

**EFFECTS OF REGIONAL INTEGRATION (EAC) ON EMPLOYMENT IN
THE KENYAN MANUFACTURING SECTOR.**

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DECLARATION

I declare that this paper is my original work and has not been submitted for the award of a degree in any other university or institution.

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This paper is submitted for the award of the degree of Master of Arts in Economics with my approval as the university supervisor.

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The views expressed in this paper are my own and do not represent the views of any of the named person(s) and/or Institution(s). I solely bear the responsibility for any errors and/or omissions.

DEDICATION

This project is dedicated to my parents who have given their best to ensure that I complete my Masters degree. It is also dedicated to my most inspirational Lecturers at Post-graduate levels, Dr. Owen Nyang'oro and Prof. Germano Mwabu respectively.

LIST OF ABBREVIATIONS

EAC	East African Community
AGOA	African Growth and Opportunities Act
COMESA	Common Market for Eastern and Southern Africa
EPZ	Export Processing Zones
EU	European Union
ILO	International Labour Organization
SAP	Structural Adjustment Programmes
SADC	Southern African Development Community
OECD	Organization of Economic Cooperation and Development
U.O.N	University of Nairobi
WTO	World Trade Organization

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ABSTRACT

Despite various policy interventions since independence, the sector's contribution to GDP seems to have stagnated at about 10 per cent, with marginal decline recently. Following the establishment of the East African Community, the number of firms exporting to the East African community has increased over time. However, this seems not to be contributing to an increase in the growth of employment levels in Kenya's manufacturing sector. One of the major development challenges Kenya is facing is stimulating economic growth through an economic strategy that is export-led while at the same time upholding increase in high quality employment. The study will investigate whether the East African Community regional integration has increased or decreased employment in Kenya's manufacturing industry. The study will adopt time series OLS estimation technique using data from 1980 to 2014. The data will be sourced from the Central Bank of Kenya, Kenya National Bureau of Statistics and the World Bank. The study is expected to make policy recommendations aimed at ensuring regional integration is used for effective growth of employment levels in the manufacturing sector.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The world trade system is by now generally comprised of regional integration groupings (RIGs). African countries and the East African ones in particular have also not been left behind in the formation of regional integration blocs. According to estimates, regional trade agreements contribute to more than half of total world trade (OECD, 2005).

The effect of trade liberalization on employment has been pervasive among policy makers (OECD, 2011). Whenever policy makers want to promote trade liberalization, they argue that a more liberal trade regime will lead to an increase in employment levels. On the other hand, when policy makers want to criticize a trade liberalization plan, they will focus on the loss of jobs in an economy. This shows that it is not easy to clearly predict the overall impact of trade liberalization or regional integration on employment levels. There seems to be lack of agreement on whether trade through regional integration and liberalization can reduce the employment levels in an economy. For instance, there is existing evidence indicating that employment levels in a country increase with trade liberalization (Dutt, P., Mitra, D. & Ranjan, P. (2009); Hasan, R., Mitra, D., Ranjan, R. & Ahsan, R. N. (2011); Felbermayr, G., Prat, J. & Schmerer, H.J. (2011); Porto, 2008). On the contrary, other studies reveal a negative relationship between regional trade integration and employment (Choksi, 1990; Melitz, 2003).

Despite positive economic growth in most African countries, most governments still face the problem of unemployment and underemployment. According to ILO, the highest rate of youth unemployment is in the African continent. North Africa is said to have a youth unemployment rate of 27.9 percent and Sub-Saharan Africa at 11.5 percent (ILO, 2013). Most regional integration agreements focus on facilitating trade to foster social and economic benefits to partner states. Employment is often overlooked in the formulation of regional integration agreements yet employment plays a central role in the success of any country's development strategy. Countries that have experienced a significant decline in poverty levels have also recorded an increase in employment levels. Equally, it is postulated that these countries trade more with each other. This is an indication that trade liberalization policies that bring about positive employment outcomes are becoming the most preferred type of pro-growth policies. In

Africa, the East African Community is one of the regions that has been undergoing the trade integration process.

The initial EAC partner states – Kenya, Uganda and Tanzania signed the EAC Treaty that established the East African community on November 30th, 1999. The EAC Treaty then came into force on July 7th, 2000. Presently, the East African Community is a regional intergovernmental union made of five countries; Kenya, Uganda, Tanzania, Rwanda and Burundi, having the headquarters and Secretariat in Arusha, Tanzania (EAC, 2009). Regional integration has four universal stages that are, Customs Union, Common Market, Monetary Union and Political federation. Of the four stages, only the Customs Union and Common Market stages have taken effect in the EAC. The Common External Tariff (CET) was established in EAC in 2005, resulting in a decline of the average applied tariff rate to 13.2 percent from 16.8 percent. In 2010, the common market protocol became effective. The main objective of the protocol was to speed up economic growth and development within the member states by eliminating restrictions on the movement of goods, persons, labour, services and capital, and the rights of establishment and residence. Despite this progress, the East African Community is facing the challenges of overlapping regional memberships and poor focus on formulation of national policies that strengthen regional integration.

Trade predominantly affects employment in several ways. First, increased exports and imports can improve productivity growth, hence creating jobs characterized by higher wages and skills. Secondly, trade can lead to an increase in per capita incomes through output growth, bringing about real average wage increases (OECD, 2011). A drop in consumer prices and an increase in job opportunities for the East African Community citizens can be brought about by Intra-EAC trade. The East African Community governments are all facing the socioeconomic challenge of unemployment and underemployment (EAC, 2014). Unemployment reduces the overall purchasing power of individuals, thereby slows economic growth rate. This in turn translates to increased poverty levels since unemployment lies at the centre of poverty. The individual country unemployment statistics are as follows: Burundi 35 percent (2009), Tanzania 10.7 percent (2011), and Kenya 40 percent (Trading Economics, 2015). This calls for professionally crafted and well-informed pro-growth policies. Both the 2001-2005 and the 2006-2010 EAC Development Strategies did not point out detailed labour and employment targets to be achieved.

This is despite some of the extensive goals of the EAC integration being employment creation and improvement of living standards.

1.1.1 Employment and Trade in Kenya

Scale, Trend and Composition of Trade in Kenya

Kenya's trade policy has undergone several structural shifts in terms of content and trend in the recent years (Were, 2006). Kenya's trade policy consists majorly of the agreements with the other countries in the East African Community (EAC), the European Union and the United States. In the last decade these relationships have significantly developed and changed. A common External Tariff was introduced in EAC in 2005 bringing about a reduction in the average applied tariff rate from 16.8% to 13.2% (EAC, 2014). Before trade liberalization in the early 1990s, Kenya traded more with Europe than with its regional neighbours. For example, in the early 1980's, 42.7 percent of Kenya's exports went to Western Europe. Africa on the other hand, accounted for only 25 percent of Kenya's exports. In contrast, since 2000s Africa's share of Kenya's exports has been increasing steadily reaching 46.01 percent in 2014. Western Europe's share, however, declined to 22.2 percent in 2014 (KNBS, 2015). Therefore, through trade liberalization (that is, lower tariffs, reduction of non-tariff barriers and free exchange rate markets), Kenya's trade policy shifted more towards the African region. Table 1 shows Kenya's Exports Share to its Main Regional Partners.

