ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITUTE OF AGRICULTURE AND DEVELOPMENT STUDIES

EFFECTS OF EXCHANGE RATE ON SOAP AND DETERGENT INDUSTRY'S PERFORMANCE IN ETHIOPIA

A THESIS SUBMITTED TO ST MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES INSTITUTE OF AGRICULTURE AND DEVELOPMENT STUDIES IN PARTIAL FULFILLMENT FOR THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN DEVELOPMENT ECONOMICS

By

TsionTegenu

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Declaration

The researcher here by declares that the thesis on the title, “Effects of exchange rate on soap and detergent industry’s performance in Ethiopia”, is my original work and that all sources that have been referred to and quoted have been dully indicated and acknowledged with complete references.

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ACRONYMS

AACCSA	Addis Ababa Chamber of Commerce and Sectoral Association
ADLI	Agricultural Development Led Industrialization
CSA	Central Statistical Authority of Ethiopia
EEA	Ethiopian Economic Association
EIC	Ethiopian Investment Commission
EIDSP	Ethiopian Industrial Development Strategic Plan
ERCA	Ethiopian Revenue and Customs Authority
FDI	Foreign Direct Investment
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
GVP	Gross Value Production
IMF	International Monetary Fund
MoFED	Minister of Finance and Economic Development
MoI	Ministry of Industry
NBE	National Bank of Ethiopia
OLS	Ordinary Least Square
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PLC	Private Limited Company
PMAC	Provisional Military Administrative Council
SAP	Structural Adjustment Program
SDI	Soap and Detergent Industry
SPSS	Statistical Package for Social Science
UNIDO	United Nations Industrial Development Organization
US	United States

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ABSTRACT

This research was carried out to find out the effect of exchange rate on the performance of soap and detergent industry, in Ethiopia. It has been employed annual time series data (1996-2014) which was generated mainly from NBE, CSA, MoFED, and ERCA. After a major preliminary data test descriptive statistics and OLS was employed for the purpose of data analysis. The regression result revealed that exchange rate (devaluation of birr) is positively and significantly correlated with SDI; implying that devaluation of birr has contribution for the growth of soap and detergent industry. Furthermore, since manufacturing sector plays a crucial role for once economic development, capital flow and investment should be encouraged through creating enabling environment by reforming a well-designed industrial policy which could encourage the sub-sector.

Key words: Exchange rate, SDI, Performance, Ethiopia

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

According to UNIDO (2011), industrial sector is composed of manufacturing, mining and construction where the manufacturing sector dominates. Manufacturing is the transformation of materials and substances into new products; the transformation could be physical or chemical but either ways; the process involves value adding to raw materials that are derived from agriculture, forestry, and mining and from the manufacturing sectors itself. Furthermore, manufacturing industry is the engine of growth, since it raises productivity through dynamic increasing returns and in generating high levels of growth and productivity (Weiss, 2011).

The history of manufacturing industry in Ethiopia is believed to begin post Ethio-Italy war. There were few manufacturing industries in the second quarter of 1940s, whose contribution for national income accounted was only 1 percent. Practically, the real industrialization begun in the 1950s and consolidated in the following successive developmental plans (Alemu and Zerihun, 2005). However, according to Degife *et al*. (2000), in Ethiopia modern manufacturing had begun in the early 20th century, mainly following the construction of the Ethio-Djibouti railways. Furthermore, they believed that the increasing demand for imported manufactured goods and the rising cost of transportation for the imported goods were the main reason that necessitated the domestic manufacturing sector. The expansion of manufacturing in Ethiopia is believed to have benefited from the entrepreneurial skills of foreigners such as Armenia, Italy, Greece and India who had begun settling in the country at that time (Befekadu *et al*., 2000).

The governments of Ethiopian have introduced industrial policies and strategies at different time to revitalize the industrial sector. During the imperial era, the strategy and effort was made on import substitutions through industrialization by encouraging the private sectors. However, the contribution of the manufacturing sector in terms of employment and its performance itself was below expectation and was too low compared to other developing countries. Following the imperial regime, the Derg regime took the power with radical change in the structure and management of the industrial sectors such nationalizing the whole large and medium scale manufacturing industry, licenses restrictions, capital ceiling etc. Like the previous regime the overall performance of the manufacturing sector was disappointing (Girma, 2015). Furthermore,

in the period of Derg the number of operating manufacturing industries has declined, from 479 in 1970 to 399 in 1984; there were 211 large and medium scale state controlled manufacturing plants (Terfassa, 1989).

After the overthrow of the socialist government, the current regime (EPRDF) took the power with a policy which could be considered as cautious capitalism. In the early time of its power the transitional government of Ethiopia accepted different polices such as structural adjustment Program (SAP) and implement agricultural development led industrialization (ADLI) that aimed at making the agricultural sector as a spring board to bring industrial development. Regarding the industrial sector there are some encouraging results like active involvements of private sectors and industrial production in large and medium scale manufacturing industry (Girma, 2015).

In the past decade the GDP continued to grow on average by 10.9 percent (NBE, 2013); out of this the industrial sector is one of the envisioned sectors expected to play a great role in GDP growth, job creation, foreign exchange earnings, sustainable macro-economic development, and etc. in the growth and transformation plan (GTP) period. According to the report of World Bank (2008), the manufacturing sector has been stagnated for long period of time, from the total contribution of the industrial sector of 13 percent to Gross Domestic Product; it is only 5 percent that comes out of the manufacturing sector in 2006. However, the recent Ethiopian industrial development strategic plan report indicates the industry sector had 15 percent growth rate contribution to the GDP (EIDSP, 2013). In order to maintain the growth rate contributing industries should perform at their best, having functional and effective supply chain and vigorous market system for their final output. The performance of businesses is an ultimate issue of concern that is affected by the political and legal environment. The political environment includes laws and policies groped under the macro-economic policy whereas the performance of business is a micro economic phenomenon (Yusuf & Bambale, 2016). Maintaining internal and external balances (Export Vs Import) are among the main economic objectives that countries want to pursue. Particularly, balance of payment equilibrium is achieved thorough expenditure-switching policies through mainly devaluation or revaluation. Hence, exchange rate policy is considered as a main policy instrument to correct balance of trade problems in each country (Muhabaw, 2015).

It is obvious that manufacturing industries need to source or purchase their raw material and machinery inputs from abroad or out of the country they reside. Therefore, the concept of local currency exchanges rate impacts their performance since their business depends not only on the local currency but also on its relative price in relation to other foreign currencies. Depreciation in exchange rate affects exporters' return positively making export more profitable which in-turn may encourage firms to increase volume of export. On the other hand, depreciation decreases the performance of importing firms leading them to decrease the amount of their import (Alam, 2010).

This study selected soap and detergent industry (SDI) which is categorized under the chemical manufacturing sub-sector. The SDI contributes around 64 percent of the total chemical manufacturing sub-sector. The industry uses most of its operational input such as raw materials, different machineries, and car and spare parts imported. As a result it is expected that the exchange rate of birr has an impact on the industry's performance along with other factor like production volume, employment and revenue from sales impacting the performance of the industry. Therefore, the purpose of this study is to assess effect of exchange rate on SDI performance.

1.2. Statement of the Problem

According to different literatures and studies contribution of manufacturing sector in most developing countries is insignificant, specifically in Africa chemical manufacturing industry has insignificant contribution both for the manufacturing sector and to the economy as a whole(AACCSA 2015). In particular this study look in to the contribution of soap and detergent industry to the manufacturing sector which can translates to the whole economy.

Due to high population growth, expansion of urbanization, and development of awareness on hygiene and sanitation in developing countries including Ethiopia, the demand for soap and detergents has increased; and due to different factor contributing to the under performance of the industry. In Ethiopia, due focus has been given to the soap and detergent industry on the growth and transformation plan (GTP), the GTP has a policy goal to increase number of factories establishment up to the capacity to produce 116tons of soap and detergent, and grow on capacity utilization of the soap and detergent sub-sector, with the objective of substitution of imported

goods (GTP 2011). This research paper therefore, intends to study the macro-economic factors affecting the performance of soap and detergent industry focusing on exchange rate as the industry utilizes most of its production materials importing from international market such as, chemical raw materials, machineries, and spare parts. In view of the above gaps mentioned, the central question of this study is;

- What is the contribution of Soap and Detergent Industry to the Manufacturing Sector?
- To what extent does exchange rate affect the industry's performance?

1.3. Objectives of the Study

1.3.1. General Objective

The general objective of the study is to see the effects of exchange rate on soap and detergent industry's performance in Ethiopia.

1.3.2. Specific Objective

1. To assess the contribution of SDI to the manufacturing sector
2. To identify the factors that affect SDI's performance focusing on the effect of exchange rate

1.4. Research Hypothesis

$H_{0:}$ Exchange rate has significant effect on soap and detergent Performance

$H_{1:}$ Exchange rate has no significant effect on soap and detergent Performance

1.5. Significance of the Study

This study assessed the contribution of SDI to the chemical manufacturing industry and manufacturing sector as whole which can be translated to the economy; and assess effect of exchange rate on soap and detergent industry's performance amongst other factors affecting the performance of the industry. Understanding the effect of exchange rate would help the industries as an input in order to determine their import level and their decisions on related matters. Further, this study can lay a fertile ground for further studies and possible policy measures.

1.6. Scope and Limitation of the Study

This study is intended to get an in depth observation of the economical contribution of SDI, and asses the factors that affect SDI's performance by taking SDI/ Gross Value Production (GVP)as dependent variable measuring the performance of the industry and taking exchange rate, industry's, employment, and revenue from sales as independent variables explaining the performance of the industry. The study covers the period from 1995 to 2014. There were some limitation on the study with regard to availability of required data, institutions willingness to give flawless data and their replies were late considering the time constraint to complete the research.

1.7. Organization of the Paper

The research paper has five chapters. Chapter one deals with background of the study, statement of problem, definition of key words, research objective, significance of the study and scope and limitation of the study. Chapter two deals with the review of related theoretical and empirical literatures, and chapter three contains methodology of the study. Chapter four present data analyses and presentation, and the final chapter, chapter fives summarizes the findings, draw conclusions and forward some policy recommendations.

CHAPTER TWO: LITRATURE REVIEW

2.1.Theoretical Background

Due to its insignificant contribution to manufacturing and over all GDP, finding enough literature concerning soap and detergent industry was the main limitation of this review part, hence, the literature try to insight the background together with manufacturing and chemical manufacturing sector. The problem is exaggerated when it comes to in Ethiopian context.

