UNIVERSTITY OF RWANDA

College of Business and Economics

Masters of Science in Economics

"IMPACTS OF ENVIRONMENTAL REGULATION ON BUSINESS ENVIRONMENT. THE CASE OF BAN OF POLYTHENE BAG USE IN RWANDA"

CASE OF RWANDA IN THE REGION "2007 – 2013".

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March 2016

DEDICATION

To my lovely wife Iris Leoncie SINZABAKWIRA

To my children Remy Camarade, Bella Trinitas, Gemma Arcade and Oda Gaella

To my parents, brothers, sisters and friends for their support.

Acknowledgements

Special thanks go to the University of Rwanda for their moral, education and technical support in making me able to successfully finalize my studies in Masters of Science in Economics together with my employer Private Sector Federation for his support and encouragement.

I am grateful to Dr Claudine UWERA for her resilience, foresight, inspiration and authentic desire to supervise this fruitful work. She inspired me to carry on despite all odds.

To my family composed by Iris Leoncie, Remy Camarade, Bella Trinitas, Gemma Arcade and Oda Gaella for the spiritual, moral and financial support. I also extent my recognitions first to the family of BENITUZE Pacifique and MUKAMANA Antoinette, Family of BANAMWANA Leobard, BIMARO Noel, HABARUGIRA Emmanuel, UZABURAHO Theodoric and not forgetting my beloved mother KAMAGAJU Domitille, for their special moral and financial support, also by considering their countless hours of work, I am forever indebted. To PSF staff, Kimisagara Club, notable link different development partner community, I thank you.

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ACRONYMS AND ABBREVIATIONS

ASEAN: Association of Southeast Asian Nations

CEMAC: Communaute Economique et Monetaire d'Afrique Centrale

CEPGL: Communaute Economique des Pays des Grands Lacs

CET: Common External Tariff

COMESA: Common Market for Eastern and Southern Africa

EABC: East Africa Business Council

EAC: East Africa Community

EALA: East African Legislative Assembly

ECCAS: Economic Community for Central Africa

ECOWAS: Economic Community of West African States

EU: European Union

GDP: Gross Domestic Product

MINECOFIN: Ministry of Finance and Economic Planning

MINICOM: Ministry of Trade and Industry

MPC: Monetary Policy Committee

NAFTA: North American Free Trade Agreement

NTB: Non Tariff Barriers

PSF: Private Sector Federation

RAM: Rwanda Association of Manufacturers

REMA: Rwanda Environment Management Authority

SACN: South American Community of Nations

UMA: Uganda Manufacturers Association

WTO: World Trade Organization

ABSTRACT

Prohibition of manufacturing, importation, use and sale of polythene bags in Rwanda is in place since 2008 and cabinet passed the law banning the use of all non-biodegradable polythene bags from the country. Upon enforcement of this legislation, industries that manufactured and traded plastic bags, as well as exporters, businesses and people that imported them for sale and profit gains had concerns and they are facing a very big problem in terms of packaging cost.

The ban has positive and negative impacts. On positive side Rwanda got regional and international credit for environmental protection and green economy. The ban might be the national proud in regards to have a green business and growth, and upholding the international recognition for the country cleanliness. On negative side the business community (some manufacturers, traders, exporters and importers) that were affected by the ban, the cost of packaging and production increased for local companies and reduced its level of competitiveness at national and regional level. Given the time, resources availability and the purpose of the research, sampling confirmed to be the right way to conduct this study, 7 represent the population affected by the mentioned law. Conducting interviews was considered as a method for this research, as a technique used to understand the business environment. Primary data were collected from Ministry of Trade and Industry in its unit in charge of Export and Import by using a guiding table format, with the aim of providing relevant information on this topic. This guided the researcher in gathering information and empirical analysis will be used to measure and interpret the data collected. Considering many macro-economic factors and economic integration principles such as comparative advantages, trade creation, trade diversion, economies of scales, aggregate demand and aggregate supply and many others, harmonization of the laws should at the same level in the EAC country members and encouraging investors to invest in recycling plants.

1. General introduction

1.1. Introduction

Prohibition of manufacturing, importation, use and sale of polythene bags in Rwanda is in place since 2008 and cabinet passed the law banning the use of all non-biodegradable polythene bags from the country. Upon enforcement of this legislation, industries that manufactured and traded plastic bags, as well as exporters, businesses and people that imported them for sale and profit gains had concerns and they are facing a very big problem in terms of packaging cost.

The ban has positive and negative impacts. On positive side Rwanda got regional and international credit for environmental protection and green economy. The ban might be the national proud in regards to have a green business and growth, and upholding the international recognition for the country cleanliness. On negative side the business community (some manufacturers, traders, exporters and importers) affected by the ban, the cost of packaging and production increased for local companies and reduced its level of competitiveness at national and regional level.

In order to raise this issue, this research went in deep and analyzed the case. The document is divided into 5 major chapters, among others, plus this executive summary. Chapter 1 provides a general introduction how the legislation came about in Rwanda and benefits of the ban on plastics for the environment problem definition and hypothesis, chapter 2 highlights related literature review; economic and macro-economic theories especially to economic integration and its basis; chapter 3 presents the specific research methodology, chapter 4 contains the research findings and data analysis and chapter 5 presents conclusions and recommendations.

By conducting this study the discussions were conducted from sampled manufacturers and trading companies affected as users of plastics as well as companies that are producing environmental friendly materials through recycling process as a response to the ban and (temporary) government benefits and plastic packaging alternative solution company. These discussions provided information on various areas of interest including details of legal framework, policy process and all concerns. Data were collected from ministry of trade and industry.

