BANKING SECTOR
LIBERALIZATION IN INDIA

Christian Roland*
European Business School, Oestrich-Winkel, Germany
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ABSTRACT

India has over the last decades experienced different degrees of repressive policies in the banking sector. This paper focuses on the changing intensity of three policies that are commonly associated with financial repression, namely interest rate controls, statutory pre-emptions and directed credit as well as the effects these policies had. The main findings are that the degree of financial repression has steadily increased between 1960 and 1980, then declined somewhat before rising to a new peak at the end of the 1980s. Since the start of the overall economic reforms in 1991, the level of financial repression has steadily declined. Despite the high degree of financial repression, no statistically significant negative effects on savings, capital formation and financial development could be established, which is contrary to the predictions of the financial liberalization hypothesis.

* E-Mail: christian.roland@web.de
1 INTRODUCTION

The year 1991 marked a decisive changing point in India's economic policy since Independence in 1947. Following the 1991 balance of payments crisis, structural reforms were initiated that fundamentally changed the prevailing economic policy in which the state was supposed to take the "commanding heights" of the economy. After decades of far reaching government involvement in the business world, known as the "mixed economy" approach, the private sector started to play a more prominent role (Acharya, 2002, pp. 2-4; Budhwar, 2001, p. 552; Singh, 2003, p. 1f.).

The enacted reforms not only affected the real sector of the economy, but the banking sector as well. Characteristics of banking in India before 1991 were a significant degree of state ownership and far-reaching regulations concerning among others the allocation of credit and the setting of interest rates. The blueprint for banking sector reforms was the 1991 report of the Narasimham Committee. Reform steps taken since then include a deregulation of interest rates, an easing of directed credit rules under the priority sector lending arrangements, a reduction of statutory pre-emptions, and a lowering of entry barriers for both domestic and foreign players (Bhide, Prasad and Ghosh, 2001, p. 7; Hanson, 2001, pp. 5-7).

The regulations in India are commonly characterized as "financial repression". The financial liberalization literature assumes that the removal of repressionist policies will allow the banking sector to better perform its functions of mobilizing savings and allocating capital what ultimately results in higher growth rates (Levine, 1997, p. 691). If India wants to achieve its ambitious growth targets of 7-8% per year as lined out in the Common Minimum Programme of the current government, a successful management of the systemic changes in the banking sector is a necessary precondition.

While the transition process in the banking sector has certainly not yet come to an end, sufficient time has passed for an interim review. The objective of this paper therefore is to evaluate the progress made in liberalizing the banking sector so far and to test if the reforms have allowed the banking sector to better perform its functions.

The paper proceeds as follows: section 2 gives a brief overview over the role of the banking sector in an economy and possible coordination mechanisms. A discussion of different repressive policies and their effect on the functioning of the banking sector follows in section 3. Section 4 gives a short historical overview over developments in the Indian banking sector and over the reforms since 1991. An evaluation of the status of the reforms and their effects follows in section 5. Section 6 concludes.

2 ROLE AND MANAGEMENT OF THE BANKING SECTOR

A banking sector performs three primary functions in an economy: the operation of the payment system, the mobilization of savings and the allocation of savings to investment projects. By allocating capital to the highest value use while limiting the risks and costs involved, the banking sector can exert a positive influence on the overall economy, and is thus of broad macroeconomic importance (Bonin and Wachtel, 1999, p. 113; Jaffe and Levonian, 2001, p. 163; Rajan and Zingales, 1998, p. 559; Wachtel, 2001, p. 339).

Since the general importance of a banking sector for an economy is widely accepted, the questions arise under which coordination mechanism – state or market – it best performs its functions, and, if necessary, how to manage the transition to this coordination mechanism (Kaminsky and Schmukler, 2002, p. 30).

Currently, there are opposing views concerning the most preferable coordination mechanism. According to the development and political view of state involvement in banking, a government is through either direct ownership of banks or restrictions on the operations of banks better suited than market forces alone to ensure that the banking sector performs its functions. The argument is essentially that the government can ensure a better economic outcome by for example channeling savings to strategic projects that would otherwise not receive funding or by creating a branch infrastructure in rural areas that would not be build by profit-maximizing private banks. The active involvement of government thus ensures a better functioning of the banking sector, which in turn has a growth enhancing effect (Arun and Turner, 2002c, p. 93; Denizer, Desai and Gueorguiev, 1998, p. 2; Gerschenkron, 1962, pp. 19-22; La Porta, Lopez de Silanes and Schleifer, 2002, p. 266f.).
The proponents of financial liberalization take an opposite stance. In their view, repressive policies such as artificially low real interest rates, directed credit programs and excessive statutory pre-emptions that are imposed on banks have negative effects on both the volume and the productivity of investments. Removing these repressionist policies and giving more importance to market forces will, in the view of the proponents of financial liberalization, increase financial development and eventually lead to higher economic growth (Demetriades and Luintel, 1997, p. 311; Denizer, Desai and Gueorguiev, 1998, p. 3; King and Levine, 1993, p. 730; McKinnon, 1991, p. 12).

