CHAPTER-III

IMPACT OF REFORMS ON INDIAN ECONOMY AND INDIA'S EXTERNAL SECTOR

CHAPTER-III

IMPACT OF REFORMS ON INDIAN ECONOMY AND INDIA'S EXTERNAL SECTOR

3.1 INTRODUCTION

As explained in forgone chapter, India launched its market-oriented economic reforms in 1991 due to unprecedented balance of payments crisis coupled with the emergence of the phenomenon of globalisation. As part of these reforms, India attempted to open up the economy with less control, accordingly reforms in the external sector assumed greater significance. External sector was liberalise through relaxing the restrictions on international flows of goods and services, technology and capital. Export promotion became the key word and trade reforms concentrated on exports. The government of India introduced liberal exchange rates to promote exports. Over the years, Government of India has announced several measures from time to time in order to be in tune with the globalisation and liberalisation process. Five-year EXIM policies were announced to liberalise trade sector. It is strongly believed that once export front takes off and emerges strongly other economic ills, particularly deficits in balance of payments can be sorted out very easily.

It is against this background, an attempt is made in this chapter to analyse the performance of external sector in the light of economic reforms. This is done by comparing with the growth performance in pre-reform period. The basic objective is to examine the impact of trade reforms on the performance of external sector. The external sector through trade, affects growth in three fundamental ways. First, trade encourages a flow of resources from low-productivity sectors to high-productivity sectors, which will lead to an overall increase in output. Export growth may affect total productivity growth through dynamic spillover effects on the rest of the economy.[32] The possible sources of this positive dynamic spillover include more efficient management styles, better forms of organisation, labour training, and greater knowledge on technology and international markets.[33] Since exports are an important component of GDP of a country, rapid export growth leads to even faster GDP growth through the working of Keynesian multiplier process. Second, with unemployed

[32]See, Hickman.B.G, (1992), Feder.G (1983).
[33] See, Chuang, (1998).

resources, an increase in export sales leads to the overall expansion of production and a fall in unemployment. As production increases, firms generate economies of scale and hence become more efficient.[34] Third, international trade also allows for the purchase of capital goods from foreign countries and exposes an economy to technological advances in developed countries. Recent theoretical works suggests that capital goods imported from technologically advanced countries may increase productivity and thereby growth. This is because the knowledge and technology are embodied in equipment and machinery that are important hence transferred through international trade. Considering the above, in this chapter an attempt has been made to analyse the impact of external sector reforms on the economy as a whole in general and the external sector in particular in terms of different variables such as GDPfc and its components; NNPfc ,per capita NNPfc, exports, imports, terms of trade, foreign exchange reserves.

The rest of the chapter is divided into the following section, in section two existing literature on the impact of reforms on trade are reviewed. In the subsequent section, the sources of data and the methodology adopted to analyses the impact is described. Section four provides the findings and the last section concludes.

3.2 REVIEW OF LITERATURE

A large body of literature has examined the impact of economic reforms in developing countries including India on theoretical and empirical basis. These studies are inconclusive about the impacts as some have come to the conclusion that the impact is positive while some encountered with negative impact.[35] Indian economic reforms have been often criticised by ideologues on the ground they betray the country's long- cherished concerns with poverty alleviation and national self-reliance and acceptance of benign role by the state.

In one of the first studies, Bhagavati and Srinivasan (1993) effectively countered the above arguments, not by resorting to *ex cathedra* judgments, which his critics often indulge in, but through logical reasoning and empirical analysis. He demonstrated that the very same objectives, which India placed prominently on its

---

[34] See,Helpman and Krugman,(1985)
[35] In India, also number of studies has been conducted.

agenda in earlier years, could have been better achieved by economic reforms than by the detailed micromanagement of investment, production and trade.

In the same way Sachs (1995), provides some evidence of positive effect of economic reforms in terms of opening of economy of developing countries. He observed that poor countries tend to grow faster than rich ones as long as trade links the poor and rich countries. He believes that if the growth rate of India is projected at 6 per cent, this would result in raising per capita GDP by 2.4 times from $ 340 to $ 800 by A.D. 2010,and the number of people below the poverty line would drop down to 19 per cent. In order to attain a higher growth rate, he suggested adopting economic reforms such as to privatise the public sector in a socially responsible manner, unshackle the private sector from state control, close down sick companies, to reform labour legislation and opening of the economy.

In another study, Misra (1998), in his study found that the process of economic reforms led to favourable terms of trade in agriculture. This helped in raising overall aggregate production and created conditions under which private investment in agriculture increases although the growth rate of both (aggregate output and private investment) have shown a decline in the post-reform period compared to pre-reform period.