In 2012, there was a 21.9 percent growth of the value of intra EAC trade amounting to USD 5,470.7 million. Even though there may be other factors leading to this growth, the main contributor is establishment of the customs union. According to the KNBS (2014), the main destination of exports in 2013 was Africa accounting for 46.1 per cent of total exports. The main export destinations in 2013 were Uganda and Tanzania, with the value of total exports to those countries valued at KShs 65,362 million and KShs 40,496 million, respectively. There has been a stable increase in regional trade among the EAC member countries. Considering the high import and export GDP ratios, the East African Community can be classified as an open trade bloc.

In the year 2014, Kenya's share of exports to Africa dropped to 45.3% from a high of 48.4% in year 2012. In 2013/14, about 40 percent of exports, mostly manufactures went to COMESA countries while about 23 percent went to EAC countries. Trade with COMESA countries

(excluding Burundi, Rwanda and Uganda) dropped from KShs 237.3 billion in 2012 to KShs 221.9 billion in 2013. Trade within the East African Community also declined slightly to KShs 124,957 million from KShs 134,946 million in 2012 (KNBS, 2014). The major exports to Uganda - the largest destination of exports - were lime, cement and fabricated construction materials. Tanzania remained as the second major total exports destination in 2013 even though, the value of exports declined by 12.3 per cent to KShs 40,496 million. Exports to Rwanda declined by 16.2 per cent while those to Burundi increased by 5.5 per cent during the period under review.

TABLE 1: KENYA’S EXPORTS BY MAIN DESTINATION COUNTRIES (US\$ MILLIONS)

Destination Country	Exports (US\$ millions)			Share of Exports (%)		
	Fiscal Years			Fiscal Years		
	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
Uganda	814	792	719	13.6	13.0	11.9
Tanzania	521	506	499	8.7	8.3	8.3
Egypt	269	235	198	4.5	3.8	3.3
Sudan	167	68	73	2.8	1.1	1.2
South Sudan	74	216	193	1.2	3.5	3.2
Somalia	233	211	171	3.9	3.4	2.8
DRC	209	227	221	3.5	3.7	3.7
Rwanda	166	184	166	2.8	3.0	2.8
Others	435	423	485	7.3	6.9	8.1
Total Africa	2,888	2,860	2,724	48.4	46.8	45.3

Source: Central Bank of Kenya

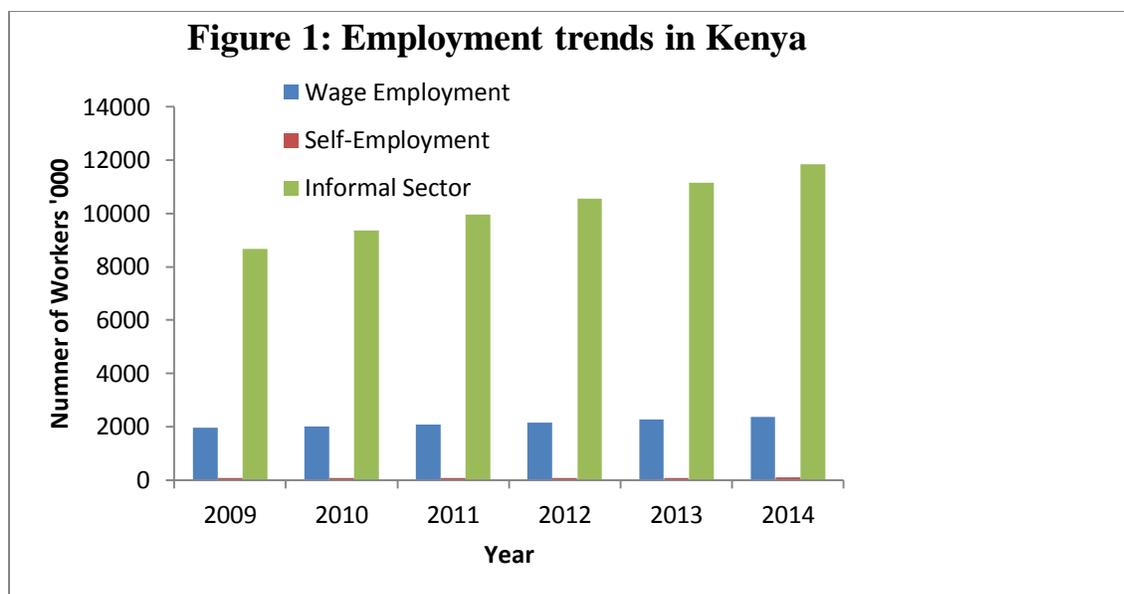
Table 1 shows that in 2013/14, over 11.9 percent of Kenyan exports went to Uganda, 8.3 percent to Tanzania and 2.8 percent to Rwanda. Kenya now exports more products to African countries than its usual coffee and tea, which are mainly exported to Europe. Despite all this progress, Kenya needs to improve on its diversity and volume of its trade in comparison with other African top performers.

1.1.2 Trend and Characteristics of Employment in Kenya

Employment in Kenya can be classified into three sectors namely; formal, informal and agriculture which is mostly practiced in small scale. Some of the challenges that characterize the Kenyan labour market include: high youth unemployment, high levels of employment in the informal sector, and high levels of under-employment (KIPPRA, 2013).

Some of the most complex and persistent challenges that the Kenyan government is facing are unemployment and underemployment (Republic of Kenya and United Nations Development Programme, 2010). In the year 2014, 12.7% of the working age was unemployed. The youths aged between 15 and 34 years make up 67 percent of the unemployed people in Kenya. Just like any other country, the labour market is always unstable with people changing or leaving jobs as new ones join the market. The government's employment goal for total job creation between 2008 and 2012 was to create 740,000 new jobs. Only 511,000 new jobs were created within the five years, which was below the target by 229,000. From the 511, 000 new jobs created during the 2008 – 2012 period, the bigger portion 80 percent was in the informal sector, with some being wage workers in modern enterprises and others being entrepreneurs (Republic of Kenya, 2013).

According to the recent government annual survey, there has been a slow increase in the growth of employment in the formal sector. In contrast, employment in the informal sector has been steadily increasing. Between the year 2000 and 2012 the share of informal economy jobs improved from 70 percent to 83 percent (KIPPRA, 2014). This is because growth in the modern sector and public sector was low hence forcing the unemployed to seek jobs in the informal sector. According to the recent economic survey, the total number of people employed in both the formal and informal sectors was 13,524,800 being an increment of 5.8 percent. Accordingly, in 2013, 742,800 jobs were created out of which 116,800 were in the formal sector. In the financial year 2012/2013 a total of 698,000 jobs were created both in the informal and formal sector while in the financial year 2013/2014, the new jobs created increased to 742,800. Agriculture contributes 22 percent to the gross domestic product of Kenya; service contributes 62 percent while the industry contributes 16 percent. The availability of jobs is thus more in the service sector (World Bank, 2012).



