4

Securities Markets

Equity market

Developments on the market

4.2 After a disappointing performance in 2002-03, the equity market staged a strong recovery in 2003-04 (Table 4.1). For example, the NSE-50 index, which was subdued for the early part of 2003, rose sharply from August 2003 onwards to reach a level of 1879.75 in December 2003. The index, which had dropped by 13.4 per cent in 2002-03 rose sharply by 81.1 per cent in 2003-04. Returns on the second tier stocks, in the Nifty Junior index, were even sharper: this index grew by 169.3 per cent in 2003-04, compared with a drop of 19.6 per cent in 2002-03.

4.3 The P/E ratio of the NSE-50 index, which reflects expectations about future earnings growth, fell sharply from 19.1 on March 7, 2002 to 10.9 on May 12, 2003. From May 2003 till March 2004, expectations changed sharply in the favourable direction, and the P/E ratio rose to 22 on March 8, 2004. In the following weeks, uncertainty about the political situation have given a sharp drop in the P/E ratio to a level of 12.1 on June 11, 2004.

Table 4.1 : NSE-50 index

Month	2002	2003	2004
January	1075.40	1041.85	1809.75
February	1142.05	1063.40	1800.30
March	1129.55	978.20	1771.90
April	1084.50	934.05	1796.10
May	1028.80	1006.80	1483.60
June	1057.80	1134.15	
July	958.90	1185.85	
August	1010.60	1356.55	
September	963.15	1417.10	
October	951.40	1555.90	
November	1050.15	1615.25	
December	1093.50	1879.75	

Liquidity

4.4 Obtaining a deep and liquid market has been a central goal of reforms of the 1990s. The impact cost for Nifty at transactions of Rs.5 million, which is the best measure of market liquidity, was as high as 0.15 per cent in early 2002. Over the entire period 2002-03 and 2003-04, the market has been much more liquid, with an impact cost of 0.1 per cent.

4.5 Another measure of liquidity that is often used is the 'turnover ratio' (TR), which is defined as the latest 12 months turnover (NSE+BSE) divided by market capitalisation. For liquid stocks in the country, this ratio was 129 per cent in April 2002. It rose to 173 per

Box 4.1 : Market movements on May 17, 2004

- In early May, Nifty had been in the region of 1740. On 14th May 2004 (Friday), Nifty fell sharply, from 1717.5 to 1582.4, a drop of 7.9 per cent.
- On Monday the 17th, many Asian markets fell, some by over 4 per cent. South Korea was down by 5.14 per cent, Taiwan was down by 5.10 per cent and Thailand was down by 4.61 per cent. These international developments were combined with news about the Indian general elections.
- When the Indian market opened at 9:55 AM, Nifty fell sharply at the open. The index fell by 178.5 points (11.3 per cent) in the first 15 minutes of trading. By existing rules, a move of larger than 10 per cent triggers a one-hour market closure.
- When trading resumed at 11:15 PM, Nifty fell by 5 per cent more within a few minutes, which triggered off a market closure for two hours. For the BSE Sensex, this was a fall of 787 points from the Friday close. The lowest value of Nifty recorded on Monday was 1292.2, a drop of 18.34 per cent compared with the previous close. This was the largest ever one-day move of the index.
- When trading resumed at 1:15 AM, the indices recovered. At the close, the BSE Sensex was down by 564 points and Nifty by 193.65 points. On Monday, Nifty closed at 1389, a drop of 21 per cent compared with the level of the preceding 3 May.
- Trading volume on the equity spot market at NSE and BSE attained values of Rs.4032 crore and Rs.2060 crore respectively.
- At NSE, putting together both the spot market and the derivatives segment, 56 members were deactivated at the end of the day. On both exchanges, the settlement guarantee funds were not eroded. This is a testimony to the strength of the risk management systems that are in place.
- Nifty recovered 6.8 per cent by 31 May, to end the month at 1483.6.

cent in April 2003 and has dropped to 131 per cent as of April 2004.

Volatility and correlations

4.6 There is considerable interest in the volatility of the equity market, and in the extent that Indian equities have co-movement with equity markets outside the country. Table 4.2 presents a long view of volatility and correlations for weekly returns on equity indexes. Weekly returns are used instead of daily returns, here, in order to avoid some of the technical difficulties with correlations and variances associated with stock market indexes. The S&P 500 index of the US is one of the most important market indexes in the world. The Korean Kospi index is used as a proxy for the behaviour of 'emerging markets'.

