 130% in 2010) and the evolution over time shows more ups and downs compared to India.

On average over 1990-2010, credit to the private sector by financial institutions amounted to 67.4% of total banking assets in India while it was 80.4% in Germany. A possible reason for the lower share of private credit in total banking assets in India might be due to regulation; more specifically the "Statutory Liquidity Ratio" requires banks to invest a minimum percentage of their net demand and time liabilities in government securities. Currently, this minimum percentage is 23%, but it was higher in the past (IMF, India 2013 Article IV).

b) Deposits to GDP and M3 to GDP

Next, we look at the evolution of the "financial system deposits", namely the demand, time and saving deposits. In addition, the evolution of the "liquid liabilities" or M3, which is broader than the previous measure, is also shown. The deposit side measures the "liquid spending power in the economy" and is also an indicator of financial depth (Honohan & Beck, 2007). Both variables are presented as ratios relative to GDP (in %).

Figure 2: Deposits to GDP and M3 to GDP



Source: World Bank GFDD

The graphs show that there is a rising trend in demand, time and saving deposits held at financial institutions relative to GDP in India: from 31% in 1990 to 42.6% in 2000 and to 58.9% in 2010. As expected, these variables for Germany are much higher, respectively 53.7% in 1992, 96.3% in 2000 and 117.5% in 2010. Noteworthy is that the growth in this ratio was much higher in Germany (growth rate of 119% for Germany versus 88% for India). This lead to a wider gap between these variables for India and Germany. Of course, the difference in income level, savings rate and access to financial institutions can partly explain this gap.

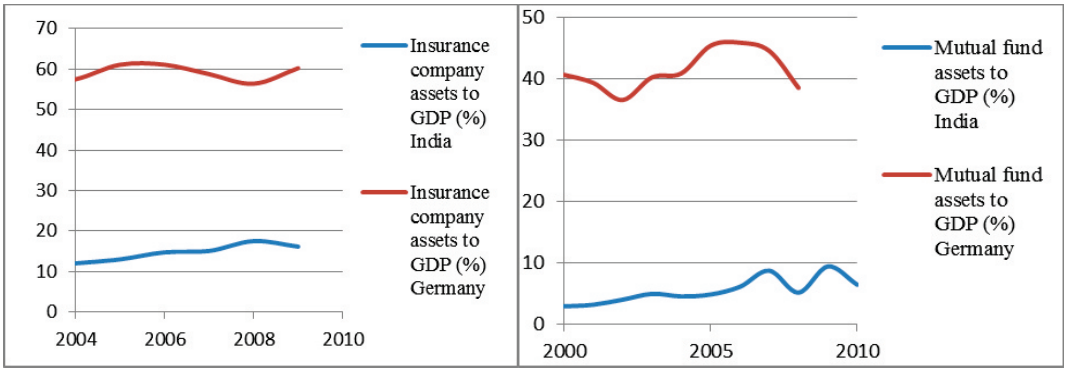
The evolution of M3 to GDP is similar to the evolution of the deposits to GDP, since it encompasses them: for India M3 is 40% of GDP in 1990, 52.3% in 2000 and 69% in 2010, for Germany M3 is 63.8% in 1990, 98.1% in 2000 and 123.2% in 2010. Besides these deposit liabilities of financial institutions, M3 consists of currency and deposits of the central bank, commercial paper, shares of mutual funds or market funds held by residents and some other instruments. Therefore the curve of M3 lies always above the curve of deposits to GDP.

Overall, the strong increase in both assets and liquid liabilities of banks in India illustrates the strong and rapid improvement in the depth of financial institutions.

c) Insurance company assets to GPD and mutual fund assets to GDP

Concerning non bank financial institutions, the data for India are rather limited. For insurance company assets to GDP, data are available from 2004 to 2010 and for mutual fund assets to GDP; data are available from 2000 to 2010. The graphs are reported below for both India and Germany.

