
India's Macroeconomic Performance in the Long Run

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1. Introduction

In 1947, India gained independence from the British Raj. For almost half a century after Independence, India's development strategy was oriented toward state-led import substitution industrialization (ISI). In 1991, when India faced the most serious economic crisis after Independence, she gave up state-led ISI and launched the globalization of the economy as new development strategy. After globalizing the economy, India has maintained high economic performance. Goldman Sachs's BRICs report in 2003 (Wilson and Purushothaman, 2003) projected the emergence of India as the third-largest economy only next to China and the United States of America in the future. In fact, since 2003, India's growth rate has accelerated, as if proving the correctness of the predictions of the BRIC's report. The high-performing Indian economy has dramatically heightened the global community's interest.

In this paper, we investigate India's macroeconomic performance since Independence from a long-term perspective. We will trace the long-term trends and changes in macroeconomic policy and development strategy. By keeping a historical perspective, we are able to find structural features of the Indian economy which are overlooked in the rapid and superficial changes of recent years.

The rest of the paper is structured as follows. In Section 2, we sketch the historical evolution of the development strategy. In Section 3, we investigate long-term macroeconomic performance by showing the macroeconomic time series. In Section 4, we conclude with some remarks.

2. Development Strategy in the Long Run

In this section, I briefly described the history of the development strategy from Independence to the present.¹ The period from 1947 to 1950 can be considered a transitional one for building a new politically independent nation. During this transition, there was the making of the Constitution of India, the settlement of political turmoil over the Partition, and the territorial integration of princely states into India. A monumentally important event that put an end to the transitional period after Independence was the launch of the First Five Year Plan (1951-55). In 1951, the Industries (Development and Regulation) Act (IDRA) was enacted in order to regulate the investment of the private sector. IDRA established the legal basis for government intervention

¹ Historical events in this section are basically followed by Chandra, Mukherjee, and Mukhrjee (2008), Joshi and Little (1994), Joshi and Little (1996), and Panagariya (2008). However, we do not necessarily follow the economic interpretation of the existing studies.

for private economic activities well-known as the “Licence Raj.”

Fully-fledged development planning was firstly introduced as the Second Five Year Plan (1956-1961) under the strong political leadership of Jawaharlal Nehru. The Second Plan was based on the mathematical economic model of P. C. Mahalanobis. This economic model proposed the priority of heavy industry for high economic growth in the long run. The main framework of the Second Plan was followed by the Third Plan (1961-1966). Therefore, the Second and Third Plans are referred to as the “Nehru-Mahalanobis model” of development strategy for building the national economy. In 1956, the Industrial Policy Resolution (IPR) was adopted in the Indian parliament. The IPR supported a mixed economy by clarifying the roles of the public sector and private sector in India’s economic development. As another institutional important incident, the State Reorganisation Act was passed in 1956 in order to deal with state language problems and restructuring of the framework of India’s post-Independence federal system. The Second and Third Five Year Plans contributed significantly to import substitution industrialization (ISI) in India.

However, two successive years of drought in 1965 and 1966 triggered a serious economic crisis, especially a balance of payment crisis, and resulted in the postponement of the launch of the Fourth Plan. In 1966, in exchange for promises of economic aid from the United States of America and the World Bank, India implemented economic liberalization measures including trade liberalization and substantial devaluation in order to overcome this economic crisis. Therefore, India embarked on economic liberalization a quarter-century before the globalization of 1991. It is noted that in the same period, Asian NIEs such as Korea shifted from ISI strategy to export-oriented industrialization (EOI) strategy. However, this liberalization of India failed by the World Bank and the United States of America’s suspension of promised economic aid to India due to the complex international political dynamics at the time. After the failure of this liberalization, India abandoned economic liberalization and started to strengthen economic regulation under Indira Gandhi’s administration. Since then, India’s development strategy has been directed from rational elitism toward radical populism.

After all, it can be said that India’s three Plans had two major problems. The first was to neglect the development of the agricultural sector compared to that of the industrial sector because the Nehru-Mahalanobis model gave heavy industry the most preferential treatment. In fact, internal terms of trade for agricultural and industrial products had been against the agricultural sector. In addition, the industrial sector was given priority in the allocation of public investment compared to the agricultural sector. This is a reflection of the Nehru-Mahalanobis model’s emphasis on the development of the industrial sector rather than the agricultural sector for long-term high economic growth. Such development strategy in favour of heavy industry ultimately resulted in a serious economic crisis in the mid-1960s as underdevelopment of agriculture was the underlying cause of two successive years of drought in 1965 and 1966. The droughts caused serious food shortages and a balance of payments crisis via severe inflation and a surge in imports of food. The second is the satiation of expansion of the industrial sector in the mid-1960s. Once import demand for industrial products is met by domestic production, industrial growth will be constrained by the size of the domestic markets unless the export market is open. In

other words, unless there is a sustained expansion of domestic markets by the development of the agricultural sector, the industrial sector is not expected to grow sustainably.

The aim of economic liberalization and the Green Revolution of the mid-1960s was to break the bottleneck of ISI strategy by the Nehru-Mahalanobis model. The 1966 liberalization intended to resolve the market problem through exports to world markets. But it failed. After the failure of liberalization, India responded to this crisis by introducing stronger regulations and continuing to promote the Green Revolution.

The Green Revolution succeeded in a dramatic increase in food production in the central and north western area, i.e., Punjab and Haryana. The Green Revolution achieved food self-sufficiency in the late 1970s in the sense that there was no constant need for food imports.

From the late 1960s, economic regulations were tightened. The Monopolies and Restrictive Trade Practice (MRTP) Act of 1969, nationalization of fourteen large commercial banks in 1969, the Patent Act of 1970, the Industrial Licensing Policy of 1970, and the Foreign Exchange Regulation Act (FERA) of 1973 are given as famous examples. An oft-quoted anecdote is the exit of IBM and Coca-Cola from the Indian market to avoid the limit of 40% foreign ownership share imposed by FERA. As we explain later, the partial economic liberalization during the 1980s aimed to gradually relax the strong regulations enacted after the late 1960s without attacking the core ideas of the ISI strategy since Independence.

