

CHAPTER I

INTRODUCTION

1.1 Background of the Study

The integration of countries into the world economy is often regarded as an important determinant of differences in income and growth across countries. Economic theory has identified the well-known channels through which trade can have an effect on growth. More specifically, trade is believed to promote the efficient allocation of resources; allow a country to realize economies of scale; and scope facilitate the diffusion of knowledge, foster technological progress, and encourage competition both in domestic and international markets that leads to an optimization of the production processes and to the development of new products (Krugman & Obstfeld, 2007).

In particular for less-developed countries, trade patterns and changes in those patterns over time are closely associated with the transfer of technology. Also, openness to trade introduces the possibility of an international product cycle, as the production of certain products previously produced by advanced economies migrates to less-developed countries. This process of “product migration” is accompanied by an increase in the trade volumes of less developed countries and a diffusion of more advanced production technologies, which expands the technology available to less-advanced countries (Krugman & Obstfeld, 2007).

The role of international trade is very crucial to the development of any economy and it is assumed that trade liberalization works as an engine for the growth of the economy. The belief, that openness of trade is positively related to economic growth of the countries, has helped the trade liberalization to be a necessary part of the developing countries policy advice. By trade openness it means the reduction, or complete removal of trade barriers and this idea has become very popular in the policy making of both the developed and

developing countries. There are so many forms of trade like the transfer of technology, education flow and ideas sharing besides the trade in terms of commodities. The restrictive trade policies were followed by the developing countries in the start but they moved towards the liberalization of trade as the world moved towards globalization. There is a strong support present in the literature of the idea that trade openness works as an engine of the economic growth and the existing literature support the positive relation between them. However, in most of the studies concentration is on developed countries. Looking into the results of the openness in the developing economies it is concluded that there are far more less benefits of liberalization of trade than expected (Winters, 2004).

Nepal's ancient trade history with Tibet started using barter system at the time of beginning Malla and Lichchhavi regime. In the 17th century, the establishment of an empire in the Tibet initiated the new Trans-Himalayan trading routes between the Indian and Chinese cities. Nepal had been transit point for two big countries, India and China (Sharma, 2014).

Nepal trade with other countries does not go back into history due to relative backwardness of the economy as well as the political and physical isolation. Before 1951, the foreign trade of Nepal was limited namely in UK, USA, and France. Before the World War II, Nepal used to import from the countries, such as England, Japan, Singapore and export her agricultural products like jute. After 1960 Nepalese overseas trade become possible, for the foreign currencies were needed for development. Nepal's export had to be promoted by diversifying its trade (Sharma, 2014).

Nepal's trade is highly concentrated to India which is nearly 60 percent of total trade and the remaining trade is with the rest of the world. Nepalese foreign trade performance has so far been poor. Several factors seem to be responsible. Land lockless is one of the major causes. Weak production base and lack of

competitiveness are other constraints. Not only the open border with India but also the limit transit facilities in one way or other way have constrained its trade with overseas countries. Since transit through China is virtually impractical, India is only economically viable for commercial flows. Indeed no country in the world excluding Bhutan is so hopeless dependent on the availability of transit facilities from a single country as Nepal. Nepal imports more but exports are very little in comparison of imports (MoF, 2016).

Nepal an agro-based economy has more than 70 percent of its people engaged on agricultural profession which has very low contributions in GDP, nearly 31 percent. Since Nepal is least developed in industrial raw materials and highly equipped machinery, there is minimum chance of cost-effectiveness. Nepal as a least developed country of the world is bounded on vicious circle of poverty because lumpy amount of people insists in the agricultural professional where the marginal productivity of labor is almost zero. To shift the burden of high density of labor from agriculture sector to modern manufacturing sector, foreign trade can play the vital role. The same is expected in specialization of production, division of labor and increase in the national income. Foreign trade also widens the market and increase the inducement to invest income and saving via more efficient resource allocation.

Trade liberalization has been a key policy debate in the development literature since the early 1970s. The centerpiece of this debate has placed a particular emphasis on the role of openness on economic growth and productivity as part of development strategy. The evolution of this debate has also been reinforced by the accumulation of evidence that confirmed positive correlation between export growth and GDP growth in countries with more open trade regime as opposed to those countries which embraced import substitution and inward looking policies under the wall of tariffs and non-tariff barriers (Edwards, 1998).

Over the last two decades or so, influenced partly by the prevailing wisdom in the academic and policy circles, the government of Nepal like many other developing countries adopted a series of trade liberalization measures. Trade liberalization has among other things, entailed substantial reduction in the role of government in production and marketing, abolition of controlled prices, removal of export taxes, relaxation of foreign exchange and import controls; and bolstering the participation of the private sector in the economy. Unquestionably, these reforms also arose as a response to address the protracted economic crisis that hit hardest the country in the 2000s. The severity of crisis was pronounced in slow and negative growth, drastic fall in the share of Nepalese export in the world trade, decline in manufacturing output and unfavorable balance of trade.

In Nepal, trade liberalization has been implemented under the aegis of Breton woods institutions. According to these institutions, the rationale for these reforms is that Nepal's dismal economic performance fundamentally reflects domestic policy inadequacies, and it is precisely these policy inadequacies that need to be re-examined and addressed. In order to realize economic recovery, liberalization of internal and external trade and greater reliance on market forces have been accorded high priority in the policy agenda. These policies have primarily been designed to restore equilibrium, especially in the balance of payments and boosting productivity and exports in both manufacturing and agricultural sectors. However, the response of exports to the incentive structure built into the trade liberalization program has been unsatisfactory in terms of the values of export earnings and absence of export diversifications. Indeed, the available evidence indicates that the economic performance has been rather disappointing.

Thus, there is a debate on how openness of trade can bring benefits to the developing countries like Nepal. Excessive regulations, government interventions and uncertain economic policies play their role as constraints to

growth everywhere. Over some years, Nepal has followed a liberal and open policy in all sectors. In the trade sector, all trading partners are given equal chance to compete and sell their products in the Nepalese market. With the understanding of market oriented economic reforms in the early 1990s, Nepal increased its integration into the world economy. No country is allowed to monopolize in Nepali market and to create bottleneck further.

1.2 Statement of the Problem

Theoretically, it has long been argued in the literature that trade stimulates long-term growth and that it can do so through multiple channels. International trade would allow countries to specialize in the areas where they possess comparative advantage, expand potential markets and allow firms to exploit economies of scale, enable the diffusion of technological innovation and frontier managerial practices, and reduce incentives for firms to conduct rent-seeking activities. Empirically, earlier works find evidence in support of the growth-enhancing effects of trade. However, Rodriguez and Rodrik (1999) suggested that most of the evidence was not robust for all countries due to issues related to the measurement of trade openness and trade policy as well as econometric problems. Also, Rodrik et al. (2002) argued that policies towards trade openness may not render the same results for all countries since there is no unique mapping from economic principles to economic packages.

During the last four decades and half, Nepal's external trade sector is highly increased. Imports and exports have grown dramatically in recent years from NRs. 1814.6 million and NRs. 889.6 million rupees in 1975 to about NRs. 491655.9 million rupees and NRs. 85319.1 million rupees in 2015 respectively (MOF, 2016). The amount of imports and exports folded 270 and 96 times respectively in the FY 2015/16 in comparison to FY 1974/75 (MoF, 2016).

In spite of increment in the volume of imports and exports, they have failed to reach competitive level. Nepal in current situation can export only agricultural

based raw items which mean it has to import all expensive and final products from other countries. Imports always dominated exports in the last 41 years. A developing country, like Nepal depends on foreign trade for the achievements of national goals of development and economic growth in order to afford fast growing import needs.

The relationship between economic growth and foreign trade was focused by many economists when foreign trades come into being. With the development of foreign trade, it has been the debate of economic research in academe because of its impact on economic growth. To some extent, the emergence of foreign trade and its development were closely related with economic growth. In a way, foreign trade indeed promotes economic growth of a country. The relationship between trade volumes and economic growth has been an issue queried in the theoretical and empirical growth literature for a long time.

A fundamental question in development and international economics is whether higher trade openness helps to improve economic growth. Even though this question has received a great deal of attention in the literature for more than a century, there is not still a satisfactory answer. Thus, this study examines the impact of imports and exports on economic growth of Nepal. In this back drop, following research questions are answered:

- i. What is the trend of imports, exports and real Gross Domestic Product (GDP) from 1975 to 2015 in Nepal?
- ii. What is the relationship between imports, exports and economic growth in Nepal?

1.3 Objectives of the study

The main purpose of this study is to examine the impact of imports, exports on economic growth of Nepal. The specific objectives are:

- i. To analyze the trend and structure of imports, exports and real GDP in Nepal, and
- ii. To examine the relationship between imports, exports and real GDP in Nepal.

1.4 Significance of the Study

This study seeks to analyze relationship of imports and exports on real GDP of Nepal. This study is useful to researchers, policy maker and scholars those who are interested to study the impact of imports and exports on real GDP of Nepal. The results of this study show the trend of imports and exports and real GDP in Nepal and it helps to understand upward and downward trends of the said variables. Basically, the study analyzes and presents increasing and decreasing trends of said variable at linear and quadratic functional forms. The regression results between imports, exports and real GDP reveal that whether imports, exports, or any one of them are enhancing real GDP in Nepal or not. Such results help in policy making to increase economic growth by guiding imports and exports toward right direction.

1.5 Limitations of the Study

This study concentrates on the fact finding and mainly covers only major aspect of the trade such as overall trade, import trade and export trade. Other limitations of the study are:

- i. This study covers the time series data in between FY 1974/75 to 2014/15. It is because imports, exports and real GDP series published in

Nepal from FY 1974/75 onwards. It will symbol FY 1974/75 as 1975 and so on for others.

- ii. The nominal data on GDP are converted into real GDP applying GDP implicit price deflator if complete series on real GDP are not available in readymade form for the whole sampled period.

1.6 Organization of the Study

The present study consists of five chapters to make it more systematic. The first chapter deals with background, statement of the problem, research questions, objectives of the study, hypotheses, rationale of the study, study limitations and organization of the study. The second chapter presents theoretical review of the study. This chapter also deals with an extensive review of literature regarding international and national context covering both country case as well as cross-country studies. The third chapter explains research methodology. It includes research design, sample period, sources of data, sample size, data analysis techniques, data and measurement issues along with detail discussion on specification of models, measurement issues and definition of variables.

The fourth chapter describes overall historical trends of economic growth, imports and exports in Nepal. This chapter also explains both dependent and explanatory variables utilizing descriptive statistics which are used in the empirical modeling. This chapter is also devoted to empirical analysis. The fifth chapter presents major findings, conclusion and recommendations including recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

This chapter analyses the theoretical as well as empirical framework on growth effects of import and export trade. Literature review consists of both theoretical developments as well as empirical studies covering both international and national studies. For this purpose, some important journal articles, books, reports, working papers are reviewed to find out what other scholars have already done on international trade-growth nexus and what remains to be done.

2.1 Theoretical Development

2.1.1 Classical Trade School

Classical theories include the contribution by Smith (1776) who developed the concept of the absolute advantage and that of Ricardo (1817) who developed the concept of comparative advantage (Krugman & Obstfeld, 2007). The Ricardian trade model considers two-countries, two commodities and one factor of production (labor). Technology is assumed to be fixed (in terms of units of labor required to produce one unit of goods) in the production process of each commodity.