Figure 3: Insurance company assets to GPD and mutual fund assets to GDP



Source: World Bank GFDD

Figure 3 clearly shows that the non-bank financial sector is not well developed in India. According to the paper of Honohan & Beck (2007) the presence of non bank financial institutions is likely to result in a "wider range of financial services and better risk pooling, at better prices and in a more competitive environment". The lack of NBFIs is thus disadvantageous for financial intermediation. Insurance company assets to GDP are gradually increasing over 2004-2009 but remain at very low levels: 12% in 2004 and 16.2% in 2009, indicating that very few people and companies in India have formal insurance contracts and that informal insurance still plays an important role. Compared to Germany, where insurance company assets to GDP reached to 57.5% in 2004 to 60.2% in 2009, India is still far away from catching up. Remark that Germany experienced a decrease in insurance company assets in 2007-2008,when the financial turmoil was going on, while India's rising trend continued but fell back later in 2009.

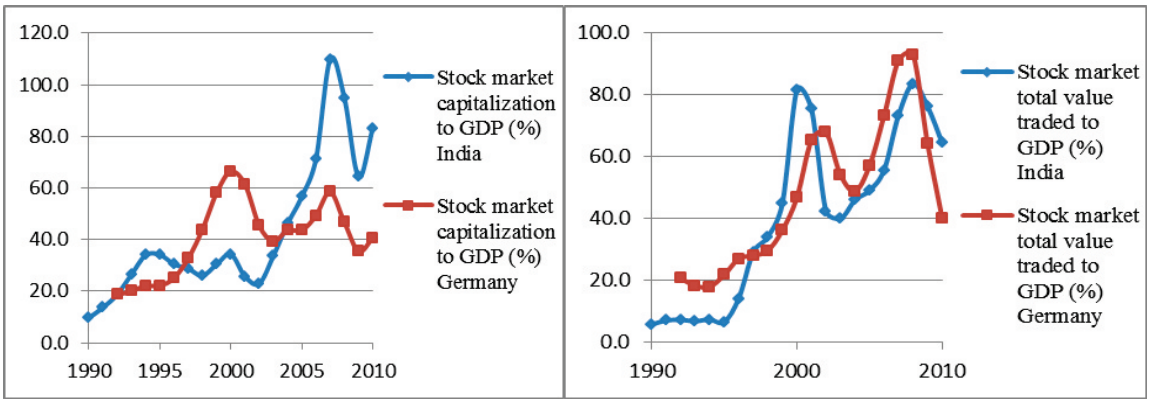
Mutual fund assets to GDP are also very low in India compared to Germany (2.9% in 2000 and 6.4% in 2010 for India versus 40.7% in 2004 and 38.5% in 2010 for Germany). The evolution over time for this variable is for both countries quite volatile, with a decline for both countries in 2008 caused by the global financial crisis.

2.2. Financial market depth

To assess financial market deepening we use indicators for both the stock and bond markets. For the stock markets, the stock market capitalization to GDP is the most common choice in the literature (Čihák et al., 2012), which is included in our assessment and other indicators as well.

a) Stock market

Figure 4: Stock market capitalization to GDP and stock market total value traded to GDP



Source: World Bank GFDD

Stock market capitalization is the total value of all listed shares of publicly traded companies of an economy. It's a measure of the size of the stock market. India's stock market consists of the Bombay Stock Exchange (BSE °1875), the National Stock Exchange of India (NSE °1991) and the MCX Stock Exchange (MCX-SX °2008). As we can see from the figure above, stock market capitalization to GDP in India was higher than that for Germany during the periods 1992-1996 and 2004-2010. Meaning that, during those periods, the total value of listed shares in India's stock market to GDP was higher than that for Germany. Only during the period 1997-2003, Germany's stock market capitalization exceeded India's, with Germany reaching a peak in market capitalization of 66% of GDP in 2000. This rise in stock market capitalization in Germany till 2000 and the drop thereafter can be explained by the dot-com-bubble which burst in 2000. Mainly stock markets in developed countries were hit by this speculative bubble. During 2008-2009, the global financial crisis resulted in deteriorating stock markets, but a recovery for both countries is seen in 2010.

