Chapter 6

Economic Growth, Exports and Domestic Demand in India:
In Search of a New Paradigm of Development

Saroj Kumar Mohanty
Research and Information System for Developing Countries (RIS)

December 2012

This chapter should be cited as
CHAPTER 6

Economic Growth, Exports and Domestic Demand in India: In Search of a New Paradigm of Development

SAROJ KUMAR MOHANTY
Research and Information System for Developing Countries (RIS)

Since the 1970s, several developing countries have witnessed remarkable transformation of their economies with Export-Led Growth (ELG) as a major development paradigm. Considering the latent limitation of the ELG to meet eminent stagnation in the long run, there were strong sentiments expressed by the East Asian countries towards switching over to alternative DDLG strategy after the ‘Asian Crisis’. It was debated in the literature that large countries like China and India pursued the policies of ELG and DDLG policies in different phases of global business cycle to ensure sustainability of high growth during the 2000s and after. The empirical evidence on this issue of examining ELG-DDLG hypothesis using cointegration in the VECM framework for the period 1974-2010 suggests that India has been using the twin development strategies alternatively in different periods to evade adverse effects of the global business cycle and to maintain sustained economic growth. India’s new version of export-led growth stance will continue as long as it has not exhausted its global competitiveness and becoming the part of the upper middle-income country. Considering India’s trade becoming ‘Asia Centric’, concentrating on imports for new phase of industrialisation and consolidating of its ‘Look East Policy’, Country’s integration with the EAS process would increase its trade dependence with the region.

Keywords: Economic growth, export-led growth (ELG), domestic demand-driven growth (DDDG), new paradigm of development

JEL classification: F43, O11, O53
1. Introduction

During the last two decades India has emerged as one of the world’s high-performing economies with a vibrant external sector and a rapidly expanding domestic sector. The economy made a significant shift in its growth outlook from the ‘Hindu Rate of Growth’ (Rodrik & Subramanian, 2004) of 3.5% on average during the post-independence period until the 1980s to a high growth economy during the reform period since 1991. Amidst stiff global competition, persistent and sound domestic trade policies have led to a resultant surge in export competitiveness in a wide range of sectors. The export sector has become the driving force to nurture and groom some of the ‘new age’ industrial sectors. The continuation of high growth performance has provided a new identity to India in the global economy. During the period of reforms the export sector has expanded quicker than the country’s real output.

With the expansion of the Indian economy and its growing dependence on the rest of the world the relevance of the export sector, as an engine of growth, has now become more evident than during the pre-reform period. The incredible performance of the export sector may be due to the choice of an appropriate trade strategy, which has been evolving over a period of time. India’s strong commitment to multilateralism and its deep engagement with regionalism have contributed to a continuous surge of trade openness during the liberalization period. The sustainability of India’s growth performance in the long run is closely linked to the adoption of an appropriate development strategy in the medium term. However, a more suitable strategy is required in order to sustain the present growth profile of the country that it might continue for several decades.

Global debate on the choice of an appropriate development strategy has been changing profoundly during the last few decades. In the mid 1970s there was a policy-switch towards an Export-Led Growth (ELG) strategy in several countries, including those in Asia. This strategy is centered on re-orienting the structure of

---

1 Ahluwalia (2002) discussed the impact of liberalisation on India’s external sector since 1991.
2 ELG strategy was successfully experimented in Germany and Japan in 50s and 60s.
domestic production to promote exports. Based on the neoclassical principles of ‘efficient allocation of resources’ between sectors, it is envisaged that exports would act as the engine of growth. In the changed policy environment, with a rapidly growing export sector, stimulated domestic demand would encourage savings and capital formation to expand along with exports and economic growth. In the framework of the ELG strategy, which is consistent with the principles of the ‘Washington Consensus’\(^3\), exports gradually emerged as a growth simulator for the economy. The growing demand from the export sector paved the way for introducing new and efficient technologies in exporting firms to meet the required quality and standards of various products. The spill-over effects of technological upgrading in select export sectors were felt in the rest of the economy. With a strong undercurrent of exports in the domestic economy and continuous investment in the exporting sectors the supply potential of the economy in the tradable sectors\(^4\) increased over a period of time. This in turn strengthened the import capabilities of countries to support their increased need of the export sector.

During the post war period some of the more advanced countries within the developing world, such as the ‘Asian Tigers’, were practically at a similar level of development as that of India. The rapid growth of these economies over a period of more than two decades brought a new dimension to the ELG strategy as a development paradigm. Asia witnessed a ‘growth miracle’ in these countries during the period 1970 to the mid-1990s. However, the development gap between these countries and the rest of the developing countries has widened. A key factor for the phenomenal growth of these fast growing economies has been the ‘export boom’ following the adoption of the Export-Led Growth strategy, which has effectively integrated these economies with the global economy. This strategy allowed development to transmit through the external sector channel and export took the lead

\(^{3}\) For detailed discussion on the linkages between ELG and ‘Washington Consensus’, see Palley (2003).
\(^{4}\) Joshi and Little (1993) observed that the impact of trade policy reforms brought radical transformation in the production structure in India. There has been a noticeable shift in the production structure from non-tradable to tradable sectors.
in shaping the growth process through a restructuring of the domestic production structure.\footnote{While restructuring the production structure, priority has been given to the production of trables and limiting the size of non-tradable}

However, in the wake of the “Asian Financial Crisis”, the “High Growth Profile” of the ELG as a credible strategy for enhancing growth and economic welfare was called into question and its efficacy came under scrutiny. Inconsistent performances of some of the sectors during the period of crisis raised doubts about the relevance of export led growth as a growth stimulating strategy for developing countries (Felipe, 2003). This called for a new development paradigm, which would insulate developing countries from the possibility of economic crises because of external shocks. In the post-crisis phase a gradual switching of policies towards a Domestic Demand-Driven Growth (DDDG) strategy yielded positive results and placed the economy back on the path of sustained high growth.

Under the Domestic Demand-Driven Growth hypothesis expansion in the components of domestic demand would lead to an increase in economic growth. Some of the factors contributing to domestic demand are private investment, government expenditure, consumption, etc. The hypothesis emphasizes that GDP growth can be made sustainable with the deepening of domestic demand. Therefore, growth in output can be triggered by growth of aggregate demand. The central focus of this approach would be to enhance production capacity to comply with effective demand.

There are merits in both approaches to steering an economy so as to maintain steady growth over a long period. It is often mentioned in the literature that the two approaches are not competitive in nature. Although they appear to be competitive in many cases they are, nonetheless, complementary. It is frequently seen in the literature that empirical evidence does not support the dominance of any of these approaches in a country/region because they contribute differently in diverse situations. It is the prerogative of a country to determine its future development paradigm to guide its growth process, particularly toward a high growth trajectory.