2.1.1. Manufacturing: Chemical Vs Soap & Detergent

The manufacturing sector has long been considered the main engine of economic growth and structural transformation (Prebisch, 1950). There are numerous arguments supporting this view. The road towards industrialization, however, has never been even. Several countries in Asia have successfully industrialized in the last few decades, while Africa faced de-industrialization (Page, 2009). Rodrik (2004) argues that the success in East and South Asian countries was not the result of conventional recommendations of liberal markets and the restricted role of the government but a mix of standard and non-standard policies. The lack of progress in Africa, on the other hand, casts doubt on the structural adjustment programs that took place in the 1980s and 1990s with a main focus on liberalization and improvement of investment climate (Gebreeyesus, 2014).

Industrial policy is back on the development agenda. A number of countries in the developing world and particularly Africa have shown a renewed interest and started to reintroduce industrial policy. Governments from several rich countries have also advocated for state intervention in industry following the 2008 financial crisis (The Economist, 2017). Yet controversies remain; for example whether governments should favor specific sectors over others, whether industrial strategies should follow or defy comparative advantage (Lin and Chang, 2009), and on the nature of state-business relationship (Rodrik, 2004).

One of the longstanding critics against industrial policy points at the inability of the state bureaucrats to pick winners and the high probability that they promote rent seekers instead (Pack and Saggi, 2006). The recent advocates of industrial policy (Rodrik, 2004) have emphasized the need for strategic collaboration between the private sector and the state with the aim of uncovering where the most significant obstacles to restructuring lie and what type of interventions are more likely to remove them. Yet, little systematic evidence exists on the institutional characteristics of public-private co-ordination outside of the well-known cases of

East Asia (Page, 2009).Thus, we know little about the quality and impact of particularly recent attempts to reintroduce industrial policy in Africa (Gebreeyesus, 2014).

According to Lavopa & Szirmai (2012), the impact of manufacturing sector categorized in three main categories. First one is the direct impacts on employment, at given levels of labor productivity; growth in manufacturing output creates new jobs in the manufacturing sector. Given the higher productivity of manufacturing (as compared to many other sectors of the economy such as agriculture or the informal sector), these jobs tend to be well-paid and of good quality. Structural shifts in employment from low productivity sectors (For instance agriculture) to manufacturing will thus have a positive effect on the incomes of the poor. The second impact is an indirect; growth in manufacturing output also creates new jobs in other sectors of the economy, through indirect input-output linkages. Given the strong backward and forward linkages of the manufacturing sector with the rest of the economy, its employment generation potential is much larger than the jobs directly created. Lastly an induced impact of employment, growth in manufacturing output also creates new jobs in other sectors of the economy due to induced effects, both in demand and supply. Induced impacts are external effects of investments in manufacturing, other than the linkage effects (Lavopa and Szirmai, 2012).

Around the world, among the industrial sector the chemical industry is enabling the solutions that we need to meet global challenges by providing more reliable and cleaner sources of energy, improvements in the development and delivery of life-saving medicines, safer and more efficient transportation options, and access to cleaner and safer drinking water effective, non-polluting sanitation systems, sustainable agricultural methods that enable more abundant, nutritious food, new construction materials that provide energy-efficient, low-cost alternatives for housing and infrastructure and enhancements and innovation in global manufacturing processes (ICCA, 2012).

The chemicals industry and its products have many potential benefits particularly related to improving and sustaining human capital through new opportunities for employment, improved health and nutrition. For example the chemical industry in the United States remains a cornerstone of manufacturing and is connected to numerous jobs throughout the U.S. approximately 4.2 million jobs in the economy are directly or indirectly linked to the productive activities of the chemical industry. This accounts for approximately 22 percent of the nation's

manufacturing and industrial workers and chemical manufacturing sector of the U.S. economy has maintained a positive foreign trade balance for the past several decades (Heintz and Pollin, 2011).

Detergents are any substance or preparation containing soaps and/or other surfactants intended for washing and cleaning processes. Detergents may be in any form (liquid, powder, paste, bar, cake, molded piece shape, etc.) and marketed for or used in household, or institutional or industrial purposes (RPA, 2006). SDI is an industry that manufactures Cleansing products for personal care, home care and bath care in different forms, crystal, powder and liquid form. The industry is categorized under the Fast Moving Consumer Goods (FMCG) producing firms, emphasizing the output of these firms is a necessity and purchased frequently by consumers at all level of socio-economic class. In a country like Ethiopia where there is huge population size and potential growth, SDI has potential to contribute positively in the creation of additional employment opportunities, macroeconomic growth, poverty reduction, competition, higher production volumes, increases in exports, and the introduction of innovation.

According to Euro Monitor (2000) cited on John (2007) in 2000 the soaps and detergents together represented around 12.4 percent of consumer expenditure on household goods in industrialized countries and between 2.6 percent to 5 percent in the developing world. For the developed economies, this reflects the growing maturity of the market and intense price competition in the market place. There is much greater scope for marketing to induce consumers in the emerging markets to raise the consumption level (John, 2007). Furthermore, population growth, particularly households with children, drives demand in the consumer sector, while economic growth drives demand in the commercial sector. Unlike other sector worldwide soap and detergent industry is highly concentrated; the top 50 companies hold almost 90 percent of the market. Small companies can compete effectively by offering specialized products, providing superior customer service, or serving a local market (Hoovers & Company, 2008; Tai, 2000).

2.1.2. Manufacturing in Ethiopian Context

2.1.1.1.Background of the Industry Sector in Ethiopia

In the 20th century as a result of establishment of strong central government, expansion of cities with construction of railways, beginning of foreign relation increases the demand for imported manufacturing commodities and followed by import substitution production around 1920s. After Second World War 1950s, comprehensive plan for the country's industrial and economic development was started (Gebreeyesus, 2014). Manufacturing appear much earlier than in many of the Sub-Saharan African countries while modern industries began to emerge. The early 1970s ushered a central planning system of economic management. This development, however, frustrated whatever little there was in private initiative that had appeared in the earlier period (MoI, 2013).

Ethiopia has seen three different regimes in the past eight decades with different ideologies governing the economic principles. The Imperial regime, pre 1974, has market oriented policy guides where the market is led by foreign owned enterprises running import substituting and labor intensive industry. The role of government was then availing infrastructural and human resource facilities and placing policy instruments for protection of domestic market and banning some imports and particularly its role was limited at the time as it owns (either fully or as a shareholder) a small proportion of the manufacturing firms (Befekadu *et al.*, 2000); about 67 percent of the establishments were fully and partially owned by foreigners (Getnet, 2003).

In 1950's the imperial government made an effort in developing of modern industrial sector by designing the three five year plan that was the first five year plan 1957-1961,the second 1962-66 and the third from 1967 to 1971. These developments targeted to encourage foreign investment and the main agents were a foreign national that resides in Ethiopia. A number of incentives were given such as tax holidays, easy financing loans through the Ethiopian investment corporation and development bank of Ethiopia, tax exemptions, remittance of foreign exchange, import and export duty relief, and effective tariff protections from foreign competition (Girma, 2015). The Government placed much hope on the contribution of foreign capital. This was evident from its first measures in the area of economic policy, which gave emphasis to foreign direct investment. The issuance of 'Notice for the Encouragements of Foreign Capital Investment', in 1950, revealed little concern for indigenous investment. This policy gave a lot of

incentives for foreign investors, which were not extended to existing or potential local investors until the issuance of the Investment Decree of 1963 and the 1966 Investment Proclamation (Alemu and Zerihun, 2005).

In the 1960s and early 1970s, manufacturing activity increased as the government, five years plans diversified the economy by encouraging agro-industry activity and by substituting domestically produced goods for imported items. Thus, according to the World Bank, manufacturing production increased at an annual rate of 6.1 percent. Despite this favorable growth rate, manufacturing in 1973/74 accounted for less than 6 percent of the total GDP and employed only about 60000 people. Handicrafts such as weaving, pottery, blacksmithing, leather working, jewelry making, along with other small scale industries, accounted for another 5 percent of GDP (Girma, 2015).Despite the first five-year plan and the investment proclamation emphasis on the role of local investors, the 1966 Investment Proclamation provided a lot of incentives for those investments not less than $200,000, which was beyond the reach of most local investors. As a result of this, most manufacturing firms were owned and operated by foreigners (Alemu and Zerihun, 2005).

Following the over through of the imperial regime in 1974, the country's economic system has changed radically, particularly in the industrial sector in terms of nature, ownership and management. In 1975 the Derg nationalized almost all medium and large scale enterprises and subsequently reorganized them into state owned corporations (Girma, 2015). Further, the government realized a new economic policy and identified three manufacturing areas slated for state involvement: basic industries that produced goods serving other industries and that had the capacity to create linkages in the economy: industries that produced essential goods for the general population; and industries that made drugs, medicine, tobacco and beverages (Berhane, 2012). Furthermore, the government also declared a socialist economic policy and introduced various restrictions on the private sector and the market (PMAC, 1975).

Private investment was restricted to not exceed half a million Birr (approximately a quarter of a million US$) and entrepreneurs may participate in only one venture. Price controls were instituted covering a wide range of products and the labor market highly regulated. The imports were also subjected to quantitative restrictions and higher tariffs in this period. The Ethiopian national currency, the Birr, was set fixed at about 2.07 per US$1 and continued at this rate

throughout the period of the military regime (1974/75-1990/91). Furthermore, the manufacturing sector exhibited a sharp decline particularly in the first few years following the revolution (Gebreeyesus, 2014), because of nationalization of major industries left nationals and foreigners discouraged to make investments in any of the sectors, especially the industrial sector in the country (Berhane, 2012). Another means that Derg used to restrict participation of the private sector in the economy was through imposition of capital ceilings and by being biased towards public companies (at the time, US$ 250,000 ceiling was imposed on private investment). In the later years, the regime introduced a decree which allowed less than 49% share of private sector in many sectors except in those sectors related to public utilities, banking and finance, trade, transportation, and communications. All in all, Derg followed the industrial development strategy like that of the imperial regime, i.e. import substitution. With the same token, the manufacturing industries continued to be dominated by light consumer goods (Ferede *et al*. 2006).These had greatly constrained the development of the manufacturing sector during that period (Wodajo & Senbet, 2013).

Though too late, the Derg acknowledged that socialism had failed as an ideology and policy base and consequently implemented mixed economy in 1990. Under the new system, the private sector would be able to participate in all parts of the economy with no limit on capital, developers would be allowed to build houses and office buildings for rent or sale and commercial enterprises would be permitted to develop industries, hotels, and a range of other enterprises on government-owned land to be leased. Additionally, farmers would receive legal ownership of land and would have the right to sell their products in a free market. However, the newly proposed policies didn't have a chance to materialize as the Derg was overthrown in 1991 (Berhane, 2012).

