FINANCE INDIA
© Indian Institute of Finance
Vol. XXIII No. 3, September 2009
Pages — 975 — 979

Abstract of Doctoral Dissertation

An Empirical Analysis of Balance of Payments of India with reference to Economic Reforms[1]

ASAM NIRMALA DEVI*

I. Introduction

INDIA HAS BEEN following liberalized and open Economic Policies since the advent of comprehensive economic reforms and structural adjustment programme in 1991. The year 1991 is a land mark year in the post-independence economic history of India. It was during this year that the country went through a severe economic crisis, triggered by a serious balance of payments situation. The crisis was converted into an opportunity to introduce some fundamental changes in the content and approach to economic policy. The stabilization policies were aimed at correcting the weaknesses that had developed on the fiscal and the balance of payments fronts. The structural reforms sought to remove the rigidities that had entered into the various segments of the Indian economy. The structural reforms introduced in the early nineties broadly covered the areas of fiscal policy, industrial licensing, foreign trade, foreign investment, exchange rate management and the financial sector. Since then it has been extended to other areas.

An objective appraisal of the performance of the Indian economy over the past decade would lead one to conclude beyond doubt that the Indian economy has done well since the onset of the reform process. Judged by the standard criteria of growth rate of national income, per capita income, savings and investments, diversification of the production base in industry, technological upgradation in different areas, control over hyper inflation, growth of foreign exchange reserves, balance of payments (BOP) position,

1 The Thesis was submitted to Osmania University, Hyderabad in 2005, for the award of Ph.D. Degree, awarded in 2005, under the supervision of Prof. G. Ramakrishna, Professor, Osmania University, The Department of Economics, Hyderabad, Andhra Pradesh, INDIA.

* Faculty, Osmania University, The Department of Economics, Arts College, Hyderabad, Andhra Pradesh 506007, INDIA.

Submitted September 2006; *Accepted* November 2006

the performance of the Indian economy has been quite satisfactory since 1991. This is due to its integration with the global economy in terms of trade openness, the inflows of foreign direct investment and a decline in the trade restrictions.

When we look at the economic performance of the country, the real GDP, which was growing at an average annual rate of 5.8% in 1980s has started growing at 6.0% during 1990s and it stood at 5.4% in 2001-2002 and 6.9% in 2004-05. Agriculture, which was growing at 3.1% during 1980s fell in the beginning of reform period but recovered from 1992-93 and grown at 9.3% in 1996-97. There was again a decline during 1997-98. It rose by 6.6% during 1995-96 to 1998-99, 9.6% in 2003-04. Industrial growth suffered a set-back in the beginning of 1990s due to a decline in agricultural growth, import controls and contraction. However, it has started a recovery and reached a growth rate of 12.7% in 1995-96. Later it started growing at 6.6% during 1995-96 to 1998-99 and 8.2% in 2004-05. This has been attributed to the growth in manufacturing, transport and communications, power and construction. Fiscal and Revenue deficits have shown a decline during 1995-96 to 1998-99 and 2000-04. Inflation has been moderate in recent years. On the external front, the share of trade volume in GDP has risen from 15.6% in 1990-91 to 20.8% in 1999-2000. Foreign Exchange Reserves have risen from US $ 5.8 billion to US $ 42.2 billion during 1990s. It is to be noted that the World Bank has classified India as a less-indebted country. The foreign exchange reserves are increased to 131 billion in December 2004 which are more than our foreign debt. The progress has been significant in terms of human development also. Poverty had declined from 36.0% to 26.6% in 1993-94 to 1999-2000 stood at 28.6% in 2002. The average life expectancy has increased from 50.3 years during 1970-75 to 62.3 years during 1995-2000 and 63.7 years during 2002. Infant mortality rate has declined from 127 per thousand births during 1970-75 to 70 during 1995-2000 and 67 during 2002. The literacy rate has increased from 34.45% in 1971 to 65.38% in 2001 and HDI has increased and it is 0.595 in 2002. Inspite of all this, regional inequalities seem to have widened after liberalization or globalization. Capital flows have been increasing but mainly in the form of portfolio investments and with fewer spillover effects. The current account deficit is increasing year after year. Though there is surplus in recent years, the trade deficits as percentage of GDP were 1.05% in 1990-91 and have risen to 31.5% in 1998-99 and 4% in 2000-01. Current account deficit to GDP has increased from 0.36% to 0.95% during the same period, and it narrowed down to 0.5% of GDP in 2000-01 from 1.1% in 1999-2000.

II. Objective of the Study

i. To review the balance of payment experience of India since 1950-51;
ii. To study the trends and changes in the trends in various components of balance of payments with a special reference to the economic reforms period (i.e., after 1991-92);
iii. To verify the determinants of current account deficits, and
iv. To come out with some policy suggestions.

