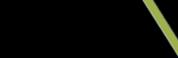
RAJA CHELLIAH MEMORIAL LECTURE SERIES



5

ISSUES IN INDIA'S External sector

DR. C. RANGARAJAN

Former Chairman, Economic Advisory Council to the Prime Minister and Former Governor, Reserve Bank of India

13th March, 2015

NiZFP

National Institute of Public Finance and Policy New Delhi

Dr. C. Rangarajan

Former Chairman, Economic Advisory Council to the Prime Minister and Former Governor, Reserve Bank of India

*5th Dr. Raja J. Chelliah Annual Memorial Lecture at the National Institute of Public Finance and Policy, New Delhi, delivered on March 13, 2015.

I am indeed grateful to National Institute of Public Finance and Policy for inviting me to deliver the Raja J. Chelliah Memorial Lecture. Dr. Raja J. Chelliah was one of India's outstanding economists. He gave shape to the discipline of public finance in India. He steered the policy makers in the direction of tax reforms. In the post-liberalisation period, India's tax structure underwent radical changes. Dr. Chelliah gave intellectual support to the reform agenda. He advocated low rates, a wider base, and fewer exemptions which constitute today the key ingredients of the direct tax reform programmes. Introduction of VAT in the case of indirect taxes owes much to Dr. Chelliah's initiatives. Through his various writings and reports of committees which he chaired, he laid the foundation for a radical transformation of India's tax system. Besides being a leading economist, he promoted the study of Economics as a discipline by setting up two important institutions-National Institute of Public Finance and Policy and Madras School of Economics.

In this lecture devoted to the memory of Dr. Raja J. Chelliah, I shall examine the recent developments in the external sector and address some critical issues such as the appropriate level of current account deficit, exchange rate policy, adequacy of reserves and policy on capital flows.

EXTERNAL SECTOR LIBERALIZATION

As we embarked on a period of planning after independence, import substitution constituted a major component of India's trade and industrial policies. Planners, more or less, chose to ignore the option of foreign trade as a stimulant of India's economic growth. This was primarily due to the highly pessimistic view taken on the potential of export earnings. A further impetus to the inward orientation was provided by the existence of a vast domestic market. In retrospect, it is now clear that the policy-makers underestimated not only the export possibilities but also the import intensity of the import substitution process itself. As a consequence, India's share of total world exports declined from 1.91 per cent in 1950 to about 0.53 per cent in 1992. The inward looking industrialization process resulted in high rates of industrial growth between 1956 and 1966. However, several weaknesses of such a process of industrialization soon became evident, as inefficiencies crept into the system and the economy turned into an increasingly 'high-cost' one. Over a period of time this led to a 'technological lag' and also resulted in poor export performance (Rangarajan, 2001).

While, over the course of time, some change in the attitude towards exports became perceptible, it will be appropriate to say that until the end of the 1970s import substitution over a wide area of production remained the basic premise of India's development strategy.

I am thankful to Ms. S. Keerthana for her assistance in the preparation of the paper.

The big change occurred in the early 1990's as part of the liberalization programme. Quantitative restrictions on imports were knocked down step by step. All import licensing lists were eliminated and a 'negative' list was established. Except consumer goods, almost all capital and intermediate goods could be freely imported subject to tariffs. Alongside, the import tariff rates were steadily brought down. According to a study, the weighted mean of tariff rates on manufactured products came down from 76.3 per cent in 1990 to 31.5 per cent in 2000 and by 2009, it is estimated to have come down to 8.3 per cent. Even the simple mean tariff rate on manufactured products as of 2009 came down to 10.2 per cent (World Bank, 2014).

The second important change occurred with respect to the exchange rate regime. After all, the crisis of 1991 was triggered by a severe balance of payments problem. The rupee was devalued substantially in July 1991. But the most important thing was that the exchange rate regime itself underwent a basic change. In March 1992, a dual exchange rate regime was introduced. All foreign exchange receipts were required to be surrendered to authorized dealers of foreign exchange who in turn surrendered to the Reserve Bank of India 40 per cent of their purchases of foreign currency at official exchange rate announced by the central bank. The balance 60 per cent was to be retained for sale in the free market. However, within a short period of one year i.e. by March 1993, India moved from the dual exchange tariff rate to a single market determined exchange rate system (RBI, 2013). This followed the recommendations made by the High Level Committee on Balance of Payments of which I was the Chairman (Government of India, 1993). The market determined exchange rate system does not preclude interventions by the central bank. Almost all central banks particularly in developing countries do to guide the rate. The new system has stood the country in good stead, even though there were great fears and trepidations at the time when it was introduced. The Indian currency became convertible on current account in 1994.

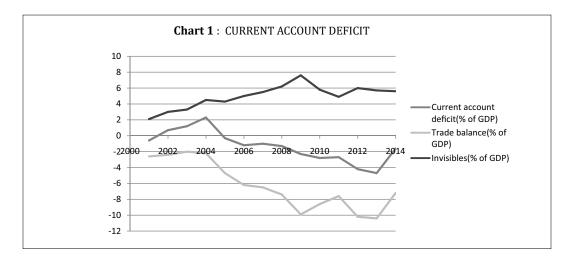
The third important change occurred with respect to the financing of the current account deficit and that is with respect to capital flows. Prior to 1991, the major source of financing the current account deficit was multilateral and bilateral assistance, external commercial borrowing to a limited extent and NRI deposits. The attitude towards foreign direct investment and portfolio investment was restrictive. In fact, the then existing regulations did not permit foreign investors to have majority ownership in Indian companies. All these changed in the wake of the liberalization process. The foreign direct investment is now permitted over a number of sectors where the foreign ownership can be as high as 100 per cent. The sectorial caps however continue to exist. With respect to portfolio investment, the regulators recognize certain institutions as authorized Financial Institutional Investors (FIIs) and permit them to make investments in the Indian stock market. This was a new opening. Thus the new trade regime combined with changes in the exchange rate regime and the flow of capital has completely altered the contours of Indian external sector. It can be claimed that India's balance of payments has never been as comfortable as it has been since 1992-93 except for short hiccups in 2008 and 2013.

Prior to 1992-93, the balance of payments crisis was chronic. India had to approach IMF periodically. It went to IMF in 1981 for an Extended Fund Facility. A decade later in 1991, it had to seek assistance from IMF.