The stock market total value traded to GDP represents the total value of all traded shares in a stock market exchange as a percentage of GDP. It is a market development indicator which incorporates information on the size and activity of the stock market (Čihák et al., 2012) and closely tied to the rate of economic development (Levine and Zervos, 1998).

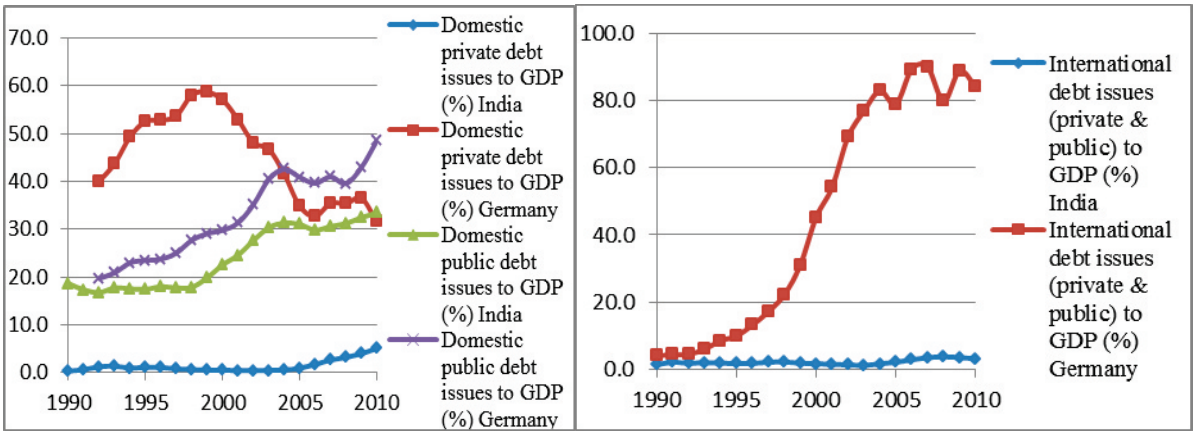
The graph above shows a weak alternating dominance in the evolution of the total value traded on the stock market to GDP between Germany and India during the period 1992-2010. In fact, from 1992 to 1997, Germany's stock market total value traded to GDP was higher than that for India, and followed by an opposite evolution from 1997 to 2001. From 2002 to 2008, Germany's stock market total value traded to GDP was once again above that for India and was higher than 90% in 2008, but fell back significantly to 40% in 2010.

Overall, the trends seen in stock market capitalization to GDP and stock market total value traded to GDP are more or less similar for each country (but not in every in period).However the graphs show us that, while India had a higher stock market capitalization in 1992-1996 and 2004-2010, Germany's trading activity during 1992-1996 and 2002-2008 was higher suggesting that the German stock market is more liquid.

b) Bond market

To measure the depth of the bond market, the variables "Outstanding domestic private debt securities to GDP (%)", "Outstanding domestic public debt securities to GDP (%)" and "International (private & public) debt issues to GDP (%)" from the GFDD database are used.

Figure 5: Domestic private & public debt issues to GDP and international private & public debt issues to GDP



Source: World Bank GFDD

Outstanding domestic public debt securities to GDP represent the total amount of the outstanding domestic public debt securities issued in domestic markets as a share of GDP. Although during the 1992-2010 period, Germany's outstanding domestic public debt securities to GDP are above India's, India is catching up and its outstanding domestic public debt securities to GDP doubled from 16.7% in 1992 to 33.4% in 2010. Meaning that, both governments' public debt issued in their domestic markets to GDP is quite high. On the contrary, the issuance of domestic private debt securities in the domestic market as a share of GDP is considerably low in India (0.3% of GDP in 1990, 0.4% in 2000 and 5% in 2010) and much below the issuance of public debt securities in the domestic market. In Germany outstanding domestic private debt securities to GDP are sizeable, and these were higher than the outstanding domestic public debt securities till 2004.