Source: Republic of Kenya, Economic Survey, 2015

In the years 2013 and 2014, 36.5 percent of the total wage employment in the formal sector was for female employees. The number of female wage employees increased to 866,300 persons in 2014 from 813,200 persons in 2013. The sector where most females were employed remained to be the education sector in 2014 with a share of 27.1 per cent of the total female employment. This was followed by agriculture, forestry and fishing, which employed 112,700 female thus absorbing a further 13.01 per cent of the total female employment. There was an increase in the number of male engaged in all the industries, with the highest increases being in construction, manufacturing, and education. Out of the total wage employees in 2014, 1,846,900 persons were on regular terms of which 37.05 per cent were females. In 2014, 22 percent of the total employees was accounted for by employees engaged in casual terms compared to 21 percent in 2013.

1.1.3 Employment in Kenya's Manufacturing Sector

Even though Kenya has a relatively larger economy than its neighbouring counterparts it is also among the countries whose manufacturing sector is performing dismally in sub-Saharan Africa. The manufacturing sector is anticipated to contribute majorly in employment creation and economic growth in the country. This is based on the fact that the sector can shift the dependence of low-value commodities to manufacturing of high-value commodities. The sector also has quite higher spillover-effects and better opportunities for capital accumulation (Szirmai, 2011).

The number of wage employment in the sector grew to 277,900 employees in 2012 from 276,900 in 2011, which is just a small increment of 0.4 percent. Since the Kenyan manufacturing sector has performed rather unsatisfactorily in generating employment in spite of growth in output, it is important to investigate the slow growth in employment and identify the reasons for this trend. For a country to achieve inclusive growth it is fundamental that more employment is generated from the non-agricultural sectors. This employment should be of better quality so that more and more workers get the chance to shift from agricultural jobs with low productivity to jobs in the manufacturing and services industry which have higher productivity. The radical changes that have taken place in Kenya's orientation to regional trade regime is a factor that is expected to have significant effect on the employment situation.

The manufacturing industries that are labour-intensive, boost Kenya's comparative advantage. EPZ has been on the fore front of increasing the number of employees in the manufacturing industry. Employment of locals increased from 39,961 to 45,984 in 2014 which was a 15.0% increase from 2013 (KNBS, 2015). Sixteen percent of total employment in the manufacturing sector was accounted for by EPZ, having increased by 15% from 40,433 people to 46,501 people in 2014.

There was a 2.9 meager improvement in the number of wage employment in the sector to 287,456 employees in 2014. Similarly, total wage earnings increased by 12.4 percent in 2014 to KShs 110.5 million from KShs 98.3 percent in 2013. There has been a decrease in the sector's contribution to total wage employment with statistics showing a drop from 13.9 percent employment growth in 2008 to 12.9 percent in 2012. This indicates that there is need to revitalize the sector's performance through policy incentives that will promote inter-firm linkages and high-value manufacturing.

Table 2: Employment in the Manufacturing Sector

Year	Wage employment in '000s	% male (in wage employment)	% female (in wage employment)	Employment in informal manufacturing activities ('000s)
2000	217.9	82.8	17.2	943.2
2001	216.6	82.5	17.5	1029.8
2002	229.8	82.6	17.4	1119.5
2003	239.8	82.6	17.4	1196.4
2004	247.5	82.6	17.4	1281.0
2005	248.4	82.5	17.5	1434.0
2006	254.9	82.0	18.0	1532.4
2007	264.8	82.0	18.0	1567.1
2008	264.7	81.5	18.5	1644.2
2009	266.4	83.8	16.2	1711.2
2010	270.5	84.8	15.2	1780.8
2011	276.9	77.3	22.7	1957.1
2012	271	71.2	28.8	2044.4
2013	279.4	81.8	18.2	2124.1
2014	287.4*	81.6*	18.4*	2236.3*

*Provisional

Source: Author's computation from Republic of Kenya Economic Surveys (various issues)

Male employees dominate the manufacturing sector with men having a share of over 81% (See Table 2). From the table 2, the sector's employment has been growing at a rather slow rate with an average of 4% growth annually.

The informal sector which is also commonly known as the Jua Kali¹ sector plays a vital role in the employment sector since it creates jobs to match the jobs created in the formal sector. From the above table, the manufacturing sector's contribution to informal employment has been growing but at a slow pace. The contribution to informal employment increased from 2,124,100 to 2,236,300 which is a 5 % increase.

¹Jua kali, the Kiswahili term for "hot sun", originated from many artisans and other small operators in the sector who lacked fixed premises and hence operated literally in the open, in the sun.

1.2 Problem Statement

There is need to focus more on the relevance of regional integration within East Africa. The East African Community members face deep rooted levels of poverty, high levels of unemployment and slow development of human capital and infrastructure. Ensuring that regional integration succeeds in East Africa is very important, not only because of the challenges mentioned above, but also because the policies needed for its success are the same as those needed if the East African Community is to benefit from the process of integration into the world economy. Since independence, the Kenyan government has constantly expressed the need to create enough job opportunities to accommodate the ever growing labour force. Unemployment and underemployment remain to be some of the complex and recurring problems for the Kenyan government (estimated at 40 percent in 2013).

Both the 2001-2005 and the 2006-2010 EAC Development Strategies did not point out detailed labour and employment targets to be achieved. This is despite some of the extensive goals of the EAC integration being employment creation and improvement of living standards. Well laid out targets on some of these parameters would have been helpful in facilitating analysis of the levels of convergence of the key labour market fundamentals. The unemployment-reduction strategies formulated by the Kenyan government, involve increasing trade both domestically and through regional integration. The Medium Term plans and the Vision 2030 recognize trade as a key driver of growth. The immediate expectation of implementing these policies including the EAC Common Market Protocol was that employment opportunities would expand and the levels of unemployment would decline. Despite all these strategies and interventions, creation of adequate and sustainable employment opportunities is still a major economic challenge for Kenya.

The country's economy is not generating enough jobs; 797,700 new jobs were created in 2014 against almost 2 million job seekers and another over one million new entrants into the labour force. This is despite expansion of regional trade and more specifically increased trade by Kenya. EAC intra-regional trade in basic manufactured goods and improved regional production chains can help in the reduction unemployment. Non-tariff barriers are currently the major hinderers on the full growth of EAC intra-regional trade in basic manufactured goods, leading to high production and transportation costs. Removal of these barriers would bring about vertical

specialization and the growth of regional production chains, hence improvement in export diversification which translates to improved employment levels.

Despite a number of empirical contributions in recent years, the effects of EAC regional economic integration on manufacturing employment of a specific member state have not been investigated yet. This void motivates the author's study, which focuses on the East African Community (EAC) and its effects on Kenya's manufacturing employment.

1.3 Research Questions

1. Does a relationship exist between regional integration trade flows and employment in the manufacturing sector?
2. To what extent is Kenya's total employment growth rate in the manufacturing sector attributed to trade with the EAC member states?

1.4 Research Objectives

This paper aims to investigate whether the Kenyan manufacturing sector has experienced a restructuring in terms of employment due to regional integration as is theoretically expected. The general objective of the study is to investigate the effects of regional trade integration on jobs in the Kenyan manufacturing sector. The specific objectives of the study are:

1. To establish the effects of the EAC regional integration process on employment in the Kenyan manufacturing sector.
2. To recommend policy actions based on results of the study to increase employment in Kenya's manufacturing industry.