DEVELOPMENTS IN THE EXTERNAL SECTOR

Current Account Deficit

Let me review briefly the developments of the external sector over the last few decades (Chart 1). India's current account deficit in 1991 was 3 per cent of GDP (Table 1). But the problem at that time was not only the high level of current account deficit but the inability to finance that deficit. With the down-grading of the rating of India, it became difficult to roll over short term credit. Other sources of finance also dried up. Even NRI deposits started flowing out. After the reform measures were introduced, the current account deficit came down and by 1995-96 it was 1.6 per cent of GDP. Looking at the period since 2001, it is seen that between 2001 and 2008 India's current account deficit was well below 2 per cent of GDP except in one year. At least there were two years when there was a modest current account surplus. The merchandise trade deficit started rising after 2005 but because of the sharp increase in invisibles as percentage of GDP the current account deficit as a proportion to GDP continued to remain modest. Throughout this period of 2001-08, transfers ranged between 2.5 per cent and 3.5 per cent of GDP. The surplus under services started rising only from 2003-04. Thus the period 2001-08 was extremely comfortable from the point of view of current account deficit. Increase in merchandise trade deficit after 2004-05 was moderated by a substantial increase in the surplus on the invisibles. Between 2000-01 and 2007-08 exports increased from \$45.5 billion to \$166 billion giving an annual rate of growth of 17.5 per cent. The pickup in exports was sharp and as a consequence India's share in world exports increased from 0.7 percent in 2001 to 1.2 per cent in 2007-08. But simultaneously the pickup in imports was also strong and the imports increased from \$58 billion in 2001 to \$258 billion in 2007-08 giving an annual rate of growth of 20.5 per cent. The import of oil was significant. It rose from \$16 billion in



ā
5
of GD
centage
as
and
tt (in billions of dollars) and as perc
of
billions o
(in b
Current accoun
;;
Table 1

Ч

	1990- 91	% of GDP	1995- 96	% of GDP	2000- 01	% of GDP	2001- 02	% of GDP	2002- 03	% of GDP	2003- 04	% of GDP	2004- 05	% of GDP	2005- 06	% of GDP
Current account (1+2)	-9.7	-3.0	-5.9	-1.6	-2.7	9.0-	3.4	0.7	6.3	1.2	14.1	2.3	- 2.5	-0.3	6'6-	-1.2
1.Merchandise trade balance	-9.4	-2.9	-11.4	-3.1	- 12.5	-2.6	-11.6	-2.4	-10.7	-2.0	-13.7	-2.2	-33.7	-4.7	-51.9	-6.2
1.a Merchandise exports	18.5	5.7	32.3	8.8	45.5	9.6	44.7	9.1	53.8	10.3	66.3	10.7	85.2	11.8	105.2	12.6
1.b Merchandise imports	27.9	8.5	43.7	11.9	57.9	12.2	56.3	11.4	64.5	12.3	80.0	12.9	118.9	16.5	157.1	18.8
2. Invisibles (2a+2b+2c)	-0.2	-0.1	5.4	1.5	9.8	2.1	15.0	3.0	17.0	3.3	27.8	4.5	31.2	4.3	42.0	5.0
2.a Non-factor services balance	1.0	0.3	-0.2	-0.1	1.7	0.4	3.3	0.7	3.6	0.7	10.1	1.6	15.4	2.1	23.2	2.8
2.b Net investment income	-3.8	-1.2	-3.2	6.0-	-5.0	-1.1	-4.2	6.0-	-3.4	-0.7	-4.5	-0.7	-5.0	-0.7	-5.9	-0.7
2.c Transfers, net	2.5	0.8	8.9	2.4	13.1	2.8	15.9	3.2	16.8	3.2	22.2	3.6	20.8	2.9	24.7	3.0
Memorandum items Gross Domestic Product (US \$ billion)	327.0		367.0		475.0		493.0		523.0		618.0		721.0		837.0	

	2006- 07	% of GDP	2007- 08	% of GDP	2008- 09	% of GDP	2009- 10	% of GDP	2010- 11	% of GDP	2011- 12	% of GDP	2012- 13	% of GDP	2013- 14	% of GDP
Current account (1+2)	9.6-	-1.0	-15.7	-1.3	-27.9	-2.3	-38.2	-2.8	-45.9	-2.7	-78.2	-4.2	-88.2	-4.7	-32.4	-1.6
1.Merchandise trade balance	-61.8	-6.5	-91.5	-7.4	-119.5	6.6-	-118.2	-8.6	-130.6	-7.6	-189.8	-10.2	-195.7	-10.4	-147.6	-7.2
1.a Merchandise exports	128.9	13.6	166.2	13.5	189.0	15.6	182.4	13.2	250.5	14.5	309.8	16.6	306.6	16.3	318.6	15.6
1.b Merchandise imports	190.7	20.1	257.6	21.0	308.5	25.5	300.6	21.8	381.1	22.0	499.5	26.8	502.2	26.8	466.2	22.8
2. Invisibles (2a+2b+2c)	52.2	5.5	75.7	6.2	91.6	7.6	80.0	5.8	84.6	4.9	111.6	6.0	107.5	5.7	115.2	5.6
2.a Non-factor services balance	29.5	3.1	38.9	3.2	53.9	4.5	36.0	2.6	48.8	2.8	64.1	3.4	64.9	3.5	73.0	3.6
2.b Net investment income	-7.3	-0.8	-5.1	-0.4	-7.1	-0.6	-8.0	-0.6	-17.3	-1.0	-16.0	-0.9	-21.5	-1.1	-23.0	-1.1
2.c Transfers, net	30.1	3.2	41.9	3.4	44.8	3.7	52.0	3.8	53.1	3.1	63.5	3.4	64.0	3.4	65.3	3.2
Memorandum items Gross Domestic Product (US \$ billion)	947.0		1229.0		1210.0		1381.0		1729.0		1861.0		1876.8		2047.8	

8 issues in india's external sector

2001-02 to \$80 billion in 2007-08. Despite a strong export performance, the trade deficit as a proportion of GDP widened because of increase in imports.

India's current account deficit started rising from 2008-09 but the real big jump happened between 2010-11 and 2011-12 when the current account deficit rose from 2.7 per cent of GDP to 4.2 per cent of GDP. That was indeed the critical turning point. Trade deficit, which was already at a high level of 7.6 per cent of GDP in 2010-11, shot up to 10.2 per cent of GDP in 2011-12. This happened despite a 20 per cent increase in exports. Merchandise imports jumped by almost \$100 billion. The oil bill rose by 50 per cent from \$106 billion to \$155 billion (Table 2). This was because of the sharp increase both in quantity and price. The other significant factor that contributed to the increase in imports was gold. The value of gold imports increased from \$41 billion in 2010-11 to \$57 billion in 2011-12. It is interesting to note that gold imports had not exceeded \$30 billion till 2009-10.