There are many issues that need to be examined in the context of India. Is the present development paradigm of India inclined towards Export-Led Growth or
Domestic Demand-Led Growth? What is the nature of causality between GDP growth with exports on the one hand and GDP growth with domestic demand on the other? What are the linkages between GDP growth, exports, and domestic demand which would allow us to understand their long-term relationships in India? What is the possibility of the deepening of the East Asia Summit (EAS) countries’ integration through regional production network and contributing to domestic demand in India?

This paper begins by analyzing the debate on ELG and DDLG strategy in the context of large countries. Section 3 discusses the choice of India in adopting appropriate development strategies with the changing situations in the global economy. Section 4 presents an overview of the current literature on the dynamism of the two development strategies. Section 5 details the model used to examine the effectiveness of these strategies for India and section 6 presents the main empirical analysis of this paper. The key findings of this paper are summarized in the last section.

2. ELG and DDLG: Which Way?

Since the 1970s the ELG strategy has remained the dominant development approach for many developing Asian countries with an outward orientated trade strategy. Within a span of four to five decades, many developing countries have graduated from Low Income Countries (LICs) to Middle Income Countries (MICs) and then to High Income Countries (HICs). According to the World Bank (1987) the outward-oriented strategy is one where the incentive structure becomes neutral between import-substitution and export production strategies. The main line of argument is that an Export-Led Growth strategy never presupposes any supportive policy inducements in the form of subsidy or other incentives. The policy environment is expected to be non-interventionist, which does not discriminate between foreign or domestic production. ELG strategies such as; uniform rates of tariffs; discontinuation of quantitative restrictions, including import licensing or quotas; market–oriented exchange rates; and the replacement of discretionary controls with market-friendly laws and regulations, are acceptable to liberal policy
regimes. Krueger (1980) argues that when trade policies are biased in favour of exports, by way of providing direct subsidies or maintaining undervalued exchange rate, they are not sustainable in the long-run because of the heavy costs associated with these policies.

In practice the situation is different from what has been envisaged in the theoretical discourse on export-led strategy. Practically all countries that have achieved rapid economic growth sustained over a period of time using the Export-Led Growth strategy had strong export promotion policies to improve their export performance, including production restructuring in the domestic economy.\(^6\) The liberalization of trade policies that removed domestic protection was, in itself, not the full solution needed to improve substantially their external sector performance and boost domestic growth. This has been the case for Japan, South Korea, the Chinese province of Taiwan, Hong Kong, Singapore, and the old ASEAN countries among others. Such export promotion measures were initiated at the national level and sometimes at the regional level. Such broad export promotion measures include financial incentives, fiscal incentives, and factor incentives (Lutkenhorst, 1984).

Financial incentives include long-term loans and short-term refinancing of export credit. Provisions for various forms of export credit guarantees and insurance facilities are extended to promote exports in the short-run. Fiscal incentives cover a wide range of areas including tax holidays and reduction of tax. On several occasions numerous old ASEAN countries offered various tax deduction schemes, such as the cost of export promotion, organizational costs and pre-operating expenses, reserves for exchange rate fluctuations and losses from export sales in order to promote exports. Many countries in the region offered depreciation allowances to compensate for company losses. It was a common policy strategy in many countries to have a drawback of customs duty and excise tax on imports used for export production. There are export promotion policies to provide factor incentives as well. They include the subsidy of training programs\(^7\) and the official promotion of

\(^6\) Country experiences point out that several countries who have adopted ELG strategy have initiated ample of standard Export Promotion Policies to promote external sector performances. For details see Jung and Marshall (1985); Todaro and Smith (2006)

\(^7\) Such policies existed in Singapore. Some of these policies were Industrial Training Grant Scheme, Government-Industry Training Centre, Overseas Training Scheme, Industrial Development Scholarship Scheme.
Research and Development activities. Export Processing Zones (EPZs) exist in almost all countries that are pursuing an ELG strategy. These EPZs fall under the category of factor incentives. Financial and fiscal measures are effective in various sectors\(^8\) including electricity, water supply, and preferential administrative treatment among others.

The introduction of non-interventionist polices to ensure that there is no policy bias against external sector versus domestic sector is not enough to launch a successful ELG strategy. Rather government must introduce several export promotion measures to ensure sufficient drive is provided to support export growth. Such a trade policy regime is sensitive to exogenous shocks. When such a situation arises ELG strategy is under threat, and failure of this strategy has led to the possibility of switching\(^9\) to an alternative strategy. However, Export-Led Growth has its own limitations and therefore the failure of this strategy is likely at certain stages of economic development (Palley, 2011).

A long-term development strategy should put the economy on a high growth trajectory. In this context the new development paradigm of the Domestic Demand-Driven Growth stressed that over-dependence on external demand and foreign capital weakens the economic fundamentals of the crisis-ridden economies. Consequently, policies should be directed to move away from the mass production of manufacturing goods for exports and focus attention on private consumption to grow the manufacturing sector. The Domestic Demand-Driven Growth strategy is based on certain basic principles such as improved income distribution, good governance, financial stability, and a fairly priced supply of development finance (Palley, 2002). To strengthen these principles other initiatives are required to be introduced in selected areas including labor and democratic rights, financial reforms, debt relief, foreign aid, increased development assistance and others.

The Domestic Demand-Driven Growth strategy emphasizes a ‘dual-track’ strategy. This strategy underlines the need for stressing external demand (first track)

---

\(^8\) For details, see UNCTAD (1980)

\(^9\) Immediately after the ‘Asian Financial Crisis’ many countries in East Asia have initiated several Domestic Demand policies in the East Asia (See for details Mohanty and Chaturvedi, 2006)
and supporting the domestic sector (second track) to boost domestically produced goods and services (Lian, 2004).

DDLG does not oppose the principle of abandonment of exporting goods, rather, it encourages exports in a milder form in order to finance imports of intermediate and final goods, which are not produced in the domestic economy. It is, nonetheless, unquestionably in favor of abandoning efforts to create a market-friendly environment in order to attract an export-oriented Foreign Direct Investment (FDI).

Some of the broad policies emanating from the DDLG strategy have been discussed in the literature. Some elements of a Domestic Demand-Led strategy are as follows: 1) The tax structure is to be rebalanced in such a manner that the burden of taxation will be progressively borne by the wealthy rather than the poor; 2) Policies should aim at raising wages through productivity growth. The government’s role may be to encourage the implementation of a minimum wage rate, protecting labor rights, and improving collective bargaining with various mechanisms including the formation of labor unions; 3) A sizeable investment in public infrastructure should be implemented to cover the backlog of public investment opportunities, which has been pending for a long time; 4) Social safety nets should be strengthened in order to reduce the pressure on savings diverted for precautionary purposes; 5) An increase in the provision of public benefits which fall under the domain of the social sector including healthcare and education.

The current literature provides sufficient evidence to bring home the point that an Export-Led Growth strategy is not likely to be sustained for long (ADB, 2005; Palley, 2011) because of the changing global situation. The situation will become more complex for those countries that have joined the group of Middle-Income Countries and aspire to reach the level of a High-Income Country. To accommodate a national priority of sustained growth within the framework of global norms (i.e., commitments to climate change, global standards, global governance, etc), the appropriate development paradigm suggests maximizing an effective domestic demand with the support of Domestic Demand-Led Growth.