4.7 Indian indexes have shown lower volatility in the latest two years, when compared with the full period. The S&P 500 index in the US has had roughly the same volatility throughout. Korea has also experienced lower volatility in the latest two years.

4.8 The table also shows correlations, which summarise the integration of financial markets. Nifty and S&P 500 have had a correlation of 0.29 in the last two years, which is slightly higher than that observed in the full period. At the same time, 0.29 is a fairly low value, which shows that there are high gains from placing Indian equities in global portfolios. For example, the correlation of the Korean index against the S&P 500 is higher at 0.436, which implies that the gains from diversifying global portfolios using Korean equities are smaller.

4.9 The correlation between Nifty and the Korean Kospi index reflects India's co-movement with other 'emerging markets'. This appears to be more significant, with a value of 0.406 in the last two years. This value has also risen when compared with the full period, where the correlation was 0.286.

Table 4.2 : Volatilities and correlations for equities

	Long period Oct 1995 - May 2004	Last 2 years June 2002 - May 2004
Volatility of Indian indexes		
Nifty (top 50)	3.622	3.134
BSE Sensex (top 30)	3.710	2.912
Nifty Junior (next 50)	4.393	3.701
Volatility of international indexes		
S&P 500 (US)	2.508	2.382
Kospi (Korea)	5.101	4.008
Correlations between indexes		
Nifty and S&P 500	0.225	0.290
Nifty and Kospi	0.286	0.406
Nifty Junior and S&P 500	0.104	0.218
Kospi and S&P 500	0.315	0.436

4.10 Nifty Junior reflects the second tier of less liquid stocks in the country, which includes many high technology stocks which may be expected to be more sensitive to global asset markets. However, the correlation between Nifty Junior and the S&P 500 in the last two years has been just 0.218. This correlation has also risen from a level of 0.104 in the full period.

4.11 Table 4.2 focused on the latest two years. Breaking this down into 2002-03 versus 2003-04, and using daily returns data, shows that the returns volatility for Nifty went up from 0.99 per cent per day in 2002-03 to 1.43 per cent per day in 2003-04. The situation in terms of volatility and correlation may hence be summarised as follows:

- Equity volatility has been low in the recent period, when compared with India's longer experience. However, 2003-04 was a more volatile year than 2002-03 on both equity and currency markets.
- India's deepening globalisation is leading to higher correlations between Indian equity indexes and world markets. However, these correlation coefficients are as yet small, and there are considerable gains from diversification for global portfolios that harness Indian equity indexes.

Market size

4.12 The equity market capitalisation grew from Rs.7.25 trillion in March 2003 to Rs.13.77 trillion in March 2004. This value was roughly of the same size as bank deposits. This suggests that in 2003-04, the equity market was roughly as big as the banking system in terms of financial intermediation.

4.13 Expressed in US dollars, the equity market capitalisation worked out to $310 billion, which makes India one of the bigger equity markets in the developing world. The equity market capitalisation in March 2004 worked out to 49 per cent of the 2003-04 GDP.

4.14 Many companies have listed shares, but negligible liquidity. In order to focus on relatively liquid companies, we focus on the set of companies where the number of days where trading does not take place is no worse than 25 per cent. There are roughly 2,000 companies in this set. By this definition, the size of the 'active equity market' was Rs.11.81 trillion in March 2004.

Growth of anonymous electronic trading

4.15 Tables 4.3, 4.4 and 4.5 show the top exchanges of the world, according to the World Federation of Exchanges (FIBV), sorted by the number of transactions per year. While the mean transaction value varies enormously across countries, the number of transactions conveys something about the vitality of trading, and the complexity of the IT systems required.

4.16 In 2002, NSE appeared at rank 3 and BSE appeared at rank 7. This was the first time that India fared well in any international ranking connected with finance. In the 2003 ranking, NSE retained the #3 slot, and BSE improved to #5. Going by this data, NSE would need more than a doubling in the number of trades, in order to displace the 2nd ranked exchange (NYSE) as of 2003.

4.17 As of April 2004, the NSE equity spot market was doing 1.6 million transactions per day and trading volume of Rs.5048 crore per day. These values can be expressed on a per-second basis, assuming there are 20,000 seconds per trading day. Thus, on average, we may say that in each second of trading on the NSE equity spot market, there are 80 transactions worth Rs.31,646 each. These are averages, and both the number of trades per second and the average transaction value per second fluctuate significantly about these averages.