1.2. Background of the study

Rwanda is a member of the three regional economic integration arrangements, namely Economic Community of Great Lakes Countries (CEPGL), The Common Market for Eastern and Southern Africa (COMESA), and The East African Community (EAC). The active participation of Rwanda in these initiatives is predicated on the potential that economic openness and removal of barriers to trade enables local firms to access larger markets and reap economies of scale. This research study will basically focus on the East Africa Community business activity and environmental regulation on the use of polythene (plastic) products in Rwanda.

In 2008, Rwanda passed a law banning the use of all non-biodegradable polythene from the Country. Local industries mentioned that after getting the news of the ban on plastic, it has become very hard for them to find other solutions for packaging and there were no transitional period to adjust the ban and find packaging alternative solutions. Sectors affected by this are mainly manufacturers, traders, importers and exporters, I would like to bring the attention of the decision makers to present problems they are going through, and major problems that national companies (manufacturers, traders, importers and exporters) are currently facing which leads to not becoming competitive at national, regional and international markets.

The Government of Rwanda banned the use of plastics as part of its national environmental policy and legal framework through the Law N°57/2008 of 10/09/2008 relating to the prohibition of manufacturing, importation, use and sale of polythene bags in Rwanda. Rwanda is among the first countries in the world to restrict the use of polythene as packaging material.
This decision was taken based on a study showing how these bags can harm peoples' health and the environment in General and passed through the processes of consultation with stakeholder(s) validation. However, by the implementation of the decision without the transitional mechanism to lower cost of packaging for the businesses become less competitive at regional and national markets.

The law1 banning the use of all non-biodegradable polythene bags from the country provided the Order of the Prime Minister as its legal implementation tool whereby a list of exceptional cases should have been created. Some examples of these provided exceptions include industrial products, healthcare polyethylene bags, agricultural polythene bags, and the plastic bags used in research and sciences, and sanitation and construction sectors.

In February 2012, the EAC polythene Materials control Bill of 2011 was passed by members of the East African Legislative Assembly sitting in Kampala, Uganda. From the beginning, the bill faced a stiff opposition in most of the EAC countries and it still has not been considered at the summit meeting of the EAC Heads of state.

The Uganda Manufacturers Association (UMA) and East Africa Business Council (EABC) were among the strongest organizations opposing the bill. The position papers were developed by the UMA and EACB to lobby and advocate amongst all stakeholders to have the bill reviewed and reconsidered so that the private sector concerns and proposals are fully considered. According to them the bill should not be signed into law by the Heads of States in its current form and should be mutually reviewed so as to have detailed consideration and input from all the stakeholders. The positions papers clearly stated that the Bill should focus on emphasizing proper waste management rather than banning the use of plastics.

The EACB position paper quoted that a total ban on polythene material without focusing on the root causes of environmental degradation is not enough and need a transitional period for the implementation. EABC requested all Head of EAC Member states not to assent to the bill in its current format and requested EALA to take into account the objections and recommendations made by various stakeholders.

Only Rwanda was already implementing a strict ban on plastics and polythene even before this bill was tabled at the EAC level in 2011. Up to now, Rwanda remains the only country in the region where a full ban on plastics is implemented and administered by Rwanda Environment Management Authority.

While the companies in Rwanda that manufactured goods containing plastics or use plastics to pack their goods have to adhere to the law, they have been trying for several years through the different channels, to bring the negative effects to their businesses to the attention of the Government[1]

In January 2011, The Rwanda Private Sector federation, in consultation with the affected manufacturers and traders, conducted a mini-research2 " The ban of polythene plastic bags and its impacts on local business development" and use the case of two companies, Sulfo Rwanda industries Ltd and Inyange Industries Ltd . The paper suggests that the law could be better implemented with some added flexibility to enhance production, profitability and competitiveness of Rwandan Business community.

Preserving the environment is an important policy that should be supported by everyone and the steps to ban the plastic use by Government of Rwanda is a brave and appreciable move. The reasons for introduction of the ban include the dangers of plastics and polythene materials for soil degradation harmful effects of burning of waste, emissions of toxics and in this way endangering of human and animal lives.

However, enacting the environmental policy banning the use of the plastic bag in Rwanda should also consider the private investors views as the key players in the business community and the private sector stakeholders should be given adequate opportunities to contribute to the formulation and development of law through consultation process.

[1] Study conducted by PSF on The ban of polythene plastic bags and its impacts on local business development in 2011

The business community fees that this consultation process has not been fully implemented and the cost of ban of plastics is entirely beard by the Rwandan businesses. It also disadvantaged the Rwandan manufacturers/traders and exporters/importers in comparison to those in the EAC region.

1.3. Statement of the problem

From the background mentioned above, the introduction of ban of polythene (plastics) bags law has reduced Rwandan manufacturers, exporters, importers and traders their competitiveness in comparison with other manufacturers in the region, whose goods packaged in plastics are not restricted or accepted in the country, this is generally based on number of complaints that Private Sector Federation in its advocacy departments is receiving from business community whereby Rwanda Association of Manufacturers wrote several times to advocate for this issue. Owing to the facts that imported goods to Rwanda most of them are still allowed without plastic packaging restriction, these goods are more competitive and attractive as they are better packaged and nicer presented.