10 Policy priority for the export sector changes with the DDLG in comparison with the ELG. It gets less priority in the regime led by DDLG.

11 This aspect of DDLG is extensively discussed in the writings of Palley (2002).
For some emerging economies in Asia maintaining high growth targets has been the primary objective in recent years. In order to achieve this broad goal countries like China, and to some extent India, have tried to pursue both an Export-Led Growth and a Domestic Demand-Led Growth strategy simultaneously in an attempt to avoid complicated situations. This strategy has the potential to minimize the adverse effects of a global business cycle on the growth prospects of these economies and minimize the risk of a low growth rate (ADB, 2005; Mohanty, 2012a). Between China and India, China has achieved better success in employing these strategies with appropriate policy sequencing.

**Evolving Development Strategies in India**

During the last two decades the export sector has contributed considerably to the recent surge of the Indian economy. As far as liberalization is concerned, India has been lagging behind China for nearly one and half decades. The coming decade will be more crucial for the Indian economy as India has already reached a threshold level where the effects of sustained economic growth will become more visible. India’s growth, utilizing the ELG strategy, is expected to continue for several more years, particularly until it reaches the level of an Upper Medium Income Country. The country’s demographic return has been high and the real wage rate has been much lower than in many emerging countries. With its large technical manpower pool, along with a low wage rate, continuation of the ELG strategy would ensure the country’s improved competitiveness with respect to other countries of the world. The New Manufacturing Policy\(^\text{12}\) of India emphasizes the expansion of knowledge-intensive industries with an intent to enhance the contribution of the industrial sector to the overall output of the economy. Expected expansion in the manufacturing sector’s output would support the export sector to become more manufacture-oriented and create more ‘white collar’ jobs in the economy.

The present protracted recession has cast a shadow on the growth prospects of India. The Indian government initiated several policies which have contributed to the growth of domestic demand. The Employment Guarantee Scheme has robustly

\(^{12}\) New Manufacturing Policy emphasizes rapid progress in knowledge-intensive industries.
empowered people in the country, particularly in the countryside. The incremental effective demand was such that it absorbed the adverse effects of the recent recession in the country and provided enormous support to the growing industrial sector. The new manufacturing policy would create a new capacity in the country and generate large employment for skilled and semi-skilled workers. India’s FDI policies were liberalized systematically during the second generation of reforms. Because of these policies, India has been the second most attractive destination for FDI after China during the last several years. The investment of 500 billion USD in the country’s road infrastructure over the next decade is an initiative designed to create domestic capacity to improve production and marketing activities in the country. A new policy to develop the Special Economic Zones (SEZs) in the country has been an attempt to promote production hubs for export promotion. India’s decision to improve fiscal outlay on education and R&D activities is a step forward to increase production capabilities in the country. Moreover, the government has introduced several social security schemes that benefit senior citizens, unemployed youths, and other sectors of society. These policies are part of the domestic demand-led growth strategies.

A critical examination of India’s development strategy indicates that a combination of both ELG and DDLG strategies have been employed over recent years, particularly after the ‘Asian Financial Crisis’ (Mohanty & Chaturvedi, 2006). During the global recession development policies were more inclined towards the DDLG strategy to maintain the high growth momentum. During the phase of global recovery exports are projected to be the major factor of growth with an emphasis on Globally Dynamic Products (Mohanty, 2009). This study empirically examines whether India’s development strategy is ELG, DDLG, or both.

Irrespective of India’s present development paradigm, DDLG will be the fundamental element of its development strategy for the long-run. The regional impact could be a major motivating force for India to adopt the new strategy. It would be more attractive if most of the East Asian Summit (EAS) countries followed

---

13 With market-friendly policies, FDI has started flooding into the Indian market during the second generation of reforms.
14 An empirical analysis of Domestic Demand Led Growth for Malaysia is examined in a cointegration framework (Lai, 2004).
the development paradigm of Malaysia\textsuperscript{15}. For DDLG to succeed in the region countries would need to deepen the regional integration of the EAS. Such integration would go beyond trade and investment and would cover production and engagement of temporary skilled and semi-skilled workers. Recent evidence indicates that the ASEAN+3 region has progressed on account of the regional production networking (WTO and JETRO, 2011) and India was also integrated in the process (Mohanty, 2012b) but to a much lesser degree. There is a need to deepen the regional production network in the ‘parts and components’ sector, which would affect production and trade inter-dependency within the member countries of the EAS. Since countries in the EAS are at different levels of economic development it would be difficult for them to embrace a single development strategy. Even without a common development strategy for the member countries, EAS integration could be possible in order to achieve the desired goals.

3. Appropriate Development Strategy for India

\textit{Constraints to Economic Development}

1. India has graduated from a low growth inward-oriented economy to a high growth liberal economy with a changed perception towards liberal policies.

2. While India’s policy regime was dominated by the Import Substitution Industrialization (ISI) strategy, the exchange rate was under the control of the government. When the economy was short of foreign exchange in an earlier regime, the spending of hard currencies was discouraged.

3. The intellectual property rights (IPR) regime was not stringent in India and process patents were in operation. Therefore, India was lacking access to new technology due to the potential threat of impinging on IPR rights in the country.

4. Under the ISI strategy the role of FDI was minimal in supporting industrialization in the country and therefore India had a controlled FDI administration until late 1980s.

\textsuperscript{15} Being an Upper Middle Income country, Malaysia has realised that it is gradually losing its manufacturing competitiveness in a large number of products in the manufacturing sector. It is now turning to adopt a DDLG strategy to overcome impediments to reaching the level of a HIC.
5. India’s industrial development was guided primarily by the state. Public Sector Undertakings were the main influences of industrialization in the country. Therefore resources were flowing from domestic sources through the state. Since the role of the private sector was minimal during the earlier regime the capital market was under-developed before countrywide reforms in India.

6. Historically India is a net importer of essential products including crude oil. Nearly 70 per cent of India’s domestic need for oil was imported and India had persistent external sector imbalances. This was the primary reason for its foreign exchange constraints.

7. ISI strategy was in operation in India and trade management was highly protected to restrict imports. This has encouraged the development of a highly protectionist system with high border tariffs. High protection in India has inhibited India from participating in the regional process in a more active manner.

**Emerging Development-Related Issues**

8. As India has entered into the group of Middle Income Countries, some of the advantages that India used to enjoy previously as a Low Income Country are likely to be lost in the process. This has amounted to a loss of competitiveness in both domestic production and the export sector.

9. The transition of policy switching from an ELG to DDLG strategy because of a loss of competitive edge in exports and the shrinking of the external market to absorb exports is possible.

10. However, India still has a competitive edge in several sectors globally and it will take several decades to fully exhaust this competitive advantage.

11. Present growth and exchange rate difficulties are short term in nature and these difficulties can be resolved over a period of time, since they are not structural, but rather they are induced by external shocks. Government is determined to bring in orderly reforms with a view to addressing these critical issues that endanger the economic stability of the country.

