

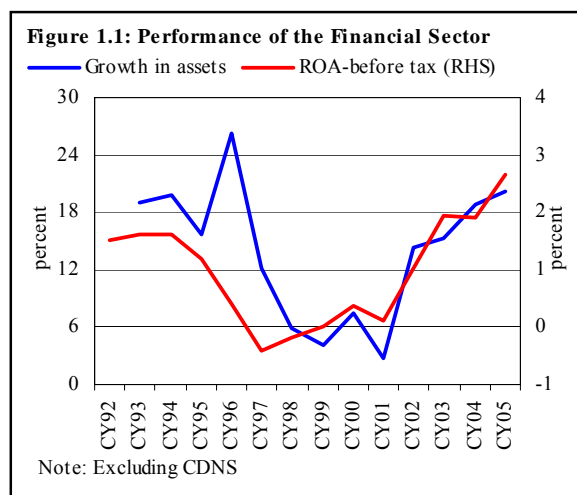
# 1 Macroeconomic Environment and Performance of the Financial Sector

## 1.1 Overview

Continuity of financial sector reforms and strengthening of macroeconomic fundamentals have led to significant improvement in size, structure and health of financial sector during CY00-CY05. As shown in **Figure 1.1**, the financial sector has recorded a marked improvement in asset growth and profitability since CY01. Assets of the financial sector increased at a remarkable average annual growth rate of 14.8 percent reaching Rs 5.2 trillion in CY05 from Rs 2.8 trillion in CY00. In terms of GDP, the financial sector assets registered an increase of 5.7 percentage points to reach at 79.0 percent in CY05 as compared to 73.2 percent in CY00. However, the financial sector assets to GDP ratio, after showing the highest level of 81.8 percent in CY03, registered a decline in CY04 and CY05. This fall in relative size was primarily because of net outflows of the Central Directorate for National Savings (CDNS) instruments during CY04 and CY05. Excluding CDNS, financial sector assets to GDP ratio showed a continuous uptrend during the period under review (see **Table 1.1**).<sup>1</sup>

In contrast to the structure in CY00, the financial sector at the end of CY05 was predominantly owned by the private sector with its share above 60 percent in overall assets. Specifically, since the nationalization in 1970s, it was the first time in CY04 when private sector owned majority shares of 56.6 percent in the overall assets of financial sector. The share of private sector consolidated further in CY05 to reach 61.1 percent. Similarly, indicators of financial health suggest improvement in soundness of financial sector.

This chapter highlights the progress made in the structure and performance of overall financial sector during 2000-05. Moreover, since the improvement in financial sector is



**Table 1.1: Assets of the Financial Sector**

	CY01	CY02	CY03	CY04	CY05
<i>Assets (billion Rupees)</i>					
Banks	1,942.3	2,223.1	2,542.3	3,043.0	3,659.1
CDNS	783.8	849.6	987.4	979.0	938.5
NBFIs	205.4	213.5	261.1	325.2	388.1
Insurance	113.4	129.8	151.4	174.6	201.7
MFBs	1.9	3.1	4.3	5.7	8.5
Overall	3,046.8	3,419.1	3,946.6	4,527.3	5,195.3
<i>Share in overall assets of financial sector (in percent)</i>					
Banks	63.7	65.0	64.4	67.2	70.4
CDNS	25.7	24.8	25.0	21.6	18.1
NBFIs	6.7	6.2	6.6	7.2	7.5
Insurance	3.7	3.8	3.8	3.8	3.9
MFBs	0.1	0.1	0.1	0.1	0.2
Overall	100.0	100.0	100.0	100.0	100.0
<i>Growth rates (in percent)</i>					
Banks	7.4	14.5	14.4	19.7	20.2
CDNS	7.5	8.4	16.2	-0.9	-4.1
NBFIs	-15.0	3.9	22.3	24.5	19.4
Insurance	-	14.5	16.6	15.3	15.5
MFBs	-	62.6	41.4	31.2	49.5
Overall	9.6	12.2	15.4	14.7	14.8
<i>As percent of GDP</i>					
Banks	46.7	50.5	52.7	53.9	55.6
CDNS	18.8	19.3	20.5	17.4	14.3
NBFIs	4.9	4.9	5.4	5.8	5.9
Insurance	2.7	2.9	3.1	3.1	3.1
MFBs	0.0	0.1	0.1	0.1	0.1
Overall	73.2	77.7	81.8	80.3	79.0
Ex. CDNS	54.4	58.4	61.3	62.9	64.6

