



The Indian Stock Market – Continued Boom or Impending Bust?



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*“But how do we know when **irrational exuberance** has unduly escalated asset values, which then becomes subject to unexpected and prolonged contractions as they have in Japan over the past decade?”*

– Alan Greenspan (Dec 1996)

“Irrational exuberance” is now a well-known phrase that was once used by the former United States Federal Reserve Board Chairman, Alan Greenspan, in a speech he gave at the American Enterprise Institute in December 1996—a period during which the US stock market witnessed a boom. Interestingly, the US stock market, particularly the NASDAQ, continued booming after his speech for more than three years before it crashed heavily!

During the last 42 months, the Indian stock market, as represented by two major indices—Sensex (Sensitive Index) and BSE-100, has grown by approximately 290%. This corresponds to a cumulative annual growth rate of 36%. The Indian market is somewhat unique in the sense that the country’s economy has been growing at a rate of over 8–9% per year in real terms and at 14–15% in nominal terms. Many investors believe the rising valuations of stocks in India are justified because “this time, it is different”. Of course, everyone has heard this phrase before, but we wonder whether things are really different this time around, or whether investors are setting themselves up for another major correction in the prices of various assets. In our opinion, since India has a large budget deficit (a large part of which supports unproductive subsidies and salaries of government employees) and a large current account deficit, Indian markets may be quite vulnerable to a sudden flight of capital and a potential downturn in the market. On one hand, there is enormous liquidity in the global market and this liquidity is likely to continue growing (at least in the near future). On the other hand, the enormous inflow of foreign currency in the Indian stock market, particularly by foreign institutional investors (FIIs), seems to be a cause for worry as this money is also susceptible to a quick flight out of India. Moreover, this inflow has appreciated the Indian Rupee substantially and has begun to hurt both Indian exports and the domestic industry.

Given this backdrop, in this article, we investigate whether the recent, sharp growth of the Indian stock market is justifiable or whether it is also a case of “irrational exuberance.” Indeed, if it is the latter, then the impact of its downfall will be felt not only in India, but also worldwide. We also discuss several scenarios and highlight some silver linings that may keep the Indian economy in a good growth mode.

Executive Summary

During 2005, India’s economy grew by 9% and reached US\$ 800 billion, and during 2006, it grew by another 9.2% to reach US\$ 910 billion (in nominal terms). At the same time, during the last 16 years, i.e., 1991–2006, annual inflation—as measured by the average Wholesale Price Index (WPI)—has been approximately 6.7%, and given the savings rate and liquidity in the system, our analysis shows that the annual inflation in the country will likely to hover around 5% during the next 14 years (i.e., until 2020). So, assuming a constant exchange rate where one US Dollar equals 40 Indian Rupees,¹ India’s economy is likely to be US\$ 1,030 billion in 2007, US\$ 1,490 billion in 2010, and around US\$ 5,040 billion in 2020 (all in nominal terms). This implies that including inflation, there will be approximately a five-fold increase in India’s economy between 2007 and 2020.

Given such a strong growth rate of the Indian economy and the enormous liquidity worldwide, during the last 42 months, the Indian stock market, which is epitomized by two indices—Sensex and BSE-100, has grown by an average of 290%, thereby achieving a cumulative annual growth rate of 36%. However, there is substantial cause for concern for the Indian stock market in particular and the Indian economy in general. Given below are some reasons for this concern:

- The Sensex or “Sensitive Index” (with a base of 100 in 1979 and comprising 30 companies listed on BSE) and BSE-100 (with a base of 100 in 1984 and comprising 100 stocks listed at five major stock exchanges in Mumbai, Calcutta, Delhi, Ahmedabad, and Chennai) epitomize the Indian stock market. From a Price/Earnings perspective, the Sensex and BSE-100 stock market indices are close to their 1999–2000 dot-com boom era peaks of 29 and 25. Furthermore, Sensex has grown from its lowest point of 2,600 on September 25, 2001, to

¹ According to the current exchange rate, 40 Indian Rupees equal approximately one US Dollar. Many economists believe that in the future, the Indian Rupee is likely to appreciate because of the rapid growth of the Indian economy, which is similar to what happened with Japanese and South Korean currencies during 1960s, 70s, and 80s. Alternatively, many economists believe that the Indian Rupee may actually depreciate with respect to the US Dollar because of the substantially higher inflation in India as compared to that in the United States. Since this debate is hard to resolve, for simplicity, we have assumed a constant exchange rate of 40 Indian Rupees to one US Dollar for the period 2007–2020.



20,030 on December 15, 2007. Similarly, BSE-100 has grown from its lowest point of 1,216 on September 21, 2001, to 10,965 on December 15, 2007.