The effective EAC integration and its result benefits are hinged on the extent to which the aspirations for the free movement of goods and products can be actualized. The EAC common market protocol guarantees the free movement within the region of partner states. Banning the plastic use in Rwanda has been causing the room for local manufacturers being disadvantaged comparing to those in EAC member States. Their goods have been rendered more expansive due to the additional cost incurred from switching from plastic to alternative packaging.

The problems for Rwandan companies arising from the ban of plastics are grouped for the purpose of this analysis into two groups:

- Problems arising from the implementation modalities of the law banning the plastics

- Direct damages to manufacturers from the provision of the law

Not harmonizing business laws is affecting negatively Rwandan business community especially the one concerning the ban of use of polythene bags.

1.3.1. Affected group

The research identified different categories of companies affected by the ban on plastics including companies dealing with the manufacture and use of plastics and other polythene materials, the companies that shifted from plastic manufacturing/trading and use to the recycling enterprises and the alternative packaging solutions dealing with the lack of appropriate packaging.

Therefore, the groups affected by the ban can be classified in five groups as follows:

1. The manufacturers
2. Plastics traders
3. Exporters and importers
4. Plastic recycling companies
5. Alternative packaging solutions company.

Problems arising from the implementation of the law

Rwanda's total ban on the manufacture and use of plastics and other polythene materials might be a national proud in regards to have a green economy, and upholding the international recognition for the country cleanliness. However, the time of the ban, the business people were not given enough time to adjust and it was no transitional period to move to recycling stage, it became effective immediately. There is uneven playing ground, which gives other EAC countries, greater leverage than Rwandan companies.

There is big increase in production of cost and different affected manufacturers and traders will need to take many years to recover the loss caused by the ban. Investors who engage in both manufacturing and exporting have appealed for an urgent review of the total environmental regulation in order to protect the position of local companies.

According to the Rwanda Association of Manufacturers-RAM, the approval of the law banning the plastics increased the cost of production. The plastics and polythene manufacturing and usage remains much cheaper, economical and durable compared to the option of paper and metal/iron manufacturing, packaging, and its usage/durability.

Rwanda being a land locked nation depends mostly on the imports from outside world for most of its necessities ranging from essential commodities to the fast moving consumer goods products. On the other side the industries here in the country are still on the verge of development and presently they can't fulfill all the necessities and the requirements for the citizens.

Each and every import brings a lot of plastic into the country and ultimately the percentage of wastage created by the imports is higher than wastages created by the local industries. There lies a great necessity to first prevent the wastages entering the country in the form of imports. The ban ultimately hurts more to the local industries than the imports.

According to different packaging manufacturers and traders discussed, the ban has affected the profitability and competition of many manufacturers and traders in their packaging approach.

1.4. Research questions

1. Is level of competitiveness in the region reduced economically for Rwandan business community, from law banning the use of all non-biodegradable polythene bags?
2. What can policy makers do to support the affected businesses?

1.5. Research hypotheses

A very quick reaction to the questions above is the following:

1. The Rwandan business community is most negatively affected by the environmental regulations on use of plastic bag especially whereby Rwandan companies became less competitive in East Africa Community.
2. With the aim of improving conducive business environment, policy makers have to harmonize business laws as it is in EAC.

Therefore, deep analysis is needed to confirm or not the given responses.

1.6. Objectives

This study presents two categories of objectives: general objective and specific objectives.

1.6.1. General Objective

The core objective of the assignment is to illustrate challenges brought by the regulation on use of polythene-made bags and support the government of Rwanda in development of favorable laws and policies in line with EAC integration and improve level of competitiveness of Rwandan producers and traders affected by the law.

1.6.2. Specific objectives

To assess-in a comparative way- the economic impact on Rwanda's regional competitiveness from National environmental regulation on the use of polythene bag. This will include both an estimation of additional costs associated with packaging in environmentally-friendly materials as well as being dynamic/forward looking by identifying the strategic risks and opportunities for Rwanda.

Possible solutions and recommendations will be suggested to policy makers for the harmonization of environmental regulations, guiding specific negotiations in order to mitigate risks that Rwandan manufacturers are facing in terms of regional competition and request for grace period with the aim of maximizing benefits from being member of the EAC Common Market.

1.7. Significance of the study

This study tries to establish how Rwandan business community affected by law banning the use of all non-biodegradable polythene bags can be reviewed by policy makers to improve national and regional competitiveness. The study will provide the valuable information for the government of

Rwanda and decision makers in the creation of both conducive business environment and environment in Rwanda.

The research recommendations and suggestions will help by removing non tariff barriers for prosperity of Rwandan business community and ensuring economic growth of Rwanda. The study results will also contribute to the academic literature on the links between economic integration and policy formulation.

1.8. Scope of the study

The scope of the study is limited to the impact of ban of polythene bag to the competitiveness of Rwandan private companies in the region. Particular aspects of the study will focus on key affected products by the environment regulation on ban of polythene such as flour, water, milk and mattress from 2007 to 2013.

The study will be looking at the **economic impact on Rwanda's regional competitiveness from national environmental regulation on the use of plastic (polythene) bag from 2007 to 2013** in the private companies, particularly the importers, Exporters, manufacturers and traders.

1.9. Research approach

This study will be based on quantitative approach towards producing quality research. It will basically consider data collected from Government institutions.

For the sake of quality and diverse information, the study will include desk review (documentary research) which will allow in-depth knowledge of previous studies on similar topics, relevant policy documents and existing laws, EAC treaty and protocols. Focus group discussion will be considered in order to complete quantitative findings.

For participatory purpose, the research will be highly consultative. The researcher will be conducting extensive consultations with Focal groups, relevant institutions and stakeholders with a view to gathering the necessary data and information.