A majority of empirical studies support the conclusion of the financial liberalization hypothesis. The policy recommendations arising from these studies are evident: abolishment of repressionist policies and privatization of state-owned banks (Fry, 1997, p. 768; King and Levine, 1993, p. 734f.; Wachtel, 2001, pp. 357-359).

The next section explores various measures of financial repression and discusses their effects on the banking sector.

3 MEASURES OF FINANCIAL REPRESSION

Financial repression refers to policies, laws, formal regulations and informal controls that through the distortion of financial prices inhibit the proper functioning of the banking sector. While there is certainly a wide array of ways in which a government can interfere in the banking sector, three common policies are statutory pre-emptions, regulated interest rates, and directed credit programs (Demetriades and Luintel, 1997, p. 314; Denizer, Desai and Gueorguiev, 1998, p. 3 and 10f; Wachtel, 2001, p. 336).

Statutory pre-emptions can take the form of reserve or liquidity requirements. Reserve requirements oblige banks to deposit a certain percentage of deposits at the central bank. While this is a common practice in many countries, it becomes a repressive policy if the amount of funds pre-empted is above the level required to ensure an orderly functioning of the monetary policy. Liquidity requirements are relatively similar in nature and oblige banks to keep a certain percentage of deposits in government securities or other approved securities. Thus, statutory pre-emptions create both an under-supply of credit by taking liquidity out of the market and an artificial demand for government securities (Demetriades and Luintel, 1997, p. 311; Denizer, Desai and Gueorguiev, 1998, p. 3; Joshi and Little, 1997, p. 112).

Interest rate regulation can take several forms. Demetriades and Luintel describe a total of six interest rate controls. These controls are a fixed deposit rate, a ceiling on the deposit rate, a floor on the deposit rate, a fixed lending rate, a ceiling on the lending rate and a floor on the lending rate (Demetriades and Luintel, 1997, p. 314). Depending on how the interest-rate controls are set, they can either constitute an incentive or disincentive for investments and savings. The controls on the lending side are especially important since they can affect the riskiness of the loan portfolio. Fixed lending rates or floors on the lending rate tend to crowd out "low-risk, low-return" projects that become unprofitable with higher interest rates.

Under a directed credit program, banks have to allocate a certain portion of bank credit to priority sectors. In the case of India, 40% of the total credit has to go to priority sectors such as agriculture, small-scale industries, small transport operators or the export sector. The quantitative priority sector lending targets are often combined with interest rate controls that lead to a segmentation of financial markets and constitute a barrier to financial development. Furthermore, loans to priority sectors can have a destabilizing effect on the banking system, since they are often less profitable and more likely to be non-performing (Denizer, Desai and Gueorguiev, 1998, p. 11; Ganesan, 2003, p. 14 and 21; Shirai, 2002b, p. 18).

The results of statutory pre-emptions and regulated interest rates are a forced low return on assets and high portions of reserve money. This effectively leads to disincentives to save because of low real interest rates while at the same time creating demand for credit due to relatively low lending rates. In this environment, a directed lending program serves as an allocation mechanism for scarce credit (Denizer, Desai and Gueorguiev, 1998, p. 3; Giovanni and de Melo, 1993, p. 954).

Repressive policies can have negative effects on the development of the banking sector and the economy as a whole. Among them are a higher degree of less efficient self financing due to a shortage of loans, a cross-subsidization through interest rates that provides disincentives for certain groups to fulfill their
banking needs through the organized banking sector, and a lower productivity of investments caused by restrictions on investments. Finally, the resulting underdevelopment of the banking sector associated with financial repression may result in lower economic growth (McKinnon, 1991, p. 11f.).

The policy recommendation for countries using repressive policies is to liberalize the banking sector through the removal of repressive policies. Various measures have been proposed to achieve this goal. First, real interest rates for deposits and loans should be market-determined. This includes the abolition of interest rate ceilings and floors. Second, reduction of reserve requirements to the extent that is necessary to ensure the stability of the financial system. Third, discontinuation of the mandated allocation of credit to certain sectors (Fry, 1997, p. 756; McKinnon, 1991, p. 12; Wachtel, 2001, p. 337).

While liberalization should entail further elements such as institution building or privatization of state-owned banks, the removal of repressionist policies is certainly an important step towards more market-oriented banking.

India is a case in point for a country where the government used the described policies to gain control over the banking sector and integrate it in its overall development strategy. The following section gives an overview over the development of the banking sector in India.