- An excessive supply of foreign exchange has also appreciated the Indian Rupee substantially. Although India's central bank, the Reserve Bank of India, has bought foreign exchange worth US\$ 52 billion in order to keep the appreciation of Indian Rupee to manageable levels. The Indian Rupee has already appreciated by 15.4% during the last 12 months, from 45.34 on December 15, 2006, to 39.29 on December 15, 2007. This is clearly hurting Indian exporters, who are also beginning to lose out to Chinese exporters since the Chinese currency has appreciated only by 5.2% during the period. Since the appreciation of the Indian Rupee is beginning to hurt the profit margins of Indian exporters, it is also beginning to depress their market valuations—some of them may not be able to survive. Moreover, since some imported goods from China have become substantially cheaper, a portion of the Indian domestic industry is also beginning to be hurt significantly.
- Most of the money in the stock market—as much as US\$ 49 billion during the last 51 months—seems to have been pumped into the Indian economy by foreign institutional investors (FIIs), and this infusion seems to be based more on “market sentiment” than on the inherent growth of the economy or the short-term appreciation of the Indian Rupee or the companies that constitute Sensex or BSE-100. Our models, back-testing, and related analysis show that an outflow from India of even one-fourth of this money (i.e., approximately US\$ 12 billion) may depress the stock market by 30%, which would imply that Sensex would fall to approximately 14,000 (which is where the Sensex was at only about a year ago). Similarly, an outflow of approximately US\$ 12 billion could depress BSE-100 by 30%, which may hover around 7,700 (the level where BSE-100 was a year ago).
- Finally, our models and analysis show that a quick outflow of FII worth US\$ 12 billion would also have a direct impact on the Indian Rupee, depreciating it by 6%. This will stoke inflation especially because India imports 75% of its crude oil, and most of the movement of grains, vegetables, and fruits across the country is dependent on petroleum products. Therefore, any rise in inflation may force the Indian government to squeeze liquidity in the markets, thereby hurting the Indian stock market both in the short and the long run.

Organization of the Paper

This article consists of seven sections. In Section 2, we discuss the growth of the Indian stock market between 1990 and 2007. In Section 3, we discuss the growth of the Indian economy, with special reference to three groups of sectors that have been growing—and are likely to grow—fairly rapidly. Section 4 discusses potential short-term risks while investing in the Indian stock market and also notes some similarities and differences with that in China. Section 5 compares and contrasts this current situation with some of the prominent “booms and busts” during the last decade in other emerging markets. Section 6 discusses some “silver linings” that exist because of the inherent growth in the Indian economy and that of worldwide liquidity, which is likely to continue for the next three to five years. Finally, we conclude in Section 7 by comparing and contrasting the arguments made in the earlier sections in favor of “bulls” and “bears” and using some of our models, back testing, and other analysis, we describe potential scenarios regarding the movement of the Indian stock market over the next few years.

Growth of the Indian Stock Market

As of June 30, 2007, there were 23 government-recognized stock exchanges in India and there were more than 9,700 companies listed on these exchanges. The Bombay Stock Exchange (BSE) lists about half of these companies (4,842). This exchange happens to be the oldest in Asia, having been established as “The Native Share & Stock Brokers Association” in 1875. As of December 15, 2007, the market capitalization of the companies listed on this exchange was approximately US\$ 1,600 billion (approximately 1.5 times India's annual GDP). Since BSE has the most well-known indices within the Indian stock market, we focus on a few of these indices in this article.

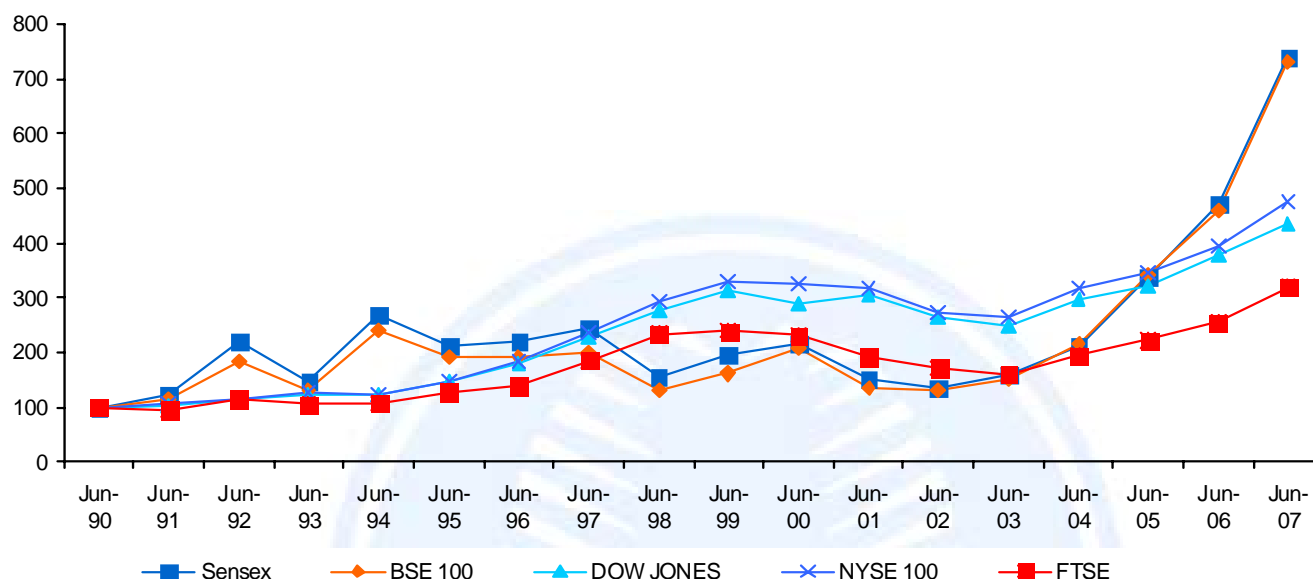
Figure 1 depicts three indices, Sensex, BSE-100, and BSE-500 (with a base of 1,000 in 1999 and comprising 500 listed companies in various Indian stock exchanges). Ignoring dividends, both Sensex and BSE-100 have grown by 12.5% annually in US Dollar terms between June 30, 1990, and June 30, 2007, although they have fluctuated fairly wildly during this period. In contrast, NYSE 100 and Dow Jones grew at annual rates of 9.6% and 9% respectively. The 12.5% annual growth rate for Sensex and BSE-100 during the last 17 years (in US Dollar terms) consists of the following two sub-components:

- The companies comprising Sensex and BSE-100 have individually grown at an average of 9% or more on an annual basis.