Stress testing of NSCC

4.18 The National Securities Clearing Corporation (NSCC) does risk management at NSE. It becomes the legal counterparty to the net settlement obligations of every clearing member at NSE. When a clearing member on NSE defaults on payment obligations, these are fulfilled by NSCC, which prevents 'contagion' and any adverse effects on others. The modern institutional development of asset

Table 4.3 : Trading intensity in the world: 2001			
	Exchange	**Country**	**No. of Trades (in 000)**
1	NASDAQ	US	602956
2	NYSE	US	339105
3	Korea	Korea	157620
4	Taiwan	Taiwan	141280
5	Deutsche Borse	Germany	84000
6	Euronext	(many)	54136
7	Chicago	US	51052
8	Italy	Italy	44265
9	London	London	32668
10	Istanbul	Turkey	31380

Table 4.4 : Trading intensity in the world : 2002			
	Exchange	**Country**	**No. of Trades (in 000)**
1	Nasdaq	US	600860
2	NYSE	US	545556
3	**NSE**	**India**	**233600**
4	Korea	Korea	193046
5	Shanghai	China	178650
6	Taiwan	Taiwan	169995
7	**BSE**	**India**	**148000**
8	Shenzhen	China	130421
9	Deutsche Borse	Germany	73327
10	Euronext	(many)	64596

Table 4.5 : Trading intensity in the world: 2003			
	Exchange	**Country**	**No. of Trades (in 000)**
1	Nasdaq	US	733000
2	NYSE	US	722753
3	**NSE**	**India**	**336300**
4	Shanghai	China	205554
5	**BSE**	**India**	**179595**
6	Taiwan	Taiwan	163805
7	Korea	Korea	139221
8	Shenzhen	China	132114
9	Deutsche Borse	Germany	74866
10	Euronext	(many)	70857

markets in India critically relies on the level of robustness of NSCC. Hence, it is important to know about the robustness of NSCC when faced with episodes of stress.

4.19 NSCC performs novation services - i.e. becomes the legal counterparty - to positions on both the spot and the derivatives markets. The spot market is now a pure delivery market, without leveraged trading, and hence there is little concern about systemic risk on the spot market. Hence, we focus on the derivatives market, which is where leveraged trading takes place.

4.20 In each month, the day with the highest pay-in requirements on the derivatives segment is isolated. On this date, the five biggest clearing members are identified. The scenario where each one of these five biggest members fails simultaneously is evaluated. It is assumed that each default imposes a loss of 15 per cent on NSCC compared to outstanding positions.

4.21 This is an extreme 'stress test' in the sense that right from the inception of NSCC in 1996, there have not been failures by top-five clearing members.

4.22 For example, in December 2003, the biggest pay-in requirements were observed on 8th December. If all the biggest five members were to fail on this date, this would impose a loss of Rs.574 crore upon NSCC. The margins in hand and deposits from these five members (which are, in turn, largely from the customers of these members) worked out to Rs.1307 crore. Hence, this scenario - a loss of Rs.574 crore protected by Rs.1307 crore in deposits - was very comfortably handled by the NSCC risk management systems.

4.23 This procedure has been applied from Jan 2002 till Dec 2003. It has been found that in every month of this period, member deposits have always been adequate to cover this extreme event (of all the top five members failing together on an extreme day).

4.24 Two realworld episodes of stress testing of the risk management systems at NSCC took place in recent times. In April 2003, there was sharp volatility in IT stocks. In particular, on April 10, 2003, the share price of Infosys fell by 26.8 per cent and that of Mastek fell by 49.2 per cent. On the next day, 11 April, Infosys fell by another 14 per cent. These sharp movements were particularly challenging, from a risk management perspective, since they coincided with banking holidays, which impeded the payments of

margins. The second episode where the risk management systems were tested was on May 17, 2004, as described in the box above. In both cases, NSCC coped with extreme price movements, and all payments obligations were successfully upheld.

4.25 These experiences suggest that the core risk containment system that is present at NSCC, and supervised by SEBI, has sound foundations. The next steps in improving the robustness of these clearing systems lies in the interfaces between the clearing corporations and the banking system. There is a need for clearing in central bank funds, to avoid the risks to the clearing corporation that can emanate from bank failure.