The current Government is pursuing agricultural development led industrialization as opposed to the previous regimes. It is believed that priority to agriculture in the short and medium term will create a big domestic market for industry and supply food and raw material to industry and this is anticipated to strengthen the inter-sectoral linkages between agriculture and industry and will lead the economy to the development of industry. The problem, however, is that the urban sector of the economy is somehow ignored and the focus on agriculture has not even emancipated peasants from the havoc of periodic famine (Alemu and Zerihun, 2005).

After it came to power in 1991, the current government lifted the restrictions (probably not all) imposed by its predecessor and took various reform measures as well, such as privatization of selected public industries and public enterprises reform program, which limit public ownership, encourage expansion of the private sector, and enhance efficiency and competitiveness (ICC 2004). As a result, the number of large and medium (L&M) scale manufacturing industries has considerably increased in the country as revealed by a series of census surveys conducted by the Central Statistical Authority of Ethiopia (CSA) (Wodajo & Senbet, 2013).

The EPRDF-led transitional government soon after it seized power announced that the country will follow a market-led economic policy. The first decade of the EPRDF regime (1991-99) was marked by a series of reforms under the SAP with the aim of reversing the command economic system by the way of fostering competition, opening the economy and promoting the private sector (Gebreeyesus, 2014). Basically, under the establishment of the current government some remedial actions were taken such as liberalization of the foreign exchange market starting with a massive devaluation of the Birr by about 150 per cent, rationalization of public expenditure, introduction of a new investment code, labor and public enterprise laws, removal of subsidies and export tax rebate, liberalization of prices except for petroleum, reduction of the maximum import tariff from 230 percent to 80 percent and liberalization of payments for invisible transactions, and easing of market entry for privately-owned banks and insurance companies (ibid).

In addition to this the industry sector in general and the manufacturing sector in particular were given due national importance following the formulation of the national industry policy in 2002 by the FDRE. This policy was designed within the framework of global environment based on the following underlying principles of free- market economy:- accept that the private sector is the engine of the industrial development strategy, following the direction of agriculture-led industrialization, following export-led industrialization, focusing on labor intensive industries; using coordinated foreign and domestic investment; and mobilizing the whole society for industrial development (MoI, 2013).

During the 4th quarter of 2006/07, the total number of manufacturing firms remained at 910. According to data obtained from Central Statistical Agency (CSA), the review quarter total number of employment of the manufacturing sector stood at 88,946, of which permanent

employees accounted for 86.9 percent and temporary employees for the balance. Compared to the preceding quarter, the number of permanent employees declined by 2.4 percent, while temporary employment increased by 3.4 percent. Compared to the same period of last year, however, permanent employees of the sector slightly increased by 0.1 percent while temporary employees declined by 5.6 percent (NBE, 2006).

With respect to relative share of industrial sub-sectors in the total employment, food industry took the lion's share employing around 21.1 percent of the total workforce in the sector followed by textile industries, 13.6 percent. On the contrary, tobacco manufacturing firms were the least in terms of creating employment opportunities as they offered job only for 774 persons, which accounted for approximately 0.9 percent of the total employment in the sector (NBE, 2006).

The International Monetary Fund (IMF) ranks Ethiopia as among the five fastest growing economies in the world. After a decade of continuous expansion (during which real GDP growth averaged 10.8% per annum), in 2013/14 the economy grew for its 11th consecutive year posting 10.3% growth. Ethiopia's economy is based on agriculture, which accounts 40.2 percent of GDP, 60 percent of the export earning, and 80 percent of total employment. The industrial sector accounts 14.3 percent of GDP, 9.5 percent of total employment, and 21.2 percent of export earnings. While the service sector accounts for 46.2% of GDP (AACCSA, 2015).

In Ethiopia there are three major sectors contributing to the GDP these are primary sector of the economy which include agriculture (both subsistence and commercial), mining, forestry, farming, grazing, hunting and gathering and fishing; secondary sector of the economy manufactures finished goods which includes metal working and smelting, automobile production, textile production, chemical and engineering industries, energy utilities, engineering, breweries and bottlers, construction including aerospace manufacturing and shipbuilding; and the tertiary sector of the economy is the service industry. This sector provides services to the general population and to businesses. Activities associated with this sector include retail and wholesale sales, transportation and distribution, entertainment (movies, television, radio, music, theater, etc.), restaurants, clerical services, media, tourism, insurance, banking, healthcare, and law. Accordingly, on average 50 percent of the GDP is contributed from the primary sector followed by the tertiary sector contributing 39 percent on average and secondary sector contributing 11 percent of the GDP (MoFEC, 2016).

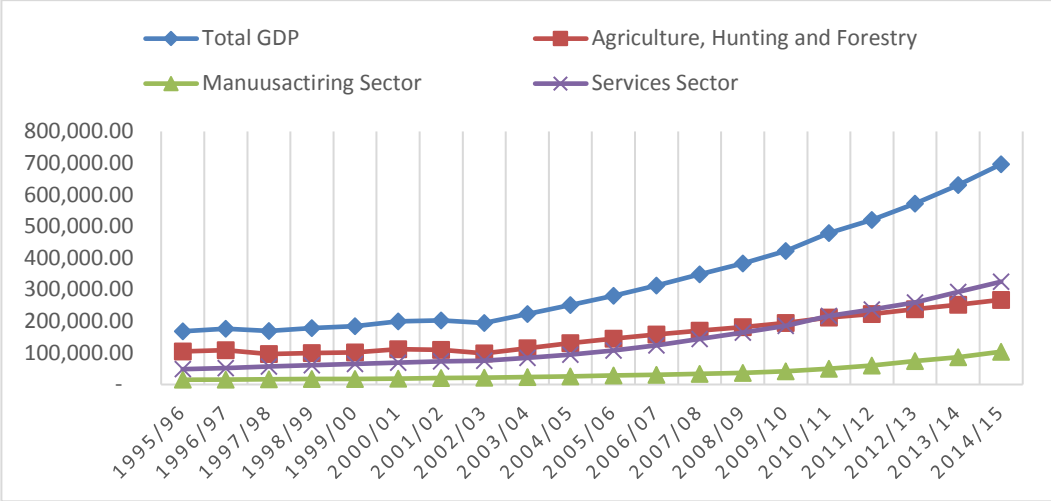

Figure 2.1: GDP by Economic Activities at Constant Prices of 2010/11

Source: Ministry of Finance and Economic Cooperation (MoFEC, 2016)

Figure 2.1 shows the trend of sectors contributing to GDP, agricultural sector has been the only prominent contributor since 2008/09 then the service sector has shown tremendous increase due to the expansion of wholesale and retail trade and restaurant and hotel followed by real-estate and business activities. The manufacturing sector is the lowest contributor to GDP though there has been promising increase in contribution due to output diversification of the sector.

Ethiopia is one of the few African countries that have formulated and implemented a full-fledged ID since early 2000s when industrial revolution had been a taboo in the international policy forums, under its broad development vision, Agricultural Development Lead Industrialization (ADLI). The government of Ethiopia had shown a great deal of commitment and ownership to execute the IDS through various subsequent interventions and sub-sector strategy to support the manufacturing industry grows and contributes more to the economy. Government has implied different incentive schemes, some of them are, tax holidays, reduction of duties on imported inputs and government budgeting for expansion and strengthening the industries (EIDP, 2013)

Despite due focus given to the manufacturing industries in government development plan, the performance registered so far is unsatisfactory suggesting that the poor need for examining the sector's growth constraining factors that hamper it from playing a leading role. Towards this end, the government has provided attractive incentives packages for investment in the manufacturing

sector. Investment Proclamation number 768/2012 has listed duty draw-back, voucher, bonded export factory, manufacturing warehouse and bonded input supply schemes as important tools to promote manufacturing and export. The Ethiopian tax law allows for a duty free importation of raw materials and machinery, equipment for manufacturers. However, a significant size of investment has not been flowing into the sector as expected mainly due to the existence of other highly and rapidly rewarding businesses against longer payback periods of investment in industry (AACCSA, 2015).

Furthermore, high dependency on imported raw materials and intermediate goods has remained the distinguishing feature of the Ethiopian manufacturing sector. The main reasons for high dependency on imported raw materials were unavailability of raw materials in the local market and lack of sufficient local supply. Inadequate and poor quality imported raw materials and technologies, along with low level of technical skills, are the major problems facing the sector. Series of surveys conducted by the Central Statistical Agency (CSA) on the manufacturing sector consistently reported that more than 50 percent of firms claim that their first major reason for their low capacity utilization is inadequate and poor quality raw materials (AACCSA, 2015)

2.1.1.2.Chemical, and Soap & Detergent Manufacturing in Ethiopia

African manufacturing industry contributes insignificant to chemical industry a little. Even though; the chemical industries contribution of developing economy seems insignificant the change in chemical production increment in percentage indicates developing countries increasing and developed countries production is getting declined. Despite the fact that its' small contribution to GDP the industrial sector supplies significant amounts of consumer goods to both the domestic and international markets. The main manufacturing products are textiles, foodstuffs, beverages, leather and non-metallic products in Africa. The industrial sector is progressively gaining ground in many African countries. It now represents 4 to 32 percent of the national GDPs in most African countries (Jilcha, 2014).

Ethiopian economy transformation towards industrialization entails increased share of employment, value added, export earnings, etc of the manufacturing sector. Manufacturing export receipts increased from US 92 million dollars in 2009/10 to US 386.30 million dollars in 2011/12 growing by more than three fold in three years. This, however, is less than the target set

in GTP-I. Of the industry's sales, the share of export increased from 3% in 2009/10 to 6% in 2011/12 indicating increased export orientation of the sector (Girma, 2015). The growth of employment rate during the end period of SDPRP (Sustainable Development and Poverty Reduction Plan) was 3.58 percent on average, 11.40 percent during the PASDEP (Plan for Accelerated and Sustained Development to End Poverty) and -0.67 percent during the first two year average of GTP-I period due to dramatic decline employment share in food and beverage industry. These finding are so fare unsatisfactory in the face of growing population and graduates from the university (EEA, 2014).

The development of chemical industry is expected to curb the cost of raw material imports through production of other chemical inputs for other chemical process in Ethiopia. Ethiopia imports huge quantity of chemical raw materials and/or finished products for the society consumption. The import of plastic & rubber, pharmaceuticals, fertilizers, cements, paints, soap & detergent, pulp & paper, raw materials or products costs in average for 2012 and 2013 was ETB 1343 billion (ERCA, 2014). This is an indication that Ethiopia has a great challenge of chemical manufacturing industries to process the consumption of chemical products in its own processing plants and cut the cost of the imports the country loss each year (Jilcha, 2014).