The second oil crisis of 1979 triggered India's balance of payments crisis. For crisis prevention, the Indian government negotiated a large loan with the IMF. In 1981, the IMF decided to provide loan amounts of 5 billion SDR to India under the condition that she implement economic liberalization. Thus, economic liberalization began in the early 1980s. In particular, Prime Minister Rajeev Gandhi who succeeded Indira Gandhi in 1984 pushed further liberalization from 1985. The economic liberalization was a partial relaxation and flexible operation of strong regulations within the framework of the ISI strategy. The framework of the development strategy itself was never tackled. However, in spite of the limitation of liberalization in the 1980s, the blueprint for globalization of 1991 was prepared by various reports of government committees on economic reforms established during the late 1970s and the 1980s.

In the 1980s, when India's economic liberalization progressed to some degree, the average economic growth rate was about 6%. It can be said that India achieved high economic growth. However, the fiscal deficit and current account deficit increased simultaneously. Such macroeconomic imbalance resulted in a huge accumulation of public debt and external debt. In fact, India became the third-largest developing country in terms of external debt stock in 1990. Moreover, macro imbalances with high growth in the 1980s contributed to persistent high inflation. In summary, high growth was accompanied by large macro imbalances. India's economic growth in the 1980s ultimately faced a deadlock at the time of the most serious balance of payments crisis since Independence.

In 1990 and 1991, India fell into the most serious political and economic crisis after Independence. In early 1991, foreign exchange reserves were dropped to the level to meet import bills of only two weeks. It was a first possible crisis of external debt default in India's history since

Independence. The main cause of the balance of payment crisis was the oil price hike of 1990 and 1991 triggered by Iraq's invasion of Kuwait. Along with the increase in trade deficit due to drastic increases in import oil prices, macro imbalances such as large external debt, huge fiscal deficit, and high rate of inflation gave rise to doubts about India's solvency among foreign investors. As a result, capital flight by non-resident Indians (NRIs) who had contributed so far to financing the balance of payments via the NRI deposits channel was a decisive factor in the balance of payments crisis. To survive the economic crisis, the Narasimha Rao government, which was formed in June 1991 after the general election amid the political crisis of the assassination of former prime minister Rajeev Gandhi during the election campaign, launched globalization and economic reforms in the form of implementing IMF conditionality.

The economic reform started with a 20% devaluation in early July 1991. The economic reforms dramatically converted India's ISI development strategy into globalization as a package of trade liberalization, capital account liberalization, privatization, and deregulation such as elimination of industrial licensing policy. It is noted that although not only the leftist United Front government but also the rightist National Democratic Alliance government won the general election after the Narasimha Rao government, globalization as economic reform has been maintained in all administrations including the current United Progress Alliance government.

3. Macroeconomic Performance in the Long Run

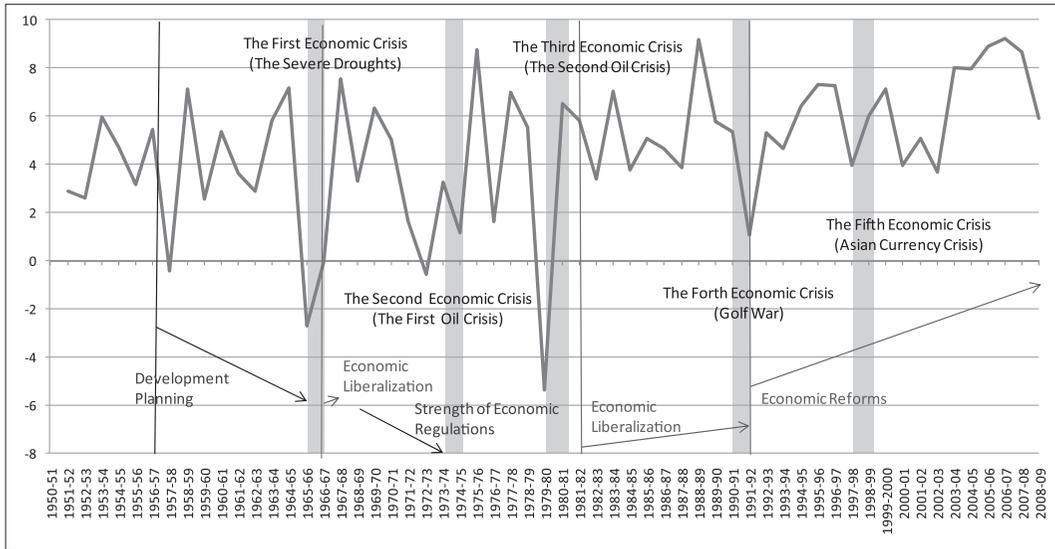
In this section, we investigate the macroeconomic performance in the long run by focusing on (1) economic growth rate, (2) per-capita income, (3) inflation rate, (4) agriculture, (5) fiscal balance, (6) current account balance, and (7) exchange rate. We use several charts in order to examine the long-term trends and changes in the key macroeconomic variables mentioned above. It is noted that India's economic statistics are available from 1950 onwards. Therefore, the macroeconomic variables which we use below generally started from the year 1950.

3.1. Economic Growth Rate

Figure 1 shows the annual GDP growth rate during the period from 1951 to 2008. According to Figure 1, we see that the annual variation in the growth rate was excessive until the 1980s. This means that before the 1980s, in addition to the two oil crises, annual fluctuation in agricultural production through changes in the monsoon and other weather conditions had a tremendous impact on economic growth. Since the 1980s, the Indian economy has become relatively independent of weather changes. As one of the most important underlying factors contributing to long-term changes in the economic performance of India, the lower dependence of economic growth on weather conditions cannot be dismissed.