12. India has been successful in utilizing both DDLG and ELG strategies in order to maintain high growth in the presence of recurrent global business cycles. China has also pursued similar policies, achieving a significant advantage from such an experiment (ADB, 2005 and Mohanty, 2012a).

13. India will eventually switch to a DDLG strategy in the long-run, but it can only happen when the relevance of the ELG has completely subsided for the Indian economy and the domestic economy loses its global export competitiveness in major sectors.

14. India, therefore, is likely to continue managing both a DDLG and an ELG strategy in order to maintain steady growth over a period of time rather than switching over to DDLG completely in the medium term. The empirical evidence
for this trend was recently examined for India and China (Mohanty, 2012b). This has been the case for many developing counties, as evidenced by the literature.

15. The driving forces for DDLG may differ from one country to another. Any of the domestic demand factors such as consumption, investment, or government expenditure, can take the lead in pushing the growth performance of an economy, as shown from the experiences of countries in the past. It may so happen that any one or two domestic demand factors can take the lead for an economy. There are numerous cases seen in the literature where development strategy has been steered by ‘consumption-led’ growth or ‘investment-led’ growth.

16. In the case of India, domestic demand was not driven by investment during the 70s, 80s or 90s. Investment has only become significant in the income identity in recent years.

17. The size of domestic absorption is likely to grow in the future as India is embarking on knowledge intensive industrialisation. Since India’s trade is being ‘Asia centric’, its economic expansion would provide more market access to EAS economies.

**India’s Trade with EAS**

Since India started its comprehensive reforms in 1991 external sectors received a major impetus for quick growth and contributed to the overall growth performance of the country. During the period 1991-2010, India’s external sector grew faster than its GDP, as shown in Table 1. While GDP registered more than a five and half percent increase, exports and imports grew more than 12 and 15½ times respectively during the same period. Growth performances of the GDP and trade sectors have been significant and sustainable except for certain periods affected by exogenous shocks. It is observed that external sector growth performances have been robust under the conditions of global buoyancy. The contraction of global activities has been detrimental to India’s external sector performance. As India has become an emerging economy with a heavy mandate to be industrialised in the coming years import growth has been faster than that of exports, emphasising a growing need for an industrial intermediate in the domestic economy. In the process, the surging export sector has been over-shadowed by a chronic trade deficit and rising current account deficit. In this context trade in services provides a cushion to the overall trade balance. India’s trade engagement with the rest of the world is tilting towards the developing countries and more specifically Asia. Therefore the direction of India’s trade is sometime termed ‘Asia Centric’ (Mohanty and Arockiasamy, 2010).
Trade engagement of India with ASEAN has been very special and this has been expanding to the whole of East Asian Summit (EAS) countries.

Table 1: India’s Trade Linkages with the EAS

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP</th>
<th>Exports</th>
<th>Imports</th>
<th>India’s bilateral trade with EAS</th>
<th>Exports</th>
<th>Imports</th>
<th>Share of EAS in India’s total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Exports</td>
<td>Imports</td>
<td>As a ratio of GDP (%)</td>
<td>Exports</td>
</tr>
<tr>
<td>1991</td>
<td>287233</td>
<td>17727</td>
<td>20448</td>
<td>3186</td>
<td>3268</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td>1992</td>
<td>289708</td>
<td>19628</td>
<td>23579</td>
<td>3302</td>
<td>4440</td>
<td>6.8</td>
<td>8.1</td>
</tr>
<tr>
<td>1993</td>
<td>283231</td>
<td>21572</td>
<td>22788</td>
<td>4012</td>
<td>3888</td>
<td>7.6</td>
<td>8.0</td>
</tr>
<tr>
<td>1994</td>
<td>321553</td>
<td>25022</td>
<td>26843</td>
<td>4559</td>
<td>5829</td>
<td>7.8</td>
<td>8.3</td>
</tr>
<tr>
<td>1995</td>
<td>365020</td>
<td>30630</td>
<td>34707</td>
<td>5588</td>
<td>7255</td>
<td>8.4</td>
<td>9.5</td>
</tr>
<tr>
<td>1996</td>
<td>376220</td>
<td>33105</td>
<td>37942</td>
<td>6327</td>
<td>7666</td>
<td>8.8</td>
<td>10.1</td>
</tr>
<tr>
<td>1997</td>
<td>421042</td>
<td>35008</td>
<td>41432</td>
<td>6172</td>
<td>9176</td>
<td>8.3</td>
<td>9.8</td>
</tr>
<tr>
<td>1998</td>
<td>424435</td>
<td>33437</td>
<td>42980</td>
<td>4862</td>
<td>10465</td>
<td>7.9</td>
<td>10.1</td>
</tr>
<tr>
<td>1999</td>
<td>453659</td>
<td>35667</td>
<td>46979</td>
<td>5170</td>
<td>11222</td>
<td>7.9</td>
<td>10.4</td>
</tr>
<tr>
<td>2000</td>
<td>476350</td>
<td>42379</td>
<td>51523</td>
<td>6201</td>
<td>9986</td>
<td>8.9</td>
<td>10.8</td>
</tr>
<tr>
<td>2001</td>
<td>487799</td>
<td>43361</td>
<td>50392</td>
<td>8313</td>
<td>13983</td>
<td>8.9</td>
<td>10.3</td>
</tr>
<tr>
<td>2002</td>
<td>510285</td>
<td>50372</td>
<td>56517</td>
<td>8975</td>
<td>12310</td>
<td>9.9</td>
<td>11.1</td>
</tr>
<tr>
<td>2003</td>
<td>590968</td>
<td>58963</td>
<td>72558</td>
<td>11361</td>
<td>17962</td>
<td>10.0</td>
<td>12.3</td>
</tr>
<tr>
<td>2004</td>
<td>688740</td>
<td>76649</td>
<td>99775</td>
<td>15203</td>
<td>23994</td>
<td>11.1</td>
<td>14.5</td>
</tr>
<tr>
<td>2005</td>
<td>808668</td>
<td>99620</td>
<td>142842</td>
<td>21338</td>
<td>33383</td>
<td>12.3</td>
<td>17.7</td>
</tr>
<tr>
<td>2006</td>
<td>908465</td>
<td>121806</td>
<td>178474</td>
<td>26395</td>
<td>48065</td>
<td>13.4</td>
<td>19.6</td>
</tr>
<tr>
<td>2007</td>
<td>1152810</td>
<td>149951</td>
<td>228686</td>
<td>33343</td>
<td>65785</td>
<td>13.0</td>
<td>19.8</td>
</tr>
<tr>
<td>2008</td>
<td>1251370</td>
<td>194531</td>
<td>320785</td>
<td>36382</td>
<td>79189</td>
<td>15.5</td>
<td>25.6</td>
</tr>
<tr>
<td>2009</td>
<td>1253980</td>
<td>164921</td>
<td>257187</td>
<td>36001</td>
<td>78201</td>
<td>13.2</td>
<td>20.5</td>
</tr>
<tr>
<td>2010</td>
<td>1597950</td>
<td>216868</td>
<td>323624</td>
<td>49495</td>
<td>115813</td>
<td>13.6</td>
<td>20.3</td>
</tr>
</tbody>
</table>