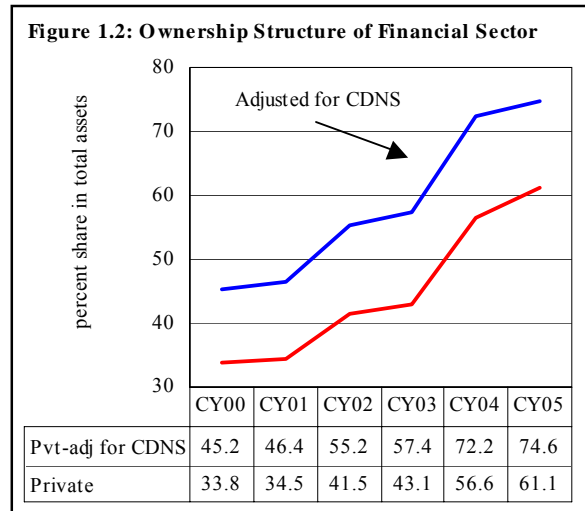
Source: SBP & SECP

<sup>1</sup> It may be important to note that withdrawals of funds from CDNS instruments did reflect in the strong growth in banks and NBFIs deposits. Specifically, aggregate deposits of the financial sector registered an annual average growth rate of 15.5 percent during CY01-CY05; significantly higher than assets growth during the same period. Moreover, as percent of GDP, deposits of financial sector depicted a continuous up-trend during CY01-CY05.

attributable to both the reforms process as well as overall macroeconomic progress in the country, an empirical analysis has been carried out to disentangle the impact of these two factors.

## 1.2 Structure of the Financial System<sup>2</sup>

Pakistan is among the few developing countries that successfully transferred a large share of financial sector from public to private ownership in a short span of time. Specifically, share of the private sector in assets of financial system jumped from 33.8 percent in CY00 to 61.1 percent in CY05 (see **Figure 1.2**). This was primarily achieved through (a) privatization of state-owned financial institutions, including two big-commercial banks and all the state-owned close-end mutual funds; (b) relatively faster growth in the assets of existing privately owned institutions; and (c) net outflows in CDNS instruments during CY04 and CY05.<sup>3</sup>



In terms of institutional composition, the scheduled banks that constitute the largest portion of the overall financial system, registered a further increase in share from 63.7 percent in CY01 to 70.4 percent at the end of CY05 (see **Table 1.1**). Besides rapid growth in profitability and business expansion, transfer of assets from Non-Bank Finance Institutions (NBFIs) on account of mergers and acquisitions, has also contributed in raising the share of the banking sector. The restructuring of NBFIs from 2000 onwards and the shift of their assets to banks have resulted in a negative asset growth of 15.0 percent in CY01 and a meager growth of 3.9 percent in CY02. Consequently, the share of NBFIs in the overall financial sector assets declined from 6.7 percent in CY01 to 6.2 percent in CY02. However, the strong growth by NBFIs from CY03 onwards (see **Table 1.1**), in particular by mutual funds, has pushed up the share of NBFIs to 7.5 percent in CY05. Share of insurance companies and microfinance banks in overall assets of the financial system has although been rising during the previous five years, it remained relatively small.

Among the different financial institutions, CDNS was the only exception that registered a decline in its share from CY03 onward. This was largely due to the negative growth of CDNS during CY04 and CY05. In fact, since 1971, it was the first time when CDNS recorded net outflows in National Saving Schemes (NSS) in CY04; which further accelerated in CY05. As discussed in detail in **Chapter 8**, this negative net mobilization in CDNS is mainly attributed to three factors: (i) a ban on institutional

<sup>2</sup> The overall position of the financial sector has been compiled by aggregating the data of various financial institutions with different accounting years. Data for Commercial Banks, Microfinance Banks, Development Financial Institutions, Central Directorate for National Savings (CDNS) and Insurance Companies at end-December (CY) is added to the audited data of NBFIs, which is of end June (FY). The total assets to GDP ratio is calculated by using the Gross Domestic Product at current market prices.