Therefore, relative labor productivity determines the pattern of international trade between the two countries. In the absence of transport costs, trade between the two countries is determined by the comparative cost of production. If each country specializes in goods in which she has comparative advantage, both countries will achieve welfare gains and the world welfare will also improve. The efficiency gains of international trade in Ricardian model is nicely discussed by in Krugman and Obstfeld (2007) in the international trade text book.

The Ricardian model explains the welfare gains if a country that specializes in the production of the good in which it has a comparative advantage. According to Ricardo, progressive nations are those with high savings, accumulation of capital, output, productivity and demand for labor forcing the increase in wages and demographic growth. In the Ricardian model productivity of labor is the primary cause of trade between countries. However, labor productivity is determined by other factors, such as technological changes and capital per worker, which can also be considered as the sources of international trade. Although the Ricardian trade model does not deal with the impact of trade on growth, it can be argued here that gains from trade lead to higher income, which increases savings and investment. Thus, in this sense, international trade contributes to economic growth. Using a dynamic Ricardian model, Findlay (1984) shows how trade retards the rate of economic growth. The model shows that international trade leads to a fall in the rate of growth, in comparison with autarky, in a country, which exports primary (agricultural) goods and imports manufacturing goods. This results from the fact that the increase in rents is absorbed by luxury consumption whilst the fall in the rate of profit reduces capital accumulation.

2.1.2 Neoclassical Trade School

Following the work of Heckscher (1919) and Ohlin (1933) (cited in Falm and Flanders, 1992) developed the neoclassical general equilibrium models to explain how free trade leads countries to specialize in the good(s) relatively intensive in the factor which is relatively more abundant in the country. The Heckscher-Ohlin-Samuelson (HOS) model demonstrates the welfare gains in the two-country, two-factors, two-goods model and shows how each country specializes on the basis of their factor endowments. According to the HOS model, international trade leads to a Pareto-efficient equilibrium that yields higher welfare through its effect on the allocation of resources between sectors. Movements in relative prices create inter sectoral factor reward differentials

that encourage entrepreneurs to move the factors until the differentials in factor rewards are cleared.

Suppose a country is exporting labor-intensive goods and importing capital-intensive goods. Opening up to trade results in a fall in the domestic relative prices of importable goods. Consequently, assuming the economy is on the Production Possibility Frontier (PPF), output increases in the export sector while it falls in the import sector. Since exportable goods are labor intensive compared to importable goods, a shift in the composition of output increases the demand for labor and decreases demand for capital. Thus, there will be a new equilibrium at which real wages increase and the capital rental falls resulting from a change in the income distribution. The model favors openness to trade by implying that it is beneficial to both trading parties, and favorable to the entire world. The whole analysis, however, is limited to the extent of static gains of welfare from trade.'

The basis of the Ricardian and HOS theories is that international trade is the way to achieve static productivity efficiency and global competitiveness. Although productivity efficiency and international competitiveness is achievable through trade, the two classic theories have not shown whether and how free trade affects long-run economic growth.

Using a dynamic model of international trade, Dollar (1992) demonstrated the effect of endogenous capital accumulation on the pattern of trade. The model considers two countries, two goods (consumption and investment) and two factors of production (labor and capital) which are assumed to be fully employed. Trade between the two countries takes place in both consumption and investment goods. Investment goods are accumulated as capital. Labor and capital, once invested, are immobile between the countries. Consumption goods are instantaneously consumed. Allowing labor to grow at a constant rate and assuming that the average propensity to save is identical between the countries

(with internationally identical technology), Oniki and Ozawa prove that a globally steady-state exists. Any arbitrary given capital-labor ratios of the two countries converge to the steady-state capital-labor ratios, as they do so the pattern of trade changes, exports, imports and the terms of trade also change over time. The model gives the time path of all these variables.

Another strand of analysis deals with the movement of the terms of trade and economic growth is Bhagwati's (1988) immiserising growth, where growth (either due to technical progress or factor accumulation) leads to a sufficiently acute deterioration in the terms of trade which imposes a loss of real income outweighing the primary gain in real income due to the growth itself. Johnson (1967) has further shown that the phenomenon of immiserizing growth (that reduces social welfare below the initial pre-growth level) can also arise in the case of a small country without any monopoly power in trade if technical progress occurs in a tariff-protected import competing industry, or if the factor in whose use this industry is intensive is augmented. In the Bhagwati's case, the welfare impact of growth in an open economy can be reduced because the primary gain from growth might be offset by the secondary loss from an extended to assert that the secondary loss may even outweigh the primary gain, resulting in immiserizing growth.

Young (1991) considered economic growth in his analysis which is concerned with the size of the market that determines the labor employment and hence productivity. Moreover, he examined the relationship between the industries of the country in the process of economic growth, the inception of new industries because of product specialization as a result of market expansion, the efficiency of specialization and normalization in a larger global market and the impact of such a market on technological advancement.

In his consequential classic papers, Schumpeter (1942) recapitulated the earlier arguments regarding the direction of the profit to reach its minimum level and

how capital accumulation determines the growth rate of the economy. Furthermore, he discussed the core factor that determines economic growth, by distinguishing between 'invention' (development of a new idea) and 'innovation' (economic activity, exploring the new idea for productivity purpose). He considered innovation as the main factor explaining economic growth and elucidated the main facets for lucrative innovation including openness to international trade.

Economists, who advocated inward-oriented and protectionist policies began to demonstrate the adverse effect of international trade for LDCs. They suggested that international trade had a negative impact in the long-run growth of LDCs since these countries could only specialize in goods which had low demand income elasticity, low prospects of export growth and constantly declining terms of trade. They also went on describing the economic and social cost of acclimatization to the cycle of international trade.

The general implication of the models discussed above is that international trade leads to higher potential welfare. Based on these analyses the policy implication to be drawn is that opening up to trade is a better alternative, since trade liberalization policies tend to improve, at least, welfare in static efficiency model. However, most models make some strong assumptions and these traditional trade models provide weak empirical support (Rodrik, 1999). Some of these limitations are dealt with in the new trade theory. The fundamental difference between the old and new trade theories is that the new trade theory takes into account the market structure, namely, imperfect competition. One of the main features of the new trade theory is that it considers economies of scale. Moreover, it explores and also justifies the missing link that comparative advantage and factor endowments do not explain (Krugman, 1990).

In support of the traditional trade theory and criticizing the critics of outward-oriented trade policies, Bhagwati (1978) argue that traditional trade theory still

shows the best way to understand trade and growth. They suggest openness to trade; capital and technology flows contribute to the sources of growth. According to Bhagwati, it is a mistake to criticize the impact of trade on growth in the traditional trade model on the ground that openness to trade allows countries to exploit their comparative advantage, knowledge and innovation.

2.1.3 The Structure School

The representative is Lewis, who put forward dual economy model which parted a developing economy into capitalist part (the industry sector) and non-capitalist part (the traditional agricultural sector). The capitalist sector was bound to promote the growth of the economy through absorbing and accumulating surplus labor from non-capitalist sector. If the capitalist part produced the exporting goods and the traditional part produced the importing goods, foreign trade would undoubtedly expand the market and demand of products in capitalist part and reduce the wages of labor. Then it would further increase the profit and accumulation of the part and promote economic growth.

2.1.4 The Effect School

The main point of Corden was that he analyzed foreign trade together with macro-economic variables and especially emphasized the impact of trade on the supply of production factors and productivity. Corden recognized that a country's foreign trade would affect macroeconomic variables from five aspects: the revenue effect, the effect of capital accumulation, the substitution effect, the income distribution effect and the effect of the weighted elements. All the above effects were cumulated which meant that the impact of trade on economic growth was strengthened gradually as the development of economy.

2.1.5 The New Growth School

Romer, Lucas and Svensson (Krugman & Obstfeld, 2007), the representatives of this school, took technology as the core factors to promote productivity. This theory pointed out that the growth of developed countries would be attributed to the improvement of productivity. Based on this fact, the theory made a series of models to study the relationship among international trade, technological progress and economic growth. They viewed that international trade could promote economic growth through technology spillover and external stimulation. On one hand, any technology had a spill-over process. The owners of advanced technologies, whether they had intention or no intention, would gradually make other countries learn these technologies through foreign trade; on the other hand, international trade provided a broader market, more frequent exchange of information and increased competition, which forced every country to develop new technologies and products. The mutual promotion relations between international trade and technical change could ensure long-term economic growth.

2.1.6 The New Trade School

The new-trade theory economist, Krugman (1990) believed there were two ways for international trade to promote economic growth. One was the effects of economies of scale brought by trade, and the other was that international trade could promote economic growth through improving the optimal allocation of resources between materials production sector and knowledge production sector.

As, theoretical literature provides clear picture on openness and growth relationship, thus, the next attempt is to understand the relationship through the empirical review. In that way, it is possible to determine the potential relationship and direction of causality, if any, as well between trade openness and economic growth.

2.2 Empirical Review

2.2.1 International Context

Krueger (1978) and Bhagwati (1978) examined the impact of trade on growth. In their studies trade regime is delineated into five phases in terms of movements from import-substitution to outward-orientation policies: phase I is characterized by imposition of quantitative controls and it is mainly associated with unsustainable balance of payments problems. In phase II quantitative restriction becomes more complex and discriminatory with an intense characteristic of anti-export trade policy. Phase III is characterized by relaxation of some of the restrictions and implementation of devaluation. This is in general the phase in which trade begins to be liberalized. During phase IV there is a continued process of liberalization with a substantial decline in import premium and elimination of anti-export measures. In phase V the economy is fully liberalized as there is full convertibility on current account and quantitative restrictions are not implemented anymore.

Their studies examined particular episodes of inward-oriented and outward-oriented trade policy. In addition to changes in import protection and export subsidization, Krueger(1978) and Bhagwati (1978) consider a range of macroeconomic policies implemented by the governments, such as monetary and fiscal policies, especially exchange rate policy which favors import substitution strategy.

Two hypotheses have been postulated by Krueger to test the effect of trade on the economic growth developing countries: (1) trade liberalization will lead to a higher rate of growth of export; and (2) trade liberalization has a positive impact on aggregate growth.

Krueger (1978) has laid out the direct and indirect impact of trade liberalization. The direct effect of free trade is its impact on resource allocation

to more efficient and sophisticated investment projects. The indirect effect of liberalization is through its impact on the growth of exports, which in turn has an impact on GNP.

The regression results suggest that devaluing the exchange rate has a positive effect on non-traditional exports; but traditional exports have been found to be insensitive to changes in the real exchange rate. The coefficient of dummy for both traditional and non-traditional exports was positive and statistically significant, which implies that more liberalized trade policy has a positive impact on exports growth. These empirical findings led Krueger to suggest that real exchange rate changes have more relevance to exports growth than the evolution of trade liberalization process through time. The estimated results for the real GNP equation show that the coefficients of the dummy variables were not significant at a conventional level, implying that trade liberalization does not have a direct impact on growth.

Krueger's conclusion that trade policies do not have direct impact on growth has been strongly criticized by Balassa (1982). He noted that Krueger's econometric results were affected by the way trade policies have been classified. Furthermore, he argued that the impact of tariff, which has a negative impact on exports have been ignored in the study. Balassa (1982) delineated trade regimes into four phases rather than five. According Balassa's classification, outward orientation policy implies that both QRs and tariffs would be eliminated in contrast to the inward oriented regime where there is strong bias against exports. Eleven countries (Brazil, Chile, Colombia, India, Israel, Korea, Mexico, Singapore, Taiwan, and Yugoslavia) were included in the study for a period of 14 years, i.e., from 1960-1973. These countries were divided into four categories based on the data on effective rates of protection, effective export subsidies, and nominal protection.