The analysis should also utilize quantitative approach to describe the historical situation, explain and quantify the competitive disadvantage that has been created by the ban of plastic use in relation to Rwanda's regional competitors, especially on exports, imports.

A comparative approach or techniques will also be used in order to allow the research to compare the experience elsewhere in the world regarding enforcement of the law banning of plastic bag with particular attention to consistency of application of the exemption criteria, and the technical feasibility that surrounded it. The research will much focus on law harmonization especially in economic integration blocks.

Sampling of products imported and exported will be based on products that need or were packaged by using plastics or polythene.

1.10. Organization of the study

The plan is an outline of the research on which the research is worked. The structure of the research is a more specific outline or the scheme and the strategy shows how the research will be carried out, specifying the methods to be used in the collection and analysis of data.

This research is broken down into five chapters, the first chapter expresses the general introduction, the second presents literature review, the third outlines the methodology used, the fourth describes the Data analysis and interpretation of results and last chapter will cover general conclusion and recommendations.

The organization of this study is based on the time, data and resources availability to conduct this study given the need to cover the importers and exporters, manufacturing and trading industries and key Government institutions for policy making process cycle.

2. Literature review

In this part, the researcher has reviewed the available theoretical literature and previous empirical research on matters concerning the business environment, macroeconomic theories East Africa Community documents and its impact on economic integration.

Much focus will tackle the following key macro-economic concepts:

1. Macro-economic theories
2. Economic integration and laws harmonization
3. Experience from some regional integration blocs (ASEAN, CEMAC and EAC)

2.1. Macroeconomics theories

This section focuses on macroeconomic overview and economic integration. Many authors talked about the mentioned fields and there are very critical, interesting and sensitive especially to economists.

Macroeconomics (from the Greek prefix *makro-* meaning "large" and economics) is a branch of economics dealing with the performance, structure, behavior, and decision-making of an economy as a whole, rather than individual markets. This includes national, regional, and global economies. With microeconomics; macroeconomics is one of the two most general fields in economics.

Macroeconomists study aggregated indicators such as GDP, unemployment rates, and price indices to understand how the whole economy functions. Macroeconomists develop models that explain the relationship between such factors as national income, output, consumption, unemployment, inflation, savings, investment, international trade and international finance. In contrast, microeconomics is primarily focused on the actions of individual agents, such as firms and consumers, and how their behavior determines prices and quantities in specific markets.

While macroeconomics is a broad field of study, there are two areas of research that are emblematic of the discipline: the attempt to understand the causes and consequences of short-run fluctuations in national income (the business cycle), and the attempt to understand the determinants of long-run economic growth (increases in national income). Macroeconomic models and their forecasts are used by governments to assist in the development and evaluation of economic policy.

2.1.1. Basic macroeconomic concepts

Macroeconomics encompasses a variety of concepts and variables, but there are three central topics for macroeconomic research. Macroeconomic theories usually relate the phenomena of output, unemployment, and inflation. Outside of macroeconomic theory, these topics are also important to all economic agents including workers, consumers, and producers.

2.1.2. Output and income

National output is the total value of everything a country produces in a given time period. Everything that is produced and sold generates income. Therefore, output and income are usually considered equivalent and the two terms are often used interchangeably. Output can be measured as total income, or, it can be viewed from the production side and measured as the total value of final goods and services or the sum of all value added in the economy.

Macroeconomic output is usually measured by Gross Domestic Product (GDP) or one of the other national accounts. Economists interested in long-run increases in output study economic growth. Advances in technology, accumulation of machinery and other capital, and better education and human capital all lead to increased economic output over time. However, output does not always increase consistently. Business cycles can cause short-term drops in output called recessions. ***Economists look for macroeconomic policies that prevent economies from slipping into recessions and that lead to faster long-term growth.***

2.1.3. Unemployment[2]

The amount of unemployment in an economy is measured by the unemployment rate, the percentage of workers without jobs in the labor force. The labor force only includes workers actively looking

[2] http://en.wikipedia.org/wiki/Macroeconomics

for jobs. People who are retired, pursuing education, or discouraged from seeking work by a lack of job prospects are excluded from the labor force.

Unemployment can be generally broken down into several types that are related to different causes.

- Classical unemployment occurs when wages are too high for employers to be willing to hire more workers.
- Consistent with classical unemployment, frictional unemployment occurs when appropriate job vacancies exist for a worker, but the length of time needed to search for and find the job leads to a period of unemployment.
- Structural unemployment covers a variety of possible causes of unemployment including a mismatch between workers' skills and the skills required for open jobs.[6] Large amounts of structural unemployment can occur when an economy is transitioning industries and workers find their previous set of skills are no longer in demand. Structural unemployment is similar to frictional unemployment since both reflect the problem of matching workers with job vacancies, but structural unemployment covers the time needed to acquire new skills not just the short term search process.
- While some types of unemployment may occur regardless of the condition of the economy, cyclical unemployment occurs when growth stagnates**.** *Okun's law* represents the empirical relationship between unemployment and economic growth. The original version of Okun's law states that a 3% increase in output would lead to a 1% decrease in unemployment.

Economic growth leads to a lower unemployment rate.

2.1.4. Inflation and deflation[3]

A general price increase across the entire economy is called inflation. When prices decrease, there is deflation. Economists measure these changes in prices with price indexes. Inflation can occur when an economy becomes overheated and grows too quickly. Similarly, a declining economy can lead to deflation.