4 DEVELOPMENT OF THE INDIAN BANKING SECTOR

4.1 Development from Independence until 1991

At the time of Independence in 1947, the banking system in India was fairly well developed with over 600 commercial banks operating in the country. However, soon after Independence, the view that the banks from the colonial heritage were biased in favor of working-capital loans for trade and large firms and against extending credit to small-scale enterprises, agriculture and commoners, gained prominence. To ensure better coverage of the banking needs of larger parts of the economy and the rural constituencies, the Government of India (GOI) created the State Bank of India (SBI) in 1955 (Cygnus, 2004, p. 5; Joshi and Little, 1997, p. 110f.; Kumbhakar and Sarkar, 2003, p. 406f.; Reddy, 2002b, p. 337). Despite the progress in the 1950s and 1960s, it was felt that the creation of the SBI was not far reaching enough since the banking needs of small scale industries and the agricultural sector were still not covered sufficiently. This was partly due to the still existing close ties commercial and industry houses maintained with the established commercial banks, which gave them an advantage in obtaining credit (Reddy, 2002b, p. 338). Additionally, there was a perception that banks should play a more prominent role in India's development strategy by mobilizing resources for sectors that were seen as crucial for economic expansion. As a consequence, in 1967 the policy of social control over banks was announced. Its aim was to cause changes in the management and distribution of credit by commercial banks (ICRA, 2004, p. 5; Reddy, 2002b, p. 338; Shirai, 2002b, p. 8).

Following the Nationalization Act of 1969, the 14 largest public banks were nationalized which raised the Public Sector Banks' (PSB) share of deposits from 31% to 86%. The two main objectives of the nationalizations were rapid branch expansion and the channeling of credit in line with the priorities of the five-year plans. To achieve these goals, the newly nationalized banks received quantitative targets for the expansion of their branch network and for the percentage of credit they had to extend to certain sectors and groups in the economy, the so-called priority sectors, which initially stood at 33.3% (Arun and Turner, 2002a, p. 184; Bhide, Prasad and Ghosh, 2001, p. 4; Ganesan, 2003, p. 14; Hanson, 2001, p. 2; Joshi and Little, 1997, p. 111; Kumbhakar and Sarkar, 2003, p. 407; Reddy, 2002b, p. 338).

Six more banks were nationalized in 1980, which raised the public sector's share of deposits to 92%. The second wave of nationalizations occurred because control over the banking system became increasingly more important as a means to ensure priority sector lending, reach the poor through a widening branch network and to fund rising public deficits. In addition to the nationalization of banks, the priority sector lending targets were raised to 40% (Arun and Turner, 2002a, p. 184; Hanson, 2001, p. 2f.; Ganesan, 2003, p. 14; Kumbhakar and Sarkar, 2003, p. 407).

However, the policies that were supposed to promote a more equal distribution of funds, also led to inefficiencies in the Indian banking system. To alleviate the negative effects, a first wave of liberalization
started in the second half of the 1980s. The main policy changes were the introduction of Treasury Bills, the creation of money markets, and a partial deregulation of interest rates (Bhide, Prasad and Ghosh, 2001, p. 5; Shirai, 2002b, p. 9).²

Besides the establishment of priority sector credits and the nationalization of banks, the government took further control over banks' funds by raising the statutory liquidity ratio (SLR) and the cash reserve ratio (CRR). From a level of 2% for the CRR and 25% for the SLR in 1960, both witnessed a steep increase until 1991 to 15% and 38.5% respectively (Joshi and Little, 1997, p. 112).³

In summary, India's banking system was at least until an integral part of the government's spending policies. Through the directed credit rules and the statutory pre-emptions it was a captive source of funds for the fiscal deficit and key industries. Through the CRR and the SLR more than 50% of savings had either to be deposited with the RBI or used to buy government securities. Of the remaining savings, 40% had to be directed to priority sectors that were defined by the government. Besides these restrictions on the use of funds, the government had also control over the price of the funds, i.e. the interest rates on savings and loans (Mukherji, 2002, p. 39). This was about to change at the beginning of the 1990s when a balance-of-payments crisis was a trigger for far-reaching reforms.

4.2 Developments after 1991

Like the overall economy, the Indian banking sector had severe structural problems by the end of the 1980s. Joshi and Little characterize the banking sector by 1991 as "[...] unprofitable, inefficient, and financially unsound" (Joshi and Little, 1997, p. 111). By international standards, Indian banks were even despite a rapid growth of deposits extremely unprofitable. In the second half of the 1980s, the average return on assets was about 0.15%. The return on equity was considerably higher at 9.5%, but merely reflected the low capitalization of banks. While in India capital and reserves stood at about 1.5% of assets, other Asian countries reached about 4-6%. These figures do not take the differences in income recognition and loss provisioning standards into account, which would further deteriorate the relative performance of Indian banks (Joshi and Little, 1997, p. 111).

The 1991 report of the Narasimham Committee served as the basis for the initial banking sector reforms. In the following years, reforms covered the areas of interest rate deregulation, directed credit rules, statutory pre-emptions and entry deregulation for both domestic and foreign banks. The objective of banking sector reforms was in line with the overall goals of the 1991 economic reforms of opening the economy, giving a greater role to markets in setting prices and allocating resources, and increasing the role of the private sector (Arun and Turner, 2002a, p. 183; Bhide, Prasad and Ghosh, 2001, p. 7; Guha-Khasnobis and Bhaduri, 2000, p. 335f.; Hanson, 2001, pp. 5-7; Shirai, 2002a, p. 54). A brief overview of the most important reforms follows.