- Because of the consistent and substantial growth of these companies, their price/earnings ratios have grown from approximately 13 in June 1991 to approximately 21 in June 2007, which accounts for an additional growth of 3.5% per year.

Figure 1: Comparison of US Dollar Adjusted Price Return of Sensex, BSE-100, Dow Jones, NYSE-100 and FTSE



Source: Evalueserve, Thomson One Banker

Table 2 depicts the number of companies listed on BSE between June 1999 and June 2007. Not surprisingly, the number of initial public offerings (IPOs) on BSE went down dramatically during the dot-com bust in 2001–03, the NASDAQ crash of 2000, and the overall slow growth worldwide (particularly in the US). However, this number has significantly spiked to record heights in 2007.

Table 2: Initial Public Offerings and Price/Earnings Ratios for Bombay Stock Exchange (2000–07)

Year	IPOs Number	IPOs Average Value (in US\$ Million)	Year	Sensex P/E	BSE-100 P/E	Listed Companies Number
1999–2000	40	7	Jun-00	29.39	25.96	5,886
2000–2001	45	8	Jun-01	17.49	16.92	5,962
2001–2002	5	52	Jun-02	15.92	13.92	5,786
2002–2003	5	76	Jun-03	14.61	12.73	5,641
2003–2004	26	443	Jun-04	14.76	13.01	5,270
2004–2005	38	112	Jun-05	15.75	13.58	4,738
2005–2006	92	73	Jun-06	17.9	16.67	4,793
2006–2007	97	102	Jun-07	20.67	20.16	4,842

Source: Evalueserve, Bombay Stock Exchange Website



The Growing Indian Economy

As mentioned in Section 1, assuming a constant exchange rate where one US Dollar equals 40 Indian Rupees, the Indian economy, which was approximately US\$ 800 billion in 2005 and US\$ 910 billion in 2006, is likely to be US\$ 1,030 billion in 2007, US\$ 1,490 billion in 2010, and about US\$ 5,040 billion in 2020 (all in nominal terms). This implies a cumulative annual growth of 13% and an approximate five-fold increase between 2007 and 2020.

During 2007, the services sector would account for approximately 55% of the Indian economy, the manufacturing and industries sector would contribute about 28%, and agriculture about 17%. Further, both the services and industries sectors have been growing at approximately 15–17% on a nominal basis. Given this backdrop, we briefly mention three groups of industry verticals that are likely to contribute approximately 6.5% of the growth or about half of the total nominal growth of 13% per year.

The first group likely to exhibit rapid growth consists of hi-tech services and products, most of which are currently being exported. These hi-tech services and products include information technology (IT) and application development, business process outsourcing (BPO), knowledge process outsourcing (KPO), drug research and clinical research outsourcing (CRO), engineering services outsourcing (ESO), software and solutions related to the consumer Internet, software as a service (SAAS), open source, software-cum-services, and telecommunications (both wireless and wire-line) products and related services. This combined group of products and services is expected to grow by approximately 22% per year during the next five years, and is likely to contribute about 1.3% out of a total growth of 13% per year, i.e., approximately 10% of the total growth of the Indian economy. Finally, it is worth noting that this group only constitutes approximately 1.3/6.5, or 20%, of the growth of these three groups combined.

The second group consists of services that are mainly geared towards the Indian domestic market, although in almost all cases, people visiting India can also benefit from them. These sectors include retail, travel and hospitality (e.g., airlines, hotels, theme parks), healthcare (including medical tourism, alternative medicinal centers and spas, hospitals, pharmacies, and laboratories), entertainment (including the Indian movie and TV industries), and private education. Not surprisingly, this combined group of services and productized services is likely to grow at approximately 19% per year during the next five years, and is likely to contribute about 2.7% out of a total nominal growth of 13% per year (including 5% annual inflation).

Finally, the third group consists of products and services related to high-end manufacturing and infrastructure. It includes automobiles, automotive components, electrical and electronic components, specialty chemicals, pharmaceuticals, gems and jewellery, textiles, and sectors related to construction, real estate, and infrastructure. This combined group of products and services is likely to grow at approximately 19% per year during the next five years, and is likely to contribute about 2.5% out of a total nominal growth of 13% per year.