Dutta (1999) had found that there is virtually no change in the pre-and post-reform poverty measures in rural segment while there was a decline in poverty measure in urban segment indicating improvements in the living standards. The stagnation in rural poverty seems largely attributable to the lack of growth in that sector.

Chelliah (1999) was of the opinion that there were favourable effects of economic reforms on the economy, as India did not suffer any drop in total GDP growth rate. Even though there is not much difference in average growth rates of 1980s and 1990s, the growth rate in 1990s has been achieved in the context of a slowdown in the world economy and has been sustained along with a remarkable build-up of our foreign exchange reserves. In the external sector, there is a remarkable transformation. He observed significant developments in terms of tremendous growth in foreign investment, a very large flow of remittances with a realistic exchange rate and remarkable growth in export until the beginning of the world economic slowdown and no balance of payment problem after 1991-92.

Tendulkar (1999), while analysing the export performance of 10 Asian economies (Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, Republic of Korea, Taiwan Province of China and Thailand), found that rapid economic growth is associated with the rapid volume growth of exports and that, in a period of higher world trade, this association becomes stronger. This study covered the period from 1966 to 1995 and considered exports volume at the 3-digit Standard International Trade Classification level.

Similarly, Agrawal and others (2000) examined compound annual growth rates of India along with those of other Asian countries for four periods: 1970 to 1975, 1975 to 1980, 1980 to 1985 and 1985 to 1990. They found that the export growth of Asian countries followed the booms and slumps in world trade, but that the exports of Asian countries always change faster than the world average. For India, the case was little different. During the first three periods, India's export growth was close to that of the world average, and increased significantly above the world average only in the final period.

Desai (2000) has noted, "The Indian economy appears to be...sound... Something has changed; we are no longer in the boom-and bust mode of the 1960s, 1970s or 1980s". This in turn may be partly attributable to the fact that post-1991 growth was driven principally by an expansion of private investment while national savings simultaneously rose, thus ensuring that there was no significant pressure on the balance of payments position (compared with the consumption-led growth of the mid to late 1980s).

Ramkishen S. Rajan & Rahul Sen (2002), India has made some important strides since the initiation of the reform program in 1991, and has been one of the fastest growing economies in the world. Given that, the liberalisation program in India has been evolutionary (with inevitable hiccups and backtracking in the interim) rather than revolutionary, even a decade may offer too few degrees of freedom to pass definitive judgment on the longer-term prospects of the Indian economy. Nonetheless, considering that India faced virtual bankruptcy in mid 1991, its economic performance since then has been laudable and rather under-appreciated. On the positive side, all indicators reveal that the reduction of the anti export bias has allowed the Indian economy to attain a higher degree of integration with the global economy in the 1990s compared with previous decades. On the negative side, India remains inward looking in comparison with China and its other East Asian neighbours which embraced the multilateral trading system and had laid out the welcome mat for FDI much earlier (in the mid to late 1970s and 1980s).

A Study by Tata Services (2003) found that for the all-India manufacturing sector, labour productivity (output per unit of labour) has increased significantly during the post-reform period, compared with the pre-reform period.

Bosworth, Collins and Virmani (2006), found that labour productivity has increased since 1991. Output per worker grew the most during the period following reforms. What is more interesting is that the sharpest improvement in output per worker was witnessed in the services sector. Incidentally, it is the services sector that has been the star performer, outshining both manufacturing and agricultural exports. Output per worker in the services sector grew at a rate of 7 per cent from 1993 to 1999, compared with only 2.7 per cent during the previous decade.

Nilanjan Banik (2007), In his study he concluded that the recent growth in Indian exports is primarily led by an increase in factor productivity, growth in world trade, increase in intra-industry trade and external sector reforms. While these factors certainly play an important role in explaining the surge in exports, the removal of supply bottlenecks is necessary to sustain this high export growth.

Apart from the above studies, other works concluded that the impacts of reforms on the developing countries including India are negative.

One of such study was conducted by EPW Research Foundation (1994); study concluded that economic reforms in India failed to achieve economic target set by the government. Group of 13 economists in India has shown that economic reforms have adverse effect on the economy. Sau (1994) argued that equilibrium is most likely to be stable if the interest elasticity of foreign direct investment is high and that of foreign portfolio investment is low. The experience of India indicates the reverse situation, which implies the possibility if instability.

Diwan and Chakravarthy (1993) showed empirically that India is not competitive in international comparison and hence free trade for India may degenerate into creating more debt, dependence and eventually a depressed economy.