Securities settlement at NSDL

4.26 There has been continuing progress on securities settlement at NSDL. In April 2004, depository services were available from 1,721 locations across the country from 216 depository participant firms. As of May 28, 2004, there were 5.35 million client accounts at NSDL, which owned dematerialised securities worth Rs.6.1 trillion of equity, Rs.2.6 trillion of debt and Rs.0.13 trillion of commercial paper. These securities were issued by 5,315 firms. Users of NSDL held Rs.2,639 crore of government bonds.

4.27 The total value of demat securities at NSDL rose from Rs.4.5 trillion in April 2002 to Rs.5.5 trillion in April 2003, and further rose sharply to Rs.10.1 trillion in April 2004. This partly reflects the rise in stock prices over 2003-04.

4.28 Data for the number of securities where settlement took place reflects changes in market activity, without being influenced by fluctuations in prices. Securities settlement at NSDL, which had dropped from 1.27 billion securities in April 2002 to 1.1 billion securities in April 2003 rose sharply to the level of 1.94 billion in April 2004.

4.29 In April 2003, there were 729 firms where the demat proportion exceeded 75 per cent, i.e. where less than a quarter of shares continued to exist in physical form. As of April 2004, this number had gone up to 951 companies. Similarly, in April 2004, there were 1766 firms where the demat proportion was greater than 50 per cent, as compared with 1431 firms as of the previous year.

4.30 As of early 2004, NSDL was handling roughly 10 million settlement transactions per month. In addition, there were roughly 40,000 transactions per month where securities were pledged.

4.31 NSDL has created three pioneering systems: SPEED-e, STeADY and IDeAS. SPEED-e allows users to execute delivery instructions using the Internet. STeADY constitutes Internet-based infrastructure for facilitating straight-through processing. IDeAS constitutes Internet-based facilities for end-users to view their depository holdings and transactions.

4.32 These three systems are as yet nascent and have only a limited usage. They reflect the continual process of improving the sophistication of depository services in the country. In addition, they are important developments insofar as they represent the beginning of a shift away from proprietary protocols and proprietary computer networks, to the Internet as the vendor-neutral public data network underlying Indian finance.

Growth of equity derivatives

4.33 One of the outstanding phenomena of recent years has been the growth of the equity derivatives market. This is India's first effort at building a modern, transparent, well-regulated derivatives market. It is hence a particularly important experiment in learning about market design.

4.34 Table 4.6 shows the structure of equity market turnover in 2002-03 and 2003-04.

Table 4.6 : Equity market turnover

(Rs. crore)

	2002-03	2003-04	Change (per cent)
Equity spot	9,32,062	16,02,152	72
Equity derivatives (total)	4,42,341	21,42,521	384
Of which:			
Index derivatives	55,011	6,13,857	1015
Equity options	1,09,404	2,70,367	147
Total equity turnover	**13,74,402**	**37,44,674**	**172**

Equity spot market turnover grew by 72 per cent from Rs.9.3 trillion to Rs.16 trillion. The equity derivatives market grew by 384 per cent from Rs.4.4 trillion to Rs.21.4 trillion.

4.35 Putting these together, total equity market turnover grew by 172 per cent from Rs.14 trillion in 2002-03 to a level of Rs.37 trillion in 2003-04, or roughly 130 per cent of GDP. The equity market capitalisation was 49 per cent of GDP. The overall turnover ratio for the equity market - combining spot and derivatives - works out to 265 per cent, which is a fairly strong value, by world standards.

4.36 The spot market accounted for as much as 83 per cent of total turnover in January 2002. From this point, the derivatives market has steadily grown faster than the spot market. August 2003 was the first month where equity derivatives turnover exceeded the equity spot market.

4.37 The simplest kind of trading within the equity derivatives market is trading on the nearest available expiration futures on individual stocks. When equity derivatives trading first commenced, the skills of market participants readily transported to trading futures on individual stocks. When market sophistication grows beyond this simplest activity, there is growth in three directions: (a) A greater share of index derivatives, as opposed to individual stock derivatives, (b) A greater share for contracts expiring beyond the near month (i.e. longer-dated contracts) and (c) A greater share for options as opposed to futures. These three aspects serve as litmus tests for the buildup of sophistication on the equity derivatives market.

4.38 The share of *index* derivatives was as small as 9.4 per cent in April 2002. From that point, the share of the index derivatives has risen considerably. 2003-04 was the year in which which index derivatives reached takeoff, with 1015 per cent growth. From January 2004 onwards, index derivatives accounted for over 33 per cent of equity derivatives trading.