Ethiopia had a GDP $41.9 billion in 2012 contribution and GDP per capita of 483 US $. The economy is based on agriculture, which accounts for 46 percent of GDP and 85 percent of total employment. The industrial contribution to GDP including chemical industries is 10.7 percent in 2012 which is at very low contribution stage and service industries contribution being 43 percent. This (10.7%) indicates that, in general, industrial development of Ethiopia is at infant stage and results in chemical industries development scenario at low status (Jilcha, 2014). Furthermore, Ethiopian manufacturers of chemical & its products and manufacture of non-metallic products contributed each 9 percent of the total value addition of the large and medium scale manufacturing establishments, respectively (CSA, 2011).

The Ministry of Industry (MoI), chemical development department classified chemical sectors as basic chemicals, cement, fertilizers, pulp & paper, rubber & plastic, paints & Alkyds, pharmaceutical manufacturing and soap & detergent which is the focus of this study**.** In Ethiopia the existing establishments of the soap and detergent industry are few in number (22-24) in which they are unable to meet the local demand even if these firms constitute the highest share in

number of the chemical manufacturing industry establishments in Ethiopia. However, the unsatisfied supply of the soap and detergent manufacturing sector results the country to import 705,364 tons of soap and detergent at CIF value of 199.2 billion ETB in 2013. This industry requires less intensive technology and capital. Hence, it is planned to improve the capacity utilization of existing establishments from 32 to 90 percent; the underutilization of this industry can arise from the unnecessary wastes in the manufacturing environment, absence of integration in the supply chain, and poor quality of products; here implementation of quality improvement principles can greatly enhance capacity utilization and productivity (Jilcha, 2014).

Now a day, the demand for soap and detergent is growing as a result of population growth strongly supported by the awareness of hygiene and sanitary. In effect the increasing demand has pulled the supply for the products which attracted local producers like Gulele Soap Factory, Reppi- Willmar Soap and Detergent S.Co., Star Soap and Detergent PLC, East African Groups and also foreign producers have shown up in the market like Tiger Brands, Unilever and Porter and Gamble (P&G) (Yilma, 2009). Production performance of SDIs is affected by different constraints. Major issue facing these industries are; inadequate supply of raw material and shortage of raw material supplier, scarcity of foreign currency, inefficient custom clearing process, use of outdated technologies, high logistic cost, poor labor productivity and shortage of skilled manpower, absence of research and development and inadequate technology transfer in the area and chronic electricity supply shortage (EIDSP, 2013).

Most of the raw materials used in these industries are sourced from abroad, which makes the industry vulnerable to the exchange rate fluctuation. In other words, the fact that Birr devaluates and revaluates affects the performance and efficiency of this industry directly. Some of the raw materials utilized for production of Soap and Detergent products are, cleaning agent from animal and vegetable fat, oil and greases, Sodium salt, of fatty acid, Sulfur active agent or Surfactants, Caustic Sodium Chloride, Sodium Silicate, talc, soda ash, additives and fragrances are besides machineries and packaging materials, according to the companies information which cannot be found locally.

2.1.3. Exchange Rate and Output Performance

Theories of exchange rate determination stated that, there are two ways exchange rate can be determined. These are Stable Exchange rate and Flexible or floating exchange rate. Stable exchange rate has no practical value now days, yet it helps in understanding the determination of exchange theory. A stable exchange rate was set by the value of gold. However, with passage of time, the limitation and deficiencies of gold standard started emerging. Therefore, the stable system was found inadequate and was replaced with the flexible exchange rate. Flexible exchange rate is set by the interaction of demand and supply schedule for foreign exchange independently. The optimum level in demand and supply theory is set at the point where supply equal to the demand.

Currency exchange rate could affect once real economy in a number of ways. The more traditional views postulates that positive exchange-rate changes such as devaluation of domestic currency rate will have either expansionary effect on total national output, or to the worst will late aggregate output unchanged (Akinlo and Odusola, 2003). Devaluation of money or positive exchange rate where there is underutilization of capacity will increase the aggregate output. However, if the economy is under full employment, any change in the real exchange rate will result proportional change in price level and ultimately output will be constant. Others also argue that, the positive exchange rate shock will generate a decline in aggregate activity and also increase general price level; this is because devaluation of money will generate a negative real balance effect. In addition to this, devaluation of money or positive shock of exchange rate may cause relocation of income in a way that redistribution of income from a group who has low marginal propensity to save to a group who have high marginal propensity to save, which results ultimately a decline in national output to decline (Diaz-Alenjadro, 1965; Krugman & Taylor, 1978). Furthermore, if import and exports are price inelastic, devaluation of money or positive exchange-rate shock may worsen trade balance expressed in domestic currency which ultimately may causes recessionary effect. According to Van Wijnbergen (1986) exchange-rate shocks made output to decline while prices are increase.

The fundamental relationship between exchange rate and cost of goods and services, import and exports, demand and supply establishes clear cut association between currency devaluation/valuation and business performance (Yusuf and Bambale, 2016). According to

Genye (2011), in most of developing countries the devaluation of local money with respect to foreign currencies has become the central issue of economic growth, although, the exchange rate may have positive or negative effect on the economic growth. Most of the international monetary organizations such as IMF considered devaluation of money as a signal for economic growth as it the devaluation encourage local firms to produce and export more. In addition, large fluctuations in the exchange rate do not translate into similarly large swing in the domestic production of traded goods relative to foreign. The reason lies due to the fact that the prices of the goods do not change proportionally with exchange rate. Even though such issue is stile debatable, from the macroeconomic point of view understanding how much of a change is passed through in the exchange rate to import price helps to access the impacts of exchange rate on both domestic inflation and balance of payment (Olivei, 1999).

A depreciation in exchange rate affects exporters' return positively making export more profitable which in-turn may encourage firms to increase volume of export. On the other hand, depreciation decreases the profit of import firms leading them to decrease the amount of their import (Alam, 2010). According to Afridi (1996), cited on Rao (2016), exchange rate connects a country with the rest of the world in both goods and asset markets. It affects the import and export volume through relative price, and also it affect foreign debt stock in terms of domestic currency. Although, all transactions with the rest of the world can be potentially affected by the level of the exchange rate; a depreciation of exchange rate is often associated with competitiveness gains, in a sense relative price of export will fall and imports become relatively more expensive. However currency depreciation usually worsens the country's debt position and increase interest payments (Martins, 2009). A competitive and stable real exchange rate policy should be the target policy of a country because poor exchange rate policy risks misrepresenting trade opportunities resulting in misallocation of resources (Rao, 2016).

In general according to Edwards (1989), in theory and in most common practical situations nominal devaluation of currency will affect the overall economy in three ways. The first problem of devaluation of currency is expenditure reducing effect, in which the overall domestic price level increase due to devaluation that may causes negative wealth effect which ultimately reduces the real value of domestic currency. The second effect is an expenditure switching effect; which involves a pattern shift of domestic demand from tradable to non-tradable and

domestic production pattern from non-tradable to tradable. Reducing expenditure and switching of expenditure will together improve the external situation of the country. The last and third effect of devaluation is on imported intermediate input and capital goods, the domestic price of both imported intermediate input and imported capital goods will increase which result an increment on cost of production which ultimately result a contraction of aggregate supply.

Devaluation is a substantial drop in the value of a currency, relative to the price of gold or the currency of other countries. Basically devaluation is a measure to correct a fundamental disequilibrium in country's balance of payments. Equilibrium in a country's balance is a result of restraint on imports and foreign payments of all sorts and an expansion of exports and foreign exchange earning of all sorts contemplating exports on the whole will have to increase by more than the percentage of devaluation. It is needless to say that, firms that engaged in foreign trade business cannot carry out their business transaction with a local currency only. Their business depends not only on the currency of their host country but also on its relative price in relation to other foreign currencies. Nowadays, the value of Birr is continuously depreciating with respect to dollar and other foreign currencies. This devaluation has a great impact on import/ export firms (Gashaw, 2010). In 1992 the value of birr devaluated massively, since then year to year the Ethiopian birr has been consistently depreciating in nominal terms; by the year 2013/13 the average nominal exchange rate was 18.651 birr per one US dollar, a depreciation of almost 274 percent when it compared to the year 1992.

According to Dessalegn (2013) from the year 1970/71 to 2010/11 there was seven distinctive period where the real exchange rate reduced with some exceptions: depreciation from 1970/71 to 1974/75, appreciation from 1975/76 through 1985/86 but 1978/79 and1980/81, depreciation in 1986/87and 1987/88, appreciation from 1988/89 to 1991/92, depreciation by 64 percent in 1992/93 and kept constant up to 1995/96, and appreciation in 1996/97 and 1997/98 and depreciation continued thereafter except the year 2002/03 and 2003/04. Examining export, import and trade balance for the corresponding periods indicates discrepancy between theory and experience for most of the period of observation. Furthermore, following the birr devaluation in 1992 the performance of export and import was grown. In the period between 1992 and 2004 the value of exports was increased from birr 949 million in 1992 to birr 7,331 million in 2004, and also volume of the export was increased from 5672.34 in 1992 to 19571.43 in 2003. The increase

in value and quantity of export has happened as a result of currency devaluation in 1992 (Asmamaw, 2008).

2.2.Empirical Background

Mohammed (2015)used OLS and Cointegration techniques to find out the impact of birr devaluation on Ethiopian economy. The results of the study revealed that there is a positive relationship between exchange rate and export and devaluation will lead the nation's export to increase in the short run nevertheless, devaluation does not decrease import. Furthermore, the results indicated that there is no long run relation between the variables of the export equation such as export, exchange rate and world income and the import equation such as import, exchange rate and domestic national income. In support of this Ali (2011) also find out that real exchange rate is one factor, among many others, that affects the volume of export.

Mehare & Edriss (2012) employed descriptive statistics and autoregressive distributive lag (ARDL) with Wald test model with annual time series data to evaluate the effect of exchange rate variability on export of agricultural products with a special reference with oil seed. The study found out that there is no short run and long run relationship between export oilseeds and real effective exchange rate, gross domestic product, terms of trade and exchange rate variability. The results of the study also revealed that export oilseeds have negative relationship with exchange rate variability. Terms of trade was found to be negative and significant. Gross domestic product is found to be insignificant; implying contribution of oilseeds to the export basket of the country is decreasing. Furthermore, the research findings also indicate that there is a long run relationship between export of oilseeds and explanatory variables included. Export diversification and value addition are of possible solutions the country should focus on to improve the ever decreasing terms of trade and extract the gain from policy changes.