III. Hypotheses

Hypothesis H1 : *Open policies of India have led to an improvement in the Balance of Payments and its various constituents*

Hypothesis H2 : *There is a structural shift during 1990s in India's Balance of Payments*

Hypothesis H3 : *Growth of GDP will have positive impact on Current Account Surplus*

Hypothesis H4 : *Openness will have a positive impact on Current Account Surplus*

Hypothesis H5 : *The Real Effective Exchange Rate (REER), Foreign Direct Investment (FDI) will have a positive impact on Balance of Payment while Macro Economic Uncertainty (MEU) and External Debt (EDT) will have a negative impact on Current Account Surplus.*

IV. Methodology

This work studied the balance of payments experience of India by dividing the country's experience since independence into three economic regimes. The first period from 1950 to 1975, may be referred to as a closed economy regime. It combines passive export policy of 1950s; export stabilization of 1956-62, an abortive attempt of liberalization 1966-68 and a more restrictive period of 1968-75. The second regime runs from 1975 to 1991, which may be termed as a period of passive liberalization. This consists of selective relaxation of controls 1975-85 and an effort towards liberalization 1985-91. The third regime (1991 onwards) is the paradigm shift towards active liberalization and globalization in terms of structural adjustment programme. The first regime was dominated by socialist, import substitution oriented and public sector dominant policies. During the second period, though India could not make a clean break from the past policies, there was recognition that the policy approach of the previous decades had failed to deliver the goods and a change was needed. The period of liberalization and globalization runs from 1991 to the present. As the name implies, this period saw a major policy shift and a clear, if somewhat halting, move towards free trade and open investment policies.

We have tried to evaluate the trends and changes in India's balance of payments experience in terms for different components of BOP using structural shift analysis between 1950-51 to 2000-01. The structural shift analysis involves estimating a semi-log time trend equation with intercept and slope dummies. The equation is as follows:

$$L_n Y_t = \beta_0 + \beta_1 t + C_1 D_1 + C_2 D_2 + \beta_2 D_1 t + \beta_3 D_2 t + U_t$$

where, $L_n Y_t$ natural log of the variable Y_t

D_1 0 for 1950-51 to 1975-76 and 1992-93 to 1999-2000

1 for 1976-77 to 1991-92

D_2 0 for 1950-51 to 1991-92

1 for 1992-93 to 1999-2000

β_1 growth rate of variable for the period, 1950-51 to 1975-76

β_2 change in the growth rate for the period, 1976-77 to 1991-92

β_3 change in growth rate for the period, 1992-93 to 1999-2000

C_1 & C_2 coefficients

We have used a model to verify whether open policies had any impact on current account deficit, on the lines suggested by Calderon, Chong and Zanforlin (2001). The model may be expressed as follows

$$CAD_t = \beta_0 + \beta_1 GGDP_t + \beta_2 GPS_t + \beta_3 TOT_t + \beta_4 REER_t + \beta_5 OPEN_t + \beta_6 FDI_t + \beta_7 MEU + \beta_8 EDT_{-1t} + U_t$$

where, CAD	current account deficits as a ratio of GDP, CAD>0 (<0) indicate a deficit or surplus.
GGDP	growth of real GDP (+)
GPS	gross public sector saving as a ratio of GDP. Alternatively government expenditure to GDP ratio (GOE) is also tried (+)
TOT	terms of trade, is the ratio of export prices to import prices (+)
REER	real effective exchange rate, is the multilateral real exchange rate (+)
OPEN	Openness measured as (export + imports/ GDP) (+)
EDT	external debt (lagged one year), measured as a ratio of aggregate external debt to GDP (-)
MEU	macro economic uncertainty, computed as the fluctuations in CPI from its trend (-)
FDI	foreign direct investment as a ratio of GDP (+)
U_t	Error term

V. Chapter Scheme

The study is structured into six chapter. The first chapter is on introduction, problem statement, objectives, hypotheses, methodology and the chapter scheme. A brief review of existing literature is also presented. The second chapter is on Review of Literature. In this chapter an attempt has been made to review the theory and empirical studies on balance of payments. The third chapter attempts a descriptive analysis of economic reforms and India's experience with balance of payments. The fourth chapter studies the trends in various components of India's balance of payments. Simple exponential growth trend models with slope dummies are used to study the trends and the changes in the trends in the balance of payments and its constituents. The fifth chapter is on India's Balance of Payments on current account and the determinants of India's balance of payments. An attempt has been made in this chapter to identify the factors influencing India's current account deficits using a multiple regression model. The sixth chapter comes out with the summary and conclusion.

VI. Conclusions

The structural shift analysis on the growth rates of BOP indicate that except for two variables all the components of BOP have shown a statistically significant change in their growth rates during liberalization

- India's exports and imports have risen by significant growth rates during the liberalisation period. However trade deficit continued.

- Earnings from invisibles have grown significantly during this period.
- India's current account deficit has increased during liberalisation period.
- Foreign investments and the foreign exchange reserves have risen.

The empirical model on determinants of India's current account balance underscores the importance of open policies in influencing current account deficits in India. Based on empirical findings it may be concluded that

- Globalisation (OPEN), which is measured as a ratio of trade volume to GDP has positive impact on current account balances. This indicates the importance of open policies in addressing balance of payment deficits in India.
- The real effective exchange rate (REER) influences the current account balances positively indicating that Indian exports are price sensitive.
- India's current account balance are also positively linked to public savings. This justifies the need for continuing fiscal consolidation as one of the correcting measures of current account deficits in India.
- India's current account balances are negatively associated with macro economic uncertainty. This reveals the need for minimizing such uncertainties.
- Contrary to the expectations, economic growth, terms of trade and foreign direct investment had no significant impact (though, they had relevant signs) on current account balances of India.

Based on the empirical findings it may be concluded that India should continue and intensify the reform process that has been started in 1991. The future policy should aim at improving exports the required impetus for further liberalizing and concentrating on supply factors. Exchange rate being an important variable in influencing current account balances, it should be allowed to be freely flexible and at the same time the fluctuations need to be avoided through the intervention of RBI.