Statutory pre-emptions

The degree of financial repression in the Indian banking sector was significantly reduced with the lowering of the CRR and SLR, which were regarded as one of the main causes of the low profitability and high interest rate spreads in the banking system (Shirai, 2002b, p. 12).

During the 1960s and 1970s the CRR was around 5%, but until 1991 it increased to its maximum legal limit of 15%. From its peak in 1991, it has declined gradually to a low of 4.5% in June 2003. In October 2004 it was slightly increased to 5% to counter inflationary pressures, but the RBI remains committed to decrease the CRR to its statutory minimum of 3%. The SLR has seen a similar development. The peak rate of the SLR stood at 38.5% in February 1992, just short of the upper legal limit of 40%. Since then, it has been gradually lowered to the statutory minimum of 25% in October 1997 (Ghose, 2000, p. 199; Reserve Bank of India, 2004a, p. 10).

The reduction of the CRR and SLR resulted in increased flexibility for banks in determining both the volume and terms of lending (Kamesam, 2002, p. 379; Reddy, 2002a, p. 364).
Priority sector lending

Besides the high level of statutory pre-emptions, the priority sector advances were identified as one of the major reasons for the below average profitability of Indian banks. The Narasimham Committee therefore recommended a reduction from 40% to 10%. However, this recommendation has not been implemented and the targets of 40% of net bank credit for domestic banks and 32% for foreign banks have remained the same. While the nominal targets have remained unchanged, the effective burden of priority sector advances has been reduced by expanding the definition of priority sector lending to include for example information technology companies (Ganesan, 2003, p. 15; Hanson, 2001, p. 8; Reserve Bank of India, 2004a, p. 16).

Interest rate liberalization

Prior to the reforms, interest rates were a tool of cross-subsidization between different sectors of the economy. To achieve this objective, the interest rate structure had grown increasingly complex with both lending and deposit rates set by the RBI. The deregulation of interest rates was a major component of the banking sector reforms that aimed at promoting financial savings and growth of the organized financial system (Arun and Turner, 2002b, p. 437; Singh, 2005, p. 18; Varma, 2002, p. 10).

The lending rate for loans in excess of Rs200,000 that account for over 90% of total advances was abolished in October 1994. Banks were at the same time required to announce a prime lending rate (PLR) which according to RBI guidelines had to take the cost of funds and transaction costs into account. For the remaining advances up to Rs200,000 interest rates can be set freely as long as they do not exceed the PLR (Arun and Turner, 2002b, p. 437; Reserve Bank of India, 2004a, p. 15; Shirai, 2002b, p. 13).

On the deposit side, there has been a complete liberalization for the rates of all term deposits, which account for 70% of total deposits. The deposit rate liberalization started in 1992 by first setting an overall maximum rate for term deposits. From October 1995, interest rates for term deposits with a maturity of two years were liberalized. The minimum maturity was subsequently lowered from two years to 15 days in 1998. The term deposit rates were fully liberalized in 1997. As of 2004, the RBI is only setting the savings and the non-resident Indian deposit rate. For all other deposits above 15 days, banks are free to set their own interest rates (Reserve Bank of India, 2004a, p. 11; Shirai, 2002b, p. 13).

Entry barriers

Before the start of the 1991 reforms, there was little effective competition in the Indian banking system for at least two reasons. First, the detailed prescriptions of the RBI concerning for example the setting of interest rates left the banks with limited degrees of freedom to differentiate themselves in the marketplace. Second, India had strict entry restrictions for new banks, which effectively shielded the incumbents from competition (Deolalkar, 1999, p. 60; Joshi and Little, 1997, p. 148).

Through the lowering of entry barriers, competition has significantly increased since the beginning of the 1990s. Seven new private banks entered the market between 1994 and 2000. In addition, over 20 foreign banks started operations in India since 1994. By March 2004, the new private sector banks and the foreign banks had a combined share of almost 20% of total assets (Arun and Turner, 2002b, p. 439; Hanson, 2001, p. 6; Reserve Bank of India, 2004a, p. 236-238; Shirai, 2002b, p. 20).

Deregulating entry requirements and setting up new bank operations has benefited the Indian banking system from improved technology, specialized skills, better risk management practices and greater portfolio diversification (Reserve Bank of India, 2004a, p. 167).

Prudential norms

The report of the Narasimham Committee was the basis for the strengthening of prudential norms and the supervisory framework. Starting with the guidelines on income recognition, asset classification, provisioning and capital adequacy the RBI issued in 1992/93, there have been continuous efforts to enhance the transparency and accountability of the banking sector. The improvements of the prudential and supervisory framework were accompanied by a paradigm shift from micro-regulation of the banking sector to a strategy of macro-management (Reserve Bank of India, 2004a, p. 24f; Shirai, 2002b, p. 21).
The Basle Accord capital standards were adopted in April 1992. The 8% capital adequacy ratio had to be met by foreign banks operating in India by the end of March 1993, Indian banks with a foreign presence had to reach the 8% by the end of March 1994 while purely domestically operating banks had until the end of March 1996 to implement the requirement (Joshi and Little, 1997, p. 117; Shirai, 2002b, p. 21f).