The position worsened in 2012-13 when the current account deficit rose to 4.7 per cent of GDP. There was no growth in exports. Imports showed some increase. Gold imports remained high at \$54 billion. In absolute amount the current account deficit was \$88.2 billion. This has been the highest current account deficit we had seen. There was, however, no panic because the capital flows were adequate to cover the deficit. In fact, there was some accretion to the reserves of the order of \$3.8 billion.

The year 2013-14 was a year of awakening. The rupee came under severe pressure, after May 22, 2013 when the Federal Reserve indicated the tapering of its extraordinary monetary measures for the first time. Between May and August of 2013, the rupee depreciated by 24.0 per cent. Of course, it recovered later because of the change in the international environment and policy actions taken. The pressure on the rupee came because of the decline in capital flows. FII flows in the months of June, July and August turned negative to the order of \$13 billion. The statement of the Fed indicating a positive outlook on the US economy affected capital flows not only to India but also to the entire emerging economies, as FIIs moved their investments back to the US. The sudden withdrawal of the capital flows affected the currency in almost every emerging market including Turkey, South Africa, Indonesia and Brazil. After September 2013, when US Fed announced a phased programme of tapering, FII flows turned positive. Government and RBI took a variety of measures to attract inflows and compress imports particularly gold which had a decisive effect on the current account. In the meanwhile, India's trade accounts started showing improvement. Exports rose by 4 per cent while imports declined by 8 per cent. Of the decline in trade deficit of \$48.0 billion, 47 per cent was contributed by the decline in imports of gold. In quantity terms, decline in imports was from 1013 tonnes to 661 tonnes in the previous year (Table 3). Surplus on net invisibles showed an increase. The combined effect was a sharp decline in current account deficit. It came down to 1.7 per cent of GDP. With the steady increase in capital flows, there was an accretion to the foreign exchange reserve by \$15.5 billion.

Table 2: Import of major five principal commodities (US \$ billion)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Petroleum, Crude and Products	6.39	12.61	15.65	14.00	17.64	20.56	29.84	43.96	56.94	79.64	93.67	87.13	105.96	154.96	164.04	165.15
Electronic Goods	2.22	2.79	3.50	3.78	5.59	7.50	66.6	13.24	15.97	20.21	23.33	20.95	26.56	32.65	31.42	30.96
Coal, Coke and Briquittes, etc.	0.98	1.00	1.10	1.14	1.24	1.41	3.19	3.86	4.57	6.42	66.6	8.96	9.80	17.44	17.00	16.40
Gold		4.15	4.12	4.17	3.84	6.51	10.53	10.83	14.46	16.72	20.72	28.81	40.65	56.50	53.81	52.70
Machinery except Electrical and Electronic	3.04	2.74	2.70	2.97	3.56	4.74	6.81	10.01	13.85	19.86	21.60	19.68	23.84	30.11	27.61	23.62

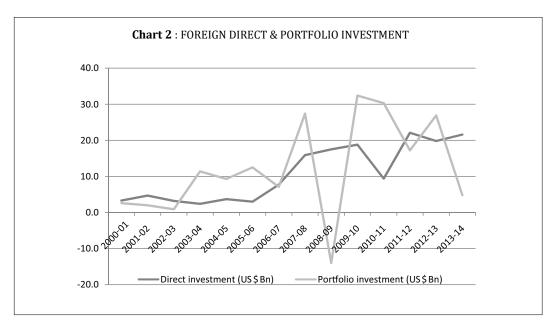
Table 3: Import of gold and export of gold jewellery

Imnort of		1999- 2000	2000- 2001	2001- 2002	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012	2012- 2013	2013- 2014
gold(including gold plated with platinum) unwroursht or in	Quantity in 000°	471.57	471.21	471.41	606.66	766.60	782.86	723.78	715.81	698.41	771.04	851.02	969.73	1078.35	1013.00	661.71
semi manufactured forms/in powder form	Values in US \$ Billion	4.15	4.16	4.17	3.84	6.51	10.53	10.83	14.47	16.60	21.32	28.81	40.65	56.50	53.82	52.70
Export of jewellery of gold unset	Quantity (KGS) Quantity in Thousands					75.73	58.07	44.68	63.26	38.10	137.83	68.15	60.52	91.60	97.18	107.57
)	Values in US \$ Billion					0.75	0.71	0.68	0.77	0.83	2.32	2.27	2.83	4.07	4.99	4.59

The improvements in the Balance of Payments continued through 2014-15. Trade data are available for the period April 2014 – January 2015. During this period, exports grew by 2.4 per cent and imports increased by 2.2 per cent. As a consequence, trade deficit remains more or less the same as last year. The capital flows have remained buoyant. During the period April – September, the accretion to reserve was \$18 billion as against \$10 billion in the corresponding period of last year. The movement of exports has not been steady. While for example in November 2014 exports grew by 7.3 per cent, both in December 2014 and January 2015 exports have declined. Gold imports are slightly higher while oil imports have shown a substantial decline. During April – January 2014-15, oil imports were 7.9 per cent lower than the imports during the corresponding period of last year. Oil imports started declining only from August 2014 and therefore for the year as a whole, there will be a substantial reduction in the value of oil imports. We should expect the year 2014-15 to end up with a current account deficit of around 1.4 per cent of GDP.

Capital Account

The capital flows indicate how the current account deficit is being financed (Chart 2). As mentioned earlier, the quantum and composition of capital flows underwent a big change. Prior to 1990-91, foreign direct investment and portfolio investment were practically nonexistent (Table 4). But by 2012-13 when the capital flows touched the peak of \$89 billion, foreign direct investment constituted 20 per cent of the total inflows and portfolio investment 30 per cent. Non-Resident Deposits contributed 15 per cent and loans around 35 per cent. Direct foreign investment shows almost a steady increase from 2000-01. While there are annual variations, they have been within a narrow range with a steady upward trend. Interestingly even in 2008-09 when the developed world was caught in the financial crisis, foreign direct investment stood as high as \$17.5 billion. On the other



hand, FII inflows while increasing steadily from \$2.6 billion in 2000-01 to \$126.9 billion in 2012-13, have shown significant variations in annual flows. In 2008-09, there was an outflow of \$14 billion. In 2013-14, as mentioned earlier, there were severe outflows in several months and the overall inflows during the year came to \$4.8 billion. Non-Resident Deposits have again fluctuated within a narrow range. However, there has been a strong pickup since 2011-12. The very large increase in Non-Resident Deposits in 2013-14 was because of the special swap facilities.