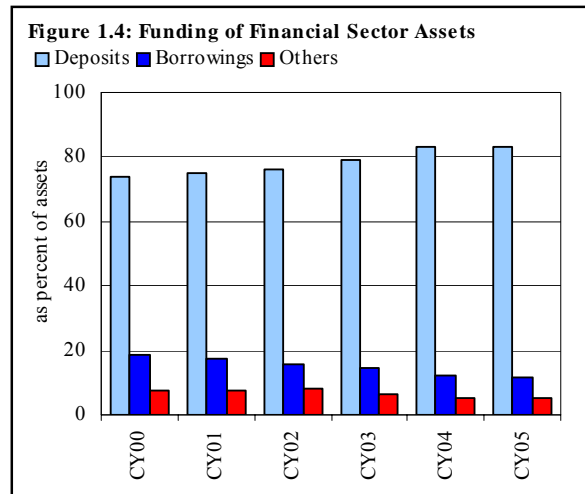
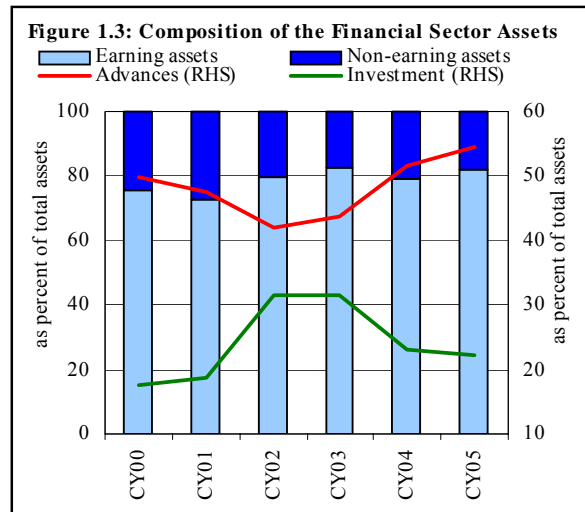
<sup>3</sup> In fact, the first two factors have made a relatively larger contribution, as excluding the CDNS the increase in the private sector share is more pronounced; i.e. increased from 45.2 percent in CY00 to 74.6 percent in CY05 (see **Figure 1.2**).

investors since March 2000 to invest in NSS instruments;<sup>4</sup> (b) all time low returns on NSS instruments during the period; and (c) ban on banks from selling NSS instrument since June 15, 2003.<sup>5</sup>

### 1.3 Composition of the Financial System's Assets and Liabilities

The composition of assets and liabilities in the financial sector saw some positive changes during the last five years. On the assets side, the share of earning assets has increased by 6.9 percentage points to reach at 82.2 percent at the end of CY05. This high earning assets to total assets ratio bodes well for the profitability of the sector. Another noteworthy change in assets composition was the rapid increase in the share of advances from CY03 onward (see **Figure 1.3**),<sup>6</sup> which jumped from 43.8 percent in CY03 to 54.6 percent in CY05. The increasing advance to total assets ratio suggests a rising focus on core business activity by the financial institutions. Indeed, there was increased demand for corporate loans which stemmed from increased economic activity in the country. In addition, financial institutions, particularly banks put strenuous efforts to diversify their loan portfolio by increasing their exposure towards consumer loans, Small and Medium Enterprises (SME) financing and agriculture loans.<sup>7</sup> Since financial institutions are able to charge relatively higher rates on such advances, this added to the profitability of the financial sector.

On the liability side, the share of deposits continued to rise during the last five years and reached at 83.0 percent in CY05 up from 75.7 percent in CY00. The substantial improvement in external accounts, particularly, large inflow of remittances through banking channels, and the surge in the overall economic activity resulted in a 15.5 percent average annual growth in deposits of the financial system during CY01-CY05. This robust growth in deposits lowered the reliance of financial institutions on borrowing to fund their asset



<sup>4</sup> Since September 30, 2006, corporates excluding banks and insurance companies have been allowed to make fresh investments in NSS Instruments.

<sup>5</sup> This was done to discourage arbitrage opportunities existing at that time due to the wide interest rate differential between NSS rates and lending rates on loans secured against NSS instruments. However, as the difference between the two rates narrowed, banks are again allowed to sell NSS instruments since March 2006.

<sup>6</sup> The declining share in the earlier period was primarily due to the sharp increase in investment by financial institutions mainly in government securities and TFCs issued by the corporate companies. Financial institutions were keen to invest in government securities due to low credit demand from the private sector. Moreover, the declining interest rates in FY02, with continued lower credit demand by the private sector, created the urgency for banks to invest funds sooner than later in order to book the capital gains.