Furthermore, in Figure 1, we can identify five major economic growth crises as follows: (1) the crisis of 1965 and 1966 led by the serious droughts; (2) the first oil crisis of 1973; (3) the second oil crisis of 1979; (4) the crisis of 1991 triggered by the Gulf War; and (5) the Asian currency crisis from the mid-1997 to 1999. Of course, we confirm that the growth rate declined

Figure 1: Economic Growth Rate



Source: Reserve Bank of India, *Handbook of Statistics on Indian Economy 2008-09*.

significantly at the time of economic crisis.

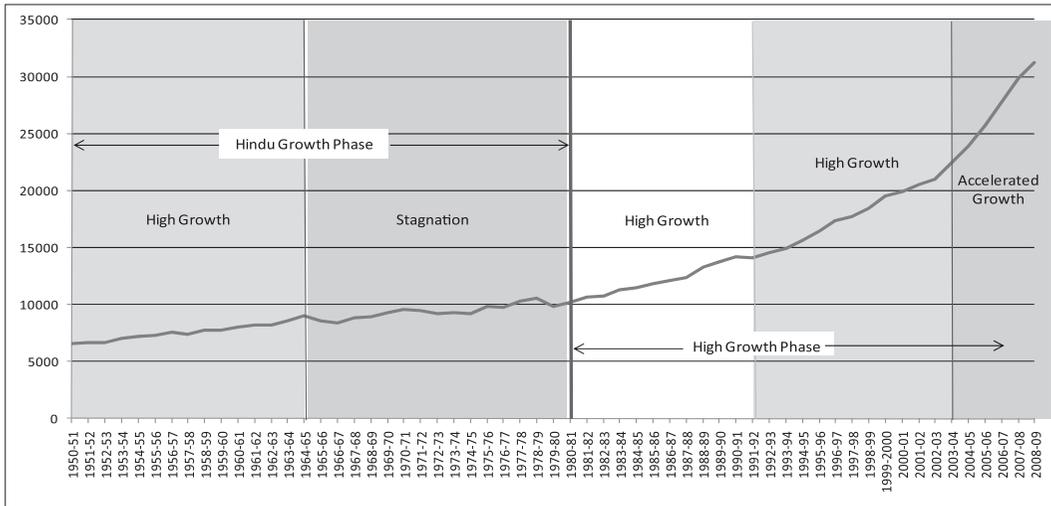
In addition to identifying economic growth crises, in Figure 1, we show the intuitive direction of change in development strategy described in the previous section by depicting directing arrows. In the case of the development strategy towards economic liberalization, the direction of the arrow is upward. In the case of strengthened regulations, its direction is downward. Looking at the directing arrows, we see an overlap between the growth crises and significant changes in development strategies in some cases. In the crisis of the mid-1960s, economic liberalization was tried and it then failed. After the failure of liberalization, the development strategy was switched from economic liberalization to a radical tightening of economic regulations in the late 1960s and the early 1970s. Partial economic liberalization in the 1980s was followed by the growth crisis of 1979. The economic crisis of 1991 stimulated the launch of globalization from the 1990s onwards. Therefore, it can be said that historically speaking, although not all of the economic crises necessarily had a stimulating impact on the change in development strategy, every transformation of development strategy was triggered by an economic growth crisis.

Since the 1980s, India's economic growth rate and per-capita income have increased. However, it is not easy to read structural change in the growth rates in Figure 1. We reconsider this point in the next subsection.

3.2. Per-capita Income

Figure 2 shows the per-capita GDP from 1950 to the present. While the annual growth rate shown in Figure 1 does not explicitly express the long-term trends in per-capita income level, the per-capita income of Figure 2 clearly indicates that the Indian economy entered a high growth phase around the year 1980. The low growth rate of India's economy was called the "Hindu rate of

Figure 2: Per-capita Income at Constant (1999-2000) Price

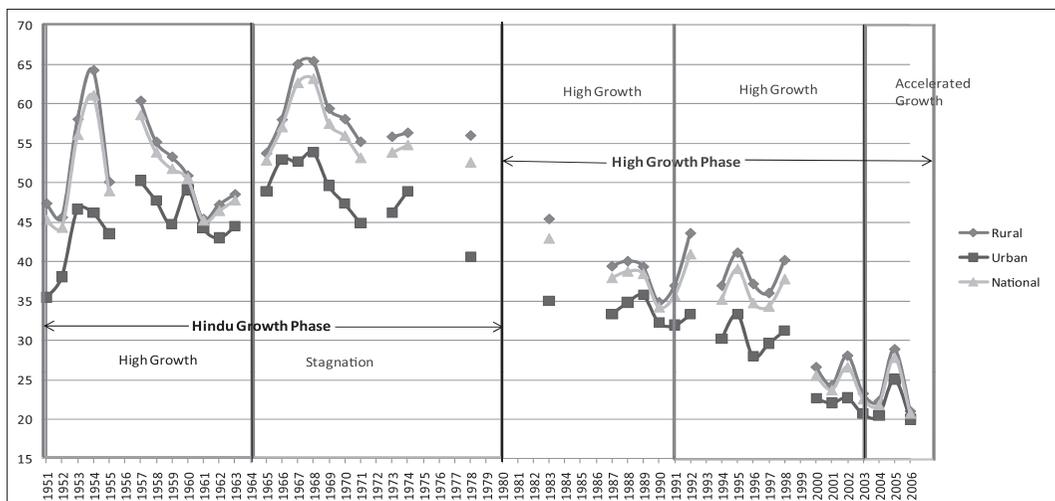


Source: Reserve Bank of India, *Handbook of Statistics on Indian Economy 2008-09*.

growth” to deride India’s long-time stagnancy. Here, we call the period during 1950 to 1980 the “Hindu growth phase” and the period during 1980 onwards, the “high growth phase” as two separate categories for understanding the long-term performance of the Indian economy. Moreover, it is noted that in the high growth phase, growth has been accelerating since 2003.