The empirical results suggest that countries with lower anti-export policies have experienced higher rates of growth of exports. Based on these empirical findings Balassa argued that protectionism has a strong negative impact on exports growth. Furthermore, Balassa uses the growth rate of exports, as a proxy for trade policy orientation, to test his hypothesis, which emphasizes that trade policy, has an impact on economic (GDP) growth independent of exports. The empirical results obtained using the Spearman rank correlation coefficient suggested that export growth has a positive correlation with output growth. Based on these findings, Balassa concludes that the expansion of exports and consequent growth of GNP have been the result of the incentives applied. However plausible this study might look, it has some limitations. For example, the effect of the real exchange rate on the rates of growth of exports is ignored, the use of export growth as a proxy for trade policy orientation and the study does not have a profound analysis on the causality effect between exports and economic growth.

Michaely (1989) also use a similar method of classification of trade policies and use dummy variables to capture the effects of various trade regimes on economic performance. The estimated results suggest that countries with a highly liberalized trade regime performed better than countries with a less liberalized regime. Nevertheless, as in the case of previous studies, defining and measuring trade orientation seems to be arbitrary. The study does not provide a clear cut of classification into which countries can be categorized as weak or strong trade liberalizers. Moreover, the effect of different degree of liberalization on economic performance is restricted by using the binary dummy variables.

Feder(1983) was the first economist to provide a formal production function model to evaluate the impact of exports on growth. The major development of his work is the derivation of a growth equation as a function of two sectors: exports and non-exports sectors. According to Feder, there are two ways

through which exports affect output growth. First, the exports sector is assumed to generate a positive externality to the non-export sector via its effect on a better management skills and efficient production techniques. Second, there is a productivity differential in favor of the exports sector, i.e., through its effect on reallocation of resources from the less efficient non-export sector to the higher productive export sector. In other words, expanding the export sector has a positive impact on growth at the expense of the non-export sector.

Ram (1985) includes exports as a factor of production along with labor and capital, and also he uses the growth rate of export as the openness related regressor instead of the product of ratio of export to GDP and growth rate of export as in the case of Feder's model. He uses a sample of 73 developing countries in his cross-section empirical study for the period 1960-1977. The export variable has a positive coefficient, which is statistically significant, and thus supporting the hypothesis that export has a positive impact on growth.

Using the framework of an endogenous growth model, Easterly (1992) examined the effect of openness on economic growth. The cross-section regression analysis includes up to 70 developing countries over a period of 1965-1988. Using the OLS method, the results show that export variable which is used here as an openness index has a positive effect on growth, while government consumption has a significant negative impact on growth.

In another development, a study by the World Bank (1987) classified a group of 41 developing countries according to their trade orientation in order to evaluate the performance of countries with different degrees of outward/inward orientation. Four categories of countries were classified. The first group consisted of strongly outward oriented countries in which there are very little trade or foreign exchange controls and trade and industrial policies do not discriminate between production for the home market and exports, and between purchases of domestic goods and foreign goods. The second group consisted of

moderately outward oriented countries, in which the overall incentive structure is moderately biased towards the production of goods for the home market rather than for export, and favors the purchase of domestic goods. The third group consisted of moderately inward oriented countries in which there is a more definite bias against exports and in favor of import substitution. The fourth group consisted of strongly inward oriented countries where trade controls and the incentive structures strongly favor production for the domestic market and discriminate strongly against imports. The conclusion from that study is that economic performance of the outward oriented economies (i.e., real gross domestic product, real GNP per capita, gross domestic savings, incremental capital output ratio, inflation, manufactured exports) has been broadly superior to that of inward-oriented economies.

The study by Dollar (1992) explores whether outward oriented developing countries grow more rapidly or not using a sample of 95 countries over the period 1976-1985. Trade orientation is measured by the degree of the real exchange rate distortion and exchange rate variability. In this study, Dollar estimated a simple model in which per capita GDP growth over 1976-85 as a function of investment rate, real exchange rate variability, and the index of the real exchange rate distortion. The regression results showed that growth is positively associated investment rate but negatively correlated with distortion and variability of the real exchange rate. His results, however, has been strongly criticized by Rodriguez and Rodrik (2001), who argue that Dollar's conclusions rest on very weak theoretical foundations coupled with flawed econometric issues. According to Rodrik and Rodriguez (2001) real exchange distortion used by Dollar is theoretically appropriate as a measure of trade restriction only when (i) there are no export taxes or subsidies, (ii) the law of one price holds continuously; and (iii) there are no systematic differences in national price level due to transport costs and other geographical factors. In the real world, these conditions are hardly satisfied. Thus, the credibility of his results remains suspicious.

Edwards (1992) uses a cross-country data set to analyze the relationship between trade orientation, trade distortions and growth in developing countries. A simple endogenous growth model that emphasizes the process of technological absorption in small developing countries is constructed. According to this model, countries that liberalize their international trade and become more open will tend to grow faster. Using nine alternative indicators of trade orientation (i.e., average black market premium, coefficient of variation of black market premium, index of relative price distortions, average import tariffs, average non-tariff barriers, world development report index of distortion, index of effective rates of protection, world bank index on outward orientation) Edwards find out that more open economies tend to grow faster than economies with trade distortions.⁴ The results are robust to the method of estimation, to correction for errors in variables and for the deletion of outliers.

According to Edwards, the major channel through which trade liberalization enhances growth is the absorption of foreign technology. However, the absorption of technology might not be as simple as suggested by Edwards. First, technology is not a free commodity-there is some costs associated with its adoption, e.g., property right, patents, etc. Second, absorption of technology requires skills in order to nurture it-this is seriously lacking in developing countries.

In addition, policies correlated with growth (trade openness, government consumption,) used by Edwards (1992) to check for the robustness of his results are all highly correlated among themselves-it is not easy to disentangle the individual effects of different policies, and yet it is very simple to misjudge the effects of omitted policy and institutional variables to trade. As a check to the robustness growth's determinants reported by Edwards (1992) amongst many other researchers, Levine and Renelt (1992) employed an extreme-bound test. Using extreme bound test, Levine and Renelt did not find consistent relationship among long run growth and different measures of trade policies.⁵

However, the correlation between investment and trade shares lead Levine and Renelt (1992) to conclude that the beneficial effects of trade reforms may operate through enhanced resources accumulation instead of an efficient allocation of resources. An alternative test for robustness of growth determinants was performed by Sala-i-Martin (1997) on the ground that the proposed test by Levine and Renelt was not powerful enough. In doing so, Sala-i-Martin (1997) constructed confidence levels for the entire distribution of coefficients for different determinants of growth. Using this alternative approach, the only openness indicator, which is robust, is a measure of openness constructed by Sachs and Warner (1995).

The study by Dean et al. (1994) investigates the extent and character of trade reform in countries in South Asia, East Asia, Africa, and Latin America. Changes in tariffs, non-tariff barriers, foreign exchange controls, and export impediments between the mid-1980s and 1992/93 are discussed. Data are presented on changes in the level, range, and dispersion of tariffs, and coverage of quantitative restraints. Similarities and differences both within and between regions are evaluated. Trade liberalization was most rapid in both Latin America and East Asia. In Africa, however, little progress towards a liberalized regime was realized. In some African countries, reduction in import barriers was substituted for increase in other impediments. Although it is highly cited in policy and academic dialogues, this study did not evaluate the impact of liberalization on economic performance.

2.2.2 Nepalese Context

Sharma and Bhandari (2005) examined the relationship between imports, exports to economic growth during the period 1974/75 to 2002/200. The different models in linear and log-linear forms have justified that exports growth leads to economic growth. Therefore, the policy of adequate investment

in export oriented industries that embody a 'proper mix' of export promotion and import substitutions is suggested.

Bhusal (2015) empirically analyzed the relationship between foreign trade and economic growth in Nepal using annual data over the period of 1974/75 to 2013/14. Total exports and real GDP were taken as a measure of foreign trade and economic growth and domestic data sets were employed to ordinary least squares method of regression. Granger causality, co-integration and error correction modeling techniques conformed that foreign trade induce economic growth in Nepal both at short and long run.

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the procedures followed to achieve the objectives of this study, particularly methodology; and formulas used to estimate ratios and growth rate of import, export and total trade in Nepal. Following sections explains the complete methodology employed in this study.

3.1 Research Design

The study is based on both descriptive and analytical research design. Under descriptive research design, averages, standard deviation and variance were used. This may involve the use of tables, graphs, pie charts and words to draw the results of a research. Time series trend is depicted by graph of level form of data rather than estimating linear and quadric trends. Ratios and growth rate of variables are compared whether these are increase or decreasing annually.

Under analytical research design, the relationship between imports and exports trade and economic growth is estimated. Particularly, this research work seeks to answer to these questions: Is there a meaningful causal relationship between imports, exports and economic growth? What is the nature of such relationship? Is such relationship significant? Does such relationship exist both short and long run. Time series econometric tools are used to analyze the data. Cointegration and vector error correction modeling technique are applied to analyze time series data.

3.2 Economic Model

Following simple economic equation is estimated applying ordinary least squares (OLS) method.

$$\text{Gross Domestic Product} = f(\text{Imports, Exports}) \quad (3.1)$$

$$GDP_t = f (IMP_t, EXP_t) \quad (3.2)$$

Where,

GDP = Gross Domestic Product

IMP = Import Trade

EXP = Export Trade

t = time

On one hand, endogenous growth theory has emphasized the role of imports in economic growth. From the theory, it is argued that, imports can absorb foreign technology in domestic economy; it increases the availability of intermediate goods and inputs. This includes machines, human capitals, skilled labors and equipment which in general, can increase productivity in the economy. From this fact, imports received considerable attention in determining the long run economic growth especially for developing countries.

On the other way around, the increase in exports would result to increase the accumulation of foreign exchange, which in turn will increase imports. This will accelerate capital formations and results to the economic growth. Furthermore, the higher income can initiate the domestic firms to demand more investment and increase productivity, as results increase exports. In fact, both growth theories including neoclassical and endogenous theories have shown that, domestic investment, export and imports reinforce each other in determining the economic growth. Furthermore, the growth theories, especially endogenous growth theory show that, export and imports have long run equilibrium relationship with the economic growth.

3.3 Econometric Model

The econometric methodology, OLS model applied to GDP and imports and exports has been outlined below. GDP is affected by the value of imports and exports.

$$LN\text{GDP}_t = \alpha_0 + \alpha_1 LN\text{IMP}_t + \alpha_2 LN\text{EXP}_t + \epsilon_t \quad (3.3)$$

Where,

$LN\text{GDP}$ = Natural log of GDP

$LN\text{IMP}$ = Natural log of Import Trade

$LN\text{EXP}$ = Natural log of Export Trade

t = time

3.4 Nature and Sources of Data

The study is primarily based on the secondary sources of data. Data on nominal imports, exports and GDP are taken from National Account Reports of Central Bureau of Statistics (CBS), Ministry of Finance, Government of Nepal. This study employs annual data series of GDP, imports and exports for 42 years during the period FY 1974/75 to FY 2015/16.