<sup>7</sup> For details see **Chapter 8**.

growth, as share of the borrowing fell from 18.3 percent in CY00 to 11.7 percent in CY05 (see **Figure 1.4**).<sup>8</sup> As deposits are a relatively cheaper source of funds, this changing composition of liabilities also has positive implications for profitability of the financial sector.

#### 1.4 Performance of the Financial System<sup>9</sup>

The successful implementation of reforms, in a favorable macroeconomic environment, over the preceding five years has substantially improved the health of the financial sector in Pakistan. Compared to CY00, financial institutions are now relatively better capitalized in general, enjoying good quality assets and earning higher profits (see **Table 1.2**).

**Table 1.2: Key Performance Indicators of the Financial Sector**  
percent

	CY00	CY01	CY02	CY03	CY04	CY05
Equity (excluding surplus/deficit) to liability ratio	3.4	3.7	3.9	5.2	6.3	7.2
Equity to liability ratio	5.1	5.3	6.7	7.6	8.8	10.0
Equity to asset ratio	4.8	5.0	6.2	6.9	8.0	9.0
Borrowing to liability ratio	17.4	16.2	15.3	14.5	12.1	11.7
Deposits to liability ratio	75.7	76.4	77.4	80.1	82.9	83.0
Earning assets to total assets	75.4	72.6	79.4	82.3	79.1	82.2
Advance to assets ratio	49.9	47.4	42.0	43.8	51.6	54.6
Provisioning to total assets ratio	1.03	1.18	0.91	0.72	0.39	0.52
Average cost of deposits and borrowing	6.6	6.2	4.4	2.1	1.6	2.5
Average return on advances and investment	11.1	12.0	8.8	6.0	5.3	7.3
Average spread	4.5	5.8	4.4	3.9	3.7	4.8
Net interest margin	3.5	4.6	4.0	3.8	3.6	4.7
Non-interest income to total income	17.9	13.9	18.7	30.7	28.9	20.9
Return on assets (before tax)	0.2	0.1	1.0	1.9	1.9	2.6
Return on assets (after tax)	-0.2	-0.4	0.3	1.2	1.3	1.8
Liquid assets to total assets	31.3	36.3	44.8	43.2	38.4	34.3

Note: These indicators represent Banks and NBFIs (excluding Mutual Funds, Venture Capital Companies, and Discount Houses)  
Source: SBP

The equity to liability ratio, both after including and excluding capital gains, almost doubled during CY00-CY05, clearly showing an improved capital adequacy of the financial sector. The increased minimum capital requirements and handsome profits of financial institutions helped in achieving higher capital ratios. In fact, the rising capital adequacy is even more impressive, as this was accompanied by substantial improvement in asset quality. While Non-Performing Loans (NPLs) to total assets ratio declined from 27.8 percent in CY00 to 8.5 percent in CY05, earning asset to total asset ratio increased from 75.4 percent to 82.2 percent during the same period. Moreover, the latter was largely due to disproportionately higher growth in advances than overall assets. As a result, the profitability of the financial institutions improved manifold. The ROA (after tax), which was negative during CY00 and CY01, depicts a continuous uptrend since CY02, reaching at 1.8 percent in CY05 (see **Table 1.2**).<sup>10</sup>

Stepping back, the disproportionately high growth in advances, while improving the profitability, has raised the risk exposure for financial institutions. However, the simultaneous improvements in capital

<sup>8</sup> In addition, the rising capital base has also helped in reducing the reliance on borrowings.

<sup>9</sup> To gauge the financial health of the overall financial sector, we consolidated data on all scheduled banks and NBFIs including DFIs, Investment Banks, Leasing, Modaraba, Discount Houses, Venture Capital Companies and regulated Microfinance Institutions. CDNS, Mutual Funds, and insurance sector are not included in this analysis.

<sup>10</sup> The above 1.5 percent ROA is generally considered as a good profitability level; internationally 1.25 percent is the acceptable benchmark for this ratio.

adequacy and relatively better quality of fresh loans have mitigated the risk so far. It is encouraging to note that the financial institutions, in particular, banks have started putting in place an internal risk management system. Nevertheless, there is need to further strengthen the capital base and risk management practices of financial institutions. Moreover, it is also imperative to sustain the high economic growth by strengthening the macroeconomic fundamentals.