India is moderately integrated with ASEAN and has significant trade ties with other EAS countries. India is in the process of concluding a bilateral free trade agreement (FTA) with ASEAN. India has a bilateral FTA (Comprehensive Economic Partnership Agreement, CEPA) negotiation with many individual countries in ASEAN and has similar types of arrangements with most of the EAS countries outside the ASEAN region. Most of these agreements are either concluded or at an advanced stage of negotiations. The relevance of these agreements is immense for India, as India has been closely integrated with these economies since the early 1990s. In fact the import dependency of India is becoming strong within ASEAN as a result of continued reforms in the domestic economy, though bilateral export from India is not coping with its expanding imports from the region. With the rising
import bill the bilateral trade gap of India with the region has widened and the situation was aggravated further with the recent recession.

The above trends suggest that India is likely to provide wider market access to ASEAN countries including other EAS countries as long as it is continuing a sustained high growth, at least in the medium-term. This is irrespective of whether growth is the result of the ELG, the DDLG, or both. It is important to observe the appropriate strategy that India has to pursue considering its economic strength. ASEAN countries are consistently growing because of their strong intra-regional flow in trade (Filippini & Molini 2003). For sustainable trade ties between India and ASEAN or other members of the EAS, a wider bilateral cooperation is required at regional levels in various sectors including the regional value chain.

Towards An Appropriate Development Model for India

India’s recent development approach is embedded with the features of ELG and DDLG strategies to insulate the domestic economy from the adverse impact of the global business cycle. Inspired by the Chinese experience, India is experimenting with the new strategy. If the strategy performs in the desired manner, most of India’s development related constraints could be effectively addressed. This would facilitate rapid integration of India with the ASEAN process.

4. Literature Survey

The Export-Led Growth hypothesis has been dominating the development literature for the last four decades. Several studies examined the relationship between exports and growth in the 1970s and 1980s. Many of these studies (Michaely, 1977; Heller and Porter, 1978; Tyler, 1981; Feder, 1983; Kavoussi, 1984; Ram, 1987; Mohanty and Chaturvedi, 2006; Wah, 2004; Wong, 2007 & 2008) have supported the assertion that export growth has a strong association with the growth of real output. However, causation between the two variables is not established with certainty among different cross-sections of countries and at different points of time.
During the last several decades such relationships were examined in the framework of time-series and a cross-section of countries.

Several studies have (Jung & Marshall, 1985; Hsiao, 1987; Bahmani-Oskooee, et al., 1991; Dodaro, 1993; Love, 1994; Love and Chandra 2005; Allaro, 2012) used different time-series approaches to lend support to the Export-Led hypothesis. Their results do not conclusively support the hypothesis; rather they are mixed in nature. Taking a sample of 87 countries, Dodaro (1993) examined the causality between export growth and real income growth. Results of the study found weak support for the hypothesis that export growth promotes GDP growth. Using the Granger causality, Jung & Marshall (1985) found that the Export-Led Growth hypothesis supported ten per cent of the sample in the cross-country analysis. The results of Bahmani-Oskooee, et al., (1991) demonstrated some agreement with the Export-Led Growth hypothesis, although on balance the evidence was inconclusive. Using Johansen’s multivariate approach to co-integration, Love & Chandra (2005) examined the Export-Led Growth hypothesis for Bangladesh. The findings suggest that the direction of both long and short-term causality is from income to export and therefore countries with inward oriented trade strategies discriminate against exports.

In several countries both ELG and DDLG strategies are pursued simultaneously in order to insulate the domestic economy from the adverse impact of the global business cycle. Several studies have observed that empirical results do not strongly support the export-led position. This is because of the missing impact of DDLG misspecification in the model. In many other cases both development paradigms are empirically found to be important in contributing to growth, meaning that simultaneously pursuing these two strategies is important in order to optimise domestic welfare. Lin and Li (2002) studied the contribution of the external sector to GDP growth to examine the efficacy of Export-Led Growth in China. They proposed a new methodology to estimate direct and indirect contributions of exports to GDP growth. Their results indicate that a 10% increase in export growth led to 1% growth in GDP in the 1990s.

Wah (2004) tried to examine the specific paradigm of development that contributed to the high growth phase of the Malaysian economy during the period between 1961 and 2000. During the high growth period the export factor remained
an important factor in the economic transformation of the economy. However, various studies examining the Export-Led hypothesis in Malaysia found weak support for the Export-Led Growth hypothesis over the long run. This could be because of the exclusion of various factors relating to domestic demand in the models. Results of the study support a domestic demand hypothesis in the long run but the Export-Led hypothesis was not supported by the evidence. In another study Wong (2008) examined the relevance of a development stance of some of the South East Asian countries, particularly the ASEAN-5, during and after the ‘Asian Economic Crisis’. The regional overview revealed that there was bilateral Granger causality between exports and economic growth and private consumption and economic growth. The findings did not reveal that the crisis in the region was due to export-led growth. The broad conclusion of the study is that sustained economic growth requires steady growth in exports and domestic demand. A similar hypothesis was examined by Wong (2007) for several Middle East countries such as Bahrain, Iran, Oman, Qatar, Saudi Arabia, Syria, and Jordan. It found the sustainability of economic growth went in conjunction with the growth of both exports and domestic demand. However, the results were less conclusive in supporting any development strategy responsible for sustained economic growth in the Middle East region.

An overview of the current literature highlights the role of both exports and domestic demand to place economic growth on high growth trajectory in a sustainable manner. The exact sequencing of policies and their impact on the growth prospects of a country are empirical issues and needs to be examined for India.

Another trend can be ascertained from the empirical studies that deal with alternative development paradigms adopted by different countries at different stages of their development. In the empirical literature, the DDLG model is represented by GDP in the income identity of the national income with one or more variables such as household consumption, investment, and government expenditure. Therefore, the choice of exogenous variables needed to examine a DDLG model is not clearly articulated in the literature. This is because the impetus for growth is different for individual countries and for distinctive periods. For example, FDI became an important growth agent in India towards the middle of the last decade having been
almost irrelevant since India’s independence. Similarly for the ELG strategy most of the studies examine the relationship between income and the export variables. Others replace export variables with either imports or openness (i.e., sum of exports and imports) and sometimes with other related variables like terms of trade (Love and Chandra, 2005). Therefore, the choice of variables to represent the models of ELG and DDLG are mostly left to the researcher to take into consideration for the period of study and the relevance of variables based on their statistical significance and support from current literature.