Significant changes were also made concerning non-performing assets (NPA) since banks can no longer treat the putative 'income' from them as income. Additionally, the rules guiding their recognition were tightened. Even though these changes mark a significant improvement, the accounting norms for recognizing NPAs are less stringent than in developed countries where a loan is considered nonperforming after one quarter of outstanding interest payments compared to two quarters in India (Joshi and Little, 1997, p. 117; Madgavkar, Puri and Sengupta, 2001, p. 114).

**Public Sector Banks**

At the end of the 1980s, operational and allocative inefficiencies caused by the distorted market mechanism led to a deterioration of Public Sector Banks' profitability. Enhancing the profitability of PSBs became necessary to ensure the stability of the financial system. The restructuring measures for PSBs were threefold and included recapitalization, debt recovery and partial privatization (Kamesam, 2002, p. 377; Reddy, 2002a, p. 358).

Despite the suggestion of the Narasimham Committee to rationalize PSBs, the Government of India decided against liquidation, which would have involved significant losses accruing to either the government or depositors. It opted instead to maintain and improve operations to allow banks to create a good starting basis before a possible privatization (Shirai, 2002b, p. 26).

Due to directed lending practices and poor risk management skills, India's banks had accrued a significant level of NPAs. Prior to any privatization, the balance sheets of PSBs had to be cleaned up through capital injections. In the fiscal years 1991/92 and 1992/93 alone, the GOI provided almost Rs40 billion to clean up the balance sheets of PSBs. Between 1993 and 1999 another Rs120 billion were injected in the nationalized banks. In total, the recapitalization amounted to 2% of GDP (Deolalkar, 1999, p. 66f.; Reddy, 2002a, p. 359; Reserve Bank of India, 2001, p. 26).

In 1993, the SBI Act of 1955 was amended to promote partial private shareholding. The SBI became the first PSB to raise equity in the capital markets. After the 1994 amendment of the Banking Regulation Act, PSBs were allowed to offer up to 49% of their equity to the public. This lead to the further partial privatization of eleven PSBs. Despite those partial privatizations, the government is committed to keep their public character by maintaining strong administrative control such as the ability to appoint key personnel and influence corporate strategy (Ahluwalia, 2002, p. 82; Arun and Turner, 2002b, p. 436-442; Bowers, Gibb and Wong, 2003, p. 92; CASI, 2004, p. 33; Economist Intelligence Unit, 2003, p. 9; Reddy, 2002a, p. 358f.; Shirai, 2002a, p. 54-56; Shirai, 2002b, p. 26).

After an overview of the developments in the Indian banking sector over the last years, the next section tries to measure the changing degree of financial repression in the banking system and to explore the effects these changes had.

## 5 STATUS AND EFFECTS OF LIBERALIZATION

### 5.1 Status of removal of repressionist policies

As described above, India used several policies to gain influence over the banking sector. Besides the outright nationalization of banks, the key policies were the directed credit program, the statutory pre-emptions and the interest rate controls.

To evaluate the changes in these policies in India over the last years, the intensity of the policies over time is captured with the help of dummy variables. The advantage of this method is that the different variables can be aggregated to a composite index of financial repression.
Interest rate restrictions
Interest rate restrictions can take different forms. Based on Demetriades and Luintel (1997) the focus is on the following interest rate controls: a fixed deposit rate, a ceiling on the deposit rate, a floor on the deposit rate, a fixed lending rate, a ceiling on the lending rate and a floor on the lending rate. The existence of controls is measured with dummies that take the value of 1 if a control is present and 0 in the absence of a control (Demetriades and Luintel, 1997, p. 314). The six controls are then aggregated to an equally-weighted index that is scaled between 0 and 1.

The aggregated results show that the degree of interest rate regulation almost steadily increased until reaching a peak in the early 1980s (Figure 1). After the first liberalization efforts in the mid-1980, the degree of interest rate controls was somewhat lowered, but then increased again at the end of the 1980s. Since the beginning of the 1990s, the degree of interest rate controls has steadily declined which reflects that today most interest rates are determined by the market.

Figure 1: Development of interest rate controls

Statutory pre-emptions
Statutory pre-emptions can serve as tools of monetary policy. They can become instruments of financial repression however, if their amount exceeds the level that is necessary to pursue an orderly monetary policy. Since it is difficult to gauge the CRR and SLR levels that are necessary for the pursuit of monetary policy, the degree of repression can only be approximated.

In India, a legal minimum and maximum rate are set for both the CRR and SLR. For estimating the amount of repression, the assumption is made that CRR and SLR levels above the minimum rate are repressive. Even though this is a simplification, it should approximate the policy stance fairly well since the SLR has been at its statutory minimum of 25% since October 1997 and the RBI has a medium-term objective to lower the CRR to its statutory minimum of 3% (Reserve Bank of India, 2004a, p. 10).