Central bankers, who control a country's money supply, try to avoid changes in price level by using monetary policy. Raising interest rates or reducing the supply of money in an economy will reduce inflation. Inflation can lead to increased uncertainty and other negative consequences. Deflation can lower economic output. Central bankers try to stabilize prices to protect economies from the negative consequences of price changes.

Changes in price level may be result of several factors. The quantity theory of money holds that changes in price level are directly related to changes in the money supply. Most economists believe that this relationship explains long-run changes in the price level. Short-run fluctuations may also be related to monetary factors, but changes in aggregate demand and aggregate supply can also influence price level. For example, a decrease in demand because of a recession can lead to lower price levels and deflation. A negative supply shock, like an oil crisis, lowers aggregate supply and can cause inflation.

[3] http://en.wikipedia.org/wiki/Macroeconomics

2.1.5. Macroeconomic models[4]

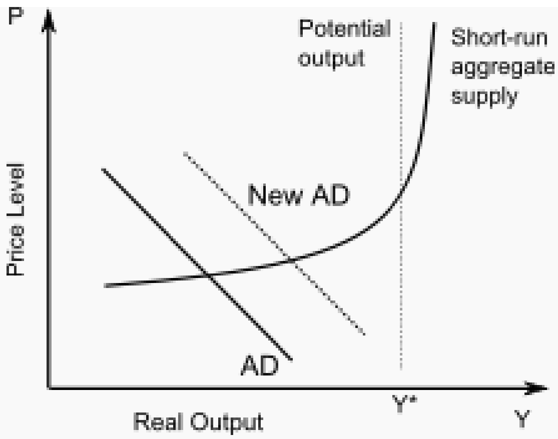
2.1.5.1. Aggregate demand–aggregate supply

The AD-AS model has become the standard textbook model for explaining the macro-economy. This model shows the price level and level of real output given the equilibrium in aggregate demand and aggregate supply. The aggregate demand curve's downward slope means that more output is demanded at lower price levels. The downward slope is the result of three effects: the Pigou or real balance effect, which states that as real prices fall, real wealth increases, so consumers demand more goods; the Keynes or interest rate effect, which states that as prices fall the demand for money declines causing interest rates to decline and borrowing for investment and consumption to increase; and the net export effect, which states that ***as prices rise, domestic goods become comparatively more expensive to foreign consumers and thus exports decline.***

In the conventional Keynesian use of the AS-AD model, the aggregate supply curve is horizontal at low levels of output and becomes inelastic near the point of potential output, which corresponds with full employment. *Since the economy cannot produce beyond more than potential output*, any AD expansion will lead to higher price levels instead of higher output.

[4] http://en.wikipedia.org/wiki/Macroeconomics

Figure 1Aggregate demand–aggregate supply



A traditional AS–AD diagram showing a shift in AD and the AS curve becoming inelastic beyond potential output.

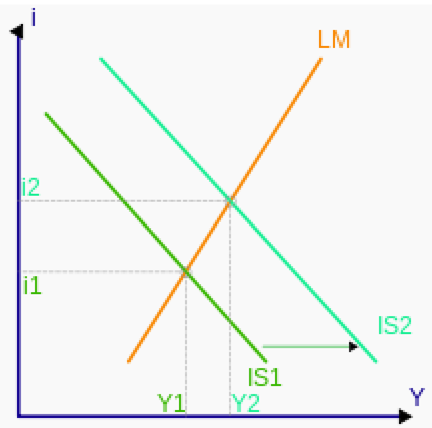
The AD–AS diagram can model a variety of macroeconomic phenomena including inflation. When demand for goods exceeds supply there is an inflationary gap where demand-pull inflation occurs and the AD curve shifts upward to a higher price level. When the economy faces higher costs, cost-push inflation occurs and the AS curve shifts upward to higher price levels. The AS–AD diagram is also widely used as pedagogical tool to model the effects of various macroeconomic policies.

2.1.5.2. IS–LM

The IS–LM model represents the equilibrium in interest rates and output given by the equilibrium in the goods and money markets. The goods market is represented by the equilibrium in investment and saving (IS), and the money market is represented by the equilibrium between the money supply and liquidity preference. The IS curve consists of the points where investment, given the interest rate, is equal to savings, given output.

The IS curve is downward sloping because output and the interest rate have an inverse relationship in the goods market: As output increases more money is saved, which means interest rates must be lower to spur enough investment to match savings. The LM curve is upward sloping because interest rates and output have a positive relationship in the money market. As output increases, the demand for money increases, and interest rates increase.

Figure 2 Investment and Saving (IS) curve



In this example of an IS/LM chart, the IS curve moves to the right, causing higher interest rates (i) and expansion in the "real" economy (real GDP, or Y).

The IS/LM model is often used to demonstrate the effects of monetary and fiscal policy. Textbooks frequently use the IS/LM model, but it does not feature the complexities of most modern macroeconomic models. Nevertheless, these models still feature similar relationships to those in IS/LM.

2.1.5.3. Growth models

The neoclassical growth model of Robert Solow has become a common textbook model for explaining economic growth in the long-run. The model begins with a production function where national output is the product of two inputs: capital and labor. The Solow model assumes that labor and capital are used at constant rates without the fluctuations in unemployment and capital utilization commonly seen in business cycles.

An increase in output, economic growth, can only occur because of an increase in the capital stock, a larger population, or technological advancements that lead to higher productivity (Total factor productivity). An increase in the savings rate leads to a temporary increase as the economy creates more capital, which adds to output. However, eventually the depreciation rate will limit the expansion of capital: Savings will be used up replacing depreciated capital, and no savings will remain to pay for an additional expansion in capital. Solow's model suggests that economic growth in terms of output per capita depends solely on technological advances that enhance productivity.