Mathur (1994) analysed Asian experience and argued for an out-oriented policy for a dynamic manufacturing export sector. There has been a trend towards decreasing government intervention in the area of trade policy where earlier reformers like Taiwan and Korea had intervened quite intensively.

Some studies conducted elsewhere, which have examined the effect of reforms on other developing countries, are unanimous in their conclusion that reforms have a negative impact. Taylor (1983), Pastor (1987), and Eshang (1989) found that under the structural adjustment programme income distribution was against labour and poor class. Hoevan (1987), Horton (1991), and Ginneken (1990) found that economic reforms have increased unemployment rates in rural and urban informal sector. This is because privatisation and modernization of public enterprises have been associated with sharp retrenchment.

Similarly, (Horton, 1991), found that, the slowing down or fall in formal urban sector employment has been accompanied by slowing down or reversed in rural urban migration and in further crowding in agriculture. Lucas (1988) argued that economic liberalization is not consistent with economic growth.

The survey of literature attempted above regarding the impact of external sector reform generally provide conflicting views about the effects, that is these studies are ambiguous in their conclusion. Further, most of these studies have been undertaken in the earlier parts of the reform period. They also have not taken into account the adjustment and post-adjustment period.[36] Moreover, very few studies have been undertaken for India in the recent past. Consequently, in this chapter an

[36] Here, it is to be noted that reform process is long-term process and it takes some time in adjustment. We cannot expect quick and fast positive results. It means the growth rates are somewhat lower in the beginning and after adjustment period, it grows fast. See, Joshi. M.V (2003)

attempt is made to judge the performance of economy as a whole and in particular external sector. The performance will be judge based on both growth and instability of the selected macroeconomic as well as external sector variables during pre and post-reform period.[37] In the post- reform period, the adjustment and post-adjustment period will be considered to fill the lacuna of the earlier studies.

It is hypothesised here that: a) Reforms has led to better performance of the economy. b) It has improved the performance of external sector. c) It has lead to reduction in instability in the economy as well as in the external sector.

3.3 DATA SOURCE AND METHODOLOGY

Data for this study were collected through secondary source. The study made use of various issues of "Economic Surveys" published by Ministry of Finance, Government of India and Reserve Bank of India's annual reports. The study selected and analysed some important macroeconomic and external sector variables such as Gross Domestic Product at factor cost (GDPfc) and its components. The components are as follows: C1: Agriculture and Allied Activities, C2: Agriculture, C3: Industry, C4: Mining and Quarrying, C5: Manufacturing, C6: Electricity, Gas and Water Supply, C7: Service, C8: Construction, C9: Trade, Hotels, Transport and Communication, C10: Financing, Insurance, Real Estate and Business Services, C11: Community, Social and Personal Services. NNPfc, Per capita NNPfc, exports (X), imports (IM), foreign exchange reserves (FER), foreign currency asset (FCA), terms of trade (TOT) and income terms of trade (ITOT).[38] Over and above the methodology discussed in the first chapter, this chapter also make use of different ratios such as self-reliance ratio (Export / Import), reliance on external markets (Export / Gdp), Import to Gdp ratio, trade openness (X plus IM / Gdp), export industrialization rate (Manufactured exports / Total exports).

---

[37] Instability is generally measured in terms of instability index. This index provides a measure for fluctuations and uncertainty.

[38] GDPfc and its components are at constant prices (Rs crores). An economy's growth is measured by the increase in value added produced by the individuals and enterprises operating in that economy. Thus, measuring real growth requires estimates of GDP and its components valued in constant prices. See, World Development Report 2005.Exports, Imports, Foreign exchange reserves and Foreign currency asset are at current prices (Rs crores).

3.4 ANALYSIS

The analysis is divided in two parts, in part one the performance in terms of macroeconomic indicators have been discussed. In part, two the performance of external sector has been dealt with.

3.4. a. Macroeconomic Variables:

In economic literature, the performance of the economy is judged through Gross Domestic Product (GDP). It is the most frequently used indicator of market activity and the change in GDP over a period is the principal sign of economic growth.[39] It is due to this reason that in present study also GDP is used to evaluate the economic performance. Table 3.1 shows the growth rate of GDP and its components at constant price. It is evident from the table that GDP has attained a significant growth of 5.83% during the entire period under consideration. This trend in the growth is mainly due to a higher and significant growth achieved by components such as C10 (8.36%), C9 (7.64%) and C7 (7.22%). In other words, the service-oriented sectors have contributed the largest for the high GDP growth. Table, also reveals an improvement in the growth during post-reform period as compared to the pre-reform period, GDP registered a significant growth of 5.29% during pre-reform period and 6.48% during the post reform period indicating thereby a batter economic growth, this is due to the positive and significant growth attained by C9, C7, C8 and C5.[40] If one looks at post-reform period, then it is clear that economic growth has shown an improvement during the post-adjustment period although not very significant, GDP registered a significant growth of 6.15% during adjustment period and a growth of 6.69% during the post-adjustment period. This trend is due to the significant growth registered by the components such as C8 (9.82%), C7 (8.62%) and C11 (6.46%).