The existing literature pertaining to the debate on the appropriate choice of development strategy highlighted in the context of China and India reveals that both countries selectively used ELG and DDLG strategies at different periods in order to minimize the detrimental effects of global business cycles on their growth performance (ADB, 2005; Mohanty and Chaturvedi, 2006; Mohanty, 2012b). In economic history since the 1970s, a shifting of development strategies has been taking place consistently in modern development thinking. This has been a well-established practice among developing countries. In large countries the low wage rate remains a driving force for maintaining export competitiveness in the manufacturing sector, leading to cheap mass production of goods, thus contributing to adoption of the ELG. Development problems surface in these large countries when structural problems arise along with the operation of global business cycles. As these countries experience rapid growth sustained over a period, there is a sudden worsening of the situation because of structural problems which is construed as an abnormal situation. Therefore, attempts to implement alternative development strategies to respond to the adverse global conditions at different periods are made, in an attempt to maintain a sustained high income growth.

In the larger emerging countries in Asia the sequencing of development strategies has become apparent during the last two decades. Low Income Countries determined to undertake irreversible comprehensive economic reforms engage in the ELG strategy. The development strategy begins to change as they become Middle Income Countries. By losing the advantages of being a Low-Middle Income Country – in terms of low wage cost, productivity, soaring land prices, and other input prices, etc. – the occurrence of external shocks in the global economy brings policy tremors
to these emerging countries. At this stage of development, where these countries are experiencing a high rate of growth, any hindrance to this growth is not welcome to these economies. In such a situation there is the need for a duel strategy to deal with the temporary abnormal situations with the DDLG, and to maintain a high growth performance despite the global slump. Countries find it difficult moving up to the Upper-Middle Income Country level of economy. These countries continue to feel that ELG has very little relevance to impel these countries to a high growth trajectory in order to place them in the group of High Income Countries. In such a situation DDLG could be the most suitable alternative to help them join the league of HICs. Empirical evidence shows such transitions taking place in the case of many countries. However, this is an empirical question, which needs to be examined further with empirical evidence.

5. Model

As is evident from the literature\textsuperscript{16} that many countries have maintained a high growth by pursuing the policy of ELG over a long period of time. Certain countries like India and China have used both DDLG and ELG strategies simultaneously to maintain steady growth by adjusting to the global business cycle. The major objective of the study is to find the relationship between these alternative development strategies and economic growth by using certain macroeconomic variables, which are representing these strategies in an economic model for India. Therefore, our approach is to examine the relationship between economic growth and other exogenous variables like domestic consumption, government expenditure, and openness in India. The review of the literature presents ample insights to demonstrate that there is a co-integrating relationship between economic growth, domestic consumption, government expenditure, and trade. Some earlier studies have used openness in place of exports to represent ELG where the external sector is growing fast along with having a large share in GDP. Considering the expanding nature of the trade sector in India we have chosen to include openness rather than

\textsuperscript{16} Refer Ghatak, Milner and Utkulu, 1997; Ekanayake, 1999; Herzer, et al., 2004.
real exports in the model. In India, import demand is mostly driven by exports, though the component of autonomous imports has been significant. A strong correlation between exports and imports has created a strong case for the inclusion of openness as a variable in the model in place of exports to represent ELG. Similarly the DDLG strategy is represented by two variables in the model, namely private consumption and government expenditure.

Based on the review of the literature in the previous section the ELG-DDLG hypothesis is examined using four macroeconomic variables, which are as follows:

$$\text{RGDP}_t = f (\text{RCONS}_t, \text{RGOV}_t, \text{ROPEN}_t)$$  \hspace{1cm} (1)

Where $\text{RGDP}_t$ denotes real GDP; $\text{RCONS}_t$ for real household consumption; $\text{RGOV}_t$ for real government expenditure and $\text{ROPEN}_t$ for the sum of real exports and imports of India in time period $t$. The variables in equation (1) are in Indian local currency and also in constant prices. This could minimize the measurement error in converting them into international currencies. It is evident from the literature that while examining the relevance of an ELG or DDLG strategy for a country or group of countries, one or more explanatory variables may be included in a model to represent a strategy. In the present case the DDLG strategy is represented by two exogenous variables, namely real household consumption ($\text{RCONS}_t$) and government expenditure ($\text{RGOV}_t$), whereas the ELG strategy is represented by single exogenous variables ($\text{ROPEN}_t$) to examine their long-run relationship with the growth variable.

For estimation purposes the model specification is important, particularly the choice between linear and log-linear models because they affect the explanatory power of the model. In the literature there are different tests for the selection of the appropriate model, but the dominant thinking is in favor of the non-linear model\textsuperscript{17} because of certain advantages associated with it.

In this context the relevance of simultaneous equation modeling is important. It provides internally consistent estimates and accounts for the time series properties of variables. Co-integration methods have been normally used, as is shown in the

\textsuperscript{17} For more discussion on the issue, refer Khan and Ross, 1977; Boylan, \textit{et al.}, 1980; and Doroodian, \textit{et al.} 1994.
literature, to take note of the problem of endogeneity in the time series framework. The advantage of this method is its capacity to model non-stationary series in levels and generate both long run and short run dynamics. It is evident from the literature that parameter estimates of the Johansen’s co-integration approach are unbiased and consistent due to the incorporation of the VAR framework in the co-integrating system.

In such cases examining the presence of a long-run relationship between the variables, the co-integration and ECM, is considered to be the better method. When the variables are non-stationary at level but are integrated of the same order there can still be a long-run relationship between them. When the variables are co-integrated there exists a stable long-run relationship between the variables. Once the co-integration among the variables is established the ECM is estimated to examine the short-run dynamics of the relationship. When variables are co-integrated in a model with a given order they have VECM. The Vector Error Correction Model (VECM) representation of the Johansen approach is presented as the following:

$$\Delta X_t = \alpha(\beta X_{t-1} + \mu + \rho t) + \sum_{i=1}^{k-1} \Gamma_i \Delta X_{t-i} + \gamma + \epsilon_t$$

(2)

$X$ represents the vector of I(1) endogenous variables. As discussed earlier, endogenous variables in the model are the following: LRGDP, LRCONS, LRGOV, and LROPEN. The parameter $\gamma$ is the deterministic trend term in the model. The individual VAR equations in the VECM estimate provides the short-run dynamic and ‘$\alpha$’ measures the speed of adjustment in the error correction process. The ‘$\beta$’ coefficients indicate a long-run relationship among endogenous variables in the model.

In the present study, the Augmented Dicky-Fuller (ADF) test is applied to test the order of integration of endogenous variables. To test the presence of co-integration the Johansen (1988) approach has been applied. In this approach the number of co-integrating relations is tested on the basis of trace statistics, maximum Eigen statistics, and minimum information criteria. Similarly, the number of lags in the model is determined by the number of information criteria. Once the presence of
co-integration is established we estimate an ECM that includes both long-run and short-run information.

In the present study various multilateral sources are used to collect data and focus on various dimensions of the study. We have sourced various components of national income time series data from UN Statistical Division *National Accounts Main Aggregates Database*. For India we have taken GDP and its components in national currencies at constant prices. Though we have taken data for the period 1970-2010, we used data for the period 1974-2010 in the empirical analysis. India passed through a critical phase between 1971 and 1973 because of India’s war with a neighboring country in 1971 and the global oil crisis in 1973. The situation became relatively calm during the subsequent period. We have also taken trade data from the UN *Comtrade* and *Direction of Trade Statistics*.