Asmamaw (2008) assess the impact of devaluation on trade balance of Ethiopia. The researcher employed import export data from 1980 to 2003. For the purpose of data analysis, the demand for export is estimated using the ordinary least square (OLS) model and the demand for import is estimated using instrumental variable estimation model. Furthermore, the co-integration approach and error correction model is used in the paper to solve the problem. The finding of the study shows devaluation of birr and export had inverse relationship; which indicates that

Ethiopian exports have shown an increasing trend following the devaluation of the Birr. This is due to the amount of money the country receives from a given quantity of exports has increased in terms of domestic currency and the domestic consumption of exports may have declined due to the rise in the price of export commodities. The findings of the study also indicates that premium has an inverse relation with the demand for exports, as premium increases the smuggling of the country's goods increase to the neighboring countries and the export demand through the official channel decreases. On the import side, import did not show any relationship with devaluation of Birr. This may due to the fact that most of imports are strategic goods, which are critical to the development of the country. Furthermore, devaluation and trade balance didn't have any relationship which indicates the birr devaluation has not improved the trade balance of the country. Furthermore, a study conducted by Dessalegn (2013), conduct a research on the same topic and suggested that depreciation succeeds in improving trade balance deficit of Ethiopia. Similarly, changes in trade balance in the short run are explained by changes in Real Effective Exchange rate and by two years lagged changes in same variable.

Genye (2011) used OLS method to assess currency devaluation and economic growth in Ethiopia; the effects of devaluation on GDP per capita growth was looked using time series data from 1980 to 2010. The analysis indicated that devaluation of currency has an ambiguous effect on economic growth of a country. Furthermore, the analysis indicated that devaluation has a negative effect on GDP per capita the same year whereas the coefficient for the one year lagged exchange-rate was significantly positive thus devaluation has a time varying effect. In addition to this she found out that education had an expansionary effect and drought a contractionary effect on GDP per capita growth.

Ahmad *et al*. (2013) conduct a research on exchange rate and economic growth in Pakistan using a time series data for the period of 1975-2011. They employed Augmented Dickey Fuller (ADF) test to check the stationary of variables and Ordinary Least Squares method to estimate the regression (GDP on Exchange rate, FDI, capital stock). The result shows that inflation and exchange rate has negative and significant effect on economic growth. Furthermore, they didn't find out significant relationship between capital stock and economic growth. Foreign direct investment also has positive and significant effect on economic growth.

Lencho (2002) made an effort to empirically estimate the response of export to exchange rate movement in Ethiopia using the OLS estimation procedure. As real effective exchange rate (best measure of international competitiveness) continues appreciating, export performance of the country negatively responds to it. An empirical investigation of the relationship between the two variables which is negative will help policy makers to undertake active decision making in their future endeavor to improve the export capacity of the country. Furthermore, he found out that an appreciation of the real effective exchange rate widened by the inflation deferential in the country deteriorates the export performance of the country.

CHAPTER THREE: METHODOLOGY

2.1.Research Design and Approach

The study employed a mixed approach and generated both qualitative and quantitative data. The qualitative approach is adopted to get more insight on the quantitative data, to generate explanations for relationship among variables and to explain the contribution of SDI to chemical industry and manufacturing sector in general. The quantitative research approach is adopted to identify the key determinants of soap and detergent industry performance. Furthermore, followed both descriptive and causal/explanatory research design, the descriptive design is meant to explain and discuss the contribution of soap and detergent industry to chemical industry and manufacturing industry, and the explanatory research design is adopted to test the hypothesis, means to explain the variables that affected soap and detergent industry performance.

2.2.Types and Sources of Data

The study used secondary data comprising of time series observations over the period of 1995 to 2014. These data were obtained from published reports and online databases of the National Bank of Ethiopia (NBE), Ministry of Finance and Economic Commission (MoFEC), Ethiopian Revenue and Customs Authority (ERCA), Ethiopian Investment Commission (EIC), and Ethiopian Industry Minister.

2.3.Data Processing and Analysis

2.3.1. Data Processing

The method of data processing in this study was classified into two part based on the objective of the study. As mentioned above, descriptive techniques were used to analyze the economic contribution of the SDI using tabulation and charts and inferential statistics were employed to test the hypothesis. Furthermore, STATA was used to analyze the data.

2.3.2. Data Analysis

The study utilized both quantitative and qualitative data analysis techniques. To identify the contribution of soap and detergent industry towards the chemical industry and manufacturing sector in general, descriptive statistics such as mean values, percentage and frequency tables, and graphs were used. And also inferential statistics was used to test the hypotheses of effects of

exchange rate on SDI's performance and Pearson Correlation was performed to see the relationship between GVP and exchange rate, employment and sales revenue. Ordinary Least Square Estimation (OLS) method of multiple regression technique was also used to identify the effect of exchange rate on SDI performance.

In the inferential statistics analysis, correlation between dependent variable (SDI performance) and independent variable (exchange rate, GDP, employment, and sales revenue) was done using Pearson Correlation Coefficient to see the negative or positive correlation between SDI's performance and the explanatory variables. Furthermore, OLS method was used to regress SDI's performance on exchange rate. STATA version 20.0 was used to analyze the data obtained from time series, secondary data sources, specifically, to test the hypothesis.

2.3.2.1.The Pearson Correlation Coefficient

Pearson Correlation Coefficient is a widely used statistical method for obtaining an index of the relationships between two variables when the relationships between the variables is linear and when the two variables correlation are continuous. Accordingly, Pearson correlation coefficients were used to establish whether a statistically significant relationship existed between SDI's performance and exchange rate, employment and revenue from sales. Correlation coefficient (r) can range from -1 to +1. The value of -1 represents a perfect negative correlation while a value of +1 represents a perfect positive correlation. A value of 0 correlations represents no relationship.

2.3.2.2.Econometric Model Specification

The study has analyzed macro-economic factors that affect the performance of Soap and Detergent Industry performance and aims to see the degree to what extent the major selected factors (Exchange rate) affect the industry's performance. And thus utilizes Ordinary List Square (OLS) model to estimate the coefficients.

Given economic theory and existing literature, the study used the soap and detergent industry performance as dependent variable, and Exchange rate as independent variable. The functional form of the regression equation is presented as:

$$Y = f(X_1, X_2 \ldots X_n) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.1)$$

Where, Y is SDI performance given as a function of the independent variables, X's. And the derived population regression function equation could be written us:

$$E(\mathrm{Yj}) = B_0 + B_1X_{1j} + B_2X_{2j} + B_3X_{3j} \ldots\ldots\ldots\ldots + B_kX_{kj} \ldots\ldots\ldots\ldots \quad (3.2)$$

Where B_1, B_2, B_3… B_k signifies coefficients of the X's variables indicating population parameters. The interpretation of B_i represents the expected value of Y due to a unit change in Xi given all other explanatory variables assumed constant; While B_0 is a constant term (Gujarati 2003). Moreover, Y_J individual observation is assumed to be estimated and determined by an equation with an error term and represented as

$$Y_j = B_0 + B_1X_{1j} + B_2X_{2j} + B_3X_{3j} \ldots\ldots\ldots\ldots + B_kX_k + \varepsilon_j \ldots\ldots\ldots \quad (3.3)$$

The term ε is a random disturbance, so named because it "disturbs" an otherwise stable relationship. The disturbance arises for several reasons, primarily because we cannot expect to capture every influence on an economic variable in a model. The net effect, which can be positive or negative, of those omitted factors is captured in the disturbance term (Green, 2003). For our case the error term represents the value of Yj deviation from its mean. The error term can be imputed to either the effect on soap and detergent performance (Y) from the variables which are not included in the model or a random residual element in the regressand. Since population parameters are not easy to determine directly, their values can be estimated from finite sample size taken from the population. Thus, equation (3.3) which is population linear regression equation can be expressed as sample linear regression model written as follows:

$$Y_j = b_0 + b_1X_{1j} + b_2X_{2j} + b_3X_{3j} \ldots\ldots\ldots\ldots + b_kX_k + e_j \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3.4)$$

Estimating the sample linear regression function, as the most common method, is to use the OLS regression given that OLS assumptions are satisfied. Therefore, the empirical model for performance of soap and detergent industry will have a form of:

$$G_{value} = b_0 + b_1EX + u_i$$

However, this study uses a log-linear form of regression and regresses Gross Value Production over Exchange Rate. Hence, in log linear form the equation can be written as follows:

$$LnG_{value} = b_0 + b_1 LnEX + u_i$$

Where,

Ln = Natural Logarithm

G= Gross Value of Production;

EX= Exchange Rate

u_i = Error term

CHAPTER FOUR: RESULTS AND DISCUSSION

This sub section incorporates three parts; the preliminary test, descriptive discussion and inferential statistics/econometrics part. In the first part the results of the pre-test of data analysis would be discussed such as unit root test for the dependent (lnGVP) and independent (lnEx) variable and hetrosckedasticity test for the error term (*ui*).

In the second part the characteristics of soap and detergent industry and its contribution towards the manufacturing and overall of GDP would be discussed. The last sub topic which is the econometrics part would be analyzed to test the stated hypothesis, specifically; the relationship between soap and detergent industry performance and exchange rate.

4.1. Preliminary Tests

Since the data is time series before doing the regression the researcher used augmented Dickey-Fuller (ADF) test to check whether the variables have a unit root (non-stationary series) or not. Accordingly, the dependent variable lnGVP has a unit root problem or it is non-stationary; therefore, the researcher estimated the first differences of the log variable. The table below shows the ADF (unit root) test before and after the first difference.

Therefore, the table below shows the unit root test of the dependent variable. The analysis is done through comparing the t-statistics and different critical values. Accordingly, if the absolute value of t-statistics is less than the absolute value of critical values we accept the null hypothesis which is the variable is not stationary or the variable got unit root problem; conversely, if the t-statistics is greater than the critical values the variable is stationary or there is no unit root problem. For the purpose of this study we took 5 percent critical values for comparison purpose. Accordingly, the t-statistics is less than 5% critical value, hence we accept the null hypothesis there is unit root problem or the dependent variable is not stationary (table4.1). Hence, as a remedial action the researcher take the first difference of the variable.