### **1.5 Role of Macroeconomic Environment in Financial Sector Development**

The relationship between macroeconomic environment and financial sector development has widely been discussed in economic literature. There seems to be a general consensus on the existence of a close link between the two; stable macroeconomic conditions play an important role in flourishing the financial sector. Theoretical debate on the sequencing of economic reforms and experiences of many countries with reforms in financial sector underscored the importance of attaining macroeconomic stability prior to financial liberalization. Dornbusch and Reynoso (1993)<sup>11</sup> is of the view that if financial liberalization is carried out in an unstable macroeconomic set-up, characterized by high and unstable inflation, large fiscal and current account deficits, and rapidly depreciating exchange rate; the reforms are likely to increase the adjustment cost and its duration by further destabilizing the economy.<sup>12</sup> The study, therefore, recommends that the fiscal deficits be substantially reduced and the exchange rate stabilized before financial liberalization is embarked upon.

Macroeconomic stability, if accompanied by high and sustained economic growth, makes it much easier to successfully implement financial sector reforms by reducing the transition period and cost of the process. For instance, in such a macroeconomic environment, the net worth of the non-financial firms tends to improve, which facilitates these firms to sustain the consequent rise in the financing cost emanating from the removal of interest rate subsidies due to financial sector reforms.

Pakistan's experience in the implementation of financial sector reforms, which started in the early 1990s, reaffirms the aforementioned propositions.<sup>13,14</sup> The deceleration in economic activity and weak macroeconomic fundamentals particularly during the second half of the 1990s (see **Table 1.3**), raised the adjustment cost of the reform process and hindered the financial sector development. For instance, the slowdown in economic activity, in particular low growth in the Large Scale Manufacturing (LSM) during the second half of the nineties,<sup>15</sup> weakened the debt servicing capacity of the corporate sector. As a result, financial institutions witnessed a sharp increase in the NPLs and in turn NPLs to advances ratio of financial sector jumped from 21.5 percent in CY95 to 27.8 in CY00.<sup>16</sup> This huge impaired loan portfolio constrained the growth of financial institutions by dampening their profitability.

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<sup>11</sup> Dornbusch, R. and A. Reynoso. 1993. "Financial Factors in Economic Development". In Rudiger Dornbusch, ed., *Policymaking in the Open Economy: Concepts and Case Studies in Economic Performance*. Oxford: OUP.

<sup>12</sup> If the government finances a larger part of its deficits through money creation, higher interest rates resulting from financial liberalization would reduce government revenue from money creation; with a given budget, this induces further increase in inflation.

<sup>13</sup> These reforms covered seven important areas: financial liberalization, institutional strengthening, domestic debt, monetary management, banking law, foreign exchange and capital market (For more details, see Chapter 2, Pakistan: Financial Sector Assessment 1990-2000).

<sup>14</sup> Although, in addition to macroeconomic setup, there are several other factors that determine the financial sector development (including political stability, corporate governance within institutions, the level of state interference, etc); the discussion in this section is focused on analyzing the impact of macroeconomic environment on financial sector development.

<sup>15</sup> LSM average annual growth dropped to only 2.4 percent in the second half of the 1990s compared to 8.2 percent in the 1980s and 4.7 percent in the first half of the nineties.

<sup>16</sup> In absolute terms, NPLs increased from Rs 134.5 billion to Rs 323.4 billion during the same period. However, a part of this increase resulted due to improved reporting practices, as regulators made the reporting requirement more stringent.

Moreover, in the presence of large twin-deficits, the liberalization of interest rates and external accounts led to a substantial increase in both inter and intra temporal prices in the economy, which not only destabilized the overall economy but also hindered the development of the financial sector. For example, on the fiscal front, transition to market based debt management system without fiscal consolidation, pushed interest rates to go up sharply. While the increased interest rates raised the cost of borrowing for the private sector and lowered their demand for credit from financial institutions, the high yield on government securities and strong financing needs from the government provided a high earning opportunity for financial institutions. Indeed, banks invested heavily in the government securities and did not put much effort to diversify their loan portfolio, which has negative implications for the deepening and long-term development for financial institutions.<sup>17</sup> In addition, the government recourse to mobilize financing directly from the public, through NSS instruments (offering high returns), negatively affected the growth of financial institutions due to dis-intermediation of deposits during the second half of the 1990s.<sup>18</sup>