Consequently, to approximate the degree of repression through the CRR and SLR, the difference between the actual rate and the minimum rate is divided by the difference between the maximum and minimum rate. Thus, as with the interest rate regulations, 1 denotes high repression and 0 denotes no repression.

The historical development of the two ratios shows that they have almost steadily increased from 1960 until 1991, when the combined amount reached a peak of 53.5% (Figure 2). Starting in 1991, the statutory pre-emptions have been gradually lowered to a level of 30% at the end of 2004. In line with this policy shifts, the degree of financial repression through statutory pre-emptions has been significantly reduced since 1991 (Figure 3).
Figure 2: Cash Reserve Ratio and Statutory Liquidity Ratio

Figure 3: Degree of CLR and SLR repression
Directed credit program
As with the other two policies, the intensity of the directed credit program is scaled between 0 and 1, where 0 indicates that no restraints from a directed credit program exist and 1 indicates a high degree of directed credit. The intensity of the program is measured by the amount of credit that is included in the program. Somewhat arbitrarily, for a level of directed credit between 0 and 10%, the degree of repression is set as 0, 10 to 20% at 0.25, for 20 to 30% at 0.5, for 30 to 40% at 0.75 and above 40% at 1. This is certainly a simplification since the degree of repression of a directed credit program is influenced by additional variables such as sub-targets for certain sectors, the types of sectors that are defined as priority sectors and interest rate restrictions on the advances. The basis for the classification is the share of priority sector advances in total credit of scheduled commercial banks. While this does not reflect the nominal level of directed credit, it gives a better indication of the effective burden on banks.

Like the other repressionist policies, the intensity of the directed credit program increased steadily between 1960 and the beginning of the 1980s when over 40% of bank credit went to priority sectors (Figure 4). Throughout the 1980s, the level of directed credit was almost continuously well above 40% of total advances. During the 1990s, the level decreased by about 10 percentage points to around 35% of advances where it has since then remained. This reflects the current nominal targets of 40% for domestic banks and 32% for foreign banks.

Figure 4: Intensity of directed credit program

Since the individual repressionist policies have been significantly lowered since the start of the reforms in 1991, it is no surprise that since then the combined index has experienced an almost steady decline (Figure 5). The highest degree of financial repression in the Indian banking sector occurred in 1988 and 1989 with a score of 0.83. Until the end of 2004, the degree of repression has declined to a value of 0.30.
5.2 Effects of removal of repressionist policies

Financial repression has adverse effects on the quality and quantity of investment in an economy because it crowds out high-yielding investment and discourages savings. Due to the low or even negative real interest rates, less efficient self-investment will occur instead of intermediation through the financial sector (Balassa, 1990, p. 57; Denizer, Desai and Gueorguiev, 1998, p. 3).

Liberalizing the banking sector by removing repressionist policies is supposed to yield benefits for the economy. First, the banking sector can through the provision of attractive savings instruments can cause an increase the savings rate. Second, the banking sector can provide a more efficient allocation of resources, which improves the efficiency of capital accumulation. Higher savings and more efficient use of capital increases not only the importance of the banking sector but furthermore contribute to growth (de Gregorio, 1998, p. 3; Lynch, 1996, p. 3).

Based on these theoretical relationships, three hypotheses about the effects of financial liberalization in India are tested. These hypotheses are related to the effects on the savings ratio, capital formation and financial development that are associated with the removal of repressionist policies.

The hypotheses are tested using ordinary least square (OLS) regression, with the degree of repressive policies as the independent variable. As could be seen from Figure 5, the degree of repressive policies increased steadily from 1960 to the beginning of the 1980s, then declined slightly before reaching a new peak at the end of the 1980s. Since then, it has steadily declined. From simply looking at the data, it appears that the first structural changes in the Indian banking sector occurred at the beginning of the 1980s. This is in line with recent papers that have dated the acceleration of India's growth rates at the beginning of the 1980s and not at the beginning of the 1990s as commonly assumed (DeLong, 2001, p. 6; Rodrik and Subramanian, 2004, p. 4).

In an OLS regression a structural change violates the assumption of a linear relationship between the independent and dependent variable. Possible remedies are the inclusion of dummy variables for the two periods or splitting the data set (Backhaus et al., 2003, p. 79-82). In this paper, the structural change is accounted for by splitting the data set into two periods: the first from 1960 to 1980, the second from 1981 onwards.
Hypothesis 1: Decreasing repressive policies creates incentives to save that result in an increase in the savings ratio.

The mobilization of savings is one of the major functions of a banking system. The financial liberalization hypothesis predicts that a reduction of repressionist policies will increase the incentive to save. This is tested by regressing the savings ratio of households against the combined index of financial repression.

Over the last years, the savings ratio in India has steadily increased (Figure 6) which leads to mixed results of the regression (Table 1). For the 1960 to 1980 period, an increase in financial repression is associated with an increase in the savings ratio. From 1981 to 2004, there appears to be a statistically significant relationship between the removal of repressionist policies and the savings ratio as indicated by an $R^2$ of 55.2%.