1.5 Justification of the Study

One of the proposals of the Kenya Vision 2030 (Republic of Kenya, 2008b) is that there should be a national integrated strategy that aligns labour demand and labour supply. The Second Medium Term Plan 2013 – 2017 proposes the implementation of policies that will help reduce the number of unemployed people in the country. Employment creation is also one of the key goals of the EAC Development strategy. For the effective designing of these policies and programmes towards the goal of reducing unemployment, there is need for an in-depth

understanding of the effects of EAC regional trade integration on manufacturing employment. Identifying and quantifying the factors that affect employment and influence the increase in manufacturing employment levels will equip policy makers with information that can be used to develop sector specific policies towards improvement of employment in the manufacturing sector.

Previous contributions to the empirical literature on the effects of trade on employment have mainly focused on general trade liberalization and the labour market (e.g. Sen (2002); Manda (2002); Manda and Sen (2004); Were (2006)). This study will widen the scope of knowledge on the effects of EAC regional integration on manufacturing employment in Kenya, rather than the entire labour market.

1.6 Organization of the Proposal

Chapter 1 has provided the background of the study. It has also covered the research problem, the research objectives, and research questions. Chapter 2 presents the literature review for the study. Chapter 3 covers the methodology that was used in the study. Chapter 4 presents the results, whereas chapter 5 focuses on discussion, conclusions and policy recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Theoretical Literature

According to Sen (2002) trade affects manufacturing employment in three diverse elements. Firstly, the total output of the manufacturing sector may be impacted by trade hence leading to a change in the manufacturing employment. Secondly, trade may influence the contribution of different industries on the whole manufacturing output, hence leading to an increase of the output of exportables and a reduction in the output of import competing industries. Lastly, by bringing about changes in the industrial labour coefficients, trade can thus affect employment.

The main theoretical structure for the study of how employment is affected by trade has been classical Heckscher-Ohlin model, where skilled and unskilled labour are assumed to be the two key factors and developed (North) and developing (South) as the two trading countries. The Heckscher-Ohlin model stipulates that when there is a reduction in trade barriers on an imported commodity in a developing country, there will be a price drop of the import-competing sector which negatively affects the factor of production used intensively in the production of imported goods (skilled labour in the developing country) and benefits the factor of production used intensively in the export sector (unskilled labour in the developing country). According to the H-O theorem, a country's comparative advantage lies in the good that intensively uses the relatively abundant factor. This can be one of the reasons why the export structure of most African countries is inclined towards natural resource based commodities and not manufacturing exports that are labour-intensive. Increased trade in African countries compared to the developed countries would therefore most likely lead to slower growth (or reduction) of the manufacturing sector thus impacting on employment in the sector as well.

Moreover, reducing trade barriers is a macroeconomic policy move that is bound to bring an industrial performance impact. In particular, inefficient producers are expected to be eliminated or disciplined by competitive pressure. It is also expected that a reduction or removal of trade barriers would lead to an increase in competition between domestic producers and a decrease in profit-seeking activities. In addition, exporting firms strive to keep up with modern technology in order to remain relevant in the competitive foreign markets. This provides an incentive and a chance for firms to increase efficiency and hence productivity. The least efficient firms in the

industry are thus removed by a country's increased exposure to trade. Regional integration agreements enable low-cost producers to spread out their output past the domestic market's demand. This will most probably lead to increased labour demand for these low-cost producers. The formation of larger markets through regional trade agreements will increase the demand for products leading to more exports.

There is also the firm-level theory at the sectoral level, which emphasizes more on firm-level factors (Spatz & Nunnenkamp, 2002). Generally, higher levels of productivity and more human capital are expected to be in firms that export their products than non-exporting firms. There is an assumption that higher levels of trade openness through regional integration in a developing country, affect the skill pattern of labour demand. This happens when firms change their production technology by importing highly developed capital goods, which improves the output levels hence raising the demand for skilled labour. This means that the demand for more skilled and educated labour in the export sector is expected to be higher. This further shows that trade openness can affect manufacturing employment by causing changes within the sector which in turn affects the quantity and quality of labour required in the production process.

2.2 Empirical Literature

Researchers are finding more interest on the effects of the development in global and regional economic integration. Generally, one of the key growth factors is perceived to be global economic integration (World Bank, 2002). However, the number of empirical studies that investigate the effects of regional integration and even effects of trade on employment for a particular industry or sector are to some extent few. Most of the existing studies focus on the effects of trade on either employment or unemployment. As it will be noted from the discussion below, there are few studies that focus on the effect of regional integration for sectoral dynamics.

Despite the fact that employment and GDP growth are strongly related, there is still a misunderstanding on the specific causal relationship between these two variables. Therefore there is need to study regional integration literature in depth, so as to understand the potential challenges of a study focusing on the effects of regional integration on employment.

There is a bunch of literature investigating the impact of trade integration on industry related employment developments. One of the studies is by Spatz/Nunnenkamp (2002), who investigates

how labour market in the automobile sectors of Japan, Germany and the United States are affected by increasing integration. They find out that there is a decline in wages and employment projections for the labour intensive subsectors and low-skilled workers of the automobile industry in long-established locations. The study also reveals that there is heterogeneity between the three countries. This is seen in the relatively poor performance of U.S automobile producers in the global market and the employment record in comparison to their Japanese and German competitors.

Kucera and Milberg (2002) did a study on the changes in labour structure in the trade patterns of the Organization for Economic Cooperation and Development (OECD) countries between 1978 and 1995, by calculating the sectoral coefficients of factor content. The labour structure change for trade with countries which are not members of OECD was calculated separately from the trade among the OECD countries. The results showed that even though the labour intensive sectors had the prevalent variations in employment and faced the stiffest competition from developing countries, the share of the latter in the OECD countries was rather small at around 7%. The study also found out that the net loss of employment in OECD countries was brought about by the reduction in exports to non-OECD countries and not by import increment from them. Looking at trade within the OECD countries, despite the fact that some of the countries experienced increases in number of jobs, the results showed that the generally the decline in job opportunities is attributable to the de-industrialization trend of those countries.

Looking at European integration, Pugacewicz (2004) analyzed the factor content of Poland's trade with the European Union in the 1990s so as to find out how trade openness affects the trade structure. The author factored in 14 factors of production, including 7 classes of labour and used indirect coefficients that factored in inter-sectoral relations. The results show that in the year 2000, the European Union acquired a lot of unskilled labour from Poland. This was a shift from Poland's trend of being a net exporter in skilled labour since the beginning of the period in study. One weakness of this study is that the input-output matrix used is not clear, whether it was constant all through the whole decade and if it matches with the economy of Poland.