**Table 1.3: Selected Economic Indicators**

	FY91-95	FY96-00	FY01-06
<i>Average growth rates</i>			
Real GDP (fc)	4.8	4.0	5.4
Agriculture	4.2	4.9	2.3
Industry	5.1	3.5	7.4
LSM	4.7	2.4	10.7
Exports fob (FBS)	10.9	1.3	11.7
Imports cif (FBS)	9.2	0.4	19.5
Tax revenue	16.9	9.6	12.2
Inflation (CPI)	11.5	7.9	5.5
<i>As percent of GDP</i>			
Current account balance	-3.0	-3.1	1.0
External debt	40.7	43.3	38.0
Domestic debt	36.5	37.8	36.0
Fiscal deficit	5.9	5.5	3.7
Monetary assets	35.7	36.6	42.2
Development expenditure	4.8	3.0	3.0
<i>million US Dollars</i>			
Reserves	1,420.6	1,459.3	8,598.1
Current account balance	-1,881.0	-2,332.6	412.8
Remittances	1,637.9	1,280.8	3,392.2

Source: SBP &amp; MoF

Similarly, the weak external position mainly characterized by current account imbalance, high external debt burden, and low forex reserves led to a continuous depreciation of the Rupee which resulted into asset-dollarization in the country. The resident foreign currency deposits, which were allowed from January 1991, became an important source of funds for financial institutions (in particular banks) and high yielding saving opportunity for the other economic agents. While the former lowered the incentives for banks to offer higher returns on Rupee Deposits and introduce new liability products in local currency, the latter created disincentives for the private sector for making investment in real economic activity.

In sharp contrast to the second half of the 1990s, Pakistan saw a substantial improvement in economic fundamentals during the initial five years of the current decade (see **Table 1.3**). During this period, the macroeconomic set-up was characterized by high and accelerating economic growth, improved fiscal and current account deficits, stable exchange rate and low inflation and interest rates (except FY05). The improved macroeconomic fundamentals and high economic growth paved the way for successful implementation of reforms in the financial sector.<sup>19</sup> As discussed in the earlier sections, Pakistan's financial sector witnessed substantial improvements in terms of ownership structure,

<sup>17</sup> During the 1990s, on average, banks invested around 30 percent of their total deposits in government securities.

<sup>18</sup> Another negative implication on the banking system was very high tax rates. For instance in FY94, tax rates on banks profit was as high as 64 percent, which was gradually brought down to 58 percent by FY00. Even this 58 percent tax rate was considerably high compared to that in India at 40 percent and Sri Lanka at 36 percent.

<sup>19</sup> Major financial sector reforms taken during the last five years are discussed in **Chapter 2**.

composition of assets and liabilities, financial health of institutions, and deepening of financial services.

### ***Determinants of Financial Sector Profitability***

The aforementioned stylized fact that the macroeconomic set-up has played an important role in the rapid progress made by Pakistan's financial sector during the last five year can also be supported by a regression analysis. In order to systematically investigate this relationship, we have applied regression analysis on ROAs of selected financial sector institutional groups, including Scheduled Banks, Development Financial Institutions (DFIs), Investment Financial Companies (IFCs), Leasing Companies (LCs) and Modarabas Companies (MCs).<sup>20</sup> As the profitability also depends on sector specific characteristics, the relationship has been estimated after controlling for such properties. The exact specification of the panel regression takes the following form:<sup>21</sup>

$$ROA_{it} = C + \sum_{j=1}^J \beta_j X_{it}^j + \sum_{l=1}^L \beta_l X_{it}^l + \varepsilon_{it}$$

Where  $ROA_{it}$  is return on assets (before tax) of  $i^{\text{th}}$  group at time  $t$ ; and  $C$  represents intercept term. The term  $X_{it}$  with  $J$  superscripts denotes financial sector characteristics such as measures of the credit risk, indicators of productivity, variables representing ownership structure and concentration ratios, etc. And  $X_{it}$  with  $L$  superscripts denotes macroeconomic indicators such as economic growth, real interest rate and inflation, etc.<sup>22</sup> The exact variables, used in the regression analysis, to proxy these sector specific characteristics and macroeconomic indicators are explained in **Table 1.4**. The panel regression is estimated on CY92-CY05 data and results are reported in **Table 1.5**.