4.39 Nifty rose to become the biggest underlying in the period from January 2003 to August 2003 (Table 4.7). In January 2003, Nifty was not the biggest underlying on any trading day. In August 2003, Nifty was the biggest underlying on all trading days. The market has stayed in this pattern from August 2003 onwards.

Table 4.7 : The rise of Nifty in the equity derivatives market

Month	Fraction of days where Nifty was the largest underlying
January '03	0.00
February '03	0.16
March '03	0.35
April '03	0.20
May '03	0.48
June '03	0.71
July '03	0.74
August '03	1.00

4.40 Going by turnover in 2003-04, the biggest five underlyings on the NSE equity derivatives market were: (1) Nifty, Rs.6.01 trillion, (2) TELCO, Rs.1.89 trillion, (3) TISCO, Rs.1.68 trillion, (4) Satyam Computer, Rs. 1.24 trillion, and (5) State Bank of India, Rs.1.22 trillion. This highlights the gap between Nifty and the largest single-stock underlying.

4.41 This experience with rapid growth of index derivatives, and the domination of Nifty, is consistent with economic logic, which predicts that that the biggest role in the derivatives market is for macroeconomic underlyings - such as the equity index, interest rates and currencies - which are the most important sources of risk for households and firms, when compared with the fluctuations of shares or bonds issued by individual firms or fluctuations of individual commodities.

4.42 While this growth of the index derivatives is impressive, India still considerably lags the relationships found internationally. In calendar 2003, index derivatives at NSE were merely 40 per cent of the equity spot at NSE. This estimate overstates the size of the Indian index derivatives market, since it does not account for the BSE spot market. This ratio (of 0.4) greatly lags behind that found in numerous markets, where the index derivatives market ranges from 1.3 to 40.6 times larger than the equity spot market.

Table 4.8 : Turnover : Equity spot versus index derivatives (calendar 2003)

(Billion USD)

	Equity spot	Index derivatives	Ratio
Tokyo	2,131	86,409	40.6
Osaka	113	2,448	21.7
Taiwan	592	9,328	15.7
Korea	459	2,257	4.9
Euronext	1,905	5,243	2.8
Hong Kong	296	622	2.1
US (NYSE,NASDAQ, CBOE,CME)	16,760	21,406	1.3
NSE	196	73	0.4

4.43 This is vividly visible in comparing NSE against Hong Kong. The NSE spot market appears to be plausibly large, at a turnover of $196 billion, when compared with the Hong Kong spot market turnover of $296 billion. However, the NSE index derivatives market appears extremely small, with turnover of $73 billion, when compared with Hong Kong's value of $622 billion.

4.44 Options trading is another sophisticated aspect of the derivatives market, where there are considerable hurdles faced in terms of knowledge and awareness amongst the largely retail trading community. However, unlike the index derivatives, options trading has not yet grown in prominence in India. As of March 2004, options accounted for only 11 per cent of equity derivatives turnover; the remainder was taken up by futures. Options turnover growth, at only 147 per cent, substantially lagged the growth of equity derivatives turnover, so options actually lost ground in 2003-04.

4.45 The third dimension of growing sophistication is the spread of liquidity in derivatives trading to contracts beyond the near month. As of March 2004, as much as 94 per cent of the equity derivatives trading at NSE was in the near month contract. This suggests that there has not, as yet, been a broadening of trading away from the near month.

4.46 In summary, the growth of the equity derivatives market is an important milestone in India's financial sector development. It features modern institutions: electronic trading, novation at the clearing corporation, nationwide access to households and firms. The first milestone of sophistication took place in 2003-04, with a shift from individual stock derivatives to index derivatives.

4.47 Yet, the index derivatives market is small by world standards. In addition, liquidity remains largely restricted to futures (as opposed to options) and the near month (as opposed to long-dated derivatives). These aspects suggest the need for continued policy attention to developing the liquidity and market efficiency of the equity derivatives market.

The primary market for equity

4.48 India's public issue market has made important advances in terms of market design, where it has moved closer to pure computerised auctions which discover the fair price for a set of securities that are up for sale. This has served to remove the human element, non-transparency and costs from the public issue process.

4.49 Table 4.9 shows summary statistics for the volume of issuance on the primary market. From 2002-03 to 2003-04, there was a large increase in the resource flow through the primary market, from Rs.4,070 crore to Rs.23,271 crore. This reflected the response of firms to the buoyancy of prices.