Short-Term Risks while Investing in the Indian Stock Market

Since the Indian economy has been growing at a fairly rapid pace, particularly between July 2003 and December 2007, this growth may be overheating the country's stock market as well as its economy. The following are several short-term risks that are worth considering:

Price/Earnings ratio for Sensex and BSE-100 is high, which is likely to result in volatility

As of December 15, 2007, the Price/Earnings ratio for Sensex and BSE-100 was close to 25, which is significantly higher than the corresponding ratio of 13 for similar indices in other emerging countries. Given that most companies comprising Sensex and BSE-100 are likely to grow in revenue at an average annual rate of 15–17% (in nominal terms) during the next 4–5 years, it is possible that these two indices are overpriced and they may not grow at all or may even drop precipitously (See Section 7 also). Further, according to data collated by Morgan Stanley Capital International (MSCI) and India's ICICI Bank, at least so far, several other emerging countries have had more volatile markets than India, which include Turkey (40%), Argentina (30%), Russia (32%), and Brazil (32.6%). In contrast, the level of volatility in India (24%) compares quite favorably with somewhat more mature markets, such as Taiwan (19.8%) and South Korea (23%). However, given the high P/E ratios, this level of volatility is likely to increase because of India's inability to absorb a huge inflow of foreign money. Such volatility will inevitably hurt market sentiments as well as investors, who will need strong will power to ride out this phase.



Foreign Institutional Investors seem to be flooding India

Unlike FDI, which is typically invested for three to seven years, most FII investments can be recalled pretty much at any time. Unfortunately, the Indian stock market is heavily dependent on short-term FIIs who buy equities and other securities, rather than on the longer-term foreign direct investors (FDI). During the last 51 months, there has been more than US\$ 49 billion of FII investment in India as compared to US\$ 25 billion of FDI investment. Indeed, during January–November 2007, foreign funds have bought shares worth US\$ 19 billion, which is significantly ahead of the full-year record of approximately US\$ 11 billion (in any previous calendar year). Table 3 depicts the inflow and outflow of foreign exchange since June 1991. In June 1991, India had only US\$ 1.5 billion of foreign exchange reserve, whereas it had approximately US\$ 220 billion on March 31, 2007, and US\$ 271.5 billion on December 15, 2007.

Table 3: The Indian Capital Market – Cash Inflows and Outflows

Year April 1–March 31	Imports (in US\$ Million)	Exports (in US\$ Million)	Approximate Remittances from PIOs (in US\$ Million)	Foreign Direct Investment (in US\$ Million)	Foreign Institutional Investment (in US\$ Million)
1991-92	19,411	17,865	6,000	154	Close to zero
1992-93	21,882	18,537	7,000	344	Close to zero
1993-94	26,739	22,683	7,000	586	1,665
1994-95	35,904	26,855	8,000	1,228	1,503
1995-96	43,670	32,311	9,000	1,943	2,009
1996-97	48,948	34,133	10,000	2,938	1,926
1997-98	51,187	35,680	10,000	3,525	979
1998-99	47,544	34,298	11,000	2,380	-390
1999-00	55,383	38,285	12,000	2,093	2,135
2000-01	57,912	45,452	11,000	3,272	1,847
2001-02	56,277	44,703	14,000	4,734	1,505
2002-03	64,464	53,774	17,000	3,217	377
2003-04	80,003	66,285	23,000	2,388	10,918
2004-05	118,779	82,150	22,000	3,240	8,280
2005-06	156,993	105,152	24,000	4,730	9,926
2006-07	191,995	127,090	27,195	8,437	7,062
Total					

Source: Evalueserve, Departments of Commerce and Trade - India

Given this backdrop, it is worth noting the following.

- If we only consider imports and exports and do not include other inflows [e.g., the remittances from persons of Indian origin (PIOs), FDI, or FII], then between 1991 and 2007, every year, India has been a net importer of goods and services. In fact, this difference (between imports and exports) has been widening both on an absolute and a percentage basis.
- Even after including FDI, India is still running a relatively large current account deficit, primarily due to a large trade deficit, and both are widening on an absolute and a percentage basis. In fact, because of the appreciating rupee, the latest figures show that for the first six months (i.e., April–September 2007), India's trade deficit at US\$ 36.9 billion is 42% higher than the corresponding period last year.



- Finally, even after including all imports, all exports, remittances from PIOs, FDI, and FII, India would only have had a surplus of approximately US\$ 10 billion between April 1991 and March 2007. Indeed, the additional US\$ 210 billion in foreign exchange reserves (that India accumulated between 1991 and 2007) includes that provided by tourists coming into India and the “unaccounted for” money, which is the foreign exchange that is “traded” among individuals and organizations without going through regular channels. For example, a person of Indian origin living in the UK may have British Pounds that he/she may sell to another individual in the UK and buy Indian Rupees from this individual’s “friend” or “relative” in India at a rate that is lower than the official exchange rate.

Massive Appreciation of the Indian Rupee is hurting the export and the domestic industry

Between December 16, 2006, and December 15, 2007, the Indian Rupee appreciated with respect to the US Dollar by over 15.4%. Similarly, with respect to British Pound, Euro, and Yen, the Indian Rupee has risen by 6.7%, 1.4%, and 8%, respectively. This appreciation is a double-edged sword for the Indian economy. On one hand, the economy has benefited by making imports—particularly crude oil—cheaper, and it has also helped control inflation. On the other hand, this appreciation is beginning to hurt Indian exports and may end up decimating some of the low-margin export sectors that now have to compete with Chinese goods. The Chinese Yuan has only appreciated by 5.2% with respect to the US Dollar and even less with respect to other currencies during this period. If the FIIs continue to pump foreign exchange at the same rate as this year, it is quite likely that within the next 15 months, the Indian Rupee will appreciate by another 8%, thereby leading to an exchange rate of 36 Indian Rupees for one US Dollar. Such an exchange rate would be disastrous for the entire Indian exports industry, especially in the following sectors: textiles, auto components, chemicals, information technology (IT), IT enabled services (i.e., business process and knowledge process outsourcing), and generic pharmaceuticals.