Figure 6: Household savings (% of GDP)

The aggregate results show that the removal of repressionist policies was not the main driver for the increase in the savings ratio. The question consequently is what other factors could have contributed to the increase. Besides the higher propensity to save which is associated with an increase of the GDP, another factor might have been the widening of the branch network, which gave larger parts of the population the possibility to participate in the formal banking sector. Through the expansion of the branch network, the population per branch was lowered from 64,000 in 1969 to 16,000 in 2004 (Reserve Bank of India, 2004b, p. 1). The regression results show that the increase in the number of branches is highly correlated with the increase in the savings ratio for the 1960 to 2004 period.
Table 1: Regression results

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Household savings (% of GDP)</th>
<th>Household savings (% of GDP)</th>
<th>Capital formation (% of GDP)</th>
<th>Liquid liabilities to GDP</th>
<th>Share of deposit money bank assets</th>
</tr>
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<tr>
<td>Coefficient</td>
<td>0.934 [-0.743]</td>
<td>0.928 [-0.789]</td>
<td>0.789 [-0.58]</td>
<td>0.733 [-0.781]</td>
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<td>0.000 [0.004]</td>
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<td>Intercept</td>
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<td>7.335 [7.017]</td>
<td>15.835 [0.218]</td>
<td>0.564 [0.476]</td>
<td>0.971 [0.971]</td>
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<td>R²</td>
<td>87.2% [55.2%]</td>
<td>86.1% [62.2%]</td>
<td>33.6% [33.6%]</td>
<td>53.8% [61.0%]</td>
<td>93.6% [88.8%]</td>
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**Hypothesis 2**: Reducing repressionist policies increased the availability of capital

Besides an increase in savings, the financial liberalization hypothesis predicts that the removal of repressionist policies leads to an increased availability of capital. This is approximated by the gross fixed capital formation of the private sector as a percentage of GDP. Like the savings ratio, the gross fixed capital formation has steadily increased since 1960 (Figure 7).

As was the case with the savings ratio, the reduction of repressionist policies is not able to explain the overall increase in the gross fixed capital formation of the private sector. Again, for the 1960 to 1980 period, an increase in repressive policies is associated with an increase in gross capital formation. For the time period after 1980, the prediction of the financial liberalization hypothesis holds that a reduction of repressionist policies leads to an increased availability of capital. The $R^2$ is with 33.6% however fairly low (Table 1).

**Figure 7: Gross fixed capital formation of private sector (% of GDP)**
Hypothesis 3: The reduction of repressionist policies has positively affected financial development

The reduction of repressionist policies is commonly associated with improved financial development. Standard measures of financial development are the ratio of liquid liabilities to GDP and the ratio of bank credit to bank and central bank credit. The ratio of liquid liabilities to GDP is a measure of financial depth that shows the size of the formal financial system. The ratio of bank credit to bank and central bank credit gives an indication of the importance of deposit banks, which supposedly provide better risk management and investment services than the central bank (King and Levine, 1993, p. 718; Wachtel, 2001, p. 342).

The financial depth as measured by the ratio of liquid liabilities to GDP has steadily increased in India (Figure 8). Therefore, it is not surprising that a similar picture as before emerges. For the 1960 to 1980 period, financial depth increases with an increase in financial repression, which is contrary to the prediction of the financial liberalization hypothesis. For the time after 1980, the predicted relationship between the reduction of repressionist policies and an increase of financial depth is with an $R^2$ of 61% fairly robust.

**Figure 8: Liquid liabilities to GDP**

![Graph showing liquid liabilities to GDP from 1960 to 2005](image)

The same results emerge for the other indicator of financial development, the share of credit from deposit banks, which has increased steadily until about 1980, then declined until the beginning of the 1990s, and is since then rising again (Figure 9). Again, the results for the 1960 to 1980 period are contrary to the prediction of the financial liberalization hypothesis while they are in line for the period thereafter (Table 1).
6 CONCLUSION

This paper attempted to evaluate the reforms that have occurred in the Indian banking sector by focusing on the changes in three policies that are commonly associated with financial repression, namely interest rate controls, statutory pre-emptions, and directed credit. For these three policies, indices of financial repression were constructed. The indices were then used to evaluate the changing intensity of repressive policies, and to test if the reduction of repressionist policies had a positive impact on savings, capital formation and financial development.

Concerning the changing intensity of repressive policies in India, the indices showed that the degree of financial repression has steadily increased from 1960 to 1980, decreased somewhat at the beginning of the 1980s, before reaching a second peak towards the end of the 1980s. Since then, the degree of financial repression has steadily declined in India.

The evaluation of the relationship between financial repression and the associated effects of financial liberalization led to mixed results. The relationships are statistically significant for India over the 1981 to 2004 period. However, in the 1960 to 1980 period, the indicators have despite the increase in repressionist policies shown an upward trend. In fact, here as well, statistically significant relationships can be found that suggest that the indicators have increased because of the increase in financial repression, which is contrary to the predictions of the financial liberalization literature.