3.5 Stationary Test- ADF Test

One of the important types of data used in empirical analysis is time series data. Researcher takes such data in practice because they cause several challenges to econometricians and practitioners. Generally, empirical works based on time series data assume that the underlying time series is stationary. Therefore, it is important to determine the characteristics of the individual series before conducting empirical analysis. This is important because in the

absence of non-stationary of time series variables, the normal properties of t-statistics and measures such as R-squared break results, hence a problem. The econometric methodology applied therefore begins by examining the rank of integration for the series of the dependent and explanatory variable in their natural log format using the Augmented Dickey-Fuller test. The regression equation for the ADF test of unit root can be written as follows:

$$\Delta Y_t = \alpha + \beta_t + \sum \delta \Delta Y_{t-1} + \mu_t \quad (3.4)$$

Where, the t symbol denotes time trend, Y is the variable in estimation procedure, μ represent the distributed random error term with zero mean and constant variance. Assuming that μ_t is serially uncorrelated and using the AR (ρ) process, the hypothesis for the ADF test is specified as follows:

$H_0 : \delta = 1$ is the Null Hypothesis implying unit root, and

$H_1 : \delta < 1$ is the Alternative Hypothesis implying stationary

This study considers Augmented Dickey-Fuller (ADF) unit root tests to all individual variable of interest. Non-stationary individual series are then transformed to stationary through difference stationary process if they suffer from unit root.

3.6 Co-integration Test and Vector Error Correction

If two or more time series data are themselves non-stationary, but a linear combination of them is stationary, then the time series is said to be cointegrated. Or, if the residual term (U_t) estimated from non-stationary data at level (but stationary at first difference), is stationary then the variables are said to be cointegrated. However the stationary of U_t is to be looked upon Angel Granger critical values. If the estimated ADF tau value of U_{t-1} ; is greater than the tabulated Engle-Granger critical values than the model is cointegrated (Enders, 2004). More specifically, if the residual term obtained from the non-

stationary variables; is stationary then obtained coefficients can be interpreted as the long term coefficients, or it can be defined as the variables are co-integrated. It means, there exists long run relationship. Of course, in the short term there may be disequilibrium. Therefore, the error term is treated as “equilibrium error”. And this error term is to be tied upon the short-run behavior of dependent variable with long-run value. The error correction mechanism (ECM) popularized by Engel and Granger (1987) corrects for disequilibrium. The ECM is expressed as follows.

$$\Delta Y_t = \beta_0 + \beta_1 \Delta X_t + \beta_2 U_{t-1} + \varepsilon_t \quad (3.5)$$

Where, Δ denotes the first difference operator, ε_t is a random error term, and U_{t-1} is one period lagged value of the error from the co-integrating regression.

3.7 Granger Causality Test

Following simple equations are estimated with Granger causality modeling technique.

$$\Delta \text{LN}GDP_t = \alpha_0 + \alpha_1 \Delta \text{LN}IMP_t + \varepsilon_t \quad (3.6)$$

$$\Delta \text{LN}IMP_t = \beta_0 + \beta_1 \Delta \text{LN}GDP_t + \varepsilon_t \quad (3.7)$$

$$\Delta \text{LN}GDP_t = \alpha_0 + \alpha_1 \Delta \text{LN}EXP_t + \varepsilon_t \quad (3.8)$$

$$\Delta \text{LN}EXP_t = \beta_0 + \beta_1 \Delta \text{LN}GDP_t + \varepsilon_t \quad (3.9)$$

Granger causality test is conducted only in the stationary data series and natural log form of data is employed in the estimation equation. Lags are selected automatically based on Statistical soft wear Eviews 7. Based on the above Granger causality modeling technique, following hypotheses are tested.

- i. H_0 : GDP does not Granger cause imports.
 H_1 : GDP Granger causes imports.
- ii. H_0 : Imports does not Granger cause GDP.
 H_1 : Imports Granger causes GDP.

- iii. H_0 : GDP does not Granger cause exports.
 H_1 : GDP Granger causes exports.
- iv. H_0 : Exports does not Granger cause GDP.
 H_1 : Exports Granger causes GDP.

3.8 Vector Error Correction Modeling

The purpose of the error correction model is to indicate the speed of adjustment from the short-run equilibrium to the long-run equilibrium state. The greater the co-efficient of the parameter, the higher the speed of adjustment of the model from the short-run to the long-run, the study represents the model with an error correction form that allows for inclusion of long-run information thus, the Error Correction Model (ECM) can be formulated as follows:

$$\Delta GDP_t = \sum_{i=1}^n \alpha_0 \Delta GDP_{t-i} + \sum_{i=1}^n \alpha_1 \Delta IMP_{t-i} + \sum_{i=1}^n \alpha_2 \Delta EXP_{t-i} + \delta_1 EC1_{t-i} + \epsilon_t \quad (3.10)$$

Where Δ is the difference operator; n, is the numbers of lags, α_1 and α_2 are short run coefficients to be estimated, $EC1_{t-i}$ represents the error correction term derived from the long-run co integration relationship and ϵ_t the serially uncorrelated error terms in equation (3.10).

CHAPTER IV

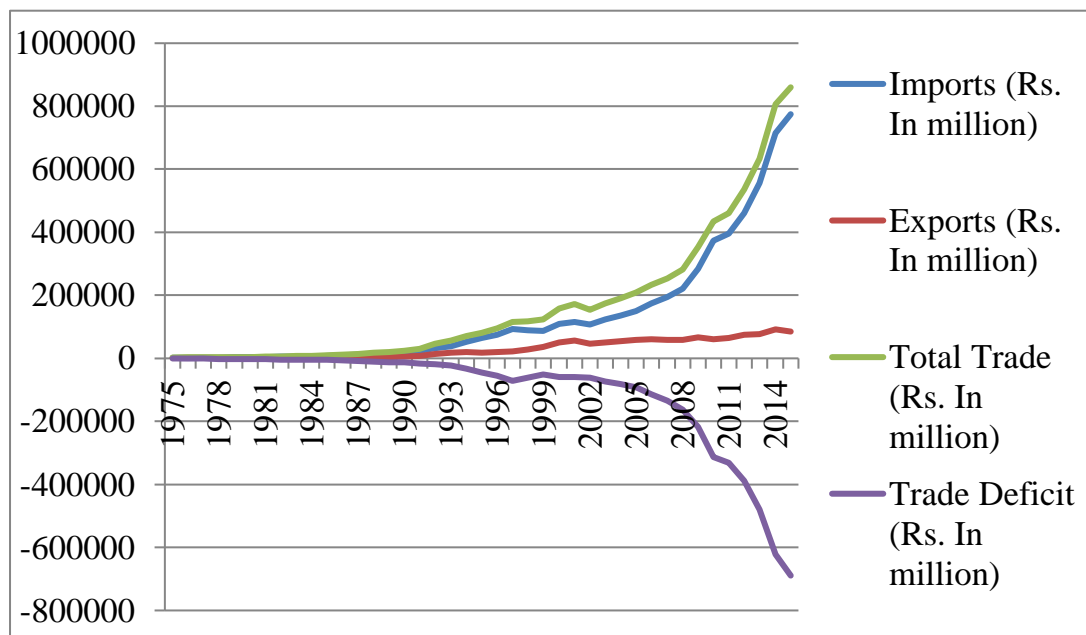
DATA PRESENTATION AND ANALYSIS

This chapter is divided into two sections. The first section is related with trend and pattern of exports, imports and real GDP in Nepal. The second section presents the causal relationship between GDP and imports trade and export trade applying time series econometric regression model technique.

4.1 Foreign Trade in Nepal

Trade enhances economic growth in a number of ways. It enhances specialization and competitiveness. It helps in availing the large scale of economies. It makes the availability of more efficient techniques to compete in the regional and global economies. Sum of imports and exports is commonly used to measure total trade. Volume of import, export and total trade is continuously increasing in Nepal. Imports are always higher than exports (Figure 4.1).

Figure 4.1: Volume of Imports, Exports, Total Trade and Trade Deficit



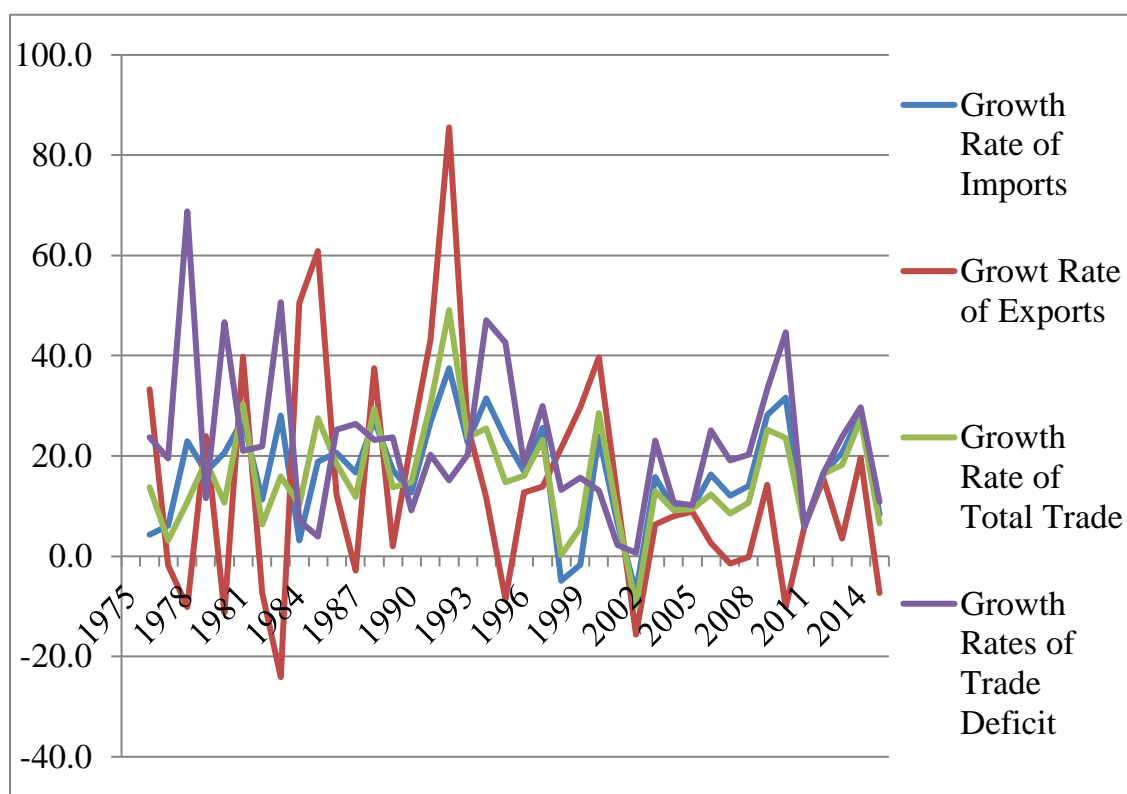
The figure shows that imports, exports as well as total trade are increased after 1990 when the country adopted liberalization and globalization policies. As the imports were so higher than exports and it was resulted in trade deficit. Volume of trade deficit was sky climbing.

The nominal growth rate of imports was 11.8 in 1976 to 1980, 17.7 percent in 1981 to 1985, 18.9 percent in 1986 to 1990, 28.4 percent in 1991 to 1995, 12.0 percent in 1996 to 2000, 6.9 percent in 2001 to 2005, 20.4 percent in 2006 to 2010 and 15.9 percent in 2011 to 2015. Its growth rates increased faster with liberalization of the economy. Its overall growth rate of was 16.4 percent for the whole study period.

The nominal growth rate of exports was 5.7 in 1976 to 1980, 24.0 percent in 1981 to 1985, 14.4 percent in 1986 to 1990, 31.6 percent in 1991 to 1995, 23.6 percent in 1996 to 2000, 3.9 percent in 2001 to 2005, 1.0 percent in 2006 to 2010 and 7.4 percent in 2011 to 2015. Its growth rates increased faster with early period of liberalization of the economy and fall after 2001. Its overall growth rate of was 13.7 percent for the whole study period.