The quarter ending in September 2007 has turned out to be one of the most lacklustre quarters in recent times even for the domestic Indian industry. For example, the top 3,200 companies listed on BSE only grew at 14.7% in sales and 24% in profit margin in this quarter (on a year-on-year basis) as compared to 18.5% and 32.6%, respectively, for the previous quarter. Within the manufacturing sector, textiles, automobiles, auto components, metals, and pharmaceuticals have fared particularly poorly. According to the Index of Industrial Production (IIP) numbers released on November 7, 2007, the industrial output rate of the consumer durables sector (which also includes automobiles) declined by 6.2%. Further, among the major sectors, the textile sector had a sharp fall in profits. There were sharp increases in all big-ticket items—for example, raw material rose by 22%, employee cost by 20%, and interest cost by 35%. However, the corresponding price realization has been quite poor because of the Indian Rupee’s appreciation. Finally, if we remove the performance of two “heavyweight companies”—Bharat Heavy Electricals Limited and Larsen & Tubro, the growth for the engineering goods sector in that quarter was only 3.7%.

Enormous Speculation in Real Estate Market in India’s top six cities

During the last year, bank lending for commercial property has risen by 75%, and for residential property by 35%. Further, the prices of many commercial properties in the top six cities (Delhi, Mumbai, Bangalore, Hyderabad, Chennai, and Pune) and the surrounding areas have increased five-fold during the last four years. The prices for many residential properties in these cities have quadrupled. Since wages have not risen by even half as much, the real estate bubble in these cities can burst, thereby leaving some investors with substantial losses and debt. Fortunately, these massive increases are by and large restricted to only the top six cities and their suburbs, whereas most other cities are still reasonably priced (but even there, investor speculation seems to be rising dramatically).

In general, real estate companies are barred from tapping debt through external commercial borrowings (ECBs), but there is no restriction on pure equity investment, subject to a few conditions such as minimum capital requirement and a three-year lock-in. According to sources, the government is concerned that many realty companies have been issuing compulsory convertible debentures (CCDs) with a buyback option to foreign funds at a price that is fixed when the deal is struck. Given the speculation in the realty sector, the Indian government is planning to impose restrictions on CCDs with a put option. The Department of Industrial Policy and Promotion (DIPP) and the Reserve Bank of India (RBI) believe that some CCDs, usually considered similar to equity, are structured in a manner that makes them akin to debt. This is because, in many cases, there is a contractual agreement allowing Indian realty companies to buy back shares from foreign investors at a fixed price after conversion, i.e., the foreign investor has a put option and the CCD is similar to a debt instrument with a fixed rate of return (rather than an equity investment). Therefore, this is simply overseas debt masquerading as FDI, and Indian companies began opting for this route after the government, earlier this year, clamped down on raising debt through ECBs, partly and optionally convertible debentures, and preferential shares. Clearly, the government and RBI’s reaction stems from the fact that the realty



sector witnessed a huge inflow of funds (US\$ 627 million) in the first four months of the current fiscal year (April–July 2007), surpassing the total inflows for the past two fiscal years (US\$ 38 million during 2005–06 and US\$ 467 million during 2006–07).

India is not China

Although it is fashionable these days to compare India and China, in reality, the two countries are quite different. Indeed, a lot of progress in China is **because** of the government, whereas in India it is **despite** the government. Given below are some key differences between the two countries and their economies:

- The communist government in China can easily plan projects in a very structured and systematic manner without worrying about the courts or public opinion, whereas most projects in India get delayed because of Indian courts and/or because of strong public opinion. Because of this reason and others, India has not been able to as effectively utilize FDI and FII money as China has. In particular, India's infrastructure sector has grown at an average of approximately 6% per year during 2002–03 and 2005–06. Although in 2006–07 this growth rate reached 8.6%, even currently India spends only 5.6% of its GDP on infrastructure development. In contrast, China has been spending approximately 9% of its GDP on infrastructure development, and the country's GDP is double that of India on a per capita basis anyway. This lack of infrastructure is costing India 1.5–2% of GDP growth every year, in addition to the reduced efficiency of utilizing FDI and FII money. To mitigate the problem related to the lack of infrastructure, by 2012, India will need approximately US\$ 80 billion for developing roads and highways, US\$ 10 billion for developing airports, US\$ 20 billion for developing ports, and US\$ 65 billion for developing railways.
- Unlike the Chinese Yuan, which is primarily controlled by the Chinese government, the Indian Rupee is comparatively "free floating." Therefore, if FIIs take money out of India, the Indian Rupee is likely to depreciate more quickly, thereby raising inflation and causing a credit squeeze. However, a similar flight of FII money from the Chinese stock market may have a smaller effect on the Yuan and the Chinese economy.
- China has a significantly higher savings rate than India. Further, the Chinese, who typically keep money "tucked away" in their homes, are now investing in the Chinese stock market. Currently, there are more than 100 million brokerage accounts in China. Consequently, the Chinese government has made the market more restrictive for foreigners, which interestingly has made India a default destination for FIIs looking to invest in emerging markets.
- Between 1991 and 2007, China has been a net exporter of products and services, whereas India has been a net importer. As depicted in Table 3, during 1991–2007, India had a net trade deficit of US\$ 170 billion, whereas statistics from the Chinese government show that China had a trade surplus of US\$ 630 billion. In fact, in the 2007 calendar year alone, India's trade deficit is likely to cross US\$ 50 billion (approximately 5% of its GDP) whereas China's trade surplus will cross US\$ 160 billion (approximately 7.5% of its GDP). Finally, Chinese foreign exchange reserves are approximately US\$ 1,030 billion more than those of India, of which US\$ 800 billion is simply due to the trade surplus that China has versus the trade deficit in India. Such a trade deficit and the corresponding current account deficit leave India with very few options except to depreciate the Indian Rupee, thereby resulting in a potentially higher inflation and a depressed stock market (if there were a quick outflow of FII money).