Castilho (2005) investigated the impact on employment of two main trade agreements that Brazil may join, with basis on trade's labour content by the skill level of workers. The methodology

used was the factor content calculation by making an estimate of the amount of labour utilized in both the exported and imported commodities in comparison to the job opportunities created in the export sectors and those lost in the import-competing sectors. The author found out that, out of the three options measured in the study – the trade agreement between the European Union and MERCOSUR; the Free Trade Area of the Americas (FTAA), and the entry in force of both of them – almost 230,000 job opportunities would be created. This was showing that Brazil's total employment would increase by 0.45 percent. The results further showed that, FTAA would be the integration option that would generate more jobs for the Brazilian economy. The highest beneficiaries of the trade agreements were found to be workers with the lowest levels of skills.

In the context of European Union enlargement, Fertig (2003) investigates the impact of economic integration on employment. The study further investigates where there is variance in the effect of economic integration across the automotive and financial services. Results show that the impact of integration on long term employment level is not significant in all member states, but it is positive in Portugal, Spain and Greece. In the long run, a greater integration is likely to worsen unemployment levels in the original members of the EU with an exception of the Southern enlargement countries (Portugal, Spain and Greece).

Mashayekhi, Oeters and Vanzetti (2012) observed the relation between regional integration and employment effects in Southern African Development Community (SADC). This study uses the global general equilibrium model to study the effects of further regional integration on employment using sectoral data on skilled and unskilled labour. The results suggest that in an economy where tariffs are removed, specific sectors may experience substantial changes in production and employment levels. Further regional integration is expected to improve the employment levels or real wages but these would vary significantly across sectors and countries. The results put emphasis on how SADC is positively impacted by regional integration and the value of well defined labour market strategies to go together with trade policies so as to tackle unemployment issues.

Dutt (2009) investigates whether unemployment is reduced or increased by trade using cross-country data over the period 1990-2000. Having controlled for endogeneity and problem brought about by measurement error, the results show that lower aggregate unemployment is brought

about by trade openness, leading to an increased investment in job search and job posting. This study also finds fairly robust evidence for the Ricardian prediction that there is a negative relationship between unemployment and trade openness. The results further show that continuous policy changes related to trade liberalization bring about a sudden increase in unemployment but employment recovers in the long term while unemployment ultimately decreases in the steady state.

There are several studies that focus on trade and employment in the manufacturing sector and most of the studies focused on trade openness, trade liberalization and the impact of globalization on the performance of the labour market. Melachroinos (2002) studies the changes in the employment content of the manufacturing industry in 13 European Union countries between 1978 and 1996. The results show that the layout of manufacturing-employment has stayed almost regular during this period under study. Additionally, the stability of the manufacturing distribution layout is slightly or not at all affected by the improvement of industrial specialization across countries. This shows that the manufacturing industry competitiveness both in peripheral and core countries has not been negatively affected by integration. Hahn and Park (2011) results imply that the employment of the skilled workers is positively affected by exporting in the Korean manufacturing sector but did not largely benefit the unskilled Korean employees in the manufacturing sector since the 1990s when economy globalization progress increased in Korea.

Biscourp and Kramarz (2007) investigate the relationship between employment and trade in the manufacturing industries of France and get a negative relationship between employment and imports. The results show that importers of intermediate inputs lead to lesser loss of jobs compared to importers of finished goods, with the relationship being stronger for the larger firms. Equally, the results show that exports of finished commodities have positive employment effects while exports of any other commodities bring about negative employment effects. Mouelhi (2005) investigates how the labour demand in Tunisian firms is affected by trade liberalization through differentiation of skilled and unskilled labour. The results show that an increase in the demand for labour is associated with the reduction of the protection rate. Unskilled labour is more responsive to protection level changes than skilled employment.

Kareem, F.O. (2010) investigates the ways in which international trade flows have impacted employment in Nigeria for the period 1981 to 2006. The model used by the author is the time series OLS estimation technique and the results show no significant relationship between trade flows and employment in Nigeria both in the short-run and long run. The study however finds out that, external factors such as FDI, real exchange rate, SAP and other domestic factors such as political stability, labour laws and real wage play a better role in the explanation of Nigeria's employment rate. Results from the study further show that, employment levels dropped by 480% since the country adopted trade liberalization measures in 1986 until 2006 compared to the period when the SAP measures had not been adopted.

In Kenya, there are quite few studies that focus on regional integration and labour patterns. Most of the previous studies focus on general trade liberalization and the labour market. Sen (2002) studies the impact of trade on manufacturing employment in Kenya and Bangladesh using highly aggregate industry level data covering 1975-98. Manda (2002) results show that there has been an increase in the use of part time and casual workers as well as increase in demand for skilled labour. However, the author does not investigate trade aspects that could account for that type of a trend. Manda and Sen (2004) take into consideration the results of the previous two studies and find out that in the 1990s there has been a definite negative effect of trade on employment. Using firm-level data, Were (2006) analyzes the effects of export trade on the different employment classes. The author compares employment trends in exporting against non-exporting firms considering the use of different labour categories, skilled against unskilled; short-term (casual and part time) against permanent and tries to come up with some of the factors that determine such trends. Results show that, more workers are employed in the export-oriented firms compared to firms that do not engage in exporting activities. Conversely, the exporting firms' absorption level of total workers has been declining over time.

On the contrary, Helpman and Itskhoki (2010) argue that lowering or removal of trade barriers can lead to an increase in unemployment. They consider two sectors; the sector that has differentiated products and has monopolistic competition where there are labor market frictions, and the competitive sector with homogeneous products with no labor market frictions. Exporting gets more profitable in the sector with differentiated products as the trade barriers are lowered. This compels more firms to prefer exporting in larger volumes which makes low-productivity

firms to exit the sector. These changes bring about an increase in labour demand. As workers relocate to the high-wage sector that has a higher unemployment rate, aggregate unemployment rises. This shows that higher trade openness is linked to higher levels of equilibrium unemployment because the job destruction caused by exiting of small low-productivity firms is larger than the creation of jobs by large high-productivity firms.

Each of these studies provides helpful insights into different characteristics of the nexus between regional integration and employment-related outcome variables. Nonetheless, a thorough quantitative study of the impact of regional economic integration on the labor market for the Kenyan manufacturing sector is still missing. Therefore, the next chapters provide such an investigation.

2.3 Overview of the Literature

The literature reviewed in the foregoing paragraphs shows that several studies have been done to determine the effects of regional trade agreements and integration on employment. Despite this effort, the existing literature still presents mixed results concerning the relationship. Regional integration has been found to have a positive effect, negative effect, and no effect on employment. The literature also shows that most of the studies have been done in developed countries whose economic and trade patterns are very different from that of Kenya and its EAC partner countries. Thus, the results of such studies might not hold in Kenya. In addition, the literature shows that the effect of trade/ regional integration seems to be industry specific. This calls for additional empirical analysis of the effect of regional integration on employment in the context of Kenyan manufacturing sector to inform labour policy.

CHAPTER THREE: METHODOLOGY

3.1 Theoretical Framework

Theoretically, free trade is associated with both positive and negative effects on employment to a country's economy. Regional trade agreements such as the EAC eliminate most tariff and non-tariff trade barriers, thereby increasing competition among countries. In this respect, only the high productive and efficient countries are able to overcome competition, thereby benefiting from international trade through increased exports. This leads to an increase in employment opportunities in export oriented industries. On the other hand, less competitive countries are likely to experience an increase in unemployment as imports outperform locally produced goods in the domestic market.