Representing alternative policy strategies, different studies have modeled these development strategies (i.e., ELG or DDLG) by linking the income variable with one or more factors. For example, while examining Domestic Demand-Led Growth strategy in a modeling framework, various forms of model specification are found in the literature (i.e., models starting from two-variable to multi-variable ones). In most of these cases efforts are made to link GDP with consumption, investment, or government expenditure in a model. From these exogenous variables one or more variables are chosen to complete the system of equations to examine their long-run relationships with the income variable. Empirically it is insignificant to demonstrate whether one or more independent variables are considered to complete the system of equations. It is important how meaningfully these variables are integrated in a system of equations. The choice of variables between consumption, investment, and government expenditure, for their inclusion in the model, is in the exclusive domain of the researcher to build a model appropriately to justify position of a country. In such empirical analysis, the statistical significance of variables and other considerations are important for presenting a complete system of equations in a model.\(^{18}\)

\(^{18}\) Recent studies examine the efficacy of these hypotheses using VECM and other methodologies, which are based on systems of equations.
While modeling Export-Led Growth, the income variable is linked with exports, imports, or openness. Countries have different experiences concerning their current account situations. Some studies also use other variables, which are not figured in the income identity. For example, Love and Chandra (2005) used a terms of trade variable in the model. It is very difficult to reflect which variables are to be included in the system of equations for a model like ELG.

In the present analysis we have attempted to examine the relevance of both strategies with reference to India using time series data. We have experimented with several variables to develop an appropriate model. We have tried to examine the linkages between GDP and investment along with other variables. Taking into account the present literature and empirical analysis, we have chosen consumption and government expenditure to represent Domestic Demand-Led Growth and openness to characterize export led growth in the following empirical analysis.

6. Results

It may be mentioned that India’s sustained growth performance has been the outcome of its continued reliance on the twin development strategies of DDLG and ELG to adjust its domestic regime to the global economic environments during the last decade. In the empirical analysis long-run relationships between income growth and domestic demand factors (i.e., consumption and public consumption) as well as the external sector, represented by openness are examined.

From the outset it is necessary to examine whether the variables in the estimated equation (2) are stationary and also to determine their orders of integration. We have used the Augmented Dickey Fuller (ADF) test to find the existence of unit root in each of the time series variables. The results show that the variables used in the model are not stationary at levels as presented in Table 2. This is examined by comparing the observed value of the ADF test statistics with the critical values of the test statistics at the 5% level of significance. The ADF test suggests strong evidences of non-stationarity for all variables included in the model. Therefore, the null

---

19 The results of the Johansen co-integration test reveal that there is a weak long run relationship between income growth and investment.
The hypothesis is accepted by confirming the presence of unit root in the variables at levels.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Test Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
</tr>
<tr>
<td>Real GDP (LRGDP)</td>
<td>1.170</td>
</tr>
<tr>
<td>Real Govt. Expenditure (LRGOV)</td>
<td>0.257</td>
</tr>
<tr>
<td>Real HH Consumption (LRCONS)</td>
<td>1.436</td>
</tr>
<tr>
<td>Openness (LROPEN)</td>
<td>1.846</td>
</tr>
</tbody>
</table>

* indicates significance at 5% level.

LRGDP: the log of real Gross Domestic Product; LRCONS: the log real household consumption; LRGOV: the log of real government expenditure an LROPEN: the log of openness

As model variables are found to be non-stationary at levels, the ADF test was conducted on the first difference of each of these variables. The ADF tests on first difference suggest that the null hypothesis of non-stationarity is rejected and therefore variables are stationary at first difference. Since variables in the model are integrated of order one i.e., I(1), they could be considered in a co-integration model to examine the possible long-run co-integrating relationships among them and also their short-run dynamics.

Before considering the co-integration test it is worth examining the autoregressive structure in the model variables. It is important to set the appropriate lag length, k, of the VAR model in order to ensure that the error terms in the vector error-correction model (VECM) are Gaussian and the estimated residuals satisfy the properties of no residual autocorrelation and normality. Different criteria to determine the lag length of the variables are used in this case. Results of four test criteria including FPE, Akaike Information Criteria (AIC), HQIC, and Schwarz Bayesian Information Criterion (SBIC) suggest at least one lag in the VECM model is to be estimated.

Johansen (1988) and Johansen and Juselius (1990) derived the likelihood ratio test for the hypothesis of ‘r’ co-integrating vectors in the model. In the literature the co-integrating rank, r, can be tested with three statistics e.g. trace statistic, maximal Eigen value, and minimum information criteria and any two tests can be used to
examine the co-integrating ranks\textsuperscript{20} among the variables included in the model. In the present case trace statistics and the Schwarz Bayesian Information Criterion (SBIC) are used to examine co-integration ranks among the model variables. Furthermore, the procedure for the choice of the appropriate number of co-integrating vectors (r) stops when the null hypothesis is accepted for the first time. In the present empirical exercise both trace statistics and the SBIC-based minimum information criteria suggest the presence of two co-integrating vectors among these four variables (Table 3). This implies that there exist two unique long-run equilibrium relationships between GDP, consumption, government expenditure, and openness for India.

**Table 3: Johansen ML Test for Co-integration**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Trace Statistics</th>
<th>Minimum information Criteria (SBIC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>61.30</td>
<td>-11.10</td>
</tr>
<tr>
<td>1</td>
<td>35.33</td>
<td>-11.12</td>
</tr>
<tr>
<td>2</td>
<td>12.64\textsuperscript{*}</td>
<td>-11.24\textsuperscript{#}</td>
</tr>
<tr>
<td>3</td>
<td>4.49</td>
<td>-11.17</td>
</tr>
<tr>
<td>4</td>
<td>--</td>
<td>-11.20</td>
</tr>
</tbody>
</table>

*Note: SBIC: Schwarz Bayesian Information Criterion. * indicates significance at 5% level. # indicates the rank identified by the criteria.*

The estimates of the long-run co-integrating equation are presented in Table 4. In the equation (2), ‘\(\beta\)’ vector represents long-run estimates of the co-integrating equation. Signs of the normalized coefficients are to be treated opposite while interpreting the computed results. As expected the results affirm the existence of long-run co-integrating relationships among GDP, consumption, government expenditure, and openness for India.