EXTERNAL SECTOR MANAGEMENT

Exports and Imports

In the light of the developments that we have noted in relation to India's Balance of Payments, what lessons can we draw with respect to external sector management? Before going into the critical issues with respect to external sector stability, a few remarks on export prospects and import trends may be in order. As mentioned earlier, export growth between 2002-03 and 2008-09 was very impressive. Throughout this period, the annual growth rate in value of exports exceeded 20 per cent. Under the impact of the financial crisis and slow growth in the developed world, exports slowed down in 2008-09 and 2009-10. The pickup in 2010-11 was very strong when exports grew by 40 per cent. This was followed by another year of expansion by 21 per cent. After that, export growth has slowed down. Even in the current year, as indicated earlier, growth rate is modest at 2.3 per cent. A pickup in exports is imperative. At a macro level, India's exports are influenced largely by the trends in the world output. Petroleum products which constituted 20 per cent of India's exports may come down in value terms at least in the coming few years. Of course, India is a heavy net importer of oil and therefore the impact of reduction in oil prices taking exports and imports together will be favourable. Besides improving the competitiveness of our exports, new markets must be explored. The direction of trade must shift towards countries which are growing faster. Maintaining price stability is also a key to ensuring our competitiveness.

India's imports will rise as the economy grows faster. But there are some products which have shown an extraordinary increase and they need to be watched. As mentioned earlier, there has been a steady increase in the import of petroleum products. Thanks to the recent reduction in oil price, this may be a less of an area of concern for the next few years. But the reduction in oil price may not be permanent. In a few years from now, supply and demand will find a new equilibrium and there can be an increase in price. The extraordinary increase in the gold imports has already been referred to. The desire for gold is part of the psyche of the Indian society. It takes time to bring about attitudinal changes. However, the sudden increase in the import of gold is also attributable to high inflation in India and inadequate return on financial assets as compared with gold holding. The present customs duty on gold is reasonable. As inflation comes down, one can see a reduction in the import of gold. The other two products in relation to which one sees a

	1990- 91	% of GDP	1995- 96	% of GDP	2000- 01	% of GDP	2001- 02	% of GDP	2002- 03	% of GDP	2003- 04	% of GDP	2004- 05	% of GDP	2005- 06	% of GDP
Total capital account (1 to 5)	7.1	2.2	4.1	1.1	8.8	1.9	8.6	1.7	10.8	2.1	16.7	2.7	28.0	3.9	25.5	3.0
1. Foreign investment, net	0.1	0.0	4.6	1.3	5.9	1.2	6.7	1.4	4.2	0.8	13.7	2.2	13.0	1.8	15.5	1.9
i. Direct	0.1	0.0	2.0	0.5	3.3	0.7	4.7	1.0	3.2	0.6	2.4	0.4	3.7	0.5	3.0	0.4
ii. Portfolio	0.0	0.0	2.7	0.7	2.6	0.5	2.0	0.4	6.0	0.2	11.4	1.8	9.3	1.3	12.5	1.5
2. Loans(a+b+c), net	5.5	1.7	2.2	0.6	5.3	1.1	-1.3	-0.3	-3.9	-0.7	-4.4	-0.7	10.9	1.5	7.9	0.9
a. External assistance, net	2.2	0.7	6.0	0.2	0.4	0.1	1.1	0.2	-3.1	-0.6	-2.9	-0.5	1.9	0.3	1.7	0.2
b. Commercial borrowings (MT<), net	2.3	0.7	1.3	0.4	4.3	0.9	-1.6	-0.3	-1.7	-0.3	-2.9	-0.5	5.2	0.7	2.5	0.3
c. Short term to India	1.1	0.3	0.0	0.0	0.6	0.1	-0.8	-0.2	1.0	0.2	1.4	0.2	3.8	0.5	3.7	0.4
3. Banking capital (a+b), net	0.7	0.2	0.8	0.2	-2.0	-0.4	2.9	0.6	10.4	2.0	6.0	1.0	3.9	0.5	1.4	0.2
a. Commercial banks	0.9	0.3	0.9	0.2	-1.9	-0.4	2.7	0.5	10.1	1.9	6.5	1.1	4.0	0.6	0.4	0.0
of which: Non-Resident Deposits	1.5	0.5	1.1	0.3	2.3	0.5	2.8	0.6	3.0	0.6	3.6	0.6	-1.0	-0.1	2.8	0.3
b. Others	-0.2	-0.1	-0.2	-0.1	-0.1	0.0	0.2	0.0	0.3	0.1	-0.5	-0.1	-0.1	0.0	0.9	0.1
4. Rupee debt service	-1.2	-0.4	-1.0	-0.3	-0.6	-0.1	-0.5	-0.1	-0.5	-0.1	-0.4	-0.1	-0.4	-0.1	-0.6	-0.1
5. Other capital, net	1.9	0.6	-2.5	-0.7	0.3	0.1	0.8	0.2	0.6	0.1	1.7	0.3	0.7	0.1	1.2	0.1
Monetary movements (i+ii)	2.5	0.8	1.2	0.3	-5.9	-1.2	-11.8	-2.4	-17.0	-3.3	-31.4	-5.1	-26.2	-3.6	-15.1	-1.8
i. IMF	1.2	0.4	-1.7	-0.5	0.0	0.0										
ii. Foreign exchange reserves (Increase-/Decrease+)	1.3	0.4	2.9	0.8	-5.8	-1.2	-11.8	-2.4	-17.0	-3.3	-31.4	-5.1	-26.2	-3.6	-15.1	-1.8
Memorandum items Gross Domestic Product (US \$ billion)	327.0		367.0		475.0		493.0		523.0		618.0		721.0		837.0	

Table 4: Net financial flows to India, select years (in billions of dollars) and as a percentage of GDP

12 ISSUES IN INDIA'S EXTERNAL SECTOR

Table 4: Net financial flows to India, select years (in billions of dollars) and as a percentage of GDP