The nominal growth rate of total trade was 9.6 percent in 1976 to 1980, 18.1 percent in 1981 to 1985, 17.7 percent in 1986 to 1990, 28.7 percent in 1991 to 1995, 14.7 percent in 1996 to 2000, 31.6 percent in 2001 to 2005, 16.1 percent in 2006 to 2010 and 14.9 percent in 2011 to 2015. Its growth rates increased faster with liberalization. Its overall growth rate of was 18.9 percent for the whole study period. The growth rates of imports were higher than the growth rates of exports. The growth rates of imports, exports and total trade were highly volatile (Figure 4.2).

Figure 4.2: Growth Rates of Imports, Exports, Total Trade and Trade Deficit



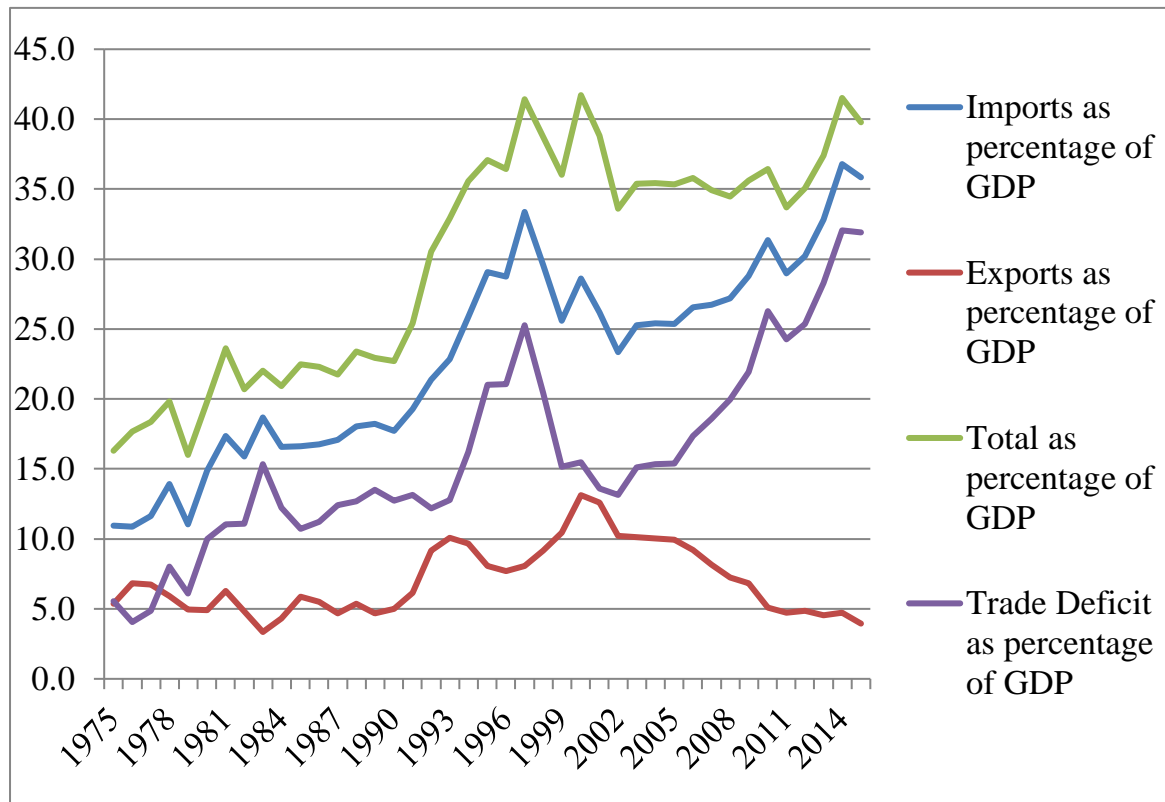
The percentage share of imports in GDP was 12.2 in 1975 to 1980, 17.0 percent in 1981 to 1985, 17.6 percent in 1986 to 1990, 23.7 percent in 1991 to 1995, 29.2 percent in 1996 to 2000, 25.1 percent in 2001 to 2005, 28.1 percent in 2006 to 2010 and 32.9 percent in 2011 to 2015. Its percentages shares increased faster with liberalization of the economy. Its overall share in GDP of was 23.0 percent for the whole study period.

The percentage shares of exports in GDP was 5.8 in 1976 to 1980, 4.9 percent in 1981 to 1985, 5.0 percent in 1986 to 1990, 8.6 percent in 1991 to 1995, 9.7 percent in 1996 to 2000, 10.6 percent in 2001 to 2005, 7.4 percent in 2006 to 2010 and 4.6 percent in 2011 to 2015. Its shares in GDP were low in comparison of the shares of imports. The shares were more or less similar for both liberalization and post liberalization periods. Its overall share was 7.0 percent for the whole study period.

The shares of total trade and trade deficit were derived from exports and imports. Thus, the shares of total trade are equals to the shares of imports plus exports and the shares of trade deficit equals exports less imports. The shares of trade deficit were expressed as positive.

The percentage share of total trade in GDP was 18.0 in 1975 to 1980, 21.9 percent in 1981 to 1985, 22.6 percent in 1986 to 1990, 32.3 percent in 1991 to 1995, 38.9 percent in 1996 to 2000, 35.7 percent in 2001 to 2005, 35.5 percent in 2006 to 2010 and 37.5 percent in 2011 to 2015. Its percentages shares increased faster with liberalization of the economy. Its overall share in GDP of was 29.4 percent for the whole study period. The shares of imports and total trade were continuously increasing but the shares of exports were below 10 percent hovering around 7 percent (Figure 4.3).

Figure 4.3: Percentage Shares of Imports, Exports, Total Trade and Trade Deficit in GDP



4.2 Product and Country wise Export Trade in Nepal

Nepalese major export commodities to India were jute goods, live animals, rice brain oil, pulses, herbs, ghee etc. having few million rupees. Those item were limited only till FY 1997/98. However, FY 2001/02-2015/16, Nepal's exportable products to India include were cardamom, catechue, cattle feed, copper wire rode, ghee (vegetable), ghee (clarified), ginger, herbs, juice, jute goods, medicine (ayurvedic), noodles, oil cakes, paper, particle board, pasmina, plastic utensils, polyester yarn, pulses, readymade garment, rice bran oil, rosin, shoes and sandals, tooth paste, wire, Zink sheet, textiles, thread, skin, soap, stone and sand, aluminum section, G.I. pipe, M.S. pipe, chemicals and carpets. Ghee (vegetable) occupied highest share in FY 2001/02 with the volume of 7081.4 million rupees. Then the declination happened on succeeding years (MoF, 2016).

On an average, the following 35- items covered around more than two third of total export with India during last 15 years. Export of Cardamom, Catechue, G.I. pipe, Ginger, Juice, Jute Goods, Polyester Yarn, Rosin, Skin, Thread, Wire, Textiles, Thread and Zink Sheet are an increasing trend and export of Zink sheet is top most position starting with 13.3 million rupees approached to 4,948.4 million rupees on FY 2015/16. Volume of Rosin, Skin, Ginger and G.I. pipe are increasing (MoF, 2016).

There are not more commodities on export to overseas countries. However, carpets, hides and skins, pasmina, ready-made garments, Tanned Skin, Pulses products are leading commodities export to overseas. The export of major these six commodities are covering more than 80 percent on an average during 15 year. The other commodities like Handicraft (Metal and wooden), Herbs, Nepalese Paper and Paper Products, Nigerseed, Readymade Leathers Goods, Silverware & Jewelleries, Tea etc. and other have less than 20 percent share on export to overseas. When pasmina products introduced in FY 2002/03, their

share jumped to 93.9 percent. i.e. almost most of the overseas trade has covered by these five commodities. However, the situation could not remain till longer (MOF, 2016).

Disappointing scene can be seen easily since FY 2004/05 of *Pashmina* products, which decline more than 300 percent on succeeding years that is hampering the share of export to overseas trade to total overseas trade too. All of those five items are declining trend in 2007 according to previous year. Nepal's exportable products to India include zinc sheet, thread, polyester yarn, jute goods, vegetable ghee and textiles, among others. Manufactured exports are concentrated in garments, carpets, and *Pashmina* that have constituted the bulk of exports to other countries. The other major commodities exported overseas include pulses, Nepalese paper & paper products and silverware & jewelries (MOF, 2016).

4.3 Product and Country wise Import Trade in Nepal

Nepalese trade is basically import trade. Nepal's imports from India grow for a number of reasons like the economic growth related demand for investment and consumption goods, substitution for domestic goods due to cost differences, and demand for re-exports. From all these counts except for substitution of domestic goods, imports are slowing down in the recent years. The import of primary products has gone up by about 2.0 percent during 2001-02 compared with more than 20 percent during 2015-16. The import of capital goods has also decelerated to 3 percent during 2001-02 from 26 percent during 2015-16. This signals the slow speed of manufacturing sector growth at the later stage of trade liberalization (MoF, 2016).

An analysis of imports by major commodities shows the import of key raw materials related to export items stagnating and even declining in the recent years. Imports of raw wool, textile and thread, which are directly linked to export potential, increased the fastest in the late 1990s when exports were also

picking up. The same declined significantly during 2001-05 because of shrunken exports market. Imports intended for informal re-exports like gold and silver, betel nut, umbrella and raw silk grew the fastest in the 1990s. But as such prospect dissipated, and as their domestic market is limited, their import declined significantly in the recent years. Recently, with the growing prospect of metal related exports to India, the import of iron and steel related raw materials have gone up significantly (MoF, 2016).

Imports are meant for ensuring smooth supply of basic consumer goods, industrial raw material and other capital goods along with providing revenue to the government to undertake pro-poor programs. There has been a rise in the import of primary goods particularly food items from India in the recent years at a low price which has helped price to remain low. But the welfare gains arising from cheap imports should be analyzed against the resulting poor agricultural performance in Nepal. There had been a surge in the imports of rice from India in the recent past with its price dampening effect in the domestic market.

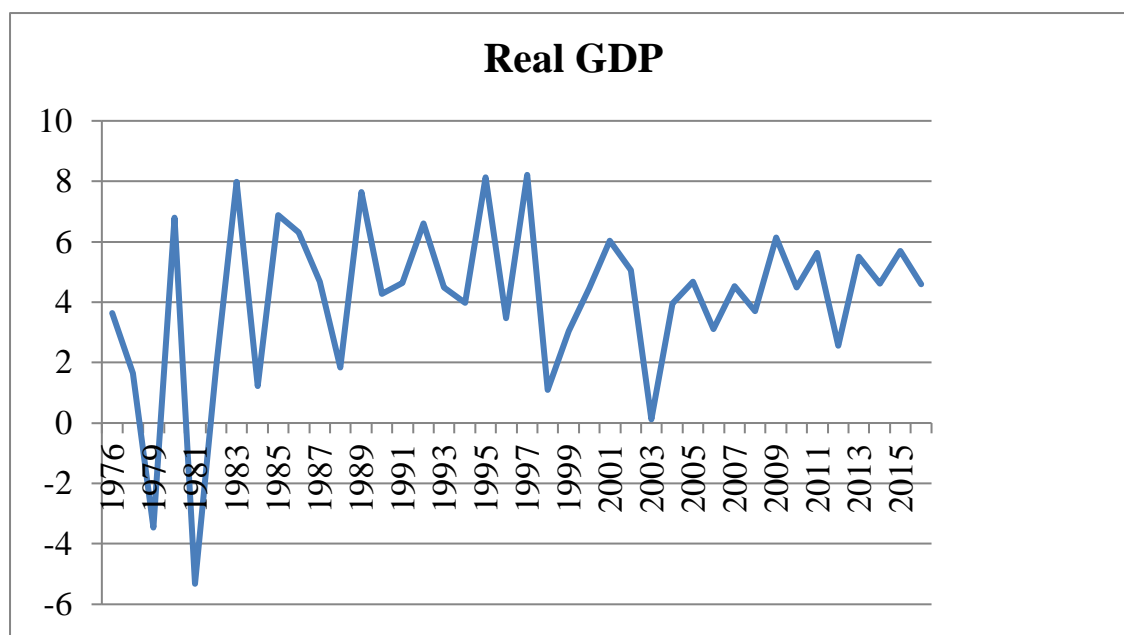
4.4 Economic Growth in Nepal

Increase in real GDP measures the performance of an economy. Real GDP is expressed in constant prices. If real growth rate of GDP is high and sustainable, then we can say that the economy is performing well.