---

[39] In fact, GDP lies at the top of the entire System of National Accounts, and its methodology is rigorously defined and standardised, enabling international comparison and aggregation. See Lequiller and Blades (2006), Maddison (1992), Jones (1995), Quah (1997), Reddy (2007).

[40] The higher and a significant growth of GDP during the post-reform period estimated in this study is in consonance with the findings of Y.V Reddy (2001).

Thus, the analysis of GDP growth reveals a positive trend and indicates an improvement in the post-reform period and especially during the post-adjustment period. This further emphasized that libralisation process is in the right direction and economy has been benefited by it, and if this trend continues than there is no reason, why India cannot achieve a path of double-digit growth in the years to come. However, the caveat is the stability in the growth.

The question here is whether the growth achieved during the post-reform is sustainable or not. This can be ascertained with the help of instability index. Table 3.2 presents the instability index of GDP and its components.

Instability index of GDP shows an improvement during the post-reform period, indicating stability during the post-reform period as compared to pre-reform period. The main contributors for stable growth are C4, C8 and C1. Instability index of GDP fell from 1.98 during pre-reform period to 1.63 during post-reform period. Instability index of component C4 fell from 4.55 in pre-reform period to 2.98 during post-reform period, instability index of C8 fell from 4.60 to 4.35 and C1 fell from 4.97 to 4.58 during the post reform period.

However, within the reform period there has been an increase in instability index of GDP from 0.70 in adjustment period to 1.89 during post-adjustment period. This mainly due to the components such as Agriculture and allied activities (C1),Agriculture (C2),Manufacturing (C6),Service (C8) and Community, Social and Personal Services (C11). This show that towards the latter part of the reforms with the passage of time the economic policies adopted during libralisation failed to ensure economic stability especially in sectors such as agriculture, electricity, Gas, water, construction, community, social and personal services which ultimately contributed to more instability in GDP growth and this is not a good symptom.

The overall analysis shows that though economy has registered a higher growth during the post-adjustment period. However, this growth is associated with the higher instability. Indicating that, this growth is not sustainable in the future, if the prevailing trend continues.

In the above section, we had analysed the growth and instability trend in isolation. It will be more appropriate to relate GDP growth with instability to come to proper conclusion regarding the impact of reforms on macroeconomic variables during post-adjustment period. This calls for an analysis of the GDP growth and instability relationship during post-adjustment period. This is attempted below.

An examination of the relationship between the GDP growth and instability will indicate four different possibilities:

1. A declining GDP growth with a decreasing instability in GDP.
2. A declining GDP growth with an increasing instability in GDP.
3. Increasing GDP growth with an increasing instability in GDP.
4. Increasing GDP growth with a decreasing instability in GDP.

The relationship between growth and instability of GDP has been summarised below:

GDP and its Components	Possibility	Situation
C3,C5	First	Unfavorable
C1,C2,C6	Second	Unfavorable
C8,C11,GDPfc,NNPfc, NNPfc per capita.	Third	Unfavorable
C4,C7,C9,C10	Fourth	Favorable

Source: Compiled from Table 3.3.

On the basis of the above results it can be said that reforms have proved beneficial for the sectors such as Mining and quarrying (C4), Electricity, Gas and Water (C7),Construction (C9) and Trade, Hotels, Transport and Communication (C10), since all these sectors registered higher growth with lower instability as compare to the previous period (possibility fourth- favorable).

This also indicates that GDP growth though recorded a positive trend but is associated with higher instability, therefore this positive trend of growth may not sustain for long (possibility three- unfavorable). It may be argued here that an analysis of the trend in National income and Per capita income growth and instability may provide a different conclusion. It is in this context that the table 3.1 shows the trend. It is evident that the trend and the instability of NNPfc and per capita NNPfc are same as registered by GDP during post-adjustment period (possibility three- unfavorable).