According to Hecksher-Ohlin theory, countries benefit from trade by producing and exporting goods that require exhaustive use of the factors found abundantly within the country. This means that Kenya is expected to benefit from the EAC integration by exporting commodities that intensively use its relatively abundant resources such as labor. According to trade facilitation theory, a trade enabling business environment enhances the competitiveness of countries under free trade regional agreement. This includes improving physical infrastructure, eliminating institutional bottlenecks, and improving customs formalities. This leads to increased output, which in turn increases trade flows and employment. Trade performance under regional integration can also be influenced by macroeconomic factors such as GDP growth, exchange rate, and inflation rate among others. Thus, this study postulates that employment in the manufacturing sector is a function of factors that affect manufactures exports. These include regional integration (EAC), macroeconomic factors, and output in the manufacturing industry.

3.2 Model Specifications

Based on the discussed literature review and following the framework used by Kareem F.O. (2010), the relationship that this study wants to estimate can be expressed as: Kenya's manufacturing industry is a function of EAC integration, GDP growth, interest rate, inflation rate, exchange rate, manufactures exports, and manufacturing industry output. Mathematically, this relationship is expressed as:

$$E = f(GDP, EACint, Int, Infl, Ext, MX, MO) \dots\dots\dots 1$$

Where: E is employment in manufacturing industry

GDP is gross domestic product

$EACint$ is East Africa Community integration

$Infl$ is inflation rate

Int is interest rate

Ext is exchange rate

MX is manufactures exports

MO is output in manufacturing industry

Equation 1 can be expressed as:

$$E = \alpha + \beta_1 GDP + \beta_2 EACint + \beta_3 Int + \beta_4 Infl + \beta_5 Ext + \beta_6 MX + \beta_7 MO + \varepsilon \dots\dots\dots 2$$

Where α and β are parameters to be determined, ε is a white noise error term, and the remaining terms are as defined in 1. The variables of interest are $EACint$, MX and MO since they will be used to measure the effect of EAC integration on employment in Kenya’s manufacturing sector.

3.3 Definition of Variables

The variables to be used in the study and their expected signs are summarized in table 3.1.

Table 3.1: Definition of variables

Variable	Definition	Measurement	Expected sign
Employment (<i>dependent variable</i>)	Annual percentage change in employment in manufacturing industry	Percentage	
GDP	Annual real GDP for Kenya (growth rate)	Percentage	Positive
EACint	A dummy variable taking the value of 0 before signing of EAC CU in 2010** and 1 after 2010	Dummy	Positive/negative
Interest rate	Real annual lending interest rate in Kenya	Percentage	Negative
Inflation rate	Annual inflation rate in Kenya	Percentage	Negative
Exchange rate	Kenya shillings exchange rate to the US dollar		Negative/positive
Manufacturing exports	Annual value of manufactures exports	Kenya shillings	Positive
Manufacturing output	Quantity of manufacturing index (tracks change in total output in manufacturing industry)	Index	Positive

Source: Author’s computation

3.4 Data Sources

The study will use annual time series data for the period 1980 to 2014. The period has been chosen to cover the evolution of employment in Kenya's manufacturing industry before and after the formation of the EAC customs union. Lending interest rate, inflation rate, and exchange rate data will be obtained from the Central Bank of Kenya's website. Manufacturing export, manufacturing output, and employment in manufacturing industry will be obtained from Kenya National Bureau of Statistics (KNBS). GDP growth data will be obtained from World Bank's database.

3.5 Estimation Strategy

3.5.1 Descriptive Statistics

Data analysis will begin with description of the stochastic properties of the time series to be used in the study. Thus, descriptive statistics analysis will involve determining the mean, variance, kurtosis, skewness, maximum and minimum values of all variables. The Jarque-Bera normality test will also be conducted to determine the distribution of the time series.

3.5.2 Stationary Test

According to Johansen (1990), stationary test should always be conducted when using time series data to avoid spurious regression that might occur due to non-stationarity of the variables. Thus, stationary test will be conducted using the Augmented Dickey-Fuller (ADF) test, which tests the null hypothesis of a unit root against an alternative of no unit root. The ADF test is based on the model:

$$\Delta y_t = \alpha + \delta T + \rho y_{t-1} + \sum_{i=1}^n \beta_i \Delta y_{t-1} + \varepsilon_t \quad (3)$$

Where

Δ is the difference operator

y_t is the variables in their levels

T is a time trend

α , δ , and β are parameters

ε_t is a white noise error term

3.5.3 Co-integration Test

Testing for co-integration will be necessary if the time series are found to be non-stationary. This will help in determining whether a long-run relationship exists between employment in the manufacturing industry and the independent variables. Co-integration test will be conducted using the autoregressive distributed lag bounds (ARDL) test. The ARDL approach has been chosen due to its simplicity and ability to detect co-integration in small samples. If the variables are co-integrated, an error correction model (ECM) will be used to estimate the long-run and short-run relationships between the dependent and independent variables.

CHAPTER FOUR: RESULTS

4.1 Descriptive Statistics

Table 4.1 below is showing the descriptive statistics for the variables used in the study. All the variables except exchange rate exhibit little volatility since their standard deviations are relatively smaller than their mean. GDP and exchange rate are negatively skewed, whereas the remaining variables are positively skewed. Exchange rate seems to be leptokurtic because of its relatively high Kurtosis. However, other variables seem to have a relatively flat distribution because of their low kurtosis.

Table 4.1 Descriptive statistics

Variable	Mean	Std. dev.	Variance	Skewness	Kurtosis	Min	Max
Employment	179.57	46.82	2192.27	0.21	1.71	117.10	261.30
GDP	3.73	2.34	5.47	-0.12	2.08	0.47	8.40
EACint	0.43	0.50	0.25	0.29	1.08	0	1
Lending rate	18.66	6.61	43.74	1.24	3.49	12.88	36.24
Inflation	10.67	7.70	59.22	2.21	9.29	4.19	41.99
Exchange rate	51.83	28.61	818.31	-0.33	1.47	13.31	88.81
Manufactures exports	4.9107	5.4407	2.9615	1.01	2.77	1553960	1.7908

Source: Author's computation

4.2 Correlation

The correlation matrix in table 4.2 shows that inflation has a negative, but insignificant relationship with exports. GDP has a positive and negative correlation with exports and inflation respectively. EACint has a positive correlation with all variables except inflation which is negative.

Table 4.2: Correlation matrix

	Employment	Exports	Inflation	GDP	Exchange rate	EACint
Employment	1.0000					
Exports	0.9754*	1.0000				
Inflation	-0.2154	-0.1834	1.0000			
GDP	0.2448	0.1548	-0.1878	1.0000		
Exchange rate	0.9151*	0.9617*	-0.2099	0.0218	1.0000	
EACint	0.8518*	0.8180*	-0.4052*	0.2477	0.7251*	1.0000

Source: Author's computation

4.3 Unit Root Test

To perform unit root test for the variables considered in the study, the Augmented Dickey-Fuller test was used. The results presented in table 4.3 show that all the variables had at least a unit root in their levels. This means they were non-stationary in their levels. However, all the variables became stationary after the first difference. Since the variables are non-stationary in levels, it was necessary to conduct co-integration test to determine if there is a long-run relationship between employment in the manufacturing sector and its determinants.