As far as the long-term trend of economic growth is concerned, rapid growth in India started not in the 1990s of the fully-fledged globalization era but in the 1980s of the partial economic liberalization period.

Figure 3: Poverty Ratio (%)



Source: Gaurav Datt and Martin Ravallion, “Shining for the Poor Too?” *Economic and Political Weekly*, 13th February, 2010.

India's growth is modest if compared with the rapid growth of East Asian economies. However, Figure 2 shows that India experiences steady and stable growth without a drastic decline in income levels. It can be said that if East Asian economies were tigers, India would be an elephant in the sense of its relatively slow but stable growth.

A stable and steady increase in per-capita income level has contributed to the alleviation of India's absolute poverty problems since the 1970s. According to Planning Commission's estimates as shown in Figure 3, the head count ratio of absolute poverty decreased from 55% in 1973 to 22% in 2004. Of course, absolute poverty is still a serious problem in India, but it should be pointed out that economic growth has played an important role in absolute poverty reduction.

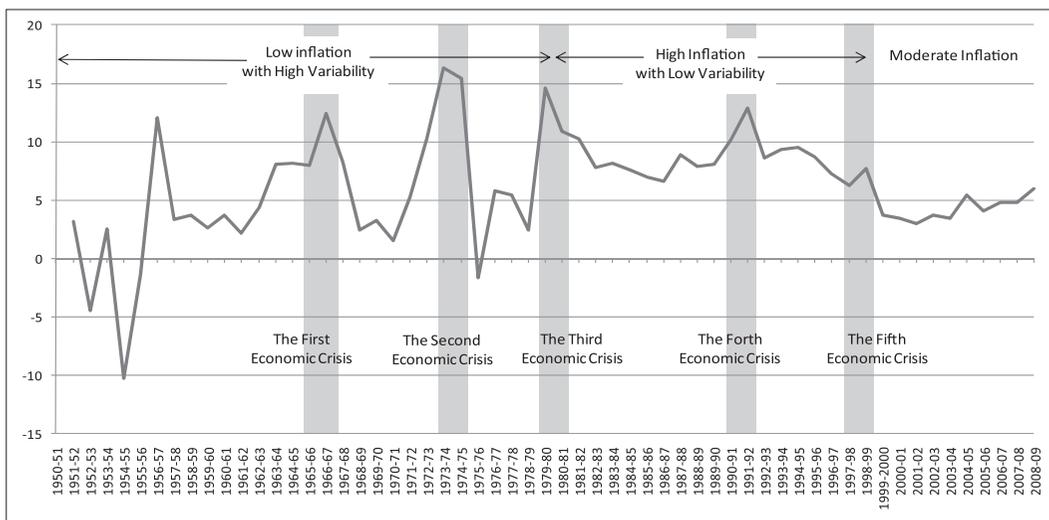
3.3. Inflation Rate

India is an exceptional country in Asia in the sense that she has maintained parliamentary democracy based on free and fair elections since Independence. The world's largest democracy is a proud feature of the Indian political system. In this respect, we can point to the tentative law of politics that the incumbent government will be defeated in the next election when the rate of inflation the year before the general election is more than two digits. Of course, it is hard to consider it as "law" in the strict sense. However, this tentative law is an important factor in considering the economic influences of democracy in India.

Indian people, especially the poor who are damaged by the short-term decline in real income levels due to price increases in food, are politically sensitive to inflation. Indian politicians facing a competitive political environment are unable to ignore the voice of the poor. As a result, restrictive macroeconomic policies for moderate inflation are politically supported.

Figure 4 shows the annual rate of inflation. In considering the political law mentioned above, we can make several comments on the long-term trends and changes in inflation rate since 1950 in

Figure 4: Inflation Rate of GDP Deflator (%)



Source: Reserve Bank of India, *Handbook of Statistics on Indian Economy 2008-09*.

Figure 4 as follows: There is structural change in annual fluctuations of inflation rate around 1980. Since then, fluctuations of inflation have decreased. This coincides with a change in the stability of the annual economic growth rate shown in Figure 1, which means the process of economic independence from weather conditions in India. We also see that the annual rate of inflation has decreased with stable annual fluctuation since the late 1990s. Therefore, we can identify three phases in the Indian history of inflation as follows: (1) low level of inflation with high variability during the period from 1950 to 1980; (2) high level of inflation with low variability during the period from 1980 to the late 1990s; and (3) low level of inflation with low variability during the period from the late 1990s onwards. We can refer to the third phase as a moderate inflation phase. The institutional background to the moderate inflation phase is the independent monetary policy conducted by the Reserve Bank of India. It is noted that the Reserve Bank of India has gradually gained independence from the Indian government, especially the Ministry of Finance, since the late 1990s.

According to Figure 4, in all of the economic crises except the Asian currency crisis, the inflation rate was more than two digits. In other words, economic crisis in India means generally not only depression and balance of payments crisis but also crisis of high inflation. Furthermore, it is noted that an economic crisis caused by high inflation raises the discontent of the people and ultimately results in political crisis.

In the economic crisis in the mid-1960s, high inflation was triggered by serious droughts and in the economic crisis in the 1970s and 1991, high inflation was caused by the surge in oil prices. In this sense, two-digit inflation rates were due to exogenous internal and external shocks to the supply side rather than to the demand side.

In contrast, the increase in base money supplied by the Reserve Bank of India via automatic accommodation of the expanded fiscal deficit basically contributed to the persistently high inflation in the 1980s to the mid-1990s. In this sense, the major cause of the persistently high inflation in the 1980s to the mid-1990s was from the demand side. The dependent monetary policy to finance fiscal deficits was changed toward a more autonomous monetary policy from 1994 and 1997 when the Reserve Bank of India and the Ministry of Finance agreed to restrict automatic monetization. Therefore, again note that the progress in the autonomy of monetary policy since the mid-1990s is one of the most important institutional factors of moderate inflation in recent years.