It is pertinent to note that the economic reforms initiated in India was centrally focused on industrial and trade policy. This is because by 1991 there was a broad consensus that there is a need for greater liberalisation and openness.[41] These policy changes were expected to generate faster industrial growth and greater penetration of the world market in industrial product. How far, the objectives of external sector reforms have been achieved. This attempted in foregoing section.

3.4. b. External Sector Variables:

Table 3.4 presents the growth rate of external sector variables. It can be seen from table that the growth rate of total export increased from 16.14% in the pre-reform period to 16.98% during the post-reform period. Whereas the imports recorded a growth of 18.87% in the post-reform period against 12.42% in pre-reform period. However if we look further, in the pre-reform period exports have grown faster and in the post-reform period it was imports which has grown faster than exports. One of the crucial part of external sector reforms was the relaxation provided in importing foreign capital and technology, this may be the reason for higher growth of imports in the post-reform period as compared to export growth. Further, liberalization policies appear to have affected foreign exchange reserves (FER) and foreign currency assets (FCA) favorably. As both these variables recorded higher and

[41] The reforms have been discussed in detail in the chapter two.

significant growth during post-reform period in comparison to pre-reform period. The FER growth rate increased from 6.72% in pre-reform period to 25.42% during post-reform period, similarly, FCA growth rate increased from 3.42% to 28.64% during the post-reform period.

One of the important indicators of the external sector performance is the ratio of foreign exchange reserves to imports. Higher the ratio better it is because it indicates the capacity of the country to take care of its imports obligation. This ratio has also exhibited an increase in the growth rate from -5.07% in pre-reform period to significant growth of 5.51% during post-reform period. This shows that foreign exchange reserves growth is in tandem with the growth of imports. This in a way has contributed in lessening the burden of meeting import bills.[42] If we consider the income terms of trade (ITOT), the trends are similar. It has registered a higher growth from 9.10% in pre-reform period to 11.05% during post-reform period. This trend indicates that purchasing power of exports has been higher during post-reform period. However, the only cause of worry is the deterioration in the growth rate of terms of trade (TOT) from 3.27% in pre-reform period to -0.51% during post-reform period. Such a trend indicates that libralisation policies have not been able to arrest the deterioration in terms of trade.[43] Thus, the overall analysis of the external sector during post-reform period reveals that variables such as exports, imports, FER, FCA, income terms of trade has recorded higher growth as compared to pre-reform period.

A similar conclusion can be arrived at if various ratios such as export to GDP (X/GDP), imports to GDP (IM/GDP) and foreign exchange reserves to imports (FER/IM) are considered. It reveals that the growth is higher in post-reform as compared to pre-reform period. It points to an increasing openness of the Indian economy.[44]

---

[42] The results of pre and post-reforms periods are in consonance with Sai Haragopal (2001).Who has assessed the performance of external sector for the period 1980-81 to 1997-98 at current prices.

[43] The detailed analysis of this trend is discussed in the chapter 8.

[44] Ratio of trade to GDP is the measure of trade openness. This ratio has registered a higher and significant growth during post-reform period (i.e. 4.95%) against pre-reform period (i.e. -0.28).

However, if we consider adjustment and post-adjustment period within the post-reform period then the trends are not encouraging. In fact, with the passage of time all the external sector variables as well as the ratios have underperformed. This is not a healthy symptom because if this trend is not corrected, a further deterioration in the growth is inevitable. Thus, the analysis of growth rate shows a satisfactory performance of external sector during the post-reform period, but it has failed to maintain the same during post-adjustment period. This may be due to political compulsion, which has lead to slacking of the reform process.[45] In table 3.6, the instability index of selected external sector variables are also presented.[46]

The instability index of total exports indicates a fall from 10.44 in pre-reform period to 7.29 during post-reform period. Similarly, other variables such as FER, FCA, TOT and ITOT recorded a fall in the instability index.[47] All these variables exhibit a positive impact of reforms in terms of stability.

Similarly, instability index of export to GDP ratio indicates a fall in the instability during post-reform from 9.93 in pre-reform period to 7.07 during post-reform period (i.e. by 2.86). The instability index of Coverage ratio (export to imports), export industrialisation rate (manufacture exports to total exports) and foreign exchange reserve to imports also shows a downward trend post-reform period. Thus, positive impact of reforms on the external sector is indicated in terms of stability during reform period. This leads one to reject the argument that liberalization or opening of economy makes the external sector more instable or vulnerable. The only cause of worry during the post- reform period is the higher instability in imports.

[45] See, Ahluwalia, M.S. (2000).

[46] It may be mentioned here that instability index shows the fluctuations in the variable and is indicator of uncertainty.