This study divides the whole study period (1975 to 2015) into five years sub periods to have five years period wise average pattern of annual growth rates. The economic growth rate in Nepal has been unstable. The average real growth rate during last forty years was approximately 4.8 percent. From 1976 to 1980, there was a low growth rate of 3.3 percent which increased to 7.2 percent during 1981 to 1985 but decreased to 4.6 percent during 1986 to 1990. The growth rate again shot up to 5.3 percent during 1991 to 1995 but decreased to 4.8 percent and 3.4 percent during the periods 1996 to 2000 and 2001 to 2005

respectively. Again the growth rate up surged to 4.9 percent during the period 2006 to 2010 and growth rates were 4.6 percent for the period 2011 to 2015. Annual figures of real GDP growth rates are presented in Figure 4.4.

Figure 4.4: Annual GDP growth Rates of Nepal from 1975 to 2015



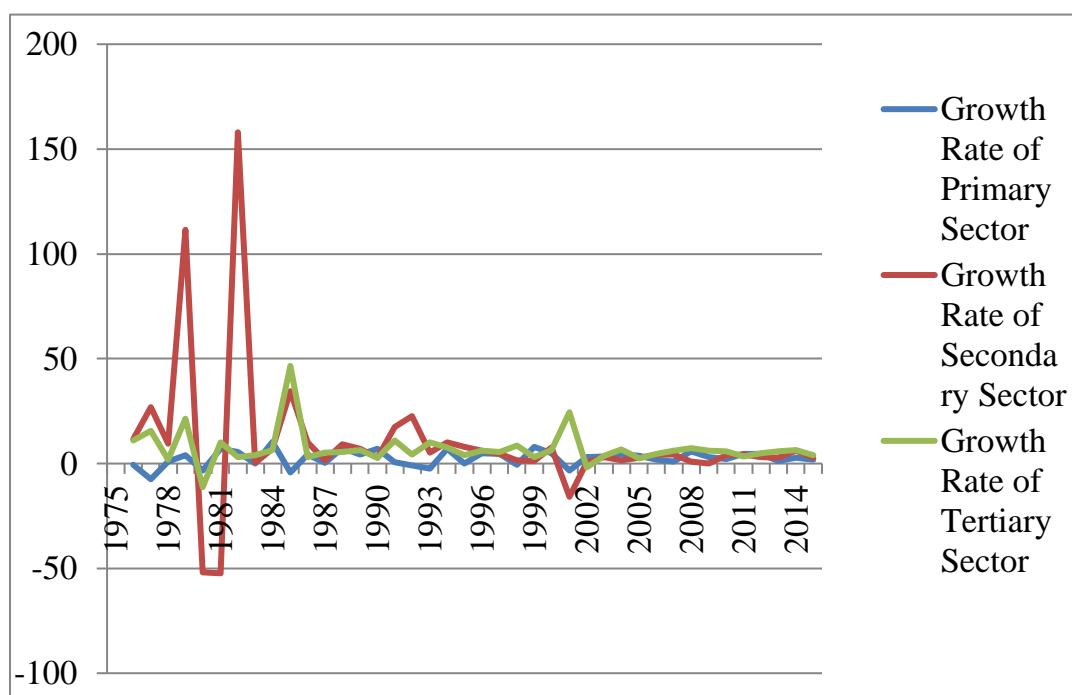
Source: Source: Economic Survey Reports, Ministry of Finance, Government of Nepal, 2014/15.

GDP comprises of sector wise production in an economy. Similarly total growth rate of an economy depends on sectors wise growth performance. System of National Accounting of Nepal manages three major sectors, namely agriculture, manufacturing and service sectors synonymously as primary, secondary and tertiary sectors.

In real terms, the primary sector had very low growth of 2.5 percent, whereas the secondary sector had a growth rate of 9.7 percent and the tertiary sector had a growth rate of 7.0 percent.

The growth rates of primary sector and secondary sectors were highly volatile whereas the tertiary sector was relatively more stable. The growth rate of all three major sectors had higher rates of growth in pre-liberalization period in comparison of post liberalization period. The growth rate for primary, secondary and tertiary sectors were 2.4 percent, 9.5 percent and 8.8 percent respectively for pre-liberalization period and for liberalization period, the growth rates of these sectors were 2.3 percent, 4.4 percent and 6.3 percent respectively. The growth rate patterns of major sectors' show unbalanced and volatile pattern over the study whole period. Annual figures of real GDP growth rates were presented in the following graph (Figure 4.5).

Figure 4.5: Annual Growth Rates of Primary, Secondary and Tertiary Sectors

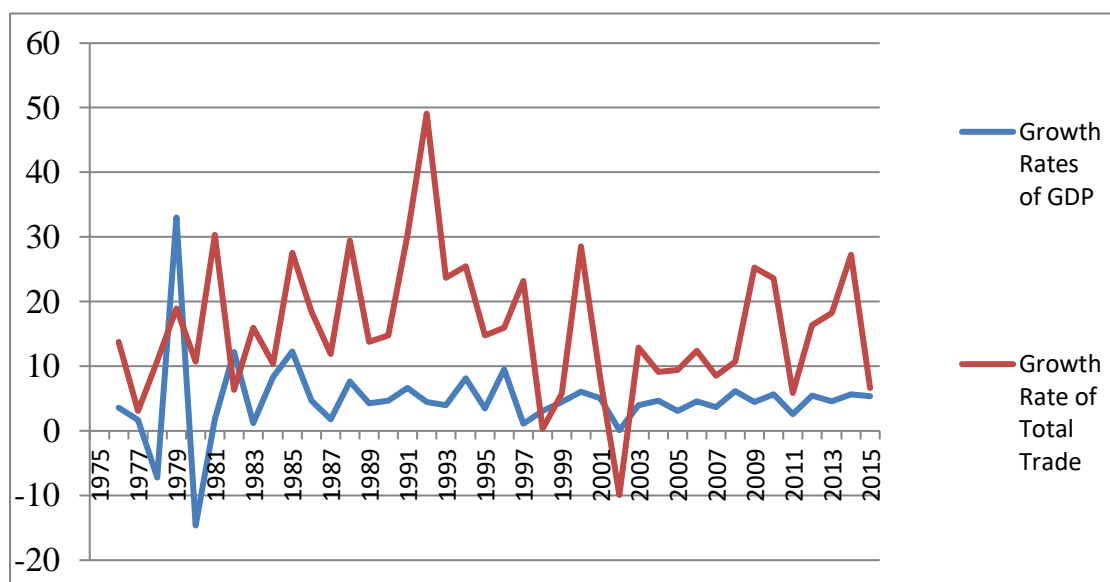


4.5 GDP Growth and Total Trade Growth

A positive relationship between GDP growth and growth rate of total trade is observed. The visual inspection in Figure 4.6 shows that both GDP growth and growth rates of total trade have cyclical movements. Almost growth rates of

GDP are lower than the growth rates of total trade. There seems positive association between the trends of two variables.

Figure 4.6: Trend of GDP Growth and Total Trade



4.6 Empirical Analysis

4.6.1 Unit Root Results

Individual time series data must be stationary before running regression analysis; otherwise the regression results are spurious. Therefore, it is better to determine the order of integration of the variables under the study. The Augmented Dickey Fuller (ADF) test is used for this purpose at log level and first difference. Thus, first difference data at log level are completely unit root free and all series are integrated of order one. Thus, first difference log level data are employed to empirical analysis. The unit root results showed that all variables are suffered unit root at log level. The unit root results are reported below (Table 4.1).

Table 4.1: Unit Root Results

Variables	Log Level		Variables	Log First Difference	
	τ - statistics	p-value		τ -statistics	p-value
LNGDP	-2.107191	0.5262	DLNGDP	-7.403625	0.0000
LNIMP	-2.359552	0.3935	DLNIMP	-5.310858	0.0005
LNEXP	-0.844723	0.9524	DLNEXP	-5.387751	0.0004

Source: Own Calculations.

The result exhibited that the variables are stationary in first difference. Hence, one can estimate the long run relationship using Johansen Co-integration Test. Given the same order of integration; it is desirable to test whether the series are co-integrated over the sample period.

4.6.2 Cointegration Test Results

According to the Granger Representation Theorem, if non-stationary variables are cointegrated, then estimation should be done with an ECM. Therefore, the Johansen Cointegration test is used to examine whether there was a long run relationship between the variables. The test required the estimation of an unrestricted VAR in levels such as:

$$y_t = \Pi_0 + \Pi_1 y_{t-1} + \Pi_{t-2} y_{t-2} + \dots + \Pi_p y_{t-p} + \varepsilon_t \dots \dots \dots (4.1)$$

In this study, y_t 's are $LNGDP_t$, $LNIMP_t$ and $LEXP_t$ and p is the lag order. The chosen number of lags followed the criteria of mathematical stability and satisfied the residual tests. The VAR also met lag order criteria such as AIC and LR test statistic. The results of the Johansen Cointegration test to the VAR (2), is presented in Table 4.2. Third column represents the trace and the

maximum Eigen value statistics and the critical values at 95% and 99% are reported in last two columns.

Table 4.2: Results of Johansen’s cointegration test Trend assumption: Linear deterministic trend (Lags interval (in first differences): 1 to 2)

Hypothesized	Trace			
No. of CE(s)	Eigen value	Statistic	95%	99%
None	0.255713	31.00380	29.79707	35.45817
At most 1	0.161362	19.781323	15.49471	19.93711
At most 2	0.078200	4.094209	3.841466	6.634897
Max-Eigen				
		Statistic	95%	99%
None	0.255713	31.22248	21.13162	25.86121
At most 1	0.161362	16.687114	14.26460	18.52001
At most 2	0.078200	6.094209	3.841460	6.634897

* denotes rejection of the null hypothesis at the 0.05%.

Here in Table 4.2, both the trace statistics and the max-eigen value are greater than the critical values at 5% and 1% levels of significance, which indicate that the null hypothesis of no cointegrating can be rejected. In such situation ECM and Granger causality can be included can be tested in first differences.