The results confirm the importance of macroeconomic stability and economic growth in determining the profitability of the financial sector institutions in Pakistan. Specifically, a combination of low interest rates, high economic growth and low inflation provides an optimal environment for financial sector profitability. However, it is interesting to note that only sustained economic growth, rather than sporadic improvement in real GDP, helps the financial institutions to earn higher profits.<sup>23</sup> In quantitative terms, one percent rise in the trended real GDP growth tends to improve the profitability by 113 basis points. Thus, the shift of Pakistan's economy to a higher growth trajectory during the last four years contributed significantly towards the improved profitability of the financial sector. In addition, low interest rates and inflation for most of the period in the last four years also supported the financial sector profitability, as one percentage point increase in real interest rates and inflation tends to reduce the ROA by 27 basis points in each case.

Among the industry specific determinants of profitability, the provisioning to advances and the operating expense to total assets ratios are negatively related with financial sector profitability. In terms of magnitude, the latter has a relatively larger impact, as reflected by its higher coefficient (see **Table 1.5**). This reemphasizes the need to put more efforts in improving the operating efficiency by

<sup>20</sup> Jointly, these groups constitute around 91 percent of total financial sector assets (excluding CDNS).

<sup>21</sup> The equation is estimated using the fixed effect model, which performs the specified regression on de-measured data after removing the cross-section or period specific means from the dependent variable and exogenous regressors. Besides overall constant and slopes coefficients, the fixed effect model also computes the fixed effect coefficient for each cross-section which serves as cross-section dummies (for details see *Econometric Analysis of Panel Data*, Second Edition, Badi H. Baltagi 2001).

<sup>22</sup>  $\varepsilon_{it}$  is the disturbance term.

<sup>23</sup> The coefficients of real GDP or any proxy of economic activity, such as LSM growth were not significant, however, we did find trend in real GDP growth statistically significant at 1 percent level.

the financial institutions. Moreover, the increased focus on adequate provisioning of the risky assets of financial institutions has only marginally impacted the profitability.

**Table 1.4: Determinants of Profitability of the Financial Sector and their Expected Impact**

Indicators	Expected Sign	Rationale
<b>Financial Sector Characteristics</b>		
Loan provisioning to advances ratio	Negative	Increased exposure to credit risk is associated with decreased profitability of the financial sector and vice versa.
Gross income to assets ratio	Positive	The higher the productivity (measured as gross income earned on total assets), the higher is the profitability of the financial sector and vice versa.
Operating expenses to assets ratio	Negative	The higher operating expenses drag down the net profit before tax; hence, the sign of operating expenses to assets ratio is expected to be negatively related with ROA.
Equity to assets ratio (-1)	Positive	Equity to assets ratio measures the financial leverage and is expected to be positively related with ROA as capital refers to the amount of own funds available to support a bank's or NBFIs' business. It serves as the first defense line and safety nets in the case of any adverse development in the business condition.
Share of private sector	Positive / Negative	The rise in the share of the private sector in the ownership of the financial sector is also expected to be associated with higher profits due to spillover effects arising from the superior performance of the private sector compared to the public sector. However, if we are controlling for loan provisioning, productivity and operating expenses, then it would be possible to have a negative sign because the positive effect of increasing share of private capital operates through these channels.
<b>Macroeconomic Indicators</b>		
Real GDP Trend Growth	Positive	The impact of real GDP growth on profitability is expected to be positive as higher economic growth not only increases the demand for financial sector services but also improves the net worth of non-bank firms thereby lowering the probability of default.
Real Interest Rate	Positive / Negative	The impact of interest rate changes on profitability depends on (i) the anticipation of interest rate changes; (ii) interest rate pass-through to interest liabilities and earning assets; (iii) the extent of loans extended on floating interest rate, and (iv) the risk of having an adverse selection problem in case of borrowers.
Inflation (CPI)	Positive / Negative	The effect of inflation on profitability depends on whether inflation expectations are fully anticipated. If the inflation rate is fully anticipated by the banks' and NBFIs' management, then banks and NBFIs can ensure higher profits by accordingly adjusting interest rates in order to increase their revenues faster than their cost. However, it is possible that higher inflation adversely affects profitability. As shown by empirical studies, the credit rationing by financial intermediaries in case of higher inflation is likely to lend to riskier borrowers, which are more likely to default on their loans. This, in turn, results into lower investment that tends to lower economic growth through decline in the present and future productivity of the economy.