Comparison of Booms and Busts during the Last Decade

As mentioned earlier, many investors believe the high valuations prevailing in India are justified because "this time, it is different". We have heard that phrase before but wonder whether things are really different in emerging markets this time around or are the investors setting themselves up for another major correction in prices of various assets. Consider the following three examples of booms and busts during the last 15 years:

The 1994–95 crisis in Mexico

This crisis, now widely known as the "Mexico Peso Crisis," was triggered by a sudden drop and deep devaluation of the Mexican Peso. This was a remarkable turn about for an economy that enjoyed strong growth coupled with a stable currency. Inflation had reached its lowest point in two decades, the government deficit had disappeared, and interest rates were at a historical low. These developments were capped by Mexico's entry into the OECD in 1994, and the consensus at the time was that Mexico was doing everything right. However, increased consumer and corporate spending that led the boom were primarily being driven by cheap credit. Commercial bank lending to the private sector had increased by 25% per year during the preceding 6 years and direct consumer lending had



increased even faster. Since this consumption was financed in large parts by external credit flows (which peaked at US\$ 23 billion in 1993), savvy investors began to see the writing on the wall and external capital inflow slowed to less than US\$ 9 billion in 1994. Another warning sign was investors' reluctance to buy Peso-denominated debt that forced the government to issue *Tesobonos*, i.e., debt that was denominated in Pesos but indexed to Dollars. To defend the Peso, the central bank resorted to using its foreign reserves that depleted rapidly, and finally the government was forced to abandon the semi-fixed exchange rate. The government's initial attempt at devaluing currency by 15% (from 3.3 Pesos to 4 Pesos for one US Dollar) failed to calm the investors and the Peso depreciated to a low of 7.2 in a week before stabilizing at 6 after intervention from the US. The effect on Mexican economy was catastrophic with real GDP falling by more than 9% during the next 9 months.

The Asian crisis in 1997

Throughout the 80s and early 90s, East Asian economies were lauded as shining examples of how to transform developing economies. These governments had sound fiscal policies, the central banks maintained stable currencies, and the economies enjoyed sustained high growth. Foreign investors poured money into these economies chasing higher growth compared to what was available in their home countries. They also felt secure in the knowledge that their investments would be safe from currency devaluations because the local governments held large foreign exchange reserves. Although most countries ran large current account deficits, this was considered normal for growing and healthy economies. However, by the mid-90s, a large portion of this current account deficit started going into poor quality and speculative investments, especially in real estate. Consequently, the crisis began in Thailand where foreign investors started slowly pulling out in late 1996, and this quickly turned into a flood. The Thai government responded by using its Dollar reserves and by raising interest rates. However, higher rates exacerbated the situation by also pulling down property prices. Soon the Thai government ran out of Dollar reserves and was forced to float the Thai Baht, which lost 15% of its value in one day and kept going down. The contagion then quickly spread to Indonesia and South Korea, and threatened several other countries. By the time the dust settled, enormous damage had been inflicted, and these economies subsequently went through severe recessions.

The Argentine crisis of 2001

In 1991, Argentina pegged its currency to the US Dollar in order to contain hyper-inflation and restore credibility to the Argentinean Peso. As a result, inflation dropped sharply. With the value of currency assured, foreign investment flowed into the country and several years of strong growth followed. Even during the 1997 Asian crisis, foreign investors continued to invest in Argentina. However, throughout this period, the government was unable to restrain public spending and despite repeated assurances, the ratio of public debt to GDP kept rising. To make matters worse, in 1999, Brazil devalued its currency in order to deal with its own economic crisis. Overnight, exports from Argentina—especially to Brazil, which was its biggest trading partner—became uncompetitive and the economy contracted for the next three years. Markets remained relatively calm in anticipation of growth recovery and because of the government's commitment to maintain the US Dollar peg (of the Argentinean Peso). However, uncertainty mounted in the face of persistent public debt and continued recession, and this eventually led to a massive flight of capital in 2001. Finally, the government was forced to abandon the US Dollar peg and default on external debt. This extended fallout included double-digit economic contraction and protracted malaise that continues even today.