From 2003 to mid-2008, oil prices rose more than four-fold. The oil price per barrel in mid-2008 recorded the highest value of more than 130 U.S. dollars. This was comparable to the previous two oil shocks over time. In order to deal with the huge increase in oil price since 2003, the Reserve Bank of India conducted a restrictive monetary policy. As a result, an average level of a 5% inflation rate was maintained during the recent oil price surge. From an international perspective, India's long-term inflation rate is relatively low compared to East Asian economies in the high growth period and Latin America. This can be accounted for by India's parliamentary democracy based on free and fair elections and a sociopolitical structure whereby the majority of people, i.e., the poor, are sensitive to inflation. It is noted again that relatively low inflation is one of the features of the Indian economy.

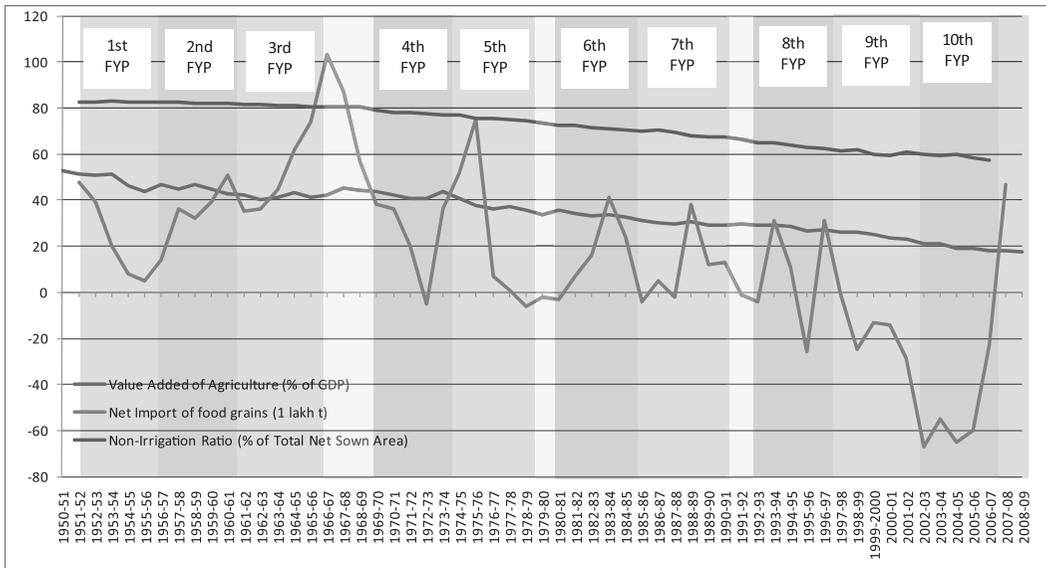
3.4. Agriculture

Figure 5 shows long-term trends and changes in the agricultural sector in terms of the agricultural sector's share of the GDP, net food grain imports, and the ratio of non-irrigated land to total land. In 1950, the agriculture share of the GDP was more than 50% and it then fell to less than 20% in 2008. Along with economic development, the GDP share of agriculture sector is shrinking gradually and steadily. This means that in the past, the economic performance of the agricultural sector was the key factor for India's economic growth and fluctuation, but now, the influence of the agricultural sector on the economy is undoubtedly smaller because of the substantial decline in the GDP share.

Furthermore, looking at the non-irrigation ratio, it decreased from more than 80% to less than 60% from 1951 to 2006. For a long time, the rain-fed agriculture of India had been likened to gambling, but the validity of the analogy can now be questioned. The spread of irrigated areas is an important factor behind the independence of Indian agriculture from her weather conditions.

India was an agriculture-exporting country, but was a permanent net food-importing country until the late 1970s. Decline in agricultural production caused by drought triggered food imports from abroad, which then made the balance of payments problem very difficult. Achievement of self-sufficiency in food grains at the end of the 1970s was the decisive change in the situation. The Green Revolution from the mid-1960s achieved a dramatic increase in food production and food self-sufficiency was realized in the sense of balancing of the food trade. Figure 5 shows net imports of food in terms of 1 lakh as a measurement unit. According to Figure 5, net food grain imports reached more than 10 million tons in the drought years of 1965 and 1966. Huge food

Figure 5: Agriculture



Source: Net Import of food grains: Government of India, Ministry of Finance, *Economic Survey 2008-09*. Non-Irrigation Ratio and Value Added of Agriculture: Reserve Bank of India, *Handbook of Statistics on Indian Economy 2008-09*.

imports triggered the balance of payments crisis at the time. After the mid-1960s, we see a gradual decrease in the amount of net food imports. Net food imports were zero over several years in the late 1970s. In the 1980s, net imports of food reached their peak at 4 million, but this did not create a balance of payments crisis as before. India has also held enough food stock required to stabilize food prices since the 1980s. In addition, during the period from the late 1990s to 2007 when international natural resource prices soared, India appeared to the world market as a net exporter of food. In fact, net exports of food grains were 6 million tons at the peak at that time.

Development of agriculture over the long term is a driving force of independence from weather conditions and is a fundamentally determinant factor on key macroeconomic variables such as economic growth, per-capita income level, and inflation.