As expected, the indicators for productivity and capital adequacy have shown a positive relationship with ROA of financial institutions.<sup>24</sup> The latter reflect that a well-capitalized financial sector is able to tap business opportunities more efficiently and have more flexibility in dealing with problems arising from adverse developments in the operating environment of the financial sector. This also supports the ongoing policy of strengthening the capital base of financial institutions through raising paid-up capital requirement.

It was expected that the rising share of the private sector in financial systems should have positively contributed to the profitability of financial system, but the relationship turned out to be negative in the estimated regression. In statistical terms, the coefficient is highly significant, but in economic meaning the relationship is not significant.<sup>25</sup> Moreover, it is likely that the impact of the rising share

<sup>24</sup> In order to avoid the simultaneity problem between equity ratio and profitability, we have included one period lag of EAT as an explanatory variable in the equation.

<sup>25</sup> Specifically, the results suggest that one percentage point increase in share of the private sector reduces the profitability by 4 basis points.



of the private sector on profitability has already been captured by credit risk, capital adequacy, productivity, and operating efficiency indicators used in the equation, as the increasing share of the private sector is expected to improve these characteristics as well. In addition, the rising share of the private sector could possibly have reduced the profit margins of banks through increasing competition in the banking industry.<sup>26</sup>

**Table 1.5** also reports the fixed effect coefficients for the five institutions' groups. The values of these coefficients need to be interpreted keeping in view the overall coefficients in the equation. It is important to note that the negative value of fixed effect coefficient for a group does not necessarily mean a negative profitability. For instance, the fixed effect coefficient of leasing companies (LCs) in the estimated model is -1.62, which implies that the estimated ROA for leasing companies from the regression equation should be revised downward by subtracting 1.62 percentage points. Similarly in case of a positive value of fixed effect coefficient, the estimated value of ROA should be added to the coefficient value. This suggests, on average, banks and DFIs earn relatively higher profitability than the other institutions.

**Table 1.5: Estimates of Fixed Effect Model for ROA of the Financial Sector**

Dependent variable: Return on Assets (ROA)

	Coefficients	t-stats
Constant	4.47**	2.02
<b>Financial Sector Characteristics</b>		
Loan provisioning to advances ratio	-0.13*	-2.78
Gross income to assets ratio	0.53*	6.50
Operating expenses to assets ratio	-0.57*	-9.59
Equity to assets ratio (-1)	0.12*	3.80
Share of private sector	-0.04*	-3.61
<b>Macroeconomic Indicators</b>		
Real GDP trend growth	1.13*	2.60
Real interest rate	-0.27*	-4.39
Inflation (CPI)	-0.27*	-5.39
<b>Fixed Effects (Cross)</b>		
Banks	2.48	
DFIs	1.82	
LCs	-1.62	
MCs	-1.86	
IFIs	-1.10	
Adjusted R-squared	0.79	
DW-statistic	1.42	
Prob (F-statistic)	0.00	
Included observations	13	
Cross-sections included	5	
Total pool (unbalanced) observations	63	

\* Significant at 1 percent, and \*\* significant at 5 percent.

### 1.6 Conclusion

Pakistan's experience indicates the importance of macroeconomic stability and sustained high growth while implementing reforms in the financial sector. The weak economic fundamentals during the 1990s, especially during the second half, made the reform process costly, as the financial sector witnessed a sharp deceleration in asset growth, surge in NPLs, decline in profitability, and inadequate capital base for most of the institutions. Indeed, the poor showing by the financial sector has also contributed to the deceleration in the overall economic growth.

In contrast, stable macroeconomic conditions and high growth during the last five years paved the way for the successful implementation of the reform process. As a result, the financial sector witnessed rapid growth in assets, which was accompanied by a surge in core business activities; positive changes in ownership and balance sheet structure, and substantial improvement in financial health.

<sup>26</sup> We have also tested the impact of the concentration indicator on profitability. However, it was statistically insignificant. As shown by the finding of Berger (1995), the impact of concentration on profitability turns out to be insignificant once other effects are controlled in the profitability equation. See Berger, A.N., (1995), "The Profit-Structure Relationship in Banking: Test of Market Power and Efficient-Structure Hypotheses", *Journal of Money, Credit, and Banking*, Vol. 27, pp 404-431.