	2006- 07	% of GDP	2007- 08	% of GDP	2008- 09	% of GDP	2009- 10	% of GDP	2010- 11	% of GDP	2011- 12	% of GDP	2012- 13	% of GDP	2013- 14	% of GDP
Total capital account (1 to 5)	45.2	4.8	106.6	8.7	7.2	0.6	53.4	3.9	62.0	3.6	67.8	3.6	89.4	4.8	48.4	2.4
1. Foreign investment, net	14.8	1.6	43.3	3.5	3.5	0.3	51.2	3.7	39.7	2.3	39.2	2.1	46.7	2.5	26.4	1.3
i. Direct	7.7	0.8	15.9	1.3	17.5	1.4	18.8	1.4	9.4	0.5	22.1	1.2	19.8	1.1	21.6	1.1
ii. Portfolio	7.1	0.7	27.4	2.2	-14.0	-1.2	32.4	2.3	30.3	1.8	17.2	0.9	26.9	1.4	4.8	0.2
2. Loans(a+b+c), net	24.5	2.6	40.7	3.3	8.7	0.7	13.3	1.0	28.4	1.6	19.3	1.0	31.1	1.7	7.8	0.4
a. External assistance, net	1.8	0.2	2.1	0.2	2.6	0.2	2.9	0.2	4.9	0.3	2.3	0.1	1.0	0.1	1.0	0.0
b. Commercial borrowings (MT<), net	16.1	1.7	22.6	1.8	7.9	0.7	2.8	0.2	12.5	0.7	10.3	0.6	8.5	0.5	11.8	0.6
c. Short term to India	6.6	0.7	15.9	1.3	-1.9	-0.2	7.6	0.6	11.0	0.6	6.7	0.4	21.7	1.2	-5.0	-0.2
3. Banking capital (a+b), net	1.9	0.2	11.8	1.0	-3.2	-0.3	2.1	0.2	5.0	0.3	16.2	0.9	16.6	0.9	25.0	1.2
a. Commercial banks	1.6	0.2	12.1	1.0	-2.8	-0.2	1.9	0.1	4.4	0.3	16.0	0.9	16.1	0.9	38.9	1.9
of which: Non-Resident Deposits	4.3	0.5	0.2	0.0	4.3	0.4	2.9	0.2	3.2	0.2	11.9	0.6	14.8	0.8	38.9	1.9
b. Others	0.3	0.0	-0.4	0.0	-0.5	0.0	0.2	0.0	0.5	0.0	0.2	0.0				
4. Rupee debt service	-0.2	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0	-0.1	0.0				
5. Other capital, net	4.2	0.4	11.0	0.9	-1.5	-0.1	-13.0	6.0-	-11.0	-0.6	-6.9	-0.4	-5.0	-0.3	-10.8	-0.5
Monetary movements (i+ii)	-36.6	-3.9	-92.2	-7.5	20.1	1.7	-13.4	-1.0	-13.1	-0.8	12.8	0.7	-3.8	-0.2	-15.5	-0.8
i. IMF													0.0	0.0	0.0	
ii. Foreign exchange reserves (Increase-/Decrease+)	-36.6	-3.9	-92.2	-7.5	20.1	1.7	-13.4	-1.0	-13.1	-0.8	12.8	0.7	-3.8	-0.2	-15.5	-0.8
Memorandum items Gross Domestic Product (US \$ billion)	947.0		1229.0		1210.0		1381.0		1729.0		1861.0		1876.8		2047.8	

very rapid increase in imports are coal and electronic goods. The value of coal imports has steadily increased from an extremely low level of \$1 billion in 2000-01 to \$16 billion in 2013-14. The domestic production of coal over the last several years has not kept pace with the increase in demand. A serious effort is needed to ensure that domestic coal production keeps increasing at an appropriate level. With the extensive use of electronic goods including mobile phones, the imports of electronic goods have increased from \$3.5 billion in 2000-01 to \$31 billion in 2013-14. A strong domestic base for the production of electronic goods needs to be created because the demand for such goods will increase as income increases.

Level of Current Account Deficit

In managing the external sector, a critical question that arises is the appropriate level of current account deficit. What is the level of deficit beyond which the country should get worried? In short, is there a sustainable level of current account deficit? Some people may dismiss this question as irrelevant saying that whatever level of deficit that can be conveniently financed would be appropriate. In my earlier paper with Prachi Mishra, we had estimated using the external sustainability model developed by IMF that the sustainable current account deficit is 2.3 per cent of GDP (Rangarajan and Mishra, 2013). Of course, the sustainable level depends critically on the assumed level of growth of nominal income and the acceptable benchmark level of net foreign assets. It is best to look at the issue in terms of consequences of a high level of current account deficit. As high deficits continue to accumulate, the external liabilities keep rising at a faster rate and the outflows in terms of interest and dividends begin to rise. This has an impact on the current account itself. Therefore, one must look at interest payments and dividend payouts as a proportion of the total receipts as a measure to determine the level of comfort. Second, current account deficit must be kept at a level that can be financed without undue stress. As pointed out earlier, the problem in 1991 was one of inability to finance the current account deficit.

India's current account deficit as we have seen already in the recent period has been on an average around 2 per cent of GDP. 2011-12 and 2012-13 were abrasions. The debt indicators (International Monetary Fund, 2000) have shown improvement. The debt service ratio was as high as 35.3 per cent in 1991 (Table 5). As of 2013-14, it is 5.9 per cent. The ratio of foreign exchange reserves to total debt as of 2013-14 was 68.8 per cent as compared to 7 per cent in 1991. However, it has come down from the peak of 138 per cent in 2007-08. The debits under investment income comprise primarily of interest payments and dividend outflows. As of 2013-14, the two together amounted to \$39.4 billion which was only 7.3 per cent of the total exports of goods and services.

Let us look at the issue from the angle of financiability of current account deficit. A current account deficit of the order of 2 to 2.5 per cent of GDP would mean \$40-50 billion. Can this level of deficit be ordinarily financed? This required inflow constitutes only 4 to 5 per cent of the total capital flows to emerging market economies and as such should not

Table 5: India's key external debt indicators

		1991	1996	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
External Debt	(US \$ billion)	83.8	93.7	101.3	98.8	104.9	112.6	134	139.1	172.4	224.4	224.5	260.9	317.9	360.8	409.4	442.2
Ratio of External Debt to GDP	(per cent)	28.7	27	22.5	21.1	20.3	18	18.1	16.8	17.5	18	20.3	18.2	18.2	20.5	22	23.4
Debt Service Ratio	(per cent)	35.3	26.2	16.6	13.7	16.0*	16.1**	5.9^	10.1#	4.7	4.8	4.4	5.8	4.4	9	5.9	5.9
Ratio of Foreign Exchange Reserves to Total Debt	(per cent)	7	23.1	41.7	54.7	72.5	100.3	105.6	109	115.6	138	112.2	106.9	95.9	81.6	71.3	68.8
Ratio of Concessional Debt to Total Debt	(per cent)	45.9	44.7	35.4	35.9	36.8	35.8	30.7	28.4	23	19.7	18.7	16.8	14.9	13.3	11.1	10.5
Ratio of Short-Term Debt to Foreign Exchange Reserves	(per cent)	146.5	23.2	8.6	5.1	6.1	3.9	12.5	12.9	14.1	14.8	17.2	18.8	21.3	26.6	33.1	29.3
Ratio of Short- Term Debt to Total Debt	(per cent)	10.2	5.4	3.6	2.8	4.5	3.9	13.2	14	16.3	20.4	19.3	20.1	20.4	21.7	23.6	20.2