In the 1980s and 1990s endogenous growth theory arose to challenge neoclassical growth theory. This group of models explains economic growth through other factors, like increasing returns to scale for capital and learning-by-doing, that are endogenously determined instead of the exogenous technological improvement used to explain growth in Solow's model.

2.1.6. Macroeconomic policy[5]

Macroeconomic policy is usually implemented through two sets of tools: ***fiscal and monetary policy***. Both forms of policy are used to stabilize the economy, which usually means boosting the economy to the level of GDP consistent with full employment.

2.1.6.1. Monetary policy[6]

Central banks implement monetary policy by controlling the money supply through several mechanisms. Typically, central banks take action by issuing money to buy bonds (or other assets), which boosts the supply of money and lowers interest rates, or, in the case of contractionary monetary policy, banks sell bonds and takes money out of circulation. Usually policy is not implemented by directly targeting the supply of money.

Banks continuously shift the money supply to maintain a fixed interest rate target. Some banks allow the interest rate to fluctuate and focus on targeting inflation rates instead. Central banks generally try to achieve high output without letting loose monetary policy create large amounts of inflation.

Conventional monetary policy can be ineffective in situations such as a liquidity trap. When interest rates and inflation are near zero, the central bank cannot loosen monetary policy through conventional means. Central banks can use unconventional monetary policy such as quantitative easing to help increase output. Instead of buying government bonds, central banks implement quantitative easing by buying other assets such as corporate bonds, stocks, and other securities.

This allows lowers interest rates for broader class of assets beyond government bonds. In another example of unconventional monetary policy, the United States Federal Reserve recently made an

[5] http://en.wikipedia.org/wiki/Macroeconomics
[6] http://www.imf.org/external/pubs/ft/fandd/basics/monpol.htm

attempt at such as policy with Operation Twist. Unable to lower current interest rates, the Federal Reserve lowered long-term interest rates by buying long-term bonds and selling short-term bonds to create a flat yield curve.

2.1.6.2. *Fiscal policy*[7]

Fiscal policy is the use of government's revenue and expenditure as instruments to influence the economy. **If the economy is producing less than potential output, government spending can be used to employ idle resources and boost output.** Government spending does not have to make up for the entire output gap. There is *a multiplier effect* that boosts the impact of government spending. For example, when the government pays for a bridge, the project not only adds the value of the bridge to output, it also allows the bridge workers to increase their consumption and investment, which also help close the output gap.

The effects of fiscal policy can be limited by crowding out. When government takes on spending projects, it limits the amount of resources available for the private sector to use. Crowding out occurs when government spending simply replaces private sector output instead of adding additional output to the economy. Crowding out also occurs when government spending raises interest rates which limit investment. Defenders of fiscal stimulus argue that crowding out is not a concern when the economy is depressed, plenty of resources are left idle, and interest rates are low.

Fiscal policy can be implemented through automatic stabilizers. Automatic stabilizers do not suffer from the policy lags of discretionary fiscal policy. Automatic stabilizers use conventional fiscal mechanisms but take effect as soon as the economy takes a downturn: spending on unemployment

[7] http://www.imf.org/external/pubs/ft/fandd/basics/monpol.htm

benefits automatically increases when unemployment rises and, in a progressive income tax system, the effective tax rate automatically falls when incomes decline.

2.1.6.3. Comparison

Economists usually favor monetary over fiscal policy because it has two major advantages. First, monetary policy is generally implemented by independent central banks instead of the political institutions that control fiscal policy. Independent central banks are less likely to make decisions based on political motives. Second, monetary policy suffers fewer lags than fiscal. Central banks can quickly make and implement decisions while discretionary fiscal policy may take time to pass and even longer to carry out.

2.2. Economic integration[8]

Economic integration is the ***unification of economic policies*** between different states through the partial or full abolition of tariff and non-tariff restrictions on trade taking place among them prior to their integration. This is meant in turn to lead to lower prices for distributors and consumers with the goal of increasing the combined economic productivity of the states.

The trade stimulation effects intended by means of economic integration are part of the contemporary economic Theory of the Second Best: where, in theory, the best option is free trade, with free competition and no trade barriers whatsoever. Free trade is treated as an idealistic option,

[8] http://en.wikipedia.org/wiki/Economic_integration

and although realized within certain developed states, economic integration has been thought of as the "second best" option for global trade where barriers to full free trade exist.

2.2.1. Why Economic integration - Objective

There are economic as well as political reasons why nations pursue economic integration. The economic rationale for the increase of trade between member states of economic unions **that it is meant to lead to higher productivity**. This is one of the reasons for the global scale development of economic integration, a phenomenon now realized in continental economic blocks such as ASEAN, NAFTA, SACN, the European Union, East Africa Community and the Eurasian Economic Community; and proposed for intercontinental economic blocks, such as the Comprehensive Economic Partnership for East Asia and the Transatlantic Free Trade Area.

Comparative advantage refers to the ability of a person or a country to produce a particular good or service at a lower marginal and opportunity cost over another.

In economics, **comparative advantage** refers to the ability of a party to produce a particular good or service at a lower marginal and opportunity cost over another. Even if one country is more efficient in the production of all goods (absolute advantage in all goods) than the other, both countries will still gain by trading with each other, as long as they have different relative efficiencies.