[47] Instability index for FER decreased from 26.76 in pre-reform period to 16.16 during post-reform period (i.e. by 10.60). FCA registered a fall in instability index from 22.52 in pre-reform period to 21.30 during post-reform period (i.e. by 1.22). Similarly, instability index for TOT fell from 11.70 in pre-reform to 10.40 in post-reform period and ITOT recorded a lower instability from 10.50 in pre-reform period to 9.50 in post-reform period.

Further, an insight in the reform period displays a different picture. Export instability has increased from 3.88 in adjustment period to 7.56 during post-adjustment period (i.e. by 3.68). Similarly, instability Index for other variables and ratios such as Imports, Terms of trade, Income terms of trade, ratio of exports to GDP, imports to GDP, exports industrialization rate depicted an increase in post adjustment period against adjustment period. This shows that initial years of reform were better than the latter years in terms of stability in external sector. The only satisfaction is the falling instability of variables such as FER, FCA, ratio of export to import (X/IM) and foreign exchange reserves to imports (FER/IM). This shows the stability in meeting the imports bills. The overall analysis of external sector instability shows, that external sector has performed better during post-reform period in terms of stability, depicting positive impact of liberalisation on the stability of external sector. However, at the same time, results shows that stability could not be maintained during post-adjustment period.

Nevertheless, to come to a proper conclusion about the impact of reforms on external sector variables it will be more appropriate to relate growth with instability. A combined examination of the relationship between the growth and instability of all selected external sector variables will also indicate four different possibilities as mentioned earlier. This has been summarised below:

External sector variables & ratios	Possibility	Situation
FER, FCA, X/IM, FER/IM.	First	Unfavorable
X,IM,TOT,ITOT,X/GDP,IM/GDP, MX/X	Second	Unfavorable
Nil	Third	Unfavorable
Nil	Fourth	Favorable

Source: Compiled from Table 3.6.

Thus, majority of the variables attain either the possibility one or two that is lower growth and lower instability or lower growth with higher instability. The combine result of the instability and growth during post-adjustment period shows that none of the external sector variables and ratios has been able to achieve the favorable possibility i.e. possibility number four. This shows that during the adjustment years, reforms have lost its direction and this trend is not in favourable for a country like India, which has embarked on the path of high growth.

3.5 CONCLUSION

In this chapter the impact of reforms on the selected macroeconomic and external sector, variables have been examined. The policy of economic reforms appears to have a mixed result. It has led to higher rate of growth of GDP and per capita income (NNPp.c) during the post-reform period. Further, the changes in macro-economic policy and freeing of rigid regulatory mechanism have also led to increased flow of FER. Which has resulted in building up of a comfortable foreign exchange situation and reserves? The economic reforms have also succeeded in restoring the confidence of foreign investors. Moreover, Indian exports also registered higher growth along with GDP. Instability index for GDP and exports also indicates stability during the post-reform period.

However, the findings during the post-adjustment period indicate higher growth of GDP, NNP and NNPp.c, but this growth is associated with higher instability. This high instability cast a doubt over the credibility of the reform process. Not only have this but, majority of the external sector variables shown lower growth with higher instability. To sum up both economic growth as well as external sector failed to achieve growth with stability in the post-adjustment period.

Not only this, even exports have failed to register higher growth. This is a matter of great concern. In other words, reforms initiated since 1991 has failed to achieve its main objective of growth with stability. This requires the identification of the reason behind this failure. Thus, there is a need to identify the region, country and commodity responsible for this dismal performance of exports during the latter part of the reforms. This is attempted in the next chapters.

TABLE 3.1

MACROECONOMIC VARIABLES: GROWTH RATE

GDPfc & its Components	1980-81 to 1990-91	1991-92 to 2006-07			1980-81 to 2006-07
		1991-92 to 1995-96	1996-97 to 2006-07	Overall	
C1	3.13*	3.57*	2.51	2.83	3.00*
C2	3.23*	3.56*	2.25	2.70	2.97*
C3	6.51*	8.60*	5.98**	6.29	6.17*
C4	7.70*	4.50*	4.77	4.61*	5.57*
C5	6.03*	9.46*	6.32**	6.67	6.15*
C6	8.73*	7.81*	4.90*	5.58*	7.04*
C7	6.43*	6.68*	8.62**	8.17*	7.22*
C8	4.33*	3.65*	9.72*	7.85*	6.14*
C9	5.94*	8.76*	9.76	9.30*	7.64*
C10	9.22*	7.18*	8.34	8.01*	8.36*
C11	6.24*	4.67	6.46**	6.64	6.18
GDP fc	5.29*	6.15*	6.69	6.48*	5.83*
NNPfc	5.09*	6.22*	6.26	6.25*	5.64*
NNPfc(P.C)	2.88*	4.08*	4.45	4.33*	3.58*

(*): Significant at the 1% level, (**): Significant at the 5% level.