P: Provisional. PR: Partially Revised. R: Revised

*: Works out to 12.4 per cent, with the exclusion of pre payment of external debt of US\$ 3,430 million. **: Works out to 8.2 per cent with the exclusion of pre payment of external debt of US\$ 3,797 million and redemption of Resurgent India Bonds (RIBs) of US\$ 5,549 million. ^: Works out to 5.7 per cent with the exclusion of pre payment of external debt of US\$ 3,797 million. #: Works out to 6.3 per cent with the exclusion of India Millennium Deposits (IMDs) repayments of US\$ 7.1 billion and pre payment of external debt of US\$ 23.5 million. Source: Economic survey

pose a problem (Institute of International Finance, 2015). However, vulnerability comes from fluctuations in capital flows. Any level of current account deficit beyond 2.5 per cent of GDP should ring alarm bells. In 2011-12 and 2012-13, we were somewhat complacent because of large capital flows. But the sudden outflow in 2013 gave us a shock. Since the capital flows are influenced by a variety of factors and have a tendency to be volatile, it is best to reduce the dependence on capital flows. While it is imperative not to let the current account deficit go beyond 2 per cent of GDP, we should actually work towards maintaining a much lower level so that fluctuations in capital flows do not cause distortions in the economy. But it is important that we do not on this score abandon the process of liberalization and go back to the bad old days of import substitution. What is needed is to create an appropriate domestic policy environment which will lead us to a lower current account deficit. It would be useful if the government were required to place a statement in the parliament when current account deficit goes beyond 2 per cent explaining the reasons for the high level of current account deficit and indicating corrective measures.

Exchange Rate

In the context of the need to promote exports and to maintain a low level of current account deficit, what should be the appropriate policy towards exchange rate management? For more than a decade now, developed countries have not intervened in the foreign exchange market. They let the markets determine the exchange rate. However, developing countries do not follow this practice. They do intervene and some of them try hard to maintain an undervalued currency. The stated policy of the Reserve Bank is that it has no specific target and that it intervenes only to reduce volatility. This is only partially true. For example, in 2007-08 when there was a huge inflow of capital, to prevent appreciation, Reserve Bank of India entered the market and bought dollars. This was responsible for the sharp increase in reserves.

In the past, when capital inflows were 'passive', the exchange rate was merely determined by the level of current account deficit. That is when the purchasing power parity theory held good. With the emergence of capital flows, as an independent factor, this is not true anymore. With inflows in excess of current account deficit, the nominal exchange rate may remain the same or even appreciate. In fact if at that time, the domestic inflation is higher than that of the trading partners, the real effective exchange rate will appreciate. In the contrary case of sudden withdrawal of capital as it happened around June 2013, the exchange rate can decline very sharply. The critical question is that in the context of very large capital inflows what should be the stand of the Central Bank? If the flows are allowed to pass through the market, the currency will begin to appreciate in nominal terms even when there is a current account deficit. On the other hand, if the central bank intervenes and buys foreign exchange, the nominal exchange rate may not appreciate. But in real terms it could, if the additional reserves accumulated cause an increase in money supply beyond the desirable level and prices rise as a consequence. If the impact of the additional reserves on money supply is to be neutralized, the authorities will have to issue bonds to suck liquidity out of the system. But there is a cost to it which depends on the return on the reserves and the interest on bonds.

The appreciation in real terms can occur because of the influence of both capital flows and domestic inflation relative to the trading partners. As Economic Survey 2015 points out since January 2014 the real effective exchange rate of the rupee has appreciated by 8.5 per cent. Of this, higher inflation in India relating to trading partners has contributed only 2.3 percentage points while the remaining 6.2 percentage points is accounted for by the rupee strengthening in nominal terms because of the surging capital inflows (Government of India, 2015). There are other years in which higher inflation has contributed more to appreciation. For example in 2010-11, the average REER rose by 8.5 per cent. In the same period, the nominal effective exchange rate rose by 2.8 per cent. Thus, the bulk of the change in REER was accounted for by higher inflation relative to the trade partners.

In seeking to find an answer for an appropriate exchange rate policy, one must also address the question of the impact of exchange rate changes on exports of goods and services. Several econometric studies have been done to test this proposition (for example, Srinivasan, 2003, and Veeramani, 2008). These studies have given mixed results. All studies find foreign demand represented by world output or income of the trading partners or world exports to be highly significant. However, on the impact of real exchange rate, the conclusions are not uniform. For this purpose, we need to look at the data after 1992-93 because there has been a structural change after liberalization. Using the data for the period 1995-96 to 2012-13, we find that the real effective exchange rate has a significant negative effect on quantity of exports¹. World output is of course found to have a dominant impact. Some studies have also found that export of services is influenced significantly by exchange rate changes.

An appreciation of the domestic currency need not necessarily cause concern, if it is compensated by a productivity increase. This happens in the case of many developing economies. All the same, policy should be directed towards ensuring that the rupee does not appreciate in real terms and further worsen the trade balance. We also need to take note of the fact that depreciation of the currency has an effect on capital flows. Foreign

Adj R-Squared = 0.99 Where.

^{1.} Using the annual data for the period 1995-96 to 2012-13, the following equation was estimated: LogEVIt = -4.5

EVI = Export Volume Index (World Bank Series)

REER = Export Based Real Effective Exchange Rate index for 36-currency (Source RBI)

WO = World Output index (Calculated from IFS)

T values in brackets.

The coefficient for REER does not turn out to be significant, if we use the observations for an extended period beginning 1992-93. The data on real effective exchange rate index (36 countries), world output and Indian exports (quantum index) were tested for unit-root problem, in order to determine whether one can run the traditional regression analysis in non-difference form. The augmented Dicky-Fuller test showed that there was no unit root problem.

investors would want the return to be much higher if the currency of the country in which they are investing is depreciating. Thus one must be conscious of the implications of exchange rate depreciation on various forms of capital flows. Ultimately, the stability of domestic prices is an important factor in stabilizing the external value of the currency in real terms. The broad conclusion is that there is need to moderate the impact of large capital inflows on the rupee so long as we continue to have a current account deficit. An appreciating currency will erode the competitiveness of our exports.