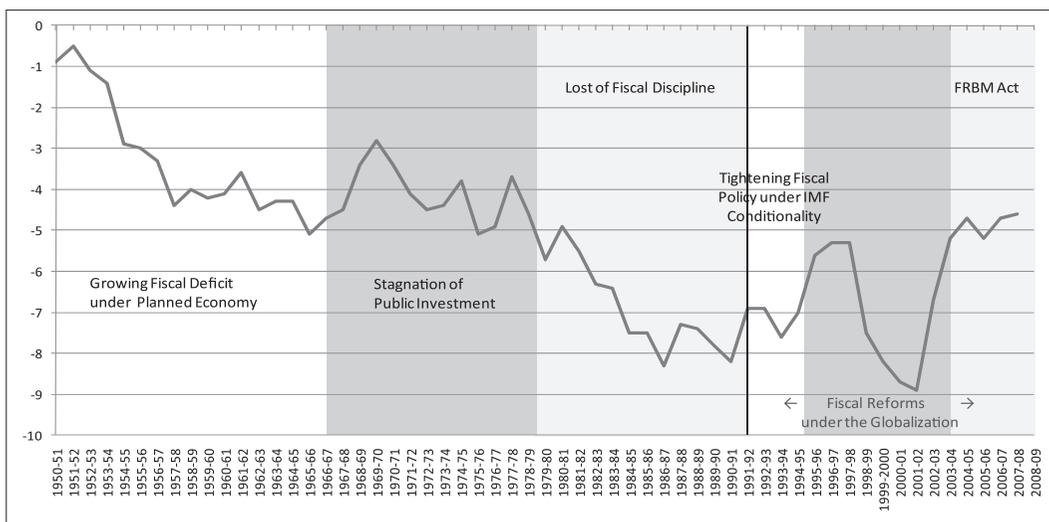
As supplementary information, Figure 5 shows the time periods of the Five Year Plans. A Five Year Plan has not been conducted for five years so far. This “plan holiday” can be found in the years from 1966 to 1968, one year in 1979, and the two years 1990 and 1991. Needless to say, these plan holidays were forced by the economic crises. Therefore, plan holidays represent serious economic crises in India since 1951.

3.5. Fiscal Balance

Before we discuss the long-term fiscal balance, we should clarify the definition of fiscal balance in this subsection. Here, fiscal balance is defined as the investment-saving (IS) balance of the public sector, which includes not only general governments but also public enterprises. Therefore, it is a broader concept than the usual fiscal balance. We use this broader concept as the fiscal balance because of the long-term availability of the public-sector IS balance.

Figure 6 shows the fiscal balance. According to Figure 6, India’s fiscal balance has been consistently negative. Moreover, the fiscal deficit has worsened in the long term. In 1950, the

Figure 6: Fiscal Balance (% of GDP)



Source: Government of India, Ministry of Finance, *Economic Survey 2008-09*.

fiscal balance was roughly in balance and it then fell to 8% of the GDP in the late 1980s. The fiscal deficit reached its peak at 9% of the GDP in 2001.

We divide the long-term fluctuations of fiscal deficit from 1950 to 2008 into four separate phases as follows: (1) the first phase during from early 1950 until the mid-1960s as “planned economy”; (2) the second phase during the 1960s and late 1970s as the stagnation of public investment; (3) the third phase in the late 1980s to 1990 as the loss of fiscal discipline; and (4) the fourth phase since 1991 under economic reforms.

In the first phase which comprised the First to Third Five Year Plans, the Indian government implemented ISI development strategy by utilizing public enterprises as leverage for rapid industrialization. While public investment was allocated aggressively to public enterprises and infrastructure, tax revenues were not sufficiently raised. It was the main factor of the worsening fiscal deficit. After the serious economic crisis in the mid-1960s, expansion of the fiscal deficit was restricted in order to overcome the balance of payments crisis and high inflation. In particular, until the late 1970s, public investment was significantly suppressed. This compression of public investment accounted for stagnation of the industrial sector during the period from the mid-1960s to 1980. In other words, this second phase overlapped the stagnation period of Indian industries. After the end of the 1970s, public debt accumulated massively as various subsidies such as food subsidy and fertilizer subsidy increased. At the same time, current government expenditure, which consists of interest payments and recurring expenses, primarily wages and salaries of public servants, was not met by the current revenue, which mainly means tax revenue. So far, the Indian government had kept the current account surplus as an “iron law” of the fiscal policy. It can be said that this iron law was lost and broken in the early 1980s. India had fallen into a “debt trap,” meaning that debt creates more debt in the third phase of fiscal policy. Loss of fiscal discipline and high economic growth coincided in the 1980s. Therefore, it can be pointed out that high economic growth was supported by the demand side of expanding fiscal deficit.

The fourth phase since 1991 under globalization can be further classified into three sub-periods as follows: (1) the first sub-period from 1991 to 1994 under the IMF conditionality; (2) the second sub-period from 1994 to 2002 as the transition period; and (3) the third sub-period after the Fiscal Responsibility and Budget Management Act (FRBMA) of 2003 was passed. The reduction of the fiscal deficit has been the most important item on the agenda of economic reform since 1991. Not only the IMF and the World Bank but also the Indian government considered the reduction of the fiscal deficit as the cornerstone for correcting the macroeconomic imbalances.

Figure 6 indicates that the fiscal deficit was restricted by the austere fiscal policy in the first sub-period. After progressing from IMF conditionality in 1994, the Indian government accepted a larger fiscal deficit in order to prevent the serious recession and the contagion caused by the Asian currency crisis. This second transitional sub-period was terminated by the introduction of the FRBMA in 2003. The FRBMA obligated the Indian government to reduce the fiscal deficit sequentially. The FRBMA is a landmark law in India's macroeconomic history. In addition to high growth of tax revenues mainly attributed to cyclical economic factors, the FRBMA will be able to significantly contribute to a long-term reduction in fiscal deficit.