Source: Calculated form the data *Hand Book of Statistics on Indian Economy* (RBI), 2008-09.

TABLE 3.2

MACROECONOMIC VARIABLES: INSTABILITY INDEX

GDPfc & its Components	1980-81 to 1990-91	1991-92 to 2006-07		Overall	1980-81 to 2006-07
		1991-92 to 1995-96	1996-97 to 2006-07		
C1	4.97	2.66	4.88	4.58	4.76
C2	5.37	2.89	5.38	5.01	5.18
C3	1.93	3.46	2.59	3.02	2.9
C4	4.55	3.33	2.67	2.98	4.07
C5	2.26	4.16	3.32	3.8	3.68
C6	1.41	0.96	1.93	1.94	2.17
C7	0.97	1.55	1.54	1.71	1.74
C8	4.60	2.06	3.67	4.35	4.68
C9	0.92	2.72	1.62	1.97	2.41
C10	1.59	2.60	2.60	2.65	2.32
C11	1.73	1.82	2.21	2.21	2.13
GDP fc	1.73	1.82	1.89	1.63	2.13
NNPfc	2.2	0.68	2.06	1.77	2.24
NNPfc(P.C)	2.24	0.70	2.17	1.87	2.35

Calculated by Coppock's method.

Source: *Hand Book of Statistics on Indian Economy* (RBI), 2008-09.

TABLE 3.3

MACROECONOMIC VARIABLES: INSTABILITY INDEX AND GROWTH RATE

GDPfc & its Components		1980-81 to 1990-91	1991-92 to 2006-07: 1991-92 to 1995-96	1991-92 to 2006-07: 1996-97 to 2006-07	Overall	1980-81 to 2006-07
C1	Instability.I	4.97	2.66	4.88	4.58	4.76
	Growth rate	3.13*	3.57*	2.51	2.83	3.00*
C2	Instability.I	5.37	2.89	5.38	5.01	5.18
	Growth rate	3.23*	3.56*	2.25	2.70	2.97*
C3	Instability.I	1.93	3.46	2.59	3.02	2.9
	Growth rate	6.51*	8.60*	5.98**	6.29	6.17*
C4	Instability.I	4.55	3.33	2.67	2.98	4.07
	Growth rate	7.70*	4.50*	4.77	4.61*	5.57*
C5	Instability.I	2.26	4.16	3.32	3.8	3.68
	Growth rate	6.03*	9.46*	6.32**	6.67	6.15*
C6	Instability.I	1.41	0.96	1.93	1.94	2.17
	Growth rate	8.73*	7.81*	4.90*	5.58*	7.04*
C7	Instability.I	0.97	1.55	1.54	1.71	1.74
	Growth rate	6.43*	6.68*	8.62**	8.17*	7.22*
C8	Instability.I	4.60	2.06	3.67	4.35	4.68
	Growth rate	4.33*	3.65*	9.72*	7.85*	6.14*
C9	Instability.I	0.92	2.72	1.62	1.97	2.41
	Growth rate	5.94*	8.76*	9.76	9.30*	7.64*
C10	Instability.I	1.59	2.60	2.60	2.65	2.32
	Growth rate	9.22*	7.18*	8.34	8.01*	8.36*
C11	Instability.I	1.73	1.82	2.21	2.21	2.13
	Growth rate	6.24*	4.67	6.46**	6.64	6.18
GDP fc	Instability.I	1.98	0.7	1.89	1.63	2.03
	Growth rate	5.29*	6.15*	6.69	6.48*	5.83*
NNPfc	Instability.I	2.2	0.68	2.06	1.77	2.24
	Growth rate	5.09*	6.22*	6.26	6.25*	5.64*
NNPfc(P.C)	Instability.I	2.24	0.70	2.17	1.87	2.35
	Growth rate	2.88*	4.08*	4.45	4.33*	3.58*

Source: Compiled from Table 3.1and 3.2.

(*): Significant at the 1% level, (**): Significant at the 5% level.