Adequacy of Foreign Exchange Reserves

Another policy issue relates to the accumulation of foreign exchange reserves. What is a desirable level of foreign exchange reserves? Reserve accumulation normally occurs when a country has current account surplus. This has not been the case with respect to India. Reserves have been accumulated because of the excess of inflows over the current account deficit and intervention by the Reserve Bank of India. Thus the character of the reserve is somewhat different than in the case of China. The accumulation of reserves started picking up after 2001. The big jump happened in 2007-08 when the foreign exchange reserves increased from \$199 billion to \$310 billion. Thereafter there was a substantial drop in 2008-09 after which reserves started moving up again. In 2012-13 despite a strong inflow, the addition to reserves on balance of payment basis was minimal because of the high current account deficit. Currently, we have crossed the previous peak.

Reserves serve as a buffer and make the economy withstand shocks, when there are fluctuations in capital flows. Reserves cannot however solve fundamental weaknesses. It is a protection only against volatility. The adequacy of reserves is measured either in terms of imports or short term external debt or the addition of the two (International Monetary Fund, 2011). The High Level Committee on Balance of Payments in 1993 emphasized the need to take into account short term obligations. This was long before Greenspan-Guidotti rule was formulated. In 2007-08, India's foreign exchange reserves were 23 per cent more than India's total imports. This was an extremely strong position. In 1990, when the crisis hit us, we hardly had foreign exchange equivalent to three weeks' imports. As of end March 2014, the foreign exchange reserves are equivalent to 68 per cent of India's imports (Table 6). The short term external debt stood at 29.3 per cent of the reserves at the end of March 2014. Foreign exchange reserves as a proportion of imports and short term debt stood at 56 per cent at the end of March 2014. Thus in a broad sense, the reserve adequacy is met. However as Thailand found at the time of the East Asian crisis, reserves however high they may be, cannot provide a shield, if the fundamentals go wrong. A judicious use of reserves at the time of temporary fluctuations in capital flows can stabilize the economy and provide relief. But it is possible to use the reserves as a tool of economic strength only when the nature of reserves change and they are built out of accumulation of current account surpluses.

Σ
ac
aba
adequa
er
reserve
of 1
sure
ns
lea:
2
9:
le
Ξ
a
F

		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Foreign Exchange Reserve	US \$ Bn	42.28	54.10	76.10	112.96	141.51	151.62	199.18	309.72	251.99	279.06	304.82	294.40	292.05	304.22
Imports	US \$ Bn	50.53	51.41	61.41	78.14	111.51	149.16	185.73	251.43	303.69	288.37	369.76	489.31	490.73	450.08
Short term debt	US \$ Bn	3.62	2.74	4.66	4.43	17.72	19.53	28.13	45.73	43.31	52.32	64.99	78.17	96.69	89.23
Imports+Short term debt	US \$ Bn	54.15	54.15	66.07	82.57	129.23	168.69	213.86	297.16	347.00	340.69	434.75	567.48	587.42	539.31
Ratio of foreign exchange reserve to imports	Reserve/ Import*100	83.67	105.23	123.92	144.56	126.91	101.65	107.24	123.18	82.97	96.77	82.44	60.17	59.51	67.59
Ratio of foreign exchange reserve to (import+short term debt)	Reserve/Import+ Short term debt*100		99.91	115.18	136.80	109.51	89.88	93.14	104.23	72.62	81.91	70.11	51.88	49.72	56.41

Policy on Capital Flows

Finally on the policy towards capital flows. Capital flows, in general, are welcome in developing economies. They all add to the productive capacity of the country. They also lead to the development of financial markets. Such flows are also viewed as vehicles for the transfer of technology and management skills. In effect, international capital markets try to distribute the available world savings among countries, with countries showing high productivity growth attracting more capital. However the problem with capital flows is their size and volatility. When the capital flows are large and that too with a high degree of fluctuation, they have a bearing on macroeconomic stability. If capital flows are volatile or temporary, the economy will have to go through an adjustment process twice, in both real and financial markets once, when the funds flow in, and second, when they flow out.

Capital flows can occur due to a combination of "push" and "pull" factors. "Push" factors are those conditions that prevail in the host country. If the investment prospects are deemed to be low or if interest rates are low in the host country, they "push" capital out. On the other hand, the "pull" factors are the conditions that prevail in the receiving countries. Capital flows to those countries which are deemed to be attractive for investment because of either high growth prospects or high profitability. Capital flows tend to be more permanent, if they are influenced by the "pull" factors.

The position with respect to capital flows as far as emerging economies like India are concerned has changed dramatically over the last two decades. Prior to 1990-91, our major concern was to mobilize enough capital flows to finance the current account deficit. That position has changed. Thanks to the development of the international capital markets, today emerging economies including India are able to attract large capital inflows. The recognition of the importance of capital flows does not preclude the need for regulating these flows particularly at the time of 'surge' of such flows. There is a greater appreciation of this approach even among multilateral financial institutions (Ostry et. al., 2010).

Countries normally prefer long term and durable funds. It is from this angle, foreign direct investment is the most desirable form of capital flows. That is true for India as well. Our own experience clearly shows the durability of the inflows in this category. We need to encourage the flow of funds under this channel. While changes in procedures will help, fundamentally, it depends on how Indian economy functions. Foreign direct investment flows towards countries which grow fast in an environment of low inflation and modest fiscal deficit. All these boil down making India an attractive investment. We need to move towards a situation where there are only two classifications-one group in which there is no such limit. There could possibly be a negative list. Some of these recent changes made

in relation to foreign direct investment are welcome and they widen the scope for foreign direct investment.

Portfolio flows do fluctuate not only from year to year but within the year. On occasions they have caused severe fluctuations in the stock market. Since 2013, there have been five days on which the Sensex has fallen by more than 600 points. The cause for the tumble is not what happened in India but elsewhere in the world. Net negative flows over the year are uncommon but however this happened in 2008-09. Again in 2013 for three months in a row, there were strong out flows. Within portfolio investment, the debt component has greater volatility. For example in 2013, in June, July and August, there was a total outflow of \$13 billion. Out of this, the debt out flows amounted to \$9.2 billion. Allowing foreign institution investors to invest in rupee dominated securities is not a bad idea as the exchange risk is borne by the foreign investors. Some of the measures recently introduced to facilitate the flow of funds through FIIs are again welcome. But given the fact that the character of the foreign direct investment is different from that of portfolio investment, it may be meaningful to keep separate caps for the two flows.