3.6. Current Account Balance

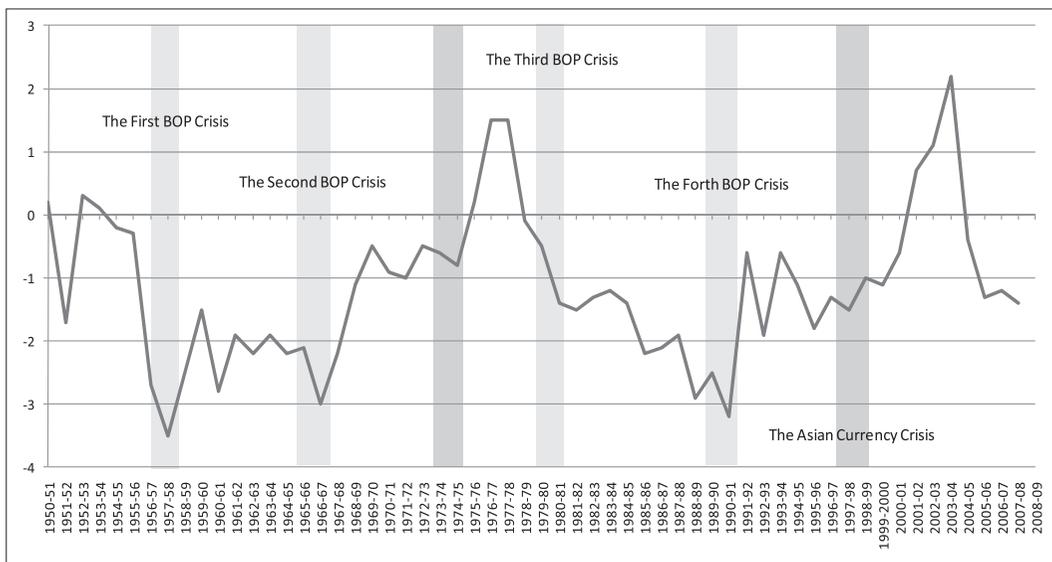
In this section, we discuss the long-term trends and changes in the current account balance in Figure 7. According to Figure 7, the current account balance shows different movement compared to other macroeconomic variables such as economic growth, per-capita income, inflation rate, and fiscal balance. We see a cyclical movement from surplus to deficit of the current account balance. The cycle happened twice in sixty years since Independence. Looking at both Figures 6 and 7 simultaneously, the worsening of the fiscal deficit and current account deficit coincided in the 1950s, 1960s, and mid-1980s.

In Figure 7, we show the four balance of payments crises. The first crisis happened in 1956. The exhaustion of sterling balances in London, which accumulated during World War II, was the background to the crisis. In order to manage the balance of payment crisis, the Indian government received foreign economic assistance and was able to start the Second Five Year Plan successfully. Thus, the first balance of payments crisis did not develop into an economic crisis.

The second balance of payments crisis, as already argued in the previous section, was triggered by two successive severe droughts in 1965 and in 1966. The huge increase in food imports due to the drastic decline in agricultural production made management of balance of payments substantially difficult. In order to receive economic assistance from the World Bank and the United States of America, the Indian government implemented economic liberalization in 1966 as the conditionality.

The third crisis was caused by the second oil crisis of 1979. This crisis also stimulated the introduction of economic liberalization in the 1980s. Interestingly, the first oil crisis of 1973 did not necessarily trigger a balance of payments crisis. In the mid-1970s, there was a strong export

Figure 7: Current Account Balance (% of GDP)



Source: Government of India, Ministry of Finance, *Economic Survey 2008-09*.

boom and increases in remittances from migrant Indian workers in the Middle East. These factors contributed to preventing a balance of payment crisis.

The fourth crisis was triggered by the Gulf Crisis of 1990 via the surge in the international oil price. As mentioned in the previous section, in order to overcome the balance of payments crisis, the Indian government received a loan from the IMF and started globalization as the IMF conditionality.

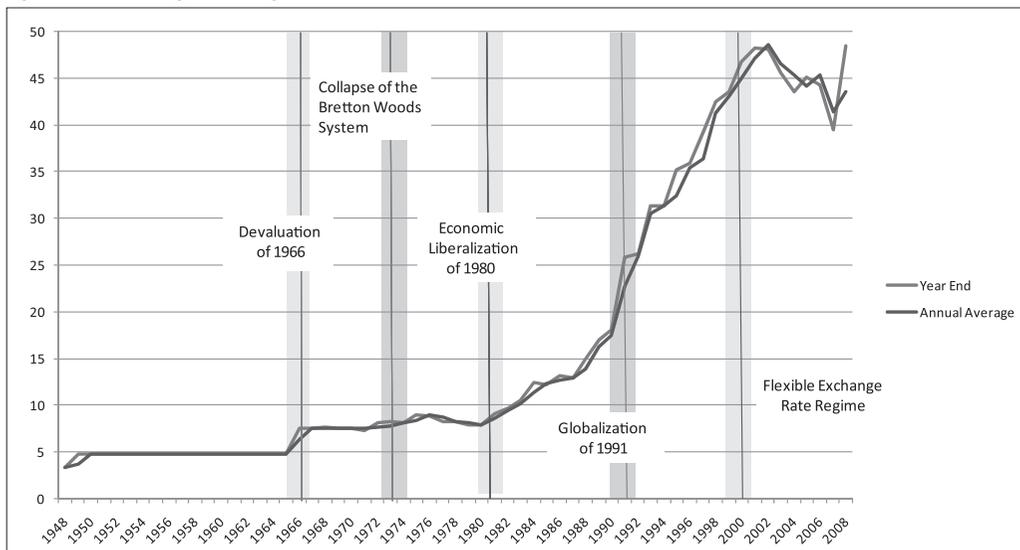
In Figure 7, we see that there was large current account deficit at the time of the four balance of payments crises. It can be noted that when the current account deficit to the GDP ratio reached 3%, there occurred a balance of payments crisis. In fact, as Figure 7 shows, at the time of the Asian currency crisis in the late 1990s, India's current account deficit was from 1% to 2% and the Asian currency crisis did not escalate the balance of payments crisis for India.