2.2.2. Origins of the theory

The idea of comparative advantage has been first mentioned in Adam Smith's Book *The Wealth of Nations*: "If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage." But the law of comparative advantages has been formulated by David Ricardo who investigated in detail advantages and alternative or relative opportunity in his 1817 book *On the Principles of Political Economy and Taxation* in an example involving England and Portugal. In Portugal it is possible to produce both wine and cloth with less labor than it would take to produce the same quantities in England. However the relative costs of producing those two goods are different in the two countries. In England it is very hard to produce wine, and only moderately difficult to produce cloth. In Portugal both are easy to produce. Therefore while it is cheaper to produce cloth in Portugal than England, it is cheaper still for Portugal to produce excess wine, and trade that for English cloth. Conversely England benefits from this trade because its cost for producing cloth has not changed but it can now get wine at a lower price, closer to the cost of cloth. The conclusion drawn is that each country can gain by specializing in the good where it has comparative advantage, and trading that good for the other.

2.2.3. Effects on the economy[9]

Conditions that maximize comparative advantage do not automatically resolve trade deficits. In fact, many real world examples where comparative advantage is attainable may require a trade deficit. For example, the amount of goods produced can be maximized, yet it may involve a net transfer of wealth from one country to the other, often because economic agents have widely different rates of saving.

As the markets change over time, the ratio of goods produced by one country versus another variously changes while maintaining the benefits of comparative advantage. This can cause national currencies to accumulate into bank deposits in foreign countries where a separate currency is used.

[9] http://en.wikipedia.org/wiki/Economic_integration

Macroeconomic monetary policy is often adapted to address the depletion of a nation's currency from domestic hands by the issuance of more money, leading to a wide range of historical successes and failures.

Economies of scale refers to the cost advantages that an enterprise obtains due to expansion. There are factors that cause a producer's average cost per unit to fall as the scale of output is increased. Economies of scale is a long run concept and refers to reductions in unit cost as the size of a facility and the usage levels of other inputs increase. **Economies of scale is also a justification for economic integration**, since some economies of scale may require a larger market than is possible within a particular country — for example, it would not be efficient for Liechtenstein to have its own car maker, if they would only sell to their local market. A lone car maker may be profitable, however, if they export cars to global markets in addition to selling to the local market.

Besides these economic reasons, the primary reasons why economic integration has been pursued in practice are largely political. The Zollverein or German Customs Union of 1867 paved the way for German (partial) unification under Prussian leadership in 1871. "Imperial free trade" was (unsuccessfully) proposed in the late 19th century to strengthen the loosening ties within British Empire. The Econopean Economic Community was created to integrate France and Germany's economies to the point that they would find it impossible to go to war with each other.

2.2.4. Trade creation[10]

Trade creation is an economic term related to international economics in which trade flows are redirected due to the formation of a free trade area or customs union. The issue was firstly brought into discussion by Jacob Viner (1950), together with the trade diversion effect.

In the former case after the formation of economic union, the cost of the goods considered is decreased, leading to an increase of efficiency of economic integration. Hence, trade creation's essence is in elimination of customs tariffs on inner border of unifying states (usually already trading with each other), causing further decrease of price of the goods, while there may be a case of new trade flow creation of the goods between the states decided to economically integrate.

The opposite takes place in case of trade diversion, when the trade flow is diverted from actually cost-efficient partner state to less efficient one - but which became a member of economic union and made its goods cheaper within a union, but higher compared to the rest of the world. In practice, both trade creation and diversion effects take place due to formation of economic union. Efficiency of economic integration of specific union right now is assessed as a final outcome between trade creation and diversion effects: it is cost-effective in case of prevailing of the trade creation effects, and vice versa.

2.2.4.1. Occurrence of Trade Creation

When a customs union is formed, the member nations establish a free trade area amongst themselves and a common external tariff on non-member nations. As a result, the member nations establish greater trading ties between themselves now that protectionist barriers such as tariffs, import quotas, non-tariff barriers and subsidies have been eliminated. The result is an increase in trade among

[10] http://en.wikipedia.org/wiki/Trade_creation

member nations in the good or service of each nation's comparative advantage. In other words, increase in trade causes greater revenues, (more profitable).

2.2.5. Trade diversion[11]

Trade diversion is an economic term related to international economics in which trade is diverted from a more efficient exporter towards a less efficient one by the formation of a free trade agreement or a customs union.

2.2.5.1. Occurrence of trade diversion

When a country applies the same tariff to all nations, it will always import from the most efficient producer, since the more efficient nation will provide the goods at a lower price. With the establishment of a bilateral or regional free trade agreement, that may not be the case. If the agreement is signed with a less-efficient nation, it may well be that their products become cheaper in the importing market than those from the more-efficient nation, since there are taxes for only one of them. Consequently, after the establishment of the agreement, the importing country would acquire products from a higher-cost producer, instead of the low-cost producer from which it was importing until then. In other words, this would cause a trade diversion.

Positive effects of trade diversion include increase of trade between unified states, increase of employment in manufacturing states inside the union consequently leading to increase of respective taxes and welfare.

[11] http://en.wikipedia.org/wiki/Trade_diversion

2.2.6. Obstacles to economic integration[12]

Obstacles standing as barriers for the development of economic integration include the desire for preservation of the control of tax revenues and licensing by local powers, sometimes requiring decades to pass under the control of supranational bodies. The experience of 1990-2009 has shown radical change in this pattern, as the world has observed the economic success of the European Union. So now no state disputes the benefits of economic integration: the only question is when and how it happens, what exact benefits it may bring to a state, and what kind of negative effects may take place.