TABLE 3.4

EXTERNAL SECTOR VARIABLES: GROWTH RATE

External sector variables	1980-81 to 1990-91	1991-92 to 2006-07			1980-81 to 2006-07
		1991-92 to 1995-96	1996-97 to 2006-07	Overall	
Exports	16.14*	24.55*	17.01**	16.98	19.27*
Imports	12.42*	25.02*	19.07	18.87*	17.85*
FER	6.72*	38.11*	25.97**	25.42*	24.96
FCA	3.42	48.65*	27.35*	28.64*	25.47*
TOT	3.27*	4.70	-0.84**	-0.51*	1.12*
ITOT	9.10	21.70	11.29*	11.05	11.39*
X/GDP	1.70**	7.22*	5.38	4.03**	4.75*
IM/GDP	-1.56**	7.63**	7.23	5.71*	3.50*
X/M	3.31*	-0.38	-1.72	-1.59*	1.21*
FER/IM	-5.07*	10.46	5.8	5.51*	6.03*
Mx/X	3.25*	0.52	-0.97	-0.35*	1.24*
X+IM/GDP	-0.28	7.44*	6.43	4.95*	4.01*

(*): Significant at the 1% level, (**): Significant at the 5% level.

Source: Calculated from the data *Hand Book of Statistics on Indian Economy* (RBI), 2008-09.

TABLE 3.5

EXTERNAL SECTOR VARIABLES: INSTABILITY INDEX

External sector variables	1980-81 to 1990-91	1991-92 to 2006-07			1980-81 to 2006-07
		1991-92 to 1995-96	1996-97 to 2006-07	Overall	
Exports	10.44	3.88	7.56	7.29	8.96
Imports	7.33	6.74	8.73	8.53	8.72
FER	26.76	30.27	6.98	16.16	25.83
FCA	22.52	41.24	6.83	21.30	35.27
TOT	11.70	8.60	10.90	10.40	10.90
ITOT	10.50	5.30	9.10	9.50	9.90
X/GDP	9.93	4.24	7.64	7.07	8.65
IM/GDP	6.14	6.45	7.16	7.21	7.96
X/M	10.12	8.24	7.44	7.42	9.75
FER/IM	27.54	38.51	12.10	21.3	28.07
Mx/X	6.63	2.97	3.15	3.05	4.89
X+IM/GDP	6.16	3.71	6.40	6.12	6.71

Calculated by Coppock's method.

Source: *Hand Book of Statistics on Indian Economy* (RBI), 2008-09.

TABLE 3.6

EXTERNAL SECTOR VARIABLES: INSTABILITY INDEX AND GROWTH RATE

External sector Variables		1980-81 to 1990-91	1991-92 to 2006-07		Overall	1980-81 to 2006-07
			1991-92 to 1995-96	1996-97 to 2006-07		
Exports	Instability.I	10.44	3.88	7.56	7.29	8.96
	Growth rate	16.14*	24.55*	17.01**	16.98	19.27*
Imports	Instability.I	7.33	6.74	8.73	8.53	8.72
	Growth rate	12.42*	25.02*	19.07	18.87*	17.85*
FER	Instability.I	26.76	30.27	6.98	16.16	25.83
	Growth rate	6.72*	38.11*	25.97**	25.42*	24.96
FCA	Instability.I	22.52	41.24	6.83	21.30	35.27
	Growth rate	3.42	48.65*	27.35*	28.64*	25.47*
TOT	Instability.I	11.70	8.60	10.90	10.40	10.90
	Growth rate	3.27*	4.7	-0.84**	-0.51*	1.12*
ITOT	Instability.I	10.50	5.30	9.10	9.50	9.90
	Growth rate	9.10	21.70	11.29*	11.05	11.39*
X/GDP	Instability.I	9.93	4.24	7.64	7.07	8.65
	Growth rate	1.70**	7.22*	5.38	4.03**	4.75*
IM/GDP	Instability.I	6.14	6.45	7.16	7.21	7.96
	Growth rate	-1.56**	7.63**	7.23	5.71*	3.50*
X/M	Instability.I	10.12	8.24	7.44	7.42	9.75
	Growth rate	3.31*	-0.38	-1.72	-1.59*	1.21*
FER/IM	Instability.I	27.54	38.51	12.10	21.3	28.07
	Growth rate	-5.07*	10.46	5.8	5.51*	6.03*
Mx/X	Instability.I	6.63	2.97	3.15	3.05	4.89
	Growth rate	3.25*	0.52	-0.97	-0.35*	1.24*
X+IM/GDP	Instability.I	6.16	3.71	6.40	6.12	6.71
	Growth rate	-0.28	7.44*	6.43	4.95*	4.01*

Source: Compiled from Table 3.4 and 3.5.

(*): Significant at the 1% level, (**): Significant at the 5% level.