**Table 4: Long-run Estimates of Cointegration Equation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimated coefficient</th>
<th>Standard error</th>
<th>Z-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP (LRGDP)</td>
<td>1.0000</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Real Govt. Expenditure (LRGOV)</td>
<td>-0.4522\textsuperscript{*}</td>
<td>.0559</td>
<td>-8.08</td>
</tr>
<tr>
<td>Openness (LROpen)</td>
<td>-0.2938\textsuperscript{*}</td>
<td>.0330</td>
<td>-8.90</td>
</tr>
<tr>
<td>Real HH Consumption (LRCONS)</td>
<td>-0.0005</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.901</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>(\chi^2)</td>
<td>5122.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>236.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{20}We have examined all the three tests mentioned above, but the maximum eight tests did not turn out to be significant. We took results of other two tests for analyzing the results.
Note: * indicates significance at 5% level. The restricted co-integrating vector is obtained after normalization, i.e. after putting the coefficient of LRGDP=1. Note that the trend is not included in the co-integrating vector as it is insignificant.

The long-run relationship can be expressed in the following form:

\[ \text{LRGDP} = 3.901 + 0.0005 \text{LRCONS} + 0.4522 \text{LRGOV} + 0.2938 \text{LROPEN} \]

The signs of all the coefficients in the normalized co-integration equation are positive, as expected. The significant relationship between government expenditure and GDP with a coefficient of 0.4522 indicates that a 10 percent increase in government expenditure leads to more than a 4.5 percent increase in real income (GDP). Similarly, openness is expected to affect GDP significantly in India. GDP is likely to rise by 2.9 percent with a 10 percent rise in India’s openness in the long-run. Unlike government expenditure and openness, a robust response is not expected from consumption on real income. This may be due to the declining share of consumption in overall GDP on account of a sharp rise in the contribution of the external sector. However, the sector accounts for a significantly larger proportion of the total real income of the country. Besides leaving a substantial impact on the composition of domestic output and local employment a large degree of consumption and growing influence of openness could have important policy implications for India.

### Table 5: Error Correction Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimated coefficient</th>
<th>Standard error</th>
<th>Z-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(LRGDP)</td>
<td>-0.7118***</td>
<td>0.1671</td>
<td>-4.26</td>
</tr>
<tr>
<td>D(LRGOV)</td>
<td>0.3192</td>
<td>0.2184</td>
<td>1.46</td>
</tr>
<tr>
<td>D(LROPEN)</td>
<td>0.4977*</td>
<td>0.2987</td>
<td>1.67</td>
</tr>
<tr>
<td>D(LRCONS)</td>
<td>0.0538</td>
<td>0.1544</td>
<td>0.35</td>
</tr>
</tbody>
</table>

*Note: ** and * indicate significance at 1% and 5% levels respectively.*

The result of the ECM is given in Table 5. The model seems to be appropriate and confirms the diagnostic test. The negative coefficient of the error term is indicative of the fact that the long-run relationship is stable in the model. Any disequilibrium in the short-term could be temporary in nature and is likely to be corrected over a period of time. It is imperative from the adjustment parameter that GDP will adjust about 71 percent of its total deviation from the long run equilibrium level in each time period. The result further shows that consumption, government
expenditure, and openness have positive and significant relationships with economic growth in the short-run. Export has a positive influence on GDP but its contribution is not statistically significant.

**Figure 1: Orthogonalized Impulse Response Function (3-Year Horizon) GDP Function**

(a) Impact of Shocks in Openness on GDP

(b) Impact of Shocks in Govt Exp. on GDP

In addition to the numerical coefficient estimates, the patterns on the impact of shocks to any of the model variables on any variable in the model could be visually discerned from the Impulse Response Functions (IRFs). IRFs present indications concerning the shock persistence and short-run adjustment mechanisms, if there is any. We have experimented with the implication of shock responses on real GDP over a forecast horizon of three years. The IRFs shown in Figure 1 indicate that the shocks to openness and government expenditure have significant impact on GDP in the first year and the effects are expected to persist in subsequent years with a gradual decay of the shock effects.

7. Conclusions

The debate on the choice of the appropriate development strategy for countries in Asia, particularly in the East Asian Summit, has been circulating since the last ‘Asian Financial Crisis’ in the late 1990s. The experiences of East and South-Asian countries are clearly pointing towards Export-Led Growth as the most credible
development strategy, which placed most of the regional countries on a high growth trajectory. As the global economy is in deep turmoil with the recent recession, followed by the Eurozone crisis, the return of buoyancy in the world economy is difficult to predict in the medium term. The existing literature stresses that the DDLG strategy could generate more synergies which could trigger a growth momentum within the region. The developmental experiences of India and China indicate that both countries have used key policies of both DDLG and ELG strategies alternatively to maintain steady growth over a long period. India has benefited from the DDLG in minimizing the adverse effects of the recessionary situation of the global economy and key policies of the ELG have supported the country to maintain a steady growth over a long period.

In this study the long term relationship between real GDP growth performance and the impetus of ELG and DDLG strategies are examined with Johansen’s co-integration VECM framework. While the DDLG is represented by household consumption and government expenditure the ELG was represented by openness. The period considered for the analysis was between 1974 and 2010. The endogenous variables were found to be stationary at first difference. Using trace statistics and other information criteria the model is found to have two co-integrating vectors with one period of lag to estimate the error correction model. The results confirm that long-run co-integrating relationships exist among GDP, household consumption, government expenditure, and openness in India. Short-run analysis indicates that GDP adjusts rapidly from the long-run equilibrium level in one time period. These results indicate that DDLG and ELG strategies have a long run relationship with the GDP growth in India.

India, however, has export competitiveness in a large number of sectors in the world economy. It will continue to use the ELG strategy as long as it has not fully exhausted its global competitiveness. India will continue to focus on the simultaneous use of key policies of DDLG and ELG to shape its developmental strategy in the long run. This policy-mix would contribute to the integration of the Indian economy with the EAS.

The following policies may be recommended for strengthening India’s integration with the ASEAN/EAS.
1. India is using Export-Led Growth and Domestic Demand Led Growth strategies in different periods to minimize the adverse effects of the global business cycle on its growth prospects. While ELG policies are more prominent during global buoyancy, DDLG policies are effective during recession. Such policy switching during various phases of a global business cycle have enabled India to maintain its high economic growth, even above its potential. A similar experience was noticed by China along with many other emerging countries.

2. India’s recent manufacturing policy would generate a large demand for imports to modernize its industrial sector. As India’s trade pattern is “Asia Centric”, growing demand for manufacturing imports would provide a wider market access to ASEAN and other EAS countries in India.

3. In a situation where India continues to maintain a high growth rate in the future, ASEAN countries would gain more market access in India. Empirical evidence suggests that when India’s GDP increases market access of ASEAN in India rises more, proportionately, than in recent years. This is irrespective of whether India adopts ELG or DDLG or both.

4. Private domestic consumption is a driving factor in India’s rapid growth performance. This has been an important factor where small and large ASEAN countries can have market access in India for their products.

5. India’s integration with ASEAN is strengthening at the cost of its own deteriorating bilateral trade imbalances with them. The deepening of India’s trade integration with ASEAN can be sustainable when coupled with effectively addressing the bilateral trade imbalance issue with them. Earlier studies indicate that India has competitiveness in many sectors including in the regional value chain. Large market access to India in this sector could reduce its bilateral trade imbalances to some extent.

References