Table 4.3: ADF test results

Variables	Levels p-value for z(t)	First difference p-value for z(t)
Lnemployment	0.9425	0.0025
Lnexports	0.6354	0.0000
Lninflation	0.1112	0.0000
GDP	0.1453	0.0000
Lnexchange rate	0.2233	0.0009
EACint	0.8087	0.0000

Source: Author's computation

4.4 Testing for Co-integration

Co-integration test was done using the Johansen-Juselius method, which begins with a VAR of order p . The lag length of the VAR was selected based on several information criteria as shown in table 4.4. Lag 1 was selected by SBIC, whereas lag 4 was selected by LR information criteria. Lag 3 was selected by FPE, AIC, and HQIC. However, lag 1 was selected for the study to eliminate autocorrelation in the residuals of the VAR.

The trace and maximum eigenvalue statistic were used to determine the number of co-integrating vectors, which is equivalent to the rank of matrix Π in equation 5. Table 4.5 shows that there is one co-integrating vector at 5% level of significance. This means that a long-run relationship exists and should be estimated using the VECM.

Table 4.4: Lag length selection

Lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-177.81				0.000012	5.66	5.73	5.86
1	327.82	1011.3	36	0.000	6.1e-12	-8.79	-8.24	-7.38*
2	387.08	118.5	36	0.000	3.1e-12	-9.51	-8.48	-6.90
3	443.54	112.93	36	0.000	1.8e-12*	-10.14*	-8.63*	-6.33
4	470.87	54.656*	36	0.024	2.7e-12	-9.87	-7.89	-4.86

Where * highlights the identified lag length

Source: Author's computation

Table 4.5: Co-integrating vectors

Maximum rank	LL	eigenvalue	Trace statistic	5% critical value
0	21.64	.	104.3681	94.15
1	40.75	0.67500	66.1547*	68.52
2	55.24	0.57366	37.1689	47.21
3	65.23	0.44439	17.1877	29.68
4	69.41	0.21779	8.8360	15.41
5	72.16	0.14934	3.3369	3.76
6	73.82	0.09348		

Source: Author's computation

4.5 The VECM Results

Table 4.6 presents the statistics for all the system of equations included in the model. The equation with employment as the dependent variable has an R-squared of 0.8087. This means that 80.87% of the variation in employment in the manufacturing industry is explained by the independent variables included in the model. Moreover, the overall Chi² test is significant and means that the model is important in explaining variations in employment.

Table 4.6: Model statistics

Log likelihood = 319.9078		AIC = -1.277672		
Det (Sigma_ml) = 3.30e-12		HQIC = -0.4689739		
		SBIC = 1.125809		
Equation	RMSE	R-sq	Chi2	p>chi2
Lnemployment	0.015695	0.8087	105.7116	0.0000
Lnexports	0.240507	0.3802	15.33479	0.0530
Lninflation	0.702203	0.4241	18.40714	0.0184
GDP	2.55846	0.1580	4.690007	0.7901
Lnexchange rate	0.107401	0.5463	30.105447	0.0002
EACint	0.191268	0.0854	2.334875	0.9690

Source: Author's computation

4.5.1 Short-run Coefficients

The short-run coefficients of the model are presented in table 4.7. The adjustment parameter or coefficient is negative and statistically significant as expected. The co-efficient means that a short-run disequilibrium in employment is corrected at a rate of 15.28% annually. Inflation had negative and statistically significant relationship with employment. This means that an increase in inflation by 1% reduces employment in the manufacturing industry by 0.0078%. The coefficient of EACint is also significant and negative. This means that EAC integration has a negative effect on employment in Kenya's manufacturing industry. The remaining variables did not have statistically significant relationship with employment.

Table 4.7: Short-run coefficients

	Coef.	Std. Error	z	$p > z $
Adj. coefficient	-0.1528508	0.0448599	-3.41	0.001
Lnemployment	0.0101388	0.1697355	0.06	0.952
Lnexports	0.000996	0.0159942	0.06	0.950
Lninflation	-0.0078394	0.0038449	-2.04	0.041
GDP	-0.0023073	0.0017375	-1.33	0.184
Lnexchange rate	-0.0118386	0.0309063	-0.38	0.702
EACint	-0.0479901	0.0198245	-2.42	0.015

Source: Author's computation

4.5.2 Long-run Coefficients

The long-run coefficients of the model are presented in table 4.8. Based on economic theory, the results were normalized on employment. The table shows that the coefficients of all variables are statistically significant at all levels. The log of exports still has a positive relationship with employment in the long-run. However, GDP, exchange rate, EACint, and inflation rate have negative relationship with employment.

Table 4.8: Long-run coefficients

Equation	parms	Chi2	p>chi2	
Lnemployment	5	1835.416	0.0000	
Identification: beta is exactly identified				
Johansen normalization restriction imposed				
beta	Coefficient	Std. error	z	p > z
Lnemployment	1			0.000
Lnexports	0.0976769	0.0272445	3.59	0.001
Lninflation	-0.0458407	0.0138421	-3.31	0.000
GDP	-0.0443705	0.003929	-11.29	0.000
Lnexchange rate	-0.4412581	0.0510627	-8.64	0.000
EACint	-0.2613022	0.0326001	-8.02	0.000
Constant	-4.804102			

Source: Author's computation

4.6 Post Estimation Tests

4.6.1 Autocorrelation Test

It is important to test for autocorrelation in the residuals of the VECM to determine if the appropriate lag length was chosen to avoid estimating biased parameters. The test was conducted using the lagrange-multiplier test and the results are presented in table 4.9. The table shows that there is no autocorrelation and thus, the correct lag length was chosen.

Table 4.9: Lagrange-multiplier test

Lag	Chi2	Df	Prob>chi2
1	35.3712	36	0.49831

Ho: no autocorrelation at lag order

Source: Author's computation

4.6.2 Stability Test

The stability of the VECM has to be tested to determine if the model was correctly specified. The test was conducted by calculating and plotting the eigenvalues of the companion matrix. The model had 1 co-integrating vector and 6 variables. Thus, 5 unit eigenvalues and moduli were imposed. The model is stable if the remaining moduli are less than 1. Clearly, table 4.10 shows that the remaining moduli are less than 1. Similarly, figure 4.1 shows that the remaining moduli are within the unit circle. These tests show that the model was specified correctly.