The chosen research approach is not without limitations. First, the focus is on a narrow albeit important set of indicators of financial repression. For example effects from the nationalization of large parts of the banking system are not taken into account. Second, the aggregation of the variables to indices is certainly a simplification of the real nature of the policies. Other important aspects of the policies, such as the definition of priority sectors or interest rate restrictions for priority sector advances, are neglected. Furthermore, the three variables enter into the index with equal weights, which is clearly a simplification since the impact of the policies is likely to be different. However, despite this simplification the aggregate results capture the changing nature of government intervention in the Indian banking sector over time fairly well. Third, the statistical tests of the effects of the removal of repressionist policies focus largely...
on the mobilization of resources. An aspect that is somewhat neglected and should be further tested is the efficiency with which these resources are allocated. A further avenue for future research is conducting a detailed factor analysis to identify the policy variables that are associated with the mobilization of resources in India.

Despite these limitations, it can be concluded that the predictions of the financial liberalization literature should be refuted for India even if structural changes since 1980 are assumed. India's banking sector was able to fulfill its functions under both a more state-directed and a market-based system. The policy implication from this result is that it is less important under which system – state or market – the banking sector is coordinated, but how coherently the overall system is managed. The experiences from countries like South Korea and Taiwan point in a similar direction (Arestis and Demetriades, 1997, p. 791; Chan and Hu, 2000, p. 430; Rodrik, 1995, p. 85).

Since India has decided to move toward a more market-based system, it is now important for policy makers to create the conditions for the well-functioning of a market based banking system. Among the necessary tasks are the building and strengthening of the necessary institutions like oversight bodies, accounting standards and regulations as well as the further restructuring and privatization of PSBs. If India continues on its current path of banking sector liberalization, it should be in a position to further strengthen its banking system, which will be vital to support its economic growth in the years to come.

REFERENCES


Cygnus (2004): Indian Banking, Hyderabad.


ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>CRR</td>
<td>Cash Reserve Ratio</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GOI</td>
<td>Government of India</td>
</tr>
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<td>NPA</td>
<td>Non Performing Asset</td>
</tr>
<tr>
<td>OLS</td>
<td>Ordinary Least Square Regression</td>
</tr>
<tr>
<td>PLR</td>
<td>Prime Lending Rate</td>
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<tr>
<td>PSB</td>
<td>Public Sector Bank</td>
</tr>
<tr>
<td>RBI</td>
<td>Reserve Bank of India</td>
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<tr>
<td>Rs</td>
<td>Rupees</td>
</tr>
<tr>
<td>SBI</td>
<td>State Bank of India</td>
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<tr>
<td>SLR</td>
<td>Statutory Liquidity Requirement</td>
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AUTHOR PROFILE

Mr. Roland studied business administration at the European Business School in Oestrich-Winkel, Germany, at the Universidad de San Andrés in Buenos Aires, Argentina and at the Garvin School of International Management (Thunderbird) in Glendale, Arizona, USA. He finished his studies with the degree of "Diplom-Kaufmann" (MBA-equivalent) in 2002. Since October 2004, the author is writing his doctoral thesis on the topic of banking sector liberalization in India at the European Business School.
ENDNOTES

1 It is important to note that not all forms of government intervention constitute repressionist policies. For example, if market failures are present, government intervention can enhance the functioning of the market.

2 The reforms enacted between 1985 and 1989 can with hindsight be seen as paving the way for the reforms of the 1990s; they are in contrast to the isolated reforms in the 1960s and 1970s which were often reversed shortly after their introduction. However, the reforms were not sufficient to ensure an efficient distribution of funds and to remove the structural imbalances (Panagariya, 2004, p. 5).

3 The SLR refers to funds that have to be kept in cash or government bonds; the CRR is a percentage of funds that have to be deposited with the RBI (Joshi and Little, 1997, p. 112).

4 Priority sector lending requirements for foreign banks increased from 15% in 1992 to the current level of 32% in 1993. The sub-targets for foreign and domestic banks are different as well. Foreign banks for example have a 10% target for the export sector, which is not the case for domestic banks (Shirai, 2002b, p. 18).

5 The rating agency Fitch estimates that the effective level of NPAs in India could be twice as high as reported due to the less stringent classification norms (Fitch Ratings, 2003, p. 4).

6 In 1993 and 1994 NPAs as a percentage of gross advances stood at 23.2% and 24.8%; as a percentage of total assets NPAs stood at 11.8% and 10.8% respectively (Deolalkar, 1999, p. 66).

7 The minimum and maximum rates of the CRR are 3% and 15%; for the SLR they are 25% and 40% respectively (Section 42 (1) of the RBI Act of 1934 and Section 24 (b) of the Banking Regulation Act of 1949).

8 Considering a directed credit program of up to 10% as not repressive reflects the fact that some degree of directed credit might be justified due to market failures. The Narasimham Committee for example suggested a reduction of the directed credit program to 10% and not a complete abolishment (Ganesan 2003, p. 15).

9 The positive slope coefficient reflects that the repressionist policies are scaled from 1 for full control to 0 for no controls. Thus, a positive slope coefficient reflects an increase of repressionist policies.