4.6.3 Vector Error Correction Results

Table 4.3 shows that the result did not conform to our prior expectation. The adjustment coefficient or the speed of adjustment of GDP is deviated from its

long run equilibrium is EC term 0.018721 and P-value is 0.8695 greater than 0.05 level of significant. Also the error correction estimate equation shows that the long run behavior of export and import have positive relationship in adjusting to long-run disequilibrium given the ECM value and are statistically not significant. Thus, in the long run, the null hypothesis is not rejected for all explanatory variables behavior of export and import have positive relationship in adjusting to long-run disequilibrium given the ECM value and are statistically not significant. Thus, in the long run, the null hypothesis is not rejected for all explanatory variables. The Eviews results are:

Table 4.3: Eviews Results

Method: Least Squares

Sample (adjusted): 1975 2015

Included observations: 38 after adjustments

$$D(LGDP) = C(1)* (LGDP(-1) + 2.5201138114* LEXP(-1) - 3.27375312934*LIMP(-1) - 6.1705633084) + C(2)*D(LGDP(-1)) + C(3)*D(LGDP(-2)) + C(4)*D(LEXP(-1)) + C(5)*D(LEXP(-2)) + C(6)*D(LIMP(-1)) + C(7) *D(LIMP(-2)) + C(8)$$

	Coefficient	Standard error	t-statistics	p-value
C(1)	0.018721	0.112896	0.165826	0.8695
C(2)	0.202587	0.211243	0.959025	0.3461
C(3)	-0.103302	0.227235	-0.454602	0.6530
C(4)	0.173745	0.316506	0.548945	0.5876
C(5)	-0.192307	0.250768	-0.766870	0.4498
C(6)	-0.187897	0.282502	-0.665117	0.5116
C(7)	0.281967	0.229706	1.227510	0.2302
C(8)	0.046553	0.036245	1.284381	0.2099
R-squared	0.123807		Mean dependent var	0.062308

Adjusted R-squared	-0.103354	S.D. dependent var	0.074353
S.E. of regression	0.078100	Akaike info criterion	-2.064011
Sum squared resid	0.164691	Schwarz criterion	-1.708503
Log likelihood	44.12020	Hannan-Quinn criter.	-1.941290
F-statistic	0.545020	Durbin-Watson sta	2.060426
Prob(F-statistic)	0.792705		

4.6.4 Granger Causality Results

Since there is cointegration between the variables, the next step is to test for the direction of causality using the vector error correction model (VECM). The presence of a cointegrating vector allows for the use of a vector error correction model to test causality. The results of the Granger causality test are presented in Table 4.4 shows that the economic growth led to import. It is shown that economic growth Granger causes import. Also export granger causes import in Nepal. The results show that there is bi-directional causality between exports and imports and between economic growth and import but export does not Granger cause GDP. The coefficient of the lagged error correction term for all models is positive and not significant and this implies that there is no long run causal relationship between exports and economic growth in Nepal. These results provide evidence that growth in Nepal was propelled by a growth led import strategy. Imports are thus seen as the source of economic growth in Nepal.

Table 4.4: Results of Granger Causality Test

Null Hypothesis	Observations	F-value	p-value
LNEXP does not Granger Cause LNGDP	39	0.79877	0.4589
LGDP does not Granger Cause LNEXP	39	1.52459	0.2336

LNIMP does not Granger Cause LNGDP	39	0.73490	0.4877
LNGDP does not Granger Cause LNIMP	39	4.21667	0.0240
LNIMP does not Granger Cause LNEXP	39	1.35081	0.2739
LNEXP does not Granger Cause LNIMP	39	6.93138	0.0032

Finally, the study checks the model efficiency, whether the model has ARCH affect, histogram normal, serial correlation and heteroscedasticity. First it check for histogram-normal, if Probability = p-value >0.05, meaning that the residual is normal, so Jarque-Bera p-value=0.770 which is greater than 0.05, meaning that the residual is normally distributed. To check for ARCH affect, it is found that R2 probability = p-value = 0.2901 which is greater than 0.05, meaning that the results cannot reject HN, rather accept HN, meaning that there is no ARCH affect. Now checking for serial correlation, it is to be run the autoregressive model with the dependent variable as independent variable with lag (-1), it finds that the model has no serial correlation, when obs' R2, p-value = 0.4029 which is greater than 0.05, so, it cannot reject HN, rather accept HN, meaning that this model does not have serial correlation. Finally, checking for Heteroscedasticity, it finds that the model free from heteroscedasticity when obs'R2 corresponding to p-value = 0.7533 greater than 0.05, meaning that the residuals are free from Heteroscedasticity.

CHAPTER IV

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter concludes our study and it is divided into four major sections. Overall findings are presented in section 5.1. In section 5.2, conclusions are drawn. Recommendations are delineated in section 5.3.

5.1 Summary of Major Findings

The major findings are as follows:

- i. The nominal growth rate of imports was 11.8 in 1976 to 1980, 17.7 percent in 1981 to 1985, 18.9 percent in 1986 to 1990, 28.4 percent in 1991 to 1995, 12.0 percent in 1996 to 2000, 6.9 percent in 2001 to 2005, 20.4 percent in 2006 to 2010 and 15.9 percent in 2011 to 2015.
- ii. The nominal growth rate of exports was 5.7 in 1976 to 1980, 24.0 percent in 1981 to 1985, 14.4 percent in 1986 to 1990, 31.6 percent in 1991 to 1995, 23.6 percent in 1996 to 2000, 3.9 percent in 2001 to 2005, 1.0 percent in 2006 to 2010 and 7.4 percent in 2011 to 2015. Its growth rates increased faster with early period of liberalization of the economy and fall after 2001. Its overall growth rate of was 13.7 percent for the whole study period.
- iii. The nominal growth rate of total trade was 9.6 percent in 1976 to 1980, 18.1 percent in 1981 to 1985, 17.7 percent in 1986 to 1990, 28.7 percent in 1991 to 1995, 14.7 percent in 1996 to 2000, 31.6 percent in 2001 to 2005, 16.1 percent in 2006 to 2010 and 14.9 percent in 2011 to 2015. Its growth rates increased faster with liberalization. Its overall growth rate of was 18.9 percent for the whole study period.
- iv. The percentage share of imports in GDP was 12.2 in 1975 to 1980, 17.0 percent in 1981 to 1985, 17.6 percent in 1986 to 1990, 23.7 percent in

- 1991 to 1995, 29.2 percent in 1996 to 2000, 25.1 percent in 2001 to 2005, 28.1 percent in 2006 to 2010 and 32.9 percent in 2011 to 2015. Its percentages shares increased faster with liberalization of the economy. Its overall share in GDP of was 23.0 percent for the whole study period.
- v. The percentage shares of exports in GDP was 5.8 in 1976 to 1980, 4.9 percent in 1981 to 1985, 5.0 percent in 1986 to 1990, 8.6 percent in 1991 to 1995, 9.7 percent in 1996 to 2000, 10.6 percent in 2001 to 2005, 7.4 percent in 2006 to 2010 and 4.6 percent in 2011 to 2015. Its shares in GDP were low in comparison of the shares of imports. The shares were more or less similar for both liberalization and post liberalization periods. Its overall share was 7.0 percent for the whole study period.
 - vi. The percentage share of total trade in GDP was 18.0 in 1975 to 1980, 21.9 percent in 1981 to 1985, 22.6 percent in 1986 to 1990, 32.3 percent in 1991 to 1995, 38.9 percent in 1996 to 2000, 35.7 percent in 2001 to 2005, 35.5 percent in 2006 to 2010 and 37.5 percent in 2011 to 2015. Its percentages shares increased faster with liberalization of the economy. Its overall share in GDP of was 29.4 percent for the whole study period.
 - vii. The economic growth rate in Nepal has been unstable. The average real growth rate during last forty years was approximately 4.8 percent. From 1976 to 1980, there was a low growth rate of 3.3 percent which increased to 7.2 percent during 1981 to 1985 but decreased to 4.6 percent during 1986 to 1990. The growth rate again shot up to 5.3 percent during 1991 to 1995 but decreased to 4.8 percent and 3.4 percent during the periods 1996 to 2000 and 2001 to 2005 respectively. Again the growth rate up surged to 4.9 percent during the period 2006 to 2010 and growth rates were 4.6 percent for the period 2011 to 2015.
 - viii. The unit root properties of the data were examined using the Augmented Dickey Fuller test (ADF) after which the cointegration and causality tests were conducted. The error correction models were also estimated

in order to examine the short -run and long run between GDP and Exports.

- ix. The finding is clarified that export, import and GDP are found stationary at the first differences. Therefore, the variables were found to be integrated of order one. The cointegration test confirmed that GDP export and import are cointegrated, indicating an existence of long run equilibrium relationship between all the variables under study confirmed by the Johansen cointegration test results.
- x. The error correction models test confirmed that there exist short run causality between GDP and imports and between export and import. The Granger causality test finally confirmed the presence of unidirectional causality unidirectional relationship between GDP to imports and between export and import, but not the other way. Further, VECM revealed that there is positive relationship between imports, exports and economic growth in Nepal.
- xi. The test of the model efficiency using Wald residuals statistics found that the model has no ARCH affect, the residual is normally distributed and the model does not have serial correlation and free from hetroscedasticity.

5.2 Conclusions

The growth rates of imports were higher than the growth rates of exports. Further, the growth rates of imports and exports were volatile. Exports are more volatile than imports. The shares of imports and total trade were continuously increasing but the shares of exports were too low in comparison of imports. The economic growth rate in Nepal has been unstable. Imports and exports show increasing time trend. Both imports and exports have positive impact on economic growth. Economic growth was found to Granger Cause import and Export was found to Granger Cause import. The results show that there is unidirectional causality between exports and imports and between exports and economic growth. These results provide evidence that growth in

Nepal was propelled by a growth -led import strategy as well as export led import. Imports are thus seen as the source of economic growth in Nepal.

5.3 Recommendations

From the literature review, descriptive analysis, major empirical findings and generalized conclusions, it is found that the relationship between real GDP and imports and exports is satisfactory. Therefore, based on conclusions drawn which are evidenced from empirical findings, following recommendations are prescribed for policy implications.

- i. Increase in imports and exports shows that Nepalese economy is linking to trade openness. The growth rate of exports are less than imports indicates that trade competitiveness is weak. Therefore, export competitiveness policy is essential for economic growth and development.
- ii. These results provide evidence that growth in Nepal was propelled by a growth-led import strategy as well as export led import. Imports are thus seen as the source of economic growth in Nepal. Therefore, increasing trend of imports should not be controlled rather imports are induced for inducing exports and growth.
- iii. Trade competitiveness and import of machinery and equipment or capital goods is recommended to have sustainable economic growth in Nepal.

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APPENDIX 1

DATA USED IN THE ANALYSIS

Year	Nominal GDP (Rs. in millions)	GDP Implicit Price Deflator (Base Year 2001= 100)	Real GDP (Rs. in millions)	Imports (Rs. in million)	Exports (Rs. in million)
1975	16601	12.64	131337.0	1814.6	889.6
1976	17394	12.78	136103.3	1891.7	1185.8
1977	17280	12.49	138350.7	2008.0	1164.7
1978	17727	13.81	128363.5	2469.6	1046.2
1979	26128	15.3	170771.2	2884.7	1296.8
1980	23351	16.02	145761.5	3480.1	1150.5
1981	25530	17.2	148430.2	4428.2	1608.7
1982	30998	18.62	166476.9	4930.3	1491.5
1983	33821	20.07	168515.2	6314.0	1132.0
1984	39290	21.53	182489.5	6514.3	1703.9
1985	46587	22.73	204958.2	7742.1	2740.6
1986	55734	25.98	214526.6	9341.2	3078.0
1987	63864	29.23	218487.9	10905.2	2991.4
1988	76906	32.7	235186.5	13869.6	4114.5
1989	89270	36.4	245247.3	16263.7	4195.3
1990	103416	40.3	256615.4	18324.9	5156.2
1991	120370	44	273568.2	23226.5	7387.5
1992	149487	52.3	285826.0	31940.0	13706.5
1993	171492	57.7	297213.2	39205.6	17266.5
1994	199272	62	321406.5	51570.8	19293.4
1995	219175	65.9	332587.3	63679.5	17639.2
1996	258913	71.1	364153.3	74454.5	19881.1
1997	280513	76.2	368127.3	93553.4	22636.5

1998	300845	79.3	379375.8	89002.0	27513.5
1999	342036	86.3	396333.7	87525.3	35676.3
2000	379488	90.3	420252.5	108504.9	49822.7
2001	441519	100	441519.0	115687.2	55654.1
2002	459443	103.94	442027.1	107389.0	46944.8
2003	492231	107.13	459470.7	124352.1	49930.6
2004	536749	111.6	480957.9	136277.1	53910.7
2005	589412	118.86	495887.6	149473.6	58705.7
2006	654084	126.18	518373.8	173780.3	60234.1
2007	727827	135.38	537617.8	194694.6	59383.1
2008	815658	142.94	570629.6	221937.7	59266.5
2009	988272	165.77	596170.6	284469.6	67697.5
2010	1193679	189.56	629710.4	374335.2	60824
2011	1366954	211.65	645855.9	396175.5	64338.5
2012	1527344	224.13	681454.5	461667.7	74261.0
2013	1695011	237.77	712878.4	556740.3	76917.1
2014	1941624	257.7	753443.5	714365.9	91991.4
2015	2124250	267.5	794112.1	774684.2	85319.1

Continued...

