

Equity

4.4 The equity market has experienced profound changes in recent years, with the introduction of rolling settlement and equity derivatives. These changes have been successfully absorbed by the market. Table 4.1 shows the largest exchanges in the world, sorted by the number of transactions per year. India appears at ranks three and six in this table.

Exchange	1999	2000	2001
1. NASDAQ	290	724	603
2. NYSE	169	221	339
3. NSE	87	146	172
4. Korea	161	160	158
5. Taiwan	159	161	141
6. BSE	61	125	133
7. Deutsche Bourse	37	68	84
8. Euronext		61	54
9. Italy	29	59	44
10. London	17	25	33
11. Istanbul	26	32	32
12. Madrid	29	38	31
13. Toronto	18	33	26
14. Hong Kong	23	37	24

Source : World Federation of Exchanges.

4.5 There were two events that had a significant impact on the stock market index over the last two years: the episode of market misconduct which surfaced in March 2001, and the WTC attack of September 2001.

4.6 Table 4.2 summarises the movements of the NSE-50 (Nifty) market index. Nifty fell

Month	2001	2002	2003
January	—	1,087	1,073
February	—	1,138	
March	—	1,159	
April	1,116	1,121	
May	1,159	1,080	
June	1,107	1,066	
July	1,078	1,035	
August	1,069	978	
September	949	987	
October	954	955	
November	1,032	1,050	
December	1,076	1,093	

Source : SEBI

from 1358 on March 1, 2001 to 1025 on April 12, 2001, a fall of 24.5 percent, owing to the episode of market misconduct which took place shortly after the budget announcement. Nifty then fell by another 16.5 percent to the level of 854 on September 21, 2001, in the aftermath of the WTC attack. The total percentage change between these two timepoints - from 1358 (1 March 2001) to 854 (21 September 2001) - was a sharp drop of -37.1 percent.

4.7 Improved prospects for the domestic macro-economy, the success of the reforms on the market design of the Indian equity market, and the global recovery of equities, helped Nifty come back to 1110 as of 14 January 2002, a strong recovery of +30 percent. The index slipped slightly to a level 1073 over the following year.

4.8 The price earnings ratio (P/E) of the index conveys market expectations of future earnings growth of the corporate sector. This has improved slightly from 13.75 in October 2001 to 14.25 in October 2002. This lags the P/E ratios seen elsewhere in the world, such as the level of 28.2 seen for the S&P 500 index in the US.

4.9 These movements of stock prices in India should be seen in the context of fluctuations of stock prices internationally. Table 4.3 shows data for a few major countries. Over this period, gold prices rose from \$276.5 per ounce in December 2001 to

Index	Dec. 2001	Dec. 2002	Change (Percent)
Mexico (IPC)	5,954	6,127	2.90
India (Nifty)	1,076	1,093	1.58
China (Shanghai A)	1,713	1,419	-17.13
United States (S&P 500)	1,148	880	-23.37
Japan (Nikkei 225)	5,217	3,940	-24.48

Source : Exchange websites

\$342.75 per ounce in December 2002, a sharp increase of 24 percent.

4.10 One of the most important outcomes on the equity market, particularly from the viewpoint of economic policy, is stock market liquidity. The term “liquidity” is related to transactions costs. A liquid market is one where transactions can be done with low transactions costs. Table 4.4 reports the “market impact cost” suffered when executing program trades for Rs.5 million of the entire Nifty index on NSE. Market impact cost is the percentage markup paid in buying Rs.5 million of Nifty, compared with the normal price. This reflects a weighted average of the transactions costs when doing trades on each of the 50 stocks that make up the Nifty index. Large values in this table imply high transactions costs, i.e. poor liquidity.

Month	2001	2002	2003
January		0.15	0.10
February		0.16	
March		0.10	
April	0.27	0.12	
May	0.20	0.13	
June	0.15	0.12	
July	1.00	0.12	
August	0.14	0.11	
September	0.25	0.11	
October	0.17	0.10	
November	0.25	0.09	
December	0.17	0.09	

Source: SEBI

4.11 Liquidity dropped sharply in July 2001, with impact cost going up to one percent, in immediate response to the move to rolling settlement. However, in the period thereafter, there has been a steady improvement in liquidity, as market participants have built systems and human capital to exploit the new market design. The fruits of the important reforms to market design in July 2001 were visible by 2002, when liquidity attained some of the highest levels (i.e. lowest impact cost) known in the last decade. Liquidity has also been highly stable, with little fluctuation in the impact cost from month to month.