Capital flows have helped India to manage the current account deficit with ease. However, the easy availability of capital flows should not make us complacent about the level of current account deficit. The tail of capital flows should not wag the dog of the current account deficit.

CONCLUSION

India's near term prospects of the balance of payments are encouraging. Thanks to the substantial reduction in oil prices, India's current account deficit will fall sharply this year as well as next year. The worrying factor is the sluggish growth in exports. There is also some risk with respect to capital flows. There are signs of strong recovery in the US economy. A shift in monetary policy in US could occur at any time, in which case it will have an adverse effect on capital flows. The impact will be much more on portfolio debt flows which are extremely sensitive to changes in interest rate. However, so long as the current account deficit remains modest, financing it should not pose a problem.

The medium term compulsions are very clear. While availability of capital flows may not be the binding constraint, we need to work towards a much lower current account deficit than we had seen in recent years. We must also be prepared for the day when oil prices begin to rise. The vagaries of capital flows not necessarily caused by our domestic situation, result in sudden shocks. We must aim at keeping the current account deficit in the region of 1 to 1.5 per cent of GDP. A faster rate of export growth has become imperative, even though much will depend upon global output and trade. Given the fact that India's share in global exports is less than 2 per cent, to carve out a higher share in the world's exports is very much in the realm of possibility, even if the world output and trade move up slowly.

Apart from product specific and country specific actions, what is needed is an appropriate domestic policy environment. The main ingredients of such a policy framework are: (1) Inflation must be kept low and this will ensure export competitiveness and contain some imports like gold (2) Fiscal consolidation must be pursued vigorously and this will bridge the gap between investment and savings, which is in fact the other side of the current account deficit (3) An appropriate pricing policy must be in place and this will help to contain oil imports particularly when their prices start rising (4) Policies that can help to increase domestic production of items such as coal and electronic goods must be adopted and finally (5) An appropriate exchange rate policy will be a facilitating factor. The external sector if managed well has all the potential to serve as an additional engine of growth.

REFERENCES

Government of India (1993), Report of the High Level Committee on Balance of Payments (Chairman: C. Rangarajan).

Government of India (2015), Economic Survey 2014-15, Ministry of Finance.

Institute of International Finance (2015), "Capital Flows to Emerging Markets".

International Monetary Fund (2000), "Debt and Reserve Related Indicators of External Vulnerability".

International Monetary Fund (2011), "Assessing Reserve Adequacy".

Ostry, J., A. Ghosh, K. Habermeier, M. Chamon, M. Qureshi, and D. Reinhardt (2010), "Capital Inflows: The Role of Controls", IMF Staff Position Note 10/04 (Washington: International Monetary Fund).

Rangarajan, C. (2001), "Management of the External Sector" in *Perspectives on Indian Economy*, UBS publishers, New Delhi.

Rangarajan, C. and P. Mishra (2013), "India's External Sector: Do We Need to Worry?", *Economic and Political Weekly*, February 16, Vol. XLVIII, No. 7, pp.52-59.

RBI (2013), "The Reserve Bank of India Volume 4 (1981-1997) Part A", Academic foundation, New Delhi.

Srinivasan T. N. and Jessica Wallack (2003), "Export Performance and the Real Effective Exchange Rate" in Anne O. Krueger and Sajjid Z. Chinoy (eds.), *Reforming India's External, Financial, and Fiscal Policies*, Stanford University Press.

Veeramani, C. (2008), "Impact of Exchange Rate Appreciation on India's Exports", *Economic and Political Weekly*, Vol. 43, No. 22, pp.10-14.

World Bank (2014), "India: Tariff Rate, Manufactured Products (1997-2013)", World Development Indicators.



Dr. C. Rangarajan

A leading economist of India, he played a key role both as an academic and a policy-maker. He has held several important positions which include Governor of Reserve Bank of India and Governor of Andhra Pradesh.

Dr. C. Rangarajan was Chairman, Economic Advisory Council to the Prime Minister in the rank of Cabinet Minister, a position he has held between January, 2005 to May 2014, except during 2008-09 when he was a Member of Parliament (Rajya Sabha).

Prior to this, he was Chairman of the Twelfth Finance Commission, a constitutional commission set up every five years to determine the sharing of tax revenues between the central and the state governments. The Report of the Twelfth Finance Commission was regarded as being path-breaking in furthering fiscal decentralization in India and for laying the foundation for fiscal consolidation.

Dr. Rangarajan was Governor of the Reserve Bank of India during 1992-1997 at a time when India embarked on wideranging economic reforms which fundamentally altered the structure of the Indian economy. He was actively involved in the design and implementation of the reform agenda. His contribution was particularly noted for making monetary policy a flexible instrument of economic policy to achieve growth with price stability, for moving the exchange rate regime to a largely market determined system, and for making the Indian rupee convertible on the current account. He also initiated far-reaching reforms in India's financial sector to make banks competitive and efficient. These included deregulation of interest rates, introduction of prudential norms and credible regulation, upgradation of standards of service and introduction of information technology in banking operations.

After obtaining his Economics (Honours) Degree from Madras, he obtained his Ph.D. from the University of Pennsylvania. In the United States, he taught at the Wharton School of Finance & Commerce, University of Pennsylvania and the Graduate School of Business Administration, New York University. In India, he taught at Loyola College, Madras, University of Rajasthan, the Indian Statistical Institute, New Delhi, and for well over a decade and a half, at the Indian Institute of Management, Ahmedabad. He was for a full-time Fellow at the International Food Policy Research Institute, Washington.

In recognition of his distinguished service to the nation, Dr. Rangarajan was awarded 'Padma Vibhushan' in 2002, the second highest civilian award in India. The National Institute of Public Finance and Policy (NIPFP) is a centre for advanced applied research in public finance and public policy. Established in 1976 as an autonomous society under the Societies Registration Act XXI of 1860, the main aim of NIPFP is to contribute to policymaking in spheres related to public economics.

Raja Chelliah Memorial Lecture Series

- The Adoption of Reforms Alan J. Auerbach (2009)
- The Termites of the State: Why the Normative and Positive Roles of Governments Differ *Vito Tanzi (2011)*
- Targeting, Cascading, and Indirect Tax Design *Michael Keen (2012)*
- The Growth-Equity Trade-off in Tax Policy Design: Evidence from a Large Panel of Countries *Jorge Martinez-Vazquez (2012)*

National Institute of Public Finance and Policy 18/2 Satsang Vihar Marg, Special Institutional Area (Near JNU) New Delhi 1100 67. Website: www.nipfp.org.in