Year	Total Trade (Rs. In million)	Trade Deficit (Rs. In million)	Growth Rates of GDP	Growth Rate of Imports	Growth Rate of Exports	Growth Rate of Total Trade
1975	2704.2	-925.0	-	-	-	-
1976	3077.5	-705.9	3.6	4.2	33.3	13.8
1977	3172.7	-843.3	1.7	6.1	-1.8	3.1
1978	3515.8	-1423.4	-7.2	23.0	-10.2	10.8
1979	4181.5	-1587.9	33.0	16.8	24.0	18.9
1980	4630.6	-2329.6	-14.6	20.6	-11.3	10.7
1981	6036.9	-2819.5	1.8	27.2	39.8	30.4
1982	6421.8	-3438.8	12.2	11.3	-7.3	6.4

1983	7446.0	-5182.0	1.2	28.1	-24.1	15.9
1984	8218.2	-4810.4	8.3	3.2	50.5	10.4
1985	10482.7	-5001.5	12.3	18.8	60.8	27.6
1986	12419.2	-6263.2	4.7	20.7	12.3	18.5
1987	13896.6	-7913.8	1.8	16.7	-2.8	11.9
1988	17984.1	-9755.1	7.6	27.2	37.5	29.4
1989	20459.0	-12068.4	4.3	17.3	2.0	13.8
1990	23481.1	-13168.7	4.6	12.7	22.9	14.8
1991	30614.0	-15839.0	6.6	26.7	43.3	30.4
1992	45646.5	-18233.5	4.5	37.5	85.5	49.1
1993	56472.1	-21939.1	4.0	22.7	26.0	23.7
1994	70864.2	-32277.4	8.1	31.5	11.7	25.5
1995	81318.7	-46040.3	3.5	23.5	-8.6	14.8
1996	94335.6	-54573.4	9.5	16.9	12.7	16.0
1997	116189.9	-70916.9	1.1	25.7	13.9	23.2
1998	116515.5	-61488.5	3.1	-4.9	21.5	0.3
1999	123201.6	-51849.0	4.5	-1.7	29.7	5.7
2000	158327.6	-58682.2	6.0	24.0	39.7	28.5
2001	171341.3	-60033.1	5.1	6.6	11.7	8.2
2002	154333.8	-60444.2	0.1		-15.6	-9.9
2003	174282.7	-74421.5	3.9	15.8	6.4	12.9
2004	190187.8	-82366.4	4.7	9.6	8.0	9.1
2005	208179.3	-90767.9	3.1	9.7	8.9	9.5
2006	234014.4	-113546.2	4.5	16.3	2.6	12.4
2007	254077.7	-135311.5	3.7	12.0	-1.4	8.6
2008	281204.2	-162671.2	6.1	14.0	-0.2	10.7
2009	352167.1	-216772.1	4.5	28.2	14.2	25.2
2010	435159.2	-313511.2	5.6	31.6	-10.2	23.6
2011	460514.0	-331837.0	2.6	5.8	5.8	5.8
2012	535928.7	-387406.7	5.5	16.5	15.4	16.4
2013	633657.4	-479823.2	4.6	20.6	3.6	18.2

2014	806357.3	-622374.5	5.7	28.3	19.6	27.3
2015	860003.3	-689365.1	5.4	8.4	-7.3	6.7

Continued...

Year	Growth Rates of Trade Deficit	Imports as percentage of GDP	Exports as percentage of GDP	Total as percentage of GDP	Trade Deficit as percentage of GDP
1975	-	10.9	5.4	16.3	5.6
1976	23.7	10.9	6.8	17.7	4.1
1977	19.5	11.6	6.7	18.4	4.9
1978	68.8	13.9	5.9	19.8	8.0
1979	11.6	11.0	5.0	16.0	6.1
1980	46.7	14.9	4.9	19.8	10.0
1981	21.0	17.3	6.3	23.6	11.0
1982	22.0	15.9	4.8	20.7	11.1
1983	50.7	18.7	3.3	22.0	15.3
1984	7.2	16.6	4.3	20.9	12.2
1985	4.0	16.6	5.9	22.5	10.7
1986	25.2	16.8	5.5	22.3	11.2
1987	26.4	17.1	4.7	21.8	12.4
1988	23.3	18.0	5.4	23.4	12.7
1989	23.7	18.2	4.7	22.9	13.5
1990	9.1	17.7	5.0	22.7	12.7
1991	20.3	19.3	6.1	25.4	13.2
1992	15.1	21.4	9.2	30.5	12.2
1993	20.3	22.9	10.1	32.9	12.8
1994	47.1	25.9	9.7	35.6	16.2
1995	42.6	29.1	8.0	37.1	21.0
1996	18.5	28.8	7.7	36.4	21.1
1997	29.9	33.4	8.1	41.4	25.3

1998	13.3	29.6	9.1	38.7	20.4
1999	15.7	25.6	10.4	36.0	15.2
2000	13.2	28.6	13.1	41.7	15.5
2001	2.3	26.2	12.6	38.8	13.6
2002	0.7	23.4	10.2	33.6	13.2
2003	23.1	25.3	10.1	35.4	15.1
2004	10.7	25.4	10.0	35.4	15.3
2005	10.2	25.4	10.0	35.3	15.4
2006	25.1	26.6	9.2	35.8	17.4
2007	19.2	26.8	8.2	34.9	18.6
2008	20.2	27.2	7.3	34.5	19.9
2009	33.3	28.8	6.9	35.6	21.9
2010	44.6	31.4	5.1	36.5	26.3
2011	5.8	29.0	4.7	33.7	24.3
2012	16.7	30.2	4.9	35.1	25.4
2013	23.9	32.8	4.5	37.4	28.3
2014	29.7	36.8	4.7	41.5	32.1
2015	10.8	35.8	3.9	39.8	31.9

Continued...

Year	Nominal Primary Sector (Rs. in millions)	Nominal Secondary Sector (Rs. in million)	Nominal Tertiary Sector (Rs. in millions)	Real Primary Sector (Rs. in millions) (2000/01 = 100)	Real Secondary Sector (Rs. in millions) (2000/01 = 100)	Real Tertiary Sector (Rs. in millions) (2000/01 = 100)
1975	11457	1281	3228	90640.8	10134.5	25538.0
1976	11518	1446	3625	90125.2	11314.6	28364.6
1977	10415	1795	4095	83386.7	14371.5	32786.2
1978	11636	2174	4611	84257.8	15742.2	33388.8

1979	13399	5096	6197	87575.2	33307.2	40503.3
1980	13562	2566	5758	84656.7	16017.5	35942.6
1981	15568	1313	6808	90511.6	7633.7	39581.4
1982	17781	3667	7589	95494.1	19693.9	40757.3
1983	19167	3964	8513	95500.7	19750.9	42416.5
1984	22681	4550	9713	105346.0	21133.3	45113.8
1985	22954	6456	15030	100985.5	28403.0	66124.1
1986	27364	8130	17720	105327.2	31293.3	68206.3
1987	30880	9298	20963	105644.9	31809.8	71717.4
1988	37072	11359	24740	113370.0	34737.0	75657.5
1989	42993	13554	29285	118112.6	37236.3	80453.3
1990	50919	15422	33361	126349.9	38268.0	82781.6
1991	55943	19787	40397	127143.2	44970.5	91811.4
1992	65951	28832	50150	126101.3	55128.1	95889.1
1993	71011	33479	60878	123069.3	58022.5	105507.8
1994	81579	39645	70372	131579.0	63943.5	113503.2
1995	86686	45510	77778	131541.7	69059.2	118024.3
1996	98238	52157	88993	138168.8	73357.2	125166.0
1997	110280	58536	100754	144724.4	76818.9	132223.1
1998	114048	61853	113897	143818.4	77998.7	143628.0
1999	134058	68231	127729	155339.5	79062.6	148005.8
2000	146946	76874	142431	162730.9	85131.8	157730.9
2001	157442	71744	196269	157442	71744	196269
2002	168239	75712	200101	162398	72220	192782
2003	175113	81228	217205	167801	74452	199874
2004	188632	86902	242460	175765	75557	213504
2005	202116	94311	270152	181979	77756	218896
2006	214838	101964	313528	185363	81003	229236
2007	230240	112112	355012	187179	84409	243539
2008	251566	126538	401338	198072	85292	261438
2009	314637	143816	480436	203995	85253	277130

2010	401681	163457	553433	208102	88710	293275
2011	482330	185889	619148	217424	92613	303319
2012	514450	207221	715803	227500	95342	318520
2013	544084	230253	805989	230018	97909	336763
2014	595942	260251	943264	236693	103974	358143
2015	632926	284703	1041226	241079	106733	371982

Continued...

Year	Growth Rate of Primary Sector	Growth Rate of Secondary Sector	Growth Rate of Tertiary Sector
1975	-	-	-
1976	-0.57	11.64	11.07
1977	-7.48	27.02	15.59
1978	1.04	9.54	1.84
1979	3.94	111.58	21.31
1980	-3.33	-51.91	-11.26
1981	6.92	-52.34	10.12
1982	5.50	157.99	2.97
1983	0.01	0.29	4.07
1984	10.31	7.00	6.36
1985	-4.14	34.40	46.57
1986	4.30	10.18	3.15
1987	0.30	1.65	5.15
1988	7.31	9.20	5.49
1989	4.18	7.19	6.34
1990	6.97	2.77	2.89
1991	0.63	17.51	10.91
1992	-0.82	22.59	4.44
1993	-2.40	5.25	10.03
1994	6.91	10.20	7.58
1995	-0.03	8.00	3.98
1996	5.04	6.22	6.05

1997	4.74	4.72	5.64
1998	-0.63	1.54	8.63
1999	8.01	1.36	3.05
2000	4.76	7.68	6.57
2001	-3.25	-15.73	24.43
2002	3.15	0.66	-1.78
2003	3.33	3.09	3.68
2004	4.75	1.48	6.82
2005	3.54	2.91	2.53
2006	1.86	4.18	4.72
2007	0.98	4.20	6.24
2008	5.82	1.05	7.35
2009	2.99	-0.05	6.00
2010	2.01	4.05	5.83
2011	4.48	4.40	3.42
2012	4.63	2.95	5.01
2013	1.11	2.69	5.73
2014	2.90	6.19	6.35
2015	1.85	2.65	3.86