Table 4.1: ADF test of lnGVP before the first difference

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	0.100	-3.750	-3.000	-2.630

MacKinnon approximate p-value for Z(t) = 0.9661

D.LGVP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LGVP L1.	.0041214	.0410865	0.10	0.921	-.0829781	.0912209
_cons	.1916661	.5348901	0.36	0.725	-.9422502	1.325583

Table 4.2 below, shows the result of unit root test using ADF method after the first difference of the variable. As the table shows the t-statistics is greater than both 5% and 10% critical values. It shows log of gross value product is stationary after first difference.

Table 4.2: ADF test of lnGVP after first difference

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-3.454	-3.750	-3.000	-2.630

MacKinnon approximate p-value for Z(t) = 0.0093

D.DLGVP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
DLGVP L1.	-.8595185	.2488542	-3.45	0.004	-1.389939	-.3290983
_cons	.1902088	.0829252	2.29	0.037	.013458	.3669596

In the same sense, the table below (Table 4.3) shows the result of ADF test of lnExchange rate before first difference. Here again the independent variable lnEx also has a unit root problem or it is non-stationary; therefore, the researcher estimated the first differences of the log variable.

Table 4.3 ADF test of lnExchange rate before first difference

Dickey-Fuller test for unit root — Number of obs = 18

	Test Statistic	Interpolated Dickey-Fuller: 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	1.073	-3.750	-3.000	-2.630

MacKinnon approximate p-value for Z(t) = 0.9950

D.lExchange	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lExchange L1.	.053524	.0498946	1.07	0.299	-.052248	.1592959
_cons	-.0589842	.1132377	-0.52	0.610	-.2990375	.181069

Table 4.4 shows the result of unit root test using ADF method after the first difference of the variable. As the table shows the t-statistics is greater than all 1%, 5% and 10% critical values. Therefore, it shows log of exchange rate is stationary after first difference.

Table 4.4 ADF test of lnExchange rate after first difference

Dickey-Fuller test for unit root — Number of obs = 18

	Test Statistic	Interpolated Dickey-Fuller: 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	4.173	-2.660	-1.950	-1.600

D.lExchange	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lExchange L1.	.0277773	.0066572	4.17	0.001	.0137318	.0418227

In addition to the above mentioned testes, hetrosckedasticity test was also performed, the variance of each disturbance term *ui*, conditional on the chosen values of the explanatory variables should be some constant number equal (Gujarati, 2003).

The test was done using Breusch-Pagan test. The null hypothesis states that the variance of each disturbance term u_i is constant; and the alternative hypothesis states the variance of each disturbance term u_i is not constant. Accordingly, as seen in the table below the p-value is greater than 0.05, hence we accept the null hypothesis and reject the alternative one. Therefore, the data is free of hetroskcedasticity (table 4.5).