2.2.7. Main Stages of Economic Integration[13]

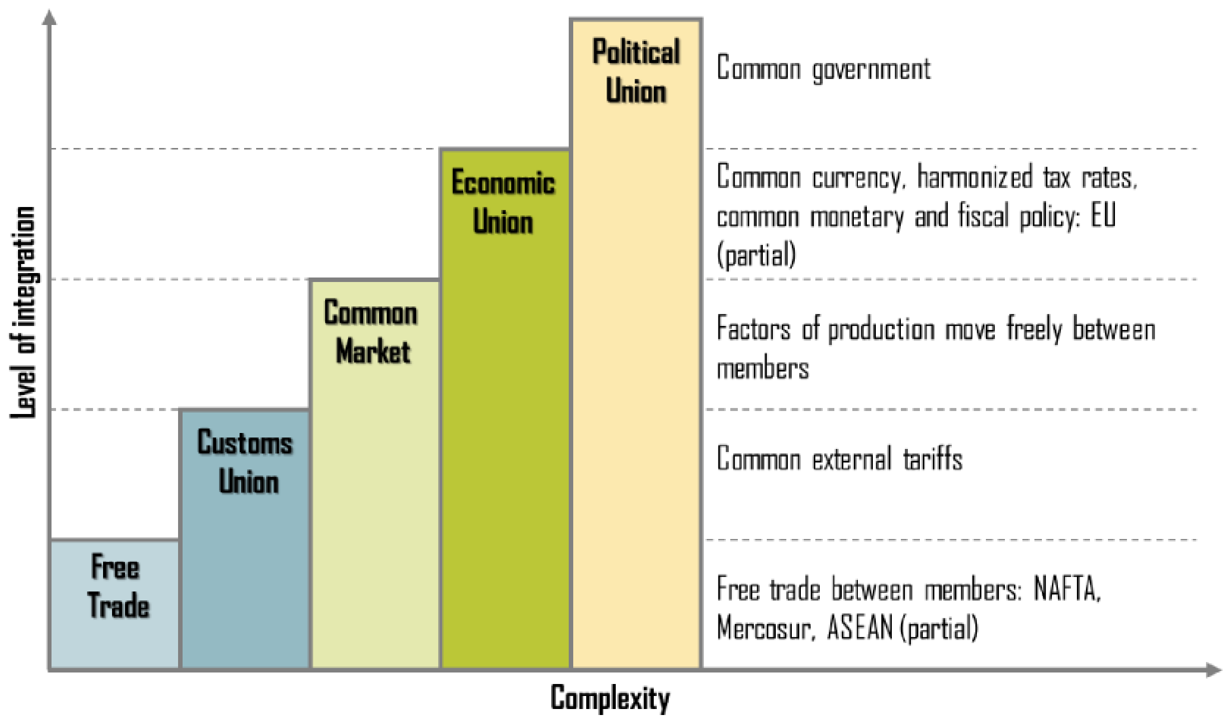
Levels of Economic Integration, there are about five additive levels of economic integration impacting the global landscape:

- **Free trade**. Tariffs (a tax imposed on imported goods) between member countries are abolished or significantly reduced. Each member country keeps its own tariffs in regard to third countries. The general goal is to develop economies of scale and comparative advantages, which promotes economic efficiency.
- **Custom union**. Sets common external tariffs among member countries, implying that the same tariffs are applied to third countries. Custom unions are particularly useful to level the competitiveness playing field and address the problem of re-exports (using preferential tariffs in one country to enter another country).

[12] http://diplomacyandforeignaffairs.com/regional-economic-integration-learning-from-south-asia-and-the-world/
[13] https://people.hofstra.edu/geotrans/eng/ch5en/conc5en/economicintegration.html

- **Common market**. Factors of production, such a labor and capital, are free to move within member countries, expanding scale economies and comparative advantages. Thus, a worker in a member country is able to move and work in another member country.
- **Economic union**. Monetary and fiscal policies between member countries are harmonized, which implies a level of political integration. A further step concerns a monetary union where a common currency is used, such as with the European Union (Euro).
- **Political union**. Represents the potentially most advanced form of integration with a common government and were the sovereignty of member country is significantly reduced. Only found within nation states, such as federations where there is a central government and regions having a level of autonomy.

Figure 3: Graph to illustrate more about economic integration stages



2.3. Competition Laws and Economic Integration[14]

2.3.1. In ASEAN by Dr. LawanThanadsillapakul*

Introduction

The rise and fall of the East Asian countries have shown that in the face of the dynamic global economy and economic crises encountered by Association of Southeast Asian Nations (ASEAN),

[14] http://www.thailawforum.com/articles/lawancomp1.html

these countries need to develop their sustainable regional market. To create and strengthen an ASEAN market replacing the current separate national ASEAN markets, regionalisation of ASEAN laws and regulations, especially those relating to trade and investment is required in order to facilitate the free flow of goods, capital, services, and labour for achieving such aim. A more liberalised trade and investment regime in ASEAN will better enhance their free economies and create a more favourable trade and investment climate in the region.

Consequently, ASEAN countries need to develop the effective legal systems for encouraging and overseeing increasingly competitive business activities in the region. The necessity of eliminating barriers to entry of trade and investment creates a need to provide, at a regional level, an effective protection against unfair competition to govern the economic activities and transactions of those Transnational Corporations (TNCs) located in the ASEAN region. **As more liberal trade and investment regimes are established in ASEAN countries, there is an increasing