Although the causes in all three crises mentioned above (and other similar cases that are not mentioned here) are unique, the flow of short-term foreign funds masked the underlying problems for several years in each case. Indeed, in all of these cases, the concerned economies were upheld as shining examples of sound fiscal and monetary policy. In fact, in the cases of Mexico and the Asian crisis, there was almost no budget deficit, something that cannot be said of India's current fiscal situation. Further, in all these cases, the governments seemed to have generous foreign currency reserves, which provided credibility to their stated intention that they would maintain stable currencies. However, once panic ensued, these governments proved helpless in restoring calm to the markets. In our opinion, since India has a large budget deficit (a large part of which supports unproductive subsidies and government employee salaries), a large current account deficit, and a very high level of foreign capital inflow (which tends to leave at the first sign of trouble), Indian markets are highly vulnerable to a sudden flight of capital. In fact, in acknowledgement of such worries about imbalances caused by excessive portfolio inflows, the government has recently begun implementing measures to contain this inflow by restricting some equity investments by hedge funds that use derivatives. (See Section 6 for further discussion)



Silver Lining in the Clouds – Some Reasons for Investors to Take Comfort From

In addition to the strong growth of the Indian economy, given below are three reasons that may provide some comfort to investors who are investing in the Indian market:

Decoupling of the Indian economy from the US and other countries

As mentioned in Sections 1 and 2, in real terms, the Indian economy has been growing at more than 9% per year for the last two years and is expected to grow at an annual rate of 8–9% for the next several years. Fortunately, only 1.7% is due to exports reliant on the North American and European economies. In fact, our analysis shows that even if the US goes into a mild recession for a year, the growth rate of the Indian economy will come down to only 6.5% (for that year). Moreover, the Indian economy has potential to grow internally and also has significant room for efficiency improvements.

One classic example is the group of companies called public sector undertakings (PSUs). Since India had a socialistic economy between 1947 and 1991, the Indian government owned many such PSUs—especially in the following sectors that were considered critical to the Indian economy: financial services, utilities, capital goods, transport services, and metals and mining. Gradually the Indian government has been reducing its stake in many PSUs and now owns only a 51% stake in some of them. In fact, many of these are currently listed on the Indian stock market, and the market capitalization of just the top 44 PSUs listed on BSE exceeds US\$ 210 billion. Not surprisingly, these PSUs were quite inefficient before the Indian government started privatizing them, and although they have lately become more efficient and productive, there is still substantial room for improvement. Finally, since most PSUs are related to infrastructure development, their growth and improvement in efficiency would also help in improving India's infrastructure.

Rapid increase of assets under management globally leading to substantial price inflation

Consider the following statistics that give credence to the belief that the rapid increase of assets under management is already causing—and will continue to cause—asset price inflation.

According to Evalueserve's analysis, between 2000 and 2006, the worldwide assets under management by pension funds, mutual funds, insurance companies, high-net-worth individuals and families (including those involved directly or indirectly in mining crude oil, metals, minerals, and other natural resources), hedge funds, and private equity funds has grown at an annual rate of 8%. The cumulative sum of these assets under management was approximately US\$ 65,000 billion in December 2006 and is likely to cross US\$ 70,000 billion in December 2007. Although some of this money can be used to fund the current assets under management, the remaining has to be invested elsewhere and is therefore causing increased liquidity in the system. It is also resulting in an increased asset price inflation, which is again being decoupled from consumer price inflation. Clearly, such an argument would imply that asset managers will need to find new assets for the additional money that needs to be invested. These managers would continue investing in them until those assets become substantially overpriced, in which case there would be a quick outflow of this money into another set of "new found assets." Indeed, emerging markets now seemed to be part of those "new found assets" that were "discovered" around 2002–03.

If this view reflects reality, then the asset price inflation is likely to increase worldwide at least for the next 10 years, because there would be substantially more money—from US\$ 2,000 billion to US\$ 6,000 billion per year. This money would be generated simply by mining natural resources (e.g., crude oil, metals, and minerals) and would have to be invested in such "new found assets." In fact, such a view would also explain the notion of "refuge capital," i.e., the capital that needs to be invested somewhere else because of a bust that occurred in a particular sector or geography. For example, it has been estimated that after the bust of sub-prime mortgages in the summer of 2007, more than US\$ 15 billion of the total funds that investors have pulled out from the US and Europe have been invested in emerging markets (including India).

The Indian government's attempts to stabilize the inflow of FII money

Various statements and recent actions taken by Indian government officials, particularly those at the RBI and the Securities and Exchange Board of India (SEBI), indicate that the Indian government is also increasingly concerned and would like to moderate the inflow of FII money so that the Indian economy can utilize it effectively. A few weeks ago, the SEBI proposed restrictions on the flow of international funds into the Indian market through participatory notes (PNs) with respect to derivatives issued by FIIs.



Participatory notes are instruments issued against an underlying security (shares or derivatives). Foreign portfolio investors and FIIs registered in India (e.g., investment banks, such as Goldman Sachs and DSP Merrill Lynch) act as intermediaries or custodians and issue these PNs to overseas clients who may not otherwise be eligible to invest in the Indian market. The holders of PNs gain from the capital appreciation of the underlying shares (or equities), whereas the foreign portfolio investors make money by issuing these PNs to these holders and in trading fees. The share of PNs (with underlying derivatives) as a percentage of the total foreign portfolio flows rose from 32% in late 2006 to 51.6% on August 31, 2007; in terms of value, the outstanding value of PNs with underlying derivatives was 30% (i.e., approximately US\$ 26 billion) of the total outstanding amount of US\$ 86 billion (as on August 31, 2007).