Table 4.5: hetrosckedasticity test

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of LGVP

         chi2(1)      =     0.13
         Prob > chi2  =   0.7167
```

4.2. Descriptive Statistics

4.2.1. GDP, Agricultural, and Manufacturing Sector

Under this sub-topic the trend and contribution of agricultural and manufacturing sector towards the total GDP, and the trends of GDP itself would be discussed. The analysis is done using nineteen (19) years (19995/96 to 2013/14) of data which was collected from MoFED. As observed in the figure below both of the variables had an increasing trend at different increasing rate. GDP had somehow have steeper slope than the others, which indicates the national output was increasing from time to time, however, it was a little bite stagnating in the first eight years, which means the increasing rate was slower than the next years.

The agricultural, hunting, and forestry sector had a flatter slope than the GDP, even though the increasing rate is with slower rate and pace, however, its trend shows that its contribution to the national GDP is stile increasing. Furthermore, this sector had an average of 50 percent contribution to national GDP. The manufacturing sector also has an increasing trend even though it looks insignificant in the first seven or eight years. Moreover, the manufacturing sector had on average of 11 percent contribution to national GDP (fig 4.1).

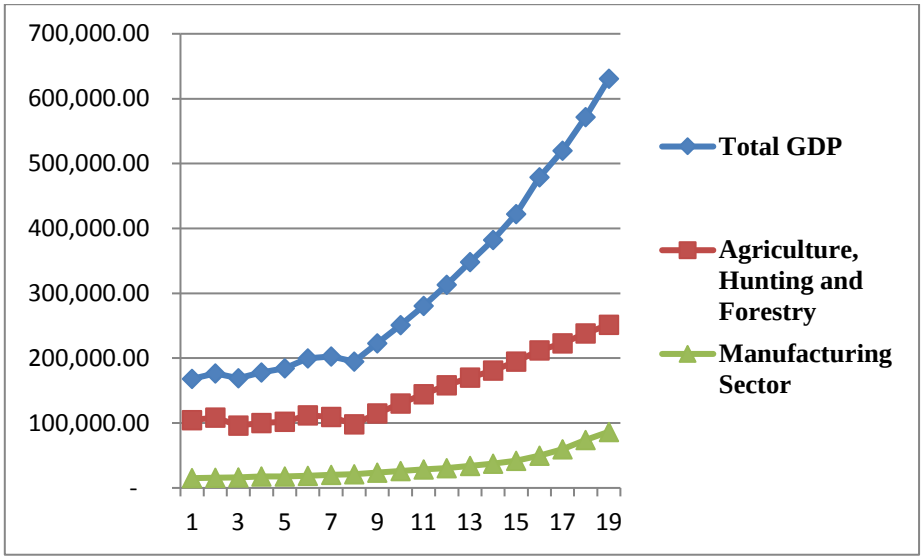

Figure 4.1: GDP, Agricultural, and Manufacturing trend for 1995/96 to 2013/14

Source: MoFED

4.2.2. Exchange Rate

The exchange rate describes how the rate of birr valued or devalued with respect to dollars within the last nineteen years. Accordingly, in the last two decade the value of Ethiopian birr was devaluated or the exchange rate was increasing continuously (table 4.6).

Table 4.6 Annual Exchange rates

Annual Exchange Rate				
Year	**Average Value of Birr/USD**		**Year**	**Average Value of Birr/USD**
1995/96	6.32		2004/05	8.65
1996/97	6.50		2005/06	8.68
1997/98	6.88		2006/07	8.79
1998/99	7.51		2007/08	9.24
1999/00	8.14		2008/09	10.42
2000/01	8.33		2009/10	12.89
2001/02	8.54		2010/11	16.12
2002/03	8.58		2011/12	17.25
2003/04	8.62		2012/13	18.19

Source: NBE

Furthermore, as seen on the chart below even though on the middle of the graph the increasing rate looks at very slower rate, however, as a matter of fact the exchange rate is still at its

increasing intensity, especially from the year 2008/9 on the increasing rate looks at its increasing rate.

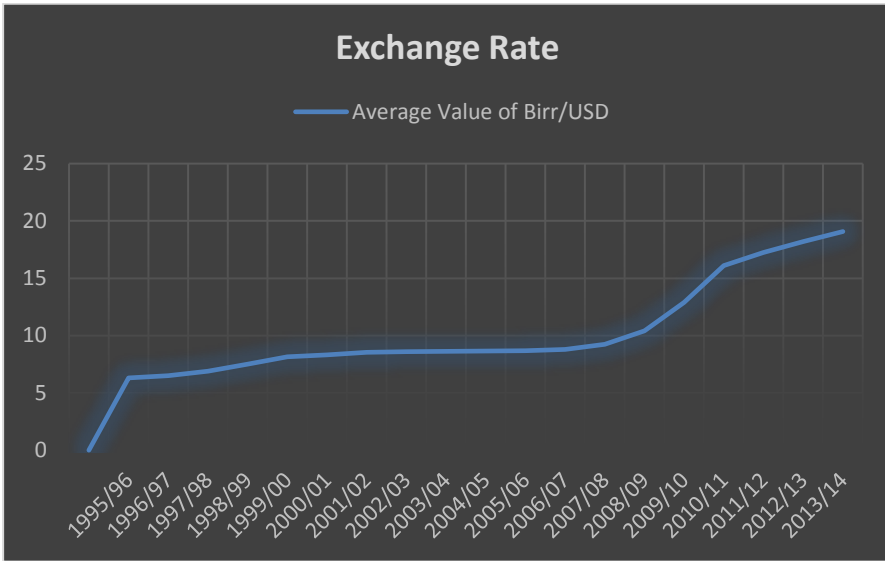

Figure 4.2: Trends of exchange rate from 1993/4 to 2013/14

Source: NBE

4.2.3. GVP of Total Manufacturing and Chemical Manufacturing Industry

The gross value of production measures the actual production output of an establishment (TiLastokeskus, 2017). Generally, the gross value production represent in this case the total output of the overall manufacturing, chemical manufacturing, and soap and detergent manufacturing industry output in terms of value. The figure below shows the existing trend of the overall manufacturing, chemical manufacturing and soap and detergent industry. Since the base year the gross value production graph of manufacturing sector shows an increasing trend with a steeper slop; this indicates in Ethiopia for the last two decades the contribution of the manufacturing sector towards GDP is increasing at a significant rate. Conversely, the development of chemical manufacturing sector goes at constant range without showing a significant development; the chart shows for almost more than a decade this sector couldn't show a significant development; however, at the middle of the second decade it starts to goes up with a slit increasing rate. Furthermore, the chemical manufacturing sector contributes only 6.9 percent to the total manufacturing sector of the country (Fig 4.3).

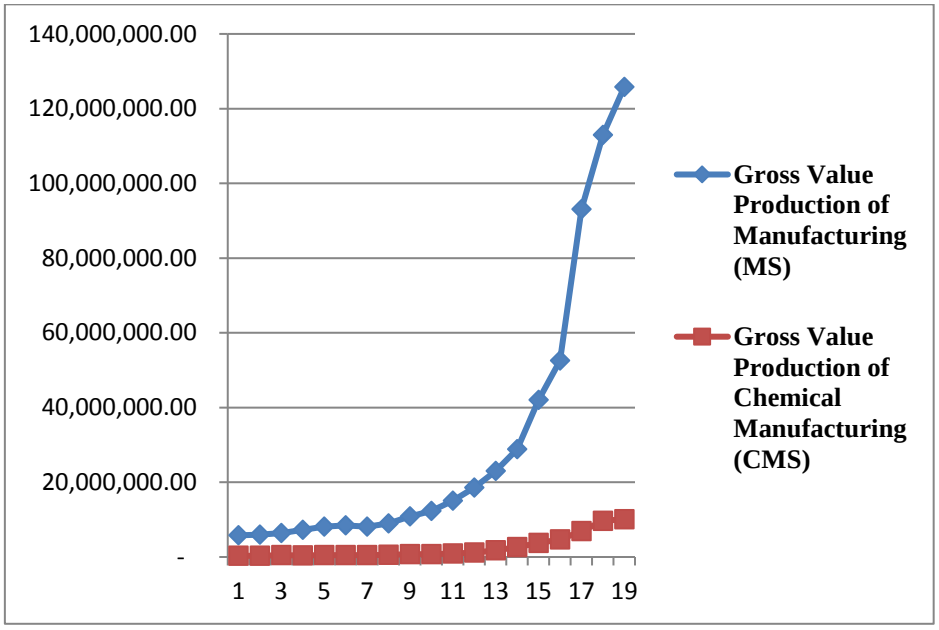

Figure 4.3: Gross value production growth trend of manufacturing sector, 1993/4 to 2013/14

Source: MoFED

4.2.4. Soap and Detergent Industries

Gross value production of soap and detergent indicates the national output comes from the SDI with respect to manufacturing sector. Figure 4.3 shows the trends of the production value, in the first ten years even though it is increasing, the increasing rate is at a slower rate, however, at the beginning of the second ten year the increasing rate goes in a greater way; in the first ten years the contribution of SDI to CM sector was on average 34 percent, whereas, in the second ten year the contribution of SDI sector was 49 percent for the CM sector. Furthermore, at the end of the second ten year as it shown in the graph the production rate was increased at a decreasing rate, specifically, compared to the year 2012/13 the total production was decreased by 0.31 percent in the year 2013/14. Overall by looking in to the trend of the graph one can conclude that the performance of the soap and detergent industry performed well from year to year. On average the SDI sector had 2.91 and 40.96 percent contribution to manufacturing and chemical manufacturing sector respectively (Fig 4.4.).

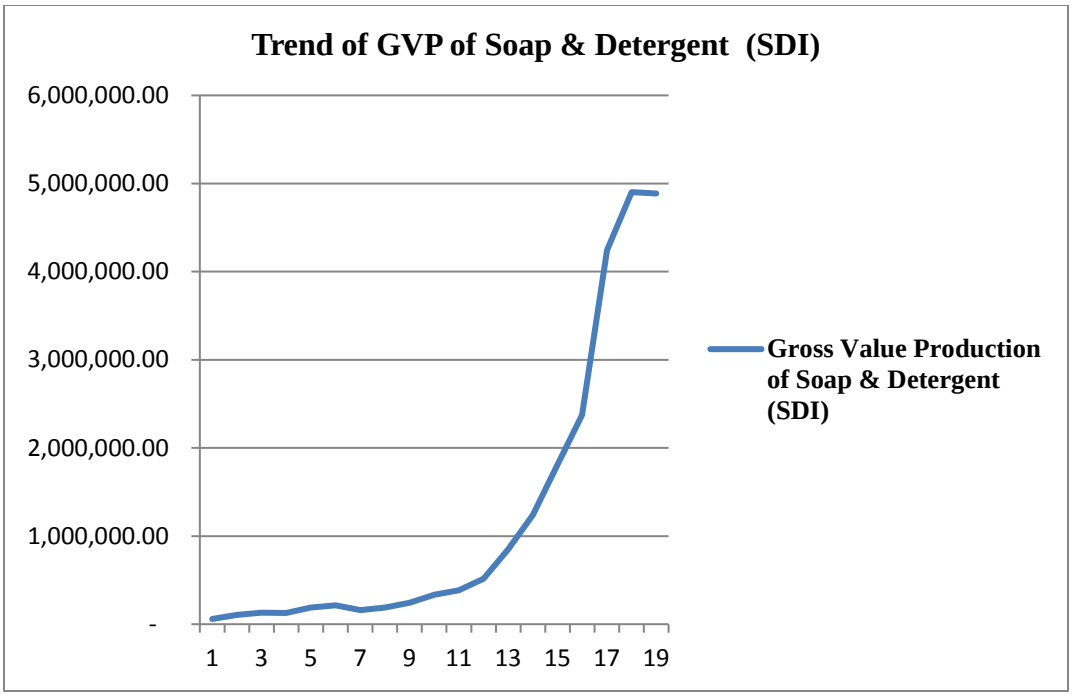

Fig 4.4 Trend of GVP of SDI, 1993/94 to 2013/14

Source: MoFED

4.2.5. Contribution of Soap and Detergent Industry

Contribution in a sense means what amount of percent the soap and detergent industry accounts for the manufacturing sector; as well as its for sales revenue. It could be measured either in the amounts of output it holds (quantity) or in value/price it costs. Therefore, contribution in this research context is measured in terms of value/price of the soap and detergent industry output. Furthermore, under this sub-topic the contribution of the SDI toward employment generation would be discussed. Hence, the detail of the statistics is discussion below.

4.2.5.1. Contribution of SDI to Manufacturing Sector

The manufacturing sector contributes on average 11 percent of the total GDP for the year 1993/4 to 2013/14. Among this the soap and detergent industry accounts 2.91 percent. The table below shows the gross production contribution of soap and detergent industry towards the overall manufacturing industry. Its GVP contribution to the manufacturing sector ranged from 1.60 to 4.26 percent which represent the cumulative first three and last four years respectively. Except the year 2001/02 and 2003/04 the contribution of the SDI sector towards the manufacturing

sector is continuously increases at different rate, although the rate had significant difference between the first three and the last four year, however, overall the GVP contribution is at its increasing rate (table 4.7).

Table 4.7: GVP contribution of SDI to Manufacturing

Year	GVP of Manufacturing	GVP of Soap & Detergent	GVP of SDI Contribution to MS
1995/96 -1997/98	18,188,512.00	291,966.00	1.60%
1998/99 - 2000/01	23,824,166.00	531,277.00	2.22%
2001/02 -2003/04	27,959,589.00	590,924.00	2.11%
2004/05 -2006/07	45,936,369.00	1,234,127.00	2.68%
2007/08 -2009/10	93,823,586.00	3,895,344.50	4.15%
2010/11 - 2013/14	384,389,418.00	16,408,451.00	4.26%

Source: MoFED

4.2.5.2. Contribution of SDI to Employment Opportunity

The population of Ethiopia is 94.1 million (2013) standing the second populous country in Africa next to Nigeria. According to the May 2007 population and housing census result, the proportion of working age population (15-64 years) estimated to be at 52%. (CSA 2008) Therefore, for Ethiopia high unemployment means high level of dependency, lower level of saving and asset accumulation which has serious implication of poverty incident. According to the data from the year 1996 to 1998 the SDI sector contribute 0.84 percent of the manufacturing sector total employment, between the year 1999 to 2001 the contribution was 1.38 percent, from the year 2002 to 2004 the it has 1.54 percent contribution to the manufacturing sector. Furthermore, between the year 2005 and 2007 its contribution was 2.16 percent, and in the last two categories the SDI sector had 1.87 and 2.34 percent employment contribution respectively (Table 4.8). Furthermore, even though the contribution is different from year to year, however, within these periods of time on average the SDI sector accounts 1.7 percent for the total employment generation of manufacturing sector.

Table 4.8 Contribution of SDI in terms of employment

Year	Total Employment in the manufacturing	Total Employment in SDI	Employment Contribution of SDI to MS
1995/96 -1997/98	275620.00	2316.00	0.84%
1998/99 - 2000/01	282208.00	3916.00	1.38%
2001/02 -2003/04	305216.00	4704.00	1.54%
2004/05 -2006/07	363602.00	7855.00	2.16%
2007/08 -2009/10	467419.00	8743.00	1.87%
2010/11 - 2013/14	944571.00	22127.00	2.34%

Source: Central Statistical Agency (CSA: 2016)

Figure 4.5 shows, the trend of the employment generation, how the contribution of SDI sector fluctuates over with period of time. The chart shows the contribution of the SDI sector was at its increasing with sum fluctuation and ups and down, however, in the middle of the graph the contribution goes down significantly, particularly in the year 2009/10 compared to the previous year the employment contribution was dropped by almost 65 percent, and it took a couple of years to bounce back.

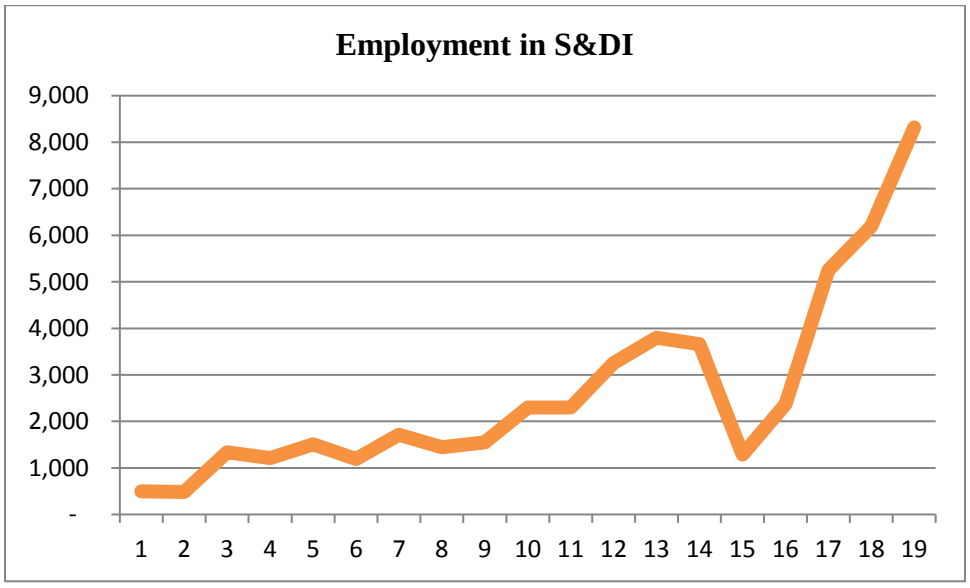

Figure 4.5: SDI employment trend

Source: Central Statistical Agency (CSA: 2016)

4.2.5.3. Contribution of SDI to Sales Revenue