International debt issues to GDP represent the total value of outstanding public and private debt securities placed on international markets as a share of GDP. For Germany, a substantial rise is seen during 1990-2010 in the amount of debt securities placed on international markets relative to GDP: from 3.9% of GDP in 1990 to 45.3% in 2000 and rising further to 84.3% to GDP. From 2005 onwards, the share of debt securities placed on international markets is even higher than the share of debt securities placed on the domestic market for Germany. For India on the other hand, debt issues placed on the international market remain at very low levels: 1.3% of GDP in 1990, 1.6% in 2000 and 3% in 2010.

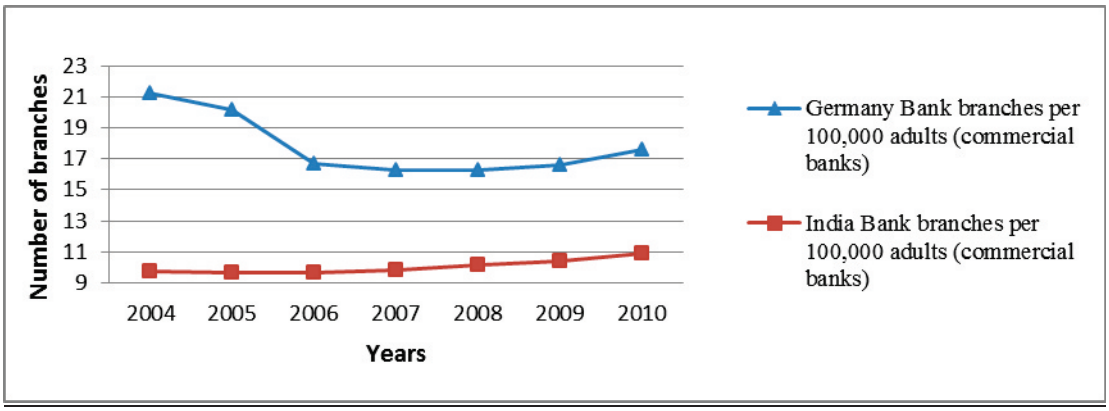
Finally, the indicators available for the financial market deepening in Germany and India show that the financial markets are more or less sizeable in Germany compared to India. However, the stock market capitalization and the stock market total value traded to GDP show that the difference in depth of the stock market is negligible between the two countries. India has a well-developed stock market, but the bond market on the contrary is underdeveloped and especially for private debt securities it is almost nonexistent.

3. Financial access

3.1. Financial Institutions access

a) The number of branches per 100,000 adults

Figure 6: The number of branches per 100,000 adults



Source: World Bank GFDD

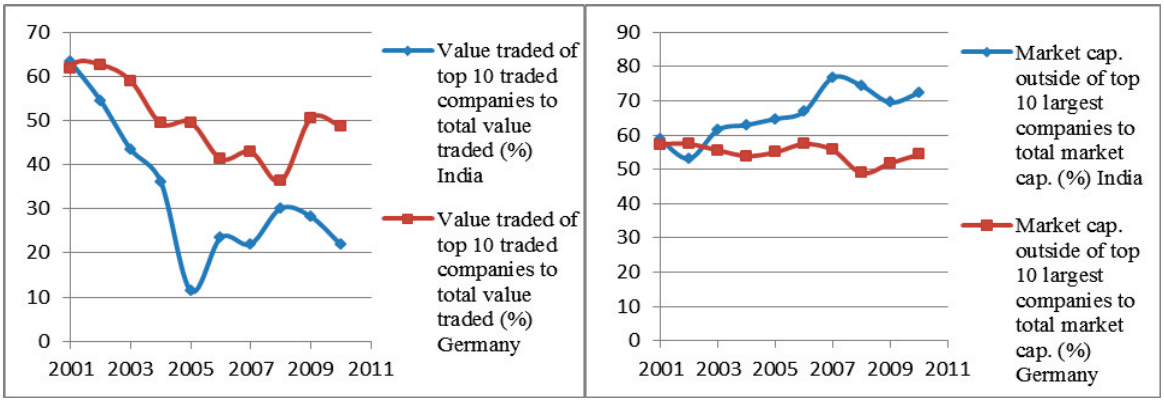
In India, the number of branches per 100 000 adults has been increasing over time. From 2004 to 2010, the average number of branches was approximately equal to 11 showing limited access to financial institutions compared to Germany.