Table: 4.10 Eigenvalue stability condition test

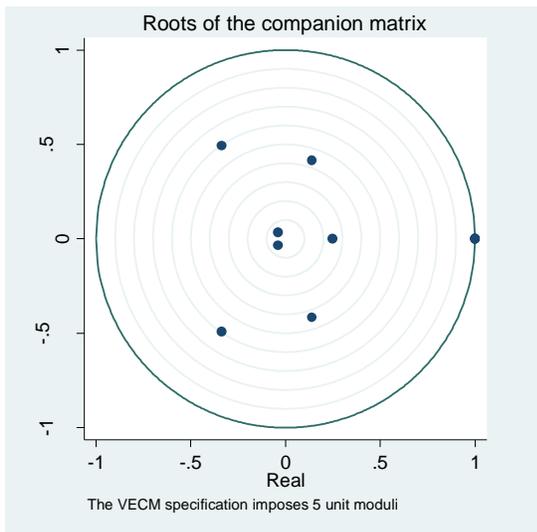
Eigenvalue stability condition

Eigenvalue	Modulus
1	1
1	1
1	1
1	1
1	1
$-.3368917 + .4918163i$.596137
$-.3368917 - .4918163i$.596137
$.1397323 + .4162411i$.439069
$.1397323 - .4162411i$.439069
.2484819	.248482
$-.04139818 + .03528317i$.054394
$-.04139818 - .03528317i$.054394

The VECM specification imposes 5 unit moduli.

Source: Author's computation

Figure 4.1: stability test



Source: Author's computation

CHAPTER FIVE: DISCUSSION

5.1 Short-run Relationships

In the short run inflation had a negative and statistically significant relationship with employment in the manufacturing industry. This negative relationship was expected a priori and is consistent with the finding of Furuoka and Munir (2014) who found similar results in Malaysia. An increase in inflation rate raises the cost of production by increasing factor prices. Producers have to pass the high production costs to consumers by increasing prices to avoid losses. The resulting reduction in demand reduces revenue and profits, which in turn forces producers to lay off their employees or cutback on employment. This leads to the negative relationship between inflation and employment in the manufacturing industry.

EACint had a negative relationship with employment. This finding is consistent with that of Tewari (2012) who found a similar result in Canada. However, it is inconsistent with that of winter et al (2004) who found a positive relationship between regional economic integration and employment. The negative relationship was not expected a priori because EAC integration was expected to enhance market access, thereby creating more jobs in the manufacturing sector. Nonetheless, the results are not surprising because the integration is also expected to increase competition in the region. In addition, Kenya has to open its borders to goods from trading blocs such as the EU which have signed a free trade agreement (FTA) with the EAC. Thus, increased competition is likely to reduce sales for Kenya's manufactures, thereby reducing jobs in the manufacturing industry.

5.2 Long-run Relationships

In the long run, manufactures exports have a positive and statistically significant relationship with employment. This means that an increase in manufactures exports increases employment. The positive relationship was expected a priori and is consistent with the findings of Brambilla, Chauvin, and Porto (2014). A rise in exports is expected to increase earnings in the manufacturing sector. This promotes employment in the industry in two ways. First, a high demand for exports prompts producers to expand their production capacities in the long-run to meet the consumption needs of their customers and to increase profits. Expansion is often accompanied by an increase in employment, especially in labor intensive industries. Second, an

increase in profits as a result of high export performance enables producers to finance their expansion plans. This includes hiring more labor to increase production.

The negative long-run relationship between inflation and employment is to be expected (Furuoka and Munir, 2014). A high inflation rate increases the prices of Kenya's manufactures exports. In the long-run, consumers in the export market are likely to switch to competitors' products, which are relatively cheap. Substitute products and brands are also more available in the long run than short run because producers are able to adjust their capacities and introduce new goods. Additionally, more sellers are able to enter a given market in the long-run. Thus, inflation can reduce the competitiveness of Kenya's manufactures in export markets through the cost channel, thereby reducing employment in the industry in the long-run.

The negative and statistically significant relationship between exchange rate and employment is to be expected. The finding is consistent with that of Koren (2004) who found that a depreciation of local currency had a negative effect on employment in Turkish manufacturing industry. In Kenya, manufacturers heavily dependent on imported inputs or intermediate goods for production. A depreciation of the Kenya shilling increases the cost of imported intermediate goods. The resulting increase in the cost of production and the price of the final product makes Kenya's manufactures less competitive in export markets. This leads to a reduction in employment in the manufacturing sector.

The long-run negative relationship between GDP and employment in the manufacturing sector is inconsistent with a priori expectation. It is also inconsistent with the findings of Kapsos (2005) who found a positive relationship between GDP growth and employment. However, the negative relationship in Kenya can be explained by several factors. First, an increase in GDP growth if accompanied by a significant increase in household income can lead to substitution effect. Specifically, Kenyan consumers might chose to buy imported manufacturers to benefit from either better quality or variety of products. The resulting reduction in demand for local manufacturers is likely to reduce employment in the industry. An increase in GDP is often accompanied by high inflation rate in the long-run. This can reduce consumption, thereby reducing employment in the manufacturing sector.

The long-run relationship between EACint and employment is inconsistent with a prior expectation. It also contradicts the findings of Jang and Kim (2013) which shows that regional Free Trade Agreements (FTA) had a positive effect on employment in Korea. However, the finding supports that of Tewari (2012) who found that the North America Free Trade Agreement had a negative effect on employment in Canada. The negative relationship is explained mainly by increased competition from goods originating from other members of the FTA. In the case of Kenya, EAC integration has also resulted into relocation of manufacturing firms to countries such as Uganda, Rwanda, and Tanzania. The resulting reduction in manufactures exports is likely to reduce employment in the manufacturing industry.

5.3 Conclusion

The key objective of this paper was to determine whether the EAC integration has improved job creation in Kenya's manufacturing industry. The results show that in both the short-run and long-run, EAC integration has negative rather than the expected positive effect on employment in Kenya's manufacturing industry. This finding is attributed to among other factors increased competition from goods from the EAC and its trade partners such as the EU. Relocation of manufacturing companies to EAC is another factor that partly explains the negative effect of EAC integration on employment.

Apart from EAC integration, employment in the manufacturing industry is affected negatively by inflation in the short run. Exportation of products from the manufacturing industry has a positive effect on employment in the industry, in the long-run. By contrast, GDP, inflation rate, and exchange rate have a negative effect on employment in the industry in the long-run. Overall, these findings imply that employment in the manufacturing industry is vulnerable to both internal and external shocks. This is based on the fact that employment converges to its long-run equilibrium at a slow pace of nearly 15% annually.

5.4 Policy Recommendations

In light of the findings and conclusions discussed in the foregoing paragraphs, the government of Kenya should consider the following policy recommendations to improve employment in the manufacturing sector. First, the monetary policy authority (Central Bank of Kenya) should focus on price stabilization by ensuring that inflation is contained below the target level. A reduction in inflation will make Kenya's manufactures exports more competitive, thereby increasing employment in the manufacturing industry.

Second, the government should focus on improving the stability of the local currency. This calls for improving the stability of the macroeconomic environment to prevent internal and external shocks such as interest rate volatility that often affect exchange rate negatively. A stable currency will promote manufactures exports, thereby improving employment. Finally, Kenya must improve the competitiveness of its manufactures in terms of quality and price in order to overcome the competition associated with EAC integration. The resulting increase in exports will increase employment opportunities in the manufacturing industry.

In future, this study can be extended in the following ways. First, a different methodology such as panel data analysis can be used to analyze the effect of EAC integration on employment in the manufacturing industry. Second, a longer time series with additional control variables can be used to shed more light on the effect of EAC integration on employment in the manufacturing industry.

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