Sales revenue means the amount of income comes from the sales of soap and detergent, the chart below shows the contribution of the SDI industry toward the manufacturing sector in terms of income, basically the manufacturing industry incorporate other sectors also other than SDI. The analysis done through classifying the data in to six categories (in terms of year) in which each category incorporate three year cumulative or sum sales data except the last category, the last group contains four year cumulative sum data. Accordingly, in the year between 1996 and 1998 2.03 percent income of the manufacturing sector is comes from the SDI. The next two groups, each of the group account 2.02 percent of the manufacturing industry sales income, between the years 2005 and 2007 the SDI contribute 2.66 percent to the total manufacturing income. Furthermore, for the year 2008 to 2010, 4.31 percent total manufacturing sector sales income was comes from SDI, and for the year 2011 to 2014 this particular sector accounts 4.14 percent of the total manufacturing sector sales income (Table 4.9).

Table 4.9 Sales revenue contribution of SDI

Year	Total Employment in MS	Total Employment in SDI	SDI Sales contribution
1995/96 -1997/98	17,290,979.00	350,698.00	2.03 %
1998/99 - 2000/01	22,737,678.00	462,612.00	2.02 %
2001/02 -2003/04	26,410,272.00	533,380.00	2.02 %
2004/05 -2006/07	43,435,689.00	1,154,764.00	2.66 %
2007/08 -2009/10	137,156,405.00	5,911,826.00	4.31 %
2010/11 - 2013/14	339,751,162.00	14,057,912.00	4.14 %

Source: Ethiopian Revenue and Custom Authority (ERCA: 2016)

Apart from the yearly contribution of the sector the overall sales revenue trend of the SDI is shown in Figure 4.8. Accordingly, the trend analysis shows that in the first ten years the sales revenue doesn't show as such significant change, in some years it goes up and in some years goes down with insignificant amounts of sales change. Since the year 2004/2005 the sales revenue starts to increase at increasing rate with an average rate of 36 percent, however, in the year 2008/09 as the chart shows the sales got boom, the graph goes up vertically, the sales revenue was increased by 366percent compared to the previous year. Next, the graph goes down which shows the sales revenue reduced by some figure, specifically, the sales revenue was

reduced by almost 58 percent. In the next couple of years the trend shows that the sales revenue was increased with different increasing rate. The sales trend figure indirectly indicates that the SDI sales revenue contribution to the total manufacturing sector was at its increasing when it compared with the base year sales. Generally, one can conclude that for the last two decades, since the year 1995/6 the sales revenue comes from the soap and detergent industry is at its increasing, although, there was some fluctuations in some years (Fig 4.6).

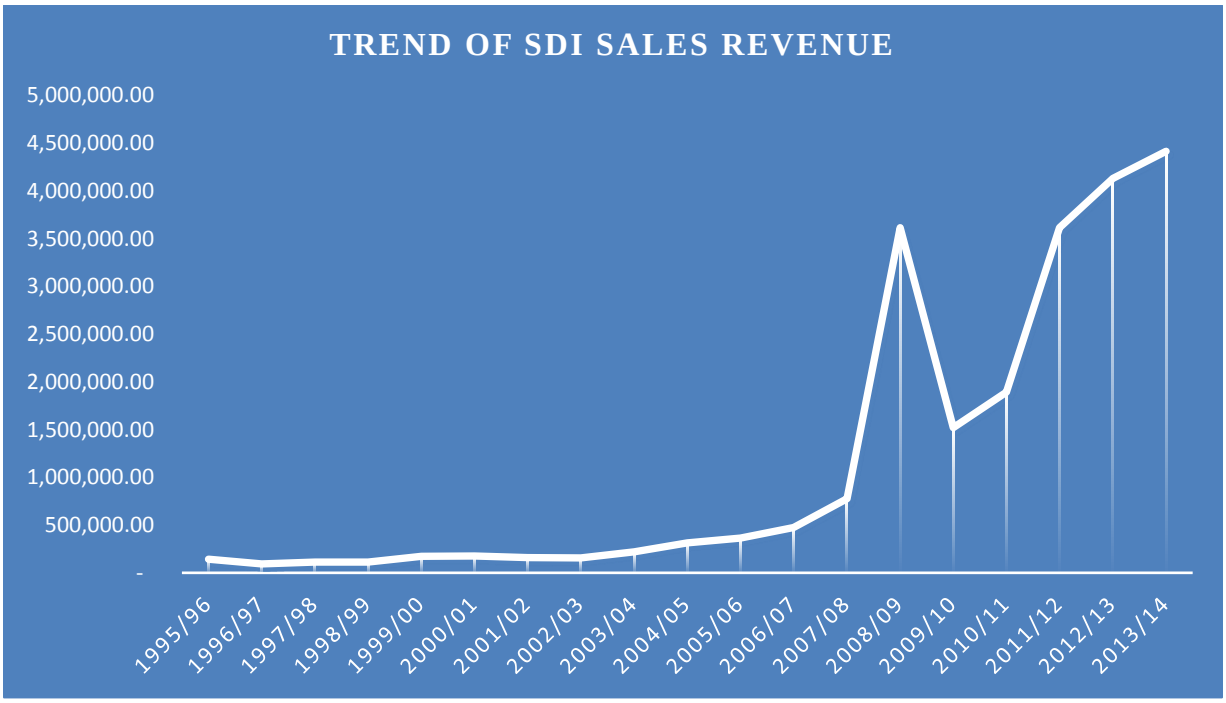

Figure 4.6: Sales revenue trend of SDI
Source: Ethiopian Revenue and Custom Authority (ERCA: 2016)

4.2.6. Correlation Analysis

Correlation is another way of assessing the relationship between variables. To be more precise, it measures the extent of correspondence between the ordering of two random variables. We can categorize the type of correlation by considering as one variable increases what happens to the other variable: positive correlation indicates the other variable has a tendency to also increase, negative correlation implies the other variable has a tendency to decrease, and no correlation means the other variable does not tend to either increase or decrease. The sign of the correlation can be positive or negative, the sign depending on the sign of the term in the numerator of, which measures the sample covariation of two variables. Further, it lies between the limits of −1 and

+1; that is, $-1 \leq r \leq 1$, the more the result close to -1 and 1 the more the association between the two variables (Gujarati, 2003).

Accordingly, as shown in the table the gross value product/performance of soap and detergent industry had a strong and positive relationship with both sales revenue and exchange rate with a coefficient of determination 0.926 and 0.972 respectively. This indicates as the performance of the soap and detergent industry increases the sales revenue; and also as exchanger rate increases (as the value of birr devaluated) the performance of the soap and manufacturing sector also increases. Furthermore, the result also shows the association between the sales performance of SDI and employment created by this industry, as seen in the table below these two variables has strong and positive association, which indicates as the performance of the SDI increase the employment rate also increases with a significant rate (table 4.10).

Table 4.10 : Description of correlations analysis

		Gross Value Product	SDI Sales Revenue	Exchange Rate	Employment
Gross Value Product	Pearson Correlation	1	.926**	.972**	.876**
	Sig. (2-tailed)		.000	.000	.000
	N	19	19	19	19
SDI Sales Revenue	Pearson Correlation	.926**	1	.893**	.869**
	Sig. (2-tailed)	.000		.000	.000
	N	19	19	19	19
Exchange Rate	Pearson Correlation	.972**	.893**	1	.828**
	Sig. (2-tailed)	.000	.000		.000
	N	19	19	19	19
Employment	Pearson Correlation	.876**	.869**	.828**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	19	19	19	19

**. Correlation is significant at the 0.01 level (2-tailed).

4.2.7. Econometrics Estimation Result

The performance of soap and detergent industry were estimated using the OLS method. The coefficient of determination (R^2) for the model is 0.694 (F= 218.12, $p < 0.001$) showing that the model explained 69.4% of the variation in the level of soap and detergent performance and the overall model is also statistically significant.

The results of the econometric model estimation revealed that exchange rate is significantly affected the soap and detergent industry performance. Accordingly, exchange rate had positive and significant ($p < 0.05$) effect on SDI performance. The analyses indicate as the exchange rate increase by one unites the overall soap and detergent performance would also increase by 3.8 percent (table 4.11).

Table 4.11 Estimation results of the coefficients

Source	SS	df	MS	Number of obs = 19
Model	32.9557233	1	32.9557233	F(1, 17) = 218.12
Residual	2.56857279	17	.151092517	Prob> F = 0.0000
				R-squared = 0.694
				Adj R-squared = 0.665
Total	35.5242961	18	1.97357201	

Ln(GVP)	Coef	Std. Err.	t	P>t	[95% Conf.	Interval]
Ln(Exchange)	3.880651	.2627609	14.77	0.000	3.326274	4.435028
_cons	4.215675	.6070371	6.94	0.000	2.934939	5.496411

Source: Own computation

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1.Conclusion

Devaluation of currency has been used as economy booster of economic growth since recent times. Ethiopia is one of those countries that uses such strategy. Accordingly, since the year 1992 the country made continuous official currency devaluation.

The main target of this study was to evaluate the effect of currency exchange rate (birr devaluation) on the soap and detergent industry performance using 19 years (1995-2014) of time series data. For this study the researcher uses a log-linear form and regresses soap and detergent industry performance over exchange rate. Accordingly, the results of the regression shows that exchange rate had a significant effect on soap and detergent industry performance. Continues devaluation of birr is significantly contributing to the growth performance of soap and detergent industry. Furthermore, the SDI sector has insignificant amounts of contribution for the manufacturing and chemical manufacturing sector in terms of employment and sales revenue. The sector has also an increasing trend which indicates the soap and detergent industry is growing from time to time, although the growing rate is very small.

5.2.Recommendation

Finally, as the study tested the effect of exchange rate (birr devaluation) on the performance of the soap and detergent industry, hence, the following recommendations are forwarded as a policy implication:

- Generally, a developing country needs to import large quantities of raw materials and capital goods for its development; however, naturally their capacity to exports will be low. Therefore, its demand for foreign exchange is more, that it leads to depreciation of its exchange rate and in this way economic growth will be affected. If a country's currency depreciates its export will become cheaper and hence, the performance of the manufacturing sector will also increase; however, since this study concentrated on a single sector, suggesting the continuous devaluation of birr on the overall economy doesn't give sense. Therefore, even though, devaluation of birr has positive effects on the performance of soap and detergent industry, it should be supported by other compatible policy measures both in the macro and micro-economic contexts. Since performance

change is not only the result of change in exchange rate other micro economic issues should also be considered in order to improve this part of manufacturing sector such as efficiency, improving production techniques, greater enforcement of anti-trust laws among firms within the sub sector, and government support in different ways.

- The other major factors to be considered for the efficacy of devaluation in terms of improving the level of performance are enhancing the human capital of the sub sector. Since this sector demands highly skilled man power the government should also focus in the production of skilled man powered which can fill the growing demand of this sector.
- Manufacturing sector plays a crucial role for the development of a country, however, the soap and detergent industry contribute very insignificant amount either to the manufacturing or GDP although there is high demand for soap and detergent product. Hence, there is a need for the creation of enabling environment that encourage capital flow and investment; and this can be done by reforming a well-designed industrial policy which could encourage the sub-sector and attract investment.
- Finally, this research couldn't look the effect from every direction due to time and data limitations, hence, for further studies who would like to see the pros and cons of the soap and detergent industry sector are very welcomed.

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