Table 4. 9 : Volume of issuance (debt and equity) on the primary market

	2002-03		2003-04	
Category	**Number**	**Value**	**Number**	**Value**
Public issues	14	3,639	35	22,265
Of which				
IPO	6	1039	14	1412
Total	**26**	**4,070**	**57**	**23,271**

4.50 Table 4.10 summarises some of the large public issues which took place in 2003-04. It shows 8 issues, each of which was larger than Rs.200 crore. All these showed very strong returns from issue date to listing date, except for one (Petronet LNG), where IPO investors got a -34 per cent return on an annualised basis between issue date and listing date.

Incubation of companies by venture capitalists

4.51 The venture capital (VC) industry seeks to systematically deliver capital to entrepreneurs who have ideas for a startup but not access to capital, which can be a vital ingredient for entrepreneurs who lack access

Table 4.10 : Some recent large primary market offerings			
Firm	**Issue size (Rs. crore)**	**Issue date**	**Annualised returns (per cent)**
Maruti	903.04	19 Jun 2003	425.02
Indian Overseas Bank	240.00	12 Sep 2003	155.79
Vijaya Bank	240.00	17 Oct 2003	88.78
Patni Computer Systems	430.65	5 Feb 2004	24.35
UCO Bank	240.00	10 Sep 2003	642.13
Bank of Maharashtra	230.00	4 Mar 2004	552.06
Petronet LNG	391.47	9 Mar 2004	-34.07
Biocon	315.00	18 Mar 2004	725.49

to capital. Internationally, the VC industry has played a major role in encouraging first-generation entrepreneurship. VCs adopt great risks in this process, since most startups do not succeed.

4.52 The Indian VC industry has now grown to a significant size. As on March 31, 2004, there were 44 SEBI registered VC funds who had raised Rs.1750 crore of resources from domestic and foreign investors. Of this, foreign investors had put in Rs.230 crore. These VC funds had invested Rs.1415 crore in 409 companies.

4.53 Roughly speaking, if one in ten VC projects goes IPO, then we may expect roughly 40 IPOs over the next two to three years owing to these 409 investments. This is a significant number, and highlights the economic significance of the VC industry as the breeding ground for the important companies of the future.

4.54 The largest five VC funds are: (1) ICICI venture funds (Rs.486 crore), (2) IL&FS investment managers (Rs.211 crore), (3) GVFL Ltd. (Rs.103 crore), (4) IDFC asset management (Rs.100 crore) and (5) SIDBI venture capital (Rs.100 crore).

4.55 A steady stream of profitable exits, where the VC fund sells out its holding of a startup, are required for the sustainable growth of the VC industry. In 2003-04, SEBI-registered VC funds obtained 56 exits, amounting to Rs.116 crore. Of this, 4 exits were through the IPO route (Rs.9 crore). Buyouts accounted for 16 exits (Rs.42 crore). There is an innate lag between investing in a startup and obtaining an exit (if the project succeeds). This experience with 56 exits, which reflects investments made some years ago, suggests that the Indian VC industry has finished with the nascent stages where investments were being made but exits were unproven.

Improving process engineering of the primary market

4.56 In early 2004, certain weaknesses were observed in the process engineering of the primary market, particularly in the context of the sale of ONGC shares by the government. These were partly caused by the unusual loads faced in the system. In a 26-day period (22nd February to 18th March), 10 big public issues (6 PSUs + 4 others) were open for subscription, attracting nearly 4.2 million applications. This was a significant load when compared with the 3.5 million applications which were processed in the preceding 327 day period of the fiscal year.

4.57 These weak links involve the use of human-based procedures. There is a need to engage in detailed rethinking of the process design, of all steps from application till allotment.

4.58 The secondary market for equity now offers the capacity of seamless end-to-end electronic operation. In particular, for customers of an electronic bank and an Internet broking facility, who use the Internet-based facilities offered by NSDL, all elements of trading on the secondary market can be done electronically, without any human intervention. There is a need to bring a similar focus, and engineering capacity, on the task of eliminating human handling on the primary market also. In order to address these questions, and other issues in the securities markets infrastructure, on April 23, 2004, SEBI has constituted a Securities Markets Infrastructure Leveraging Expert Task Force (SMILE Task Force) chaired by Dr. P. J. Nayak.