4.12 While liquidity of the top 50 stocks in the country is strong and has improved, and has sound values by world standards, this is a relatively narrow view that applies only to the largest stocks in the country. There is a dramatic dropoff in liquidity as we move to smaller stocks. Table 4.5 summarises the small number of stocks where even a single trade took place on more than 100 days out of the first ten months of the year. This suggests that while there is an extremely large number of listed firms in India, there is a small set (of around 1729 stocks), where even the most minimal notion of liquidity is attained.

Table 4.5 : Number of days traded (April 2002 - January 2003)		
	NSE	BSE
Firms where atleast one trade took place	915	2,638
Firms which were traded for more than 100 days	796	1,729
Source: SEBI		

4.13 Stock market turnover is often used as a proxy for liquidity. However, it is a poor proxy since it does not measure transactions costs. Turnover is directly relevant to financial intermediaries who have transaction-based revenue models. The interpretation of turnover (measured in rupees) is somewhat suspect insofar as a fall in stock prices innately leads to a fall in turnover measured in rupees. However, it accurately reflects the base of transactions from which financial intermediaries derive revenues.

Table 4.6 : Equity spot market turnover (NSE+BSE, average daily)			
<i>(Rs. crore)</i>			
Month	2001	2002	2003
January		4,691	4,159
February		3,907	
March		3,684	
April	3,132	3,736	
May	3,646	3,778	
June	3,249	3,378	
July	2,022	3,397	
August	2,232	3,328	
September	2,846	3,546	
October	2,726	3,788	
November	3,327	4,070	
December	4,448	4,407	
Source: SEBI			

4.14 Table 4.6 shows the aggregate turnover of NSE and BSE on the equity spot markets. The reforms of July 2001 gave a sharp drop in turnover to Rs.2,022 crore in the short run. However, in the following period, turnover has recovered to levels like Rs.4,159 crore in January 2003. These values understate the aggregate turnover on the equity market, since the equity derivatives market has also emerged as an important venue for price discovery.

4.15 Table 4.7 shows turnover on the equity derivatives market, which has grown dramatically ever since its inception in June 2000. In July 2001, trading in stock options commenced, and in November 2001, futures trading on individual stocks commenced. The equity derivatives market in India has become one of the most successful derivatives markets amongst all countries in the third world.

Table 4.7 : Turnover on the equity derivatives market		
<i>(Rs. crore)</i>		
Period	NSE	BSE
2000-01	2,365	1,653
2001-02	101,925	1,923
April 2002-Jan 2003	341,136	1,075
Source: SEBI		

4.16 The composition of equity derivatives turnover is summarised in Table 4.8, which highlights the importance of derivatives on individual stocks. This is in contrast with the international experience, where index derivatives generally predominate. However, this table overstates the importance of individual stock derivatives because the numbers are summed over 30 stocks. If turnover is sorted by underlyings, then Nifty typically appears at rank two or three. The near Nifty futures typically has a bid-offer spread of around 0.02 percent, which makes it a highly liquid product.

4.17 In November 2002, SEBI announced modified rules governing the choice of stocks on which individual stock derivatives could be traded. Based on these rules, derivatives trading on 12 additional stocks have commenced on 31 January 2002, thus taking the list of firms with derivatives trading to 41.

Table 4.8 : Composition of NSE equity derivatives turnover (December 2002)		
Component	Turnover (Rs. crore)	Share (Percent)
Nifty futures	5,958	10.71
Nifty options	1,087	1.95
Stock futures	35,532	63.88
Stock options	13,043	23.45
Total	55,620	100.0
Source: NSE		

These 41 stocks are likely to shape up as the most liquid stocks in the country.

4.18 SEBI has also clarified the rules governing participation in the derivatives market by FIIs and mutual funds. In keeping with a "one market principle", where the spot and derivatives market on a given underlying are seen as a unified whole, SEBI has emphasised that it is the fiduciary obligation of a mutual fund to implement buy transactions at the lowest possible price and sell transactions at the highest price, taking into account the prices visible on both spot and derivatives markets. SEBI has also paved the way for sophisticated new product designs by mutual funds, which would exploit access to derivatives for offering innovative risk-return tradeoffs.

4.19 The collateral requirements of the derivatives market currently penalise arbitrage positions, such as a person who has purchased Nifty on the spot market and simultaneously sold it at a future date. This position is essentially immune to price fluctuations, yet the existing rules about margins fail to recognise that, and require collateral separately for the spot market component and for the futures market component. SEBI has taken a decision to proceed with 'cross-margining procedures' which will accurately take a holistic view of the client position in computing margins. Implementation of these decisions is likely to take place in coming months.