Since such PNs result in enormous leverage, they can lead to volatility in the market. Therefore, under the new guideline, an FII cannot issue PNs beyond 40% of assets under management and will have to wind down all pure-derivative positions over an 18-month period. The RBI has also called for a ban on incremental or fresh issuance of PNs to overseas investors. The idea is to encourage investors who come through PNs to invest directly and not through intermediaries or custodians. According to government officials, the new regulation is intended to moderate capital flows into the Indian market and increase transparency in the source of incoming funds. Some of the experts we have talked to hinted that there could be further tightening of "Know your Customers" norms for PNs and an easing of regulations for the registration of FIIs. Currently, these regulations are extremely time consuming and it often takes a firm more than six months to become a registered FII in India.

Finally, concerned over the increasing flow of banking funds into the stock markets, the RBI recently tightened the credit facility for mutual funds (MFs) and asked banks not to guarantee payments to stock exchanges on behalf of FIIs. In particular, the RBI stated: "Entities such as FIIs are not permitted to avail of fund or non-fund based facilities such as irrevocable payment commitments (IPCs) from banks." The central bank further said that funds provided by banks to equity-oriented MFs would be factored into the individual banks' capital market exposure limit. The RBI has issued these guidelines after it noticed that "banks have extended large loans to various MFs and have also issued IPCs to stock exchanges (BSE and NSE) on behalf of MFs and FIIs". The RBI has also given six months time to the banks to comply with its notification on exposure of banks to capital markets through loans to MFs and issuance of IPCs.

Conclusion

Making stock market predictions is always a very risky business. However, comparing and contrasting arguments by bulls and bears, we have arrived at three likely scenarios, which are briefly discussed below:

First Scenario – Stock Market Crash

This scenario is likely to occur if, because of a sudden crisis of confidence (e.g., because of a sudden collapse of the current coalition government in India), there was a flight of FII money out of the country. According to Evalueserve's models and analysis, if US\$ 12 billion of FII money were to leave within a quarter, the stock market would drop by approximately 30% and the Indian Rupee would depreciate by about 6%. This would imply a level of 14,000 for Sensex, which was the level of Sensex around a year ago when it was already causing anxieties among market participants, regulators, and the Indian government. Fortunately, an immediate 6% depreciation of the Indian currency would not be catastrophic for the economy, although it would lead to a bout of inflation and a short-term negative impact to the current account deficit. This could potentially lead to a vicious cycle whereby more FII money leaves India, which in turn would lead to further losses in Sensex, depreciation of the Rupee, and even higher inflation. Alternatively, a depreciated Rupee would make Indian exports more competitive and would help close the current trade deficit in the long run.

Second Scenario – Stock Market Bubble

This scenario is likely to occur if the RBI and the Indian government are unable to curb the massive inflow of FII money for another year or two. This would send the Sensex and the BSE-100 even higher, and more retail investors would jump in, thereby pushing the P/E ratios of listed companies even higher. This situation would be somewhat akin to the contemporary example of the Chinese stock market, where companies are trading at P/E ratios of 50. So, despite the current anxiety, there is clearly room for the Indian stock market to double in the next year or two, from its current level. Of course, in this scenario, such an "irrational exuberance" of the Indian stock market may continue for some time, reminiscent of what happened in the US from the time when Alan Greenspan made his comments in December 1996 to the time when the US market crashed in April 2000.



Third Scenario – A Reasonable Market Rise

The stock market continues to rise although at a “snail’s pace” (of 0–10% per year). Since the companies listed in the Sensex and the BSE-100 are likely to grow in revenue at 15–17% per year (in nominal terms) and even more so with respect to profit margins, this system might self-adjust within the next 2–4 years. However, during this period, the stock market may remain stagnant or go “sideways”, and could even have high levels of volatility. Indeed, this scenario may be the least disruptive for the Indian economy, and particularly for the Indian stock market.

According to our analysis, the first scenario (i.e. the Sensex dropping to 14,000 in the near future) has the highest probability of approximately 50%, whereas the other two scenarios have an equal probability of approximately 25% each. In other words, the risk is skewed on the downside. Both the Government of India and the RBI are acutely aware of this risk and have tried (unsuccessfully so far) to stem the capital inflows. Indeed, the Governor of the RBI (the equivalent to the Chairman of the Federal Reserve Board in the US), Y.V. Reddy, recently summed it up well when he said, “There is an argument that capital flows are coming in because of fundamentals. But is it conceivable that the fundamentals multiplied by 50–70% in two years? It is difficult to establish a correlation between economic fundamentals and capital inflows. There is an element of fundamentals, but the question is how much.”





About the Author

Dr. Alok Aggarwal is the Chairman and Founder of Evalueserve. He earned his Ph.D. in Electrical Engineering and Computer Science from Johns Hopkins University in 1984, and “founded” IBM’s Research Laboratory in New Delhi, India, during his 16 years at the IBM Thomas Watson Research Center.

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Disclaimer

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