In fact, in Germany the number of branches per 100,000 adults is quite high (a mean of 17), meaning that German people have more access to financial institutions than India's population. We also noticed that the number of financial institutions in Germany decreased from 2004 to 2006, which can be explained by an increased popularity of online banking and cost-saving measures.

3.2. Financial market access

a) Market concentration indicators

Figure 7: Value traded of top 10 traded companies to total value traded (%) and market capitalization outside of top 10 largest companies to total market cap. (%)



Source: World Bank GFDD

The percentage of top 10 traded companies to total value traded in Germany is above that of India during the period 2001 to 2010, suggesting that there is less market concentration in India and easier for smaller and newer issuers to access the stock market. For India, the percentage of top 10 traded companies to total value traded decreased from 2001 to 2005. After that year, the percentage increased till 2008. But we observe a decreasing trend after 2008, due to the financial crisis. For Germany, during the period 2001 to 2008 the percentage of top 10 traded companies to total value traded decreased. After the year 2008, their share started increasing. Finally, the percentage decreased from 2009 to 2010.

The value traded outside of top 10 largest companies to total market capitalization in India has been increasing over time, moving from 53% in 2002 to 76% in 2007. After 2007, this share started decreasing till 2009. After 2009, we observe a small recovery of the share of the value traded outside of top 10 largest companies in India. It shows a large and increasing access to financial markets for small and medium size enterprises in India compared to Germany.

On the other hand, the value traded outside of top 10 largest companies to total market capitalization in Germany decreased from 2001 to 2004. After 2004, the trend was increasing till 2006; after 2006, the trend is started decreasing till 2008. But it is interesting to notice that the trend was increasing after 2008. It shows that access to financial markets for small and medium size enterprises increased again after the year 2008 in Germany.

4. Conclusion

Based on the graphs and comments shown above, we can conclude that both financial depth and access during the period 1990-2010 improved in India.

Regarding financial depth, the most striking finding is the well-developed stock market in India (the Bombay Stock Exchange (BSE), the National Stock Exchange (NSE) and the MCX-SX), with a market capitalization that exceeds Germany's stock market and with the total value traded on the stock market similar to Germany's. Compared to the financial depth of financial institutions and the bond market, there is an uneven development. As mentioned by Oura (2008): "India's financial system is known for its rather skewed development, equipped with world-class equity markets but much less developed debt financing opportunities".

The financial structure ratio, which is "the ratio of the size indicators for banks and financial markets" (Cihàk et al., 2012), was 0.52 for India in 2010 (credit to the private sector to GDP / stock market capitalization to GDP)[1]. This low ratio indicates that the Indian financial system is relatively market-based, thus direct financial intermediation is more important than indirect financial intermediation. In addition, the study by Cihàk et al. (2012) finds that the financial structure ratio of India is in the lowest 10^{th} percentile, suggesting the strong dominance of the financial market relative to financial institutions compared to the financial structure in other countries. This situation is exceptional for an emerging market country, as in general securities markets become relatively more important in developed countries: "the use of services provided by securities markets increases relative to those proved by banks as economies develop" (Demirgüç-Kunt et al. (2012) cited by Cihàk et al. (2012)). Oura (2008) concludes that, based on his empirical evidence and the literature, the well-developed stock market in India cannot completely compensate for the underdeveloped financial institutions and

[1]Alternatively, if the financial structure ratio is calculated as: total banking assets to GDP / (stock market capitalization to GDP + outstanding volume of debt securities (private & public and domestic & international) to GDP), this results in a ratio of 0.49.

bond market, as there are complementarities between them, they serve different functions and range of clients.

Concerning access to banks, despite the increase in the number of bank branches per 100 000 adults, it remains at low levels. Especially in rural areas, access to bank offices is still problematic. Access to the stock market also improved in the last 10 years, as the traded value of the top 10 largest companies relative to the total value traded on the stock exchange decreased, which indicates less market concentration and better access for newer or smaller issuers. This finding is confirmed by the increased share of market capitalization for the companies outside of the top 10 largest companies during 2001-2010.

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