3.7. Exchange Rate and External Finance

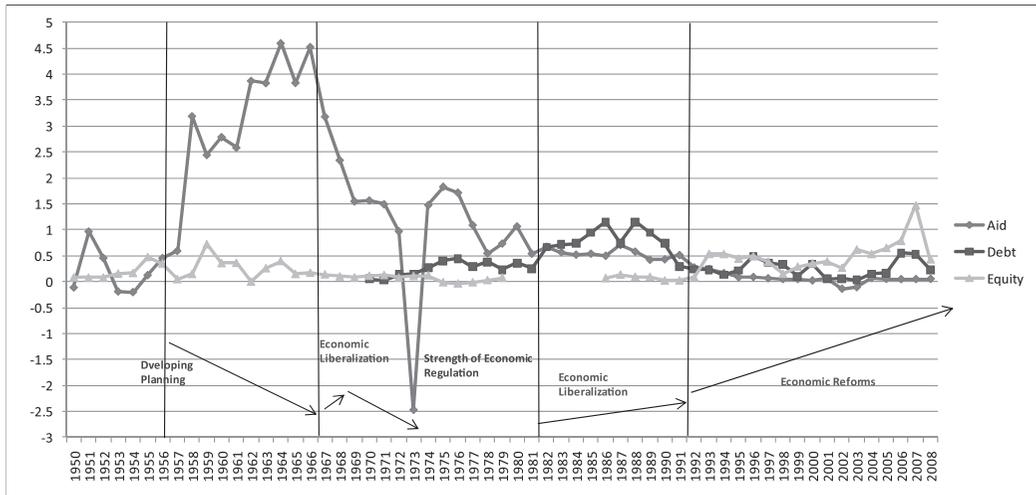
In this section, we discuss India's exchange rate and balance of payment management in the long run. Figure 8 shows the nominal exchange rate against the U.S. dollar from 1948 onwards. According to Figure 8, under the Bretton Woods System, India had adopted a fixed exchange rate regime during the period from 1948 to 1971 except for the 50% devaluation of 1966. Even after the collapse of the Bretton Woods System in 1973, India's exchange rate was moving in a narrow band until the 1980s.

India's exchange rate policy was changed around 1980. Since 1980, India had adopted an exchange rate policy to devalue the exchange rate gradually, as shown in Figure 8. Despite several important reforms of the exchange rate policy since globalization in 1991, an exchange rate policy to devalue the exchange rate gradually was kept as far as the long-term trend of the exchange rate

Figure 8: Exchange Rate against US Dollar



Source: International Monetary Fund, *International Financial Statistics*.

Figure 9: Net Capital Inflow (% of GDP)

Source: Reserve Bank of India, *Handbook of Statistics on Indian Economy 2008-09*.

is concerned. The long-term trend of depreciation turned into an appreciation trend in 2002. Around 2000, India's exchange rate regime became more flexible and market-oriented. It can be said that until now, India has adopted a flexible exchange rate regime.

Finally, we briefly comment on balance of payment management. We can identify three different types of sources of external finance, i.e., aid, debt finance, and equity finance. Here, we regard debt finance as external commercial borrowings and non-resident Indian (NRI) deposits, and equity finance as foreign direct and portfolio investments. Figure 9 shows net capital inflow of aid, debt, and equity from 1950 to 2008. According to Figure 9, public aid from international financial organizations and developed countries in the 1950s to the 1970s, external commercial borrowings and NRI deposits in the 1980s, and foreign direct and portfolio investments since the 1990s are leading sources of external finance.

Synchronized with the financial globalization of the world, India began capital account liberalization after 1991. As a symbolic event, it is noted that IBM and Coca-Cola, which withdrew from India in the 1970s, came back to India in the 1990s.

From the point of view of a policy trilemma, or impossible trinity, which means that a fixed exchange rate regime, capital account liberalization, and independent monetary policy are mutually inconsistent, India chooses consistent policy options such as a flexible exchange rate regime, capital account liberalization, and independent monetary policy after 2000. It can be argued that the recent good macroeconomic performance in India is supported by sound and consistent macroeconomic policy management.²

² On the details of India's macroeconomic policy under capital account liberalization, please see Sato (2002), Sato (2009), and Esho and Sato (2009: Chapter 4).

4. Conclusion

In this paper, we investigate India's macroeconomic performance since Independence by tracking the long-term trends and changes in development strategy. Our findings in the paper are as follows: First, three major economic crises of serious droughts in the mid-1960s, the oil crisis in 1979, and the Gulf War in 1991 stimulated long-term fundamental changes in India's development strategy. Crisis response is different each time, i.e., the tightening of regulations in the late 1960s, the partial economic liberalization in the 1980s, and the fully-fledged globalization in the 1990s. Second, the Indian economy has been relatively independent from weather instability by reduction in the GDP share of the agricultural sector and improvement in agricultural technologies and infrastructures. In particular, the Green Revolution has been contributing to stability of the inflation rate and economic growth and alleviating the balance of payment problem caused by food imports since the 1980s. Third, in the early 1980s, the Indian economy reached a turning point of a high economic growth phase. This high growth is backed up by the success of the Green Revolution. It has alleviated India's absolute poverty slowly but steadily. Fourth, in the late 1990s, monetary policy became independent from fiscal policy. An independent monetary policy by the Reserve Bank of India during the 2000s ensures sustainable high economic growth and stable low inflation. Fifth, India's economy has continued to grow steadily without falling into a serious economic crisis since the 1990s although the Asian currency crisis in the late 1990s and the international oil price hike during the period from 2003 to the mid-2008 hit the Indian economy hard. In other words, the Indian economy has become relatively independent from external shocks. Finally, macroeconomic performance since the 1990s has been successful in terms of economic growth, inflation, and balance of payments. However, India has failed to reduce her fiscal deficit. The large fiscal deficit will be a serious constraint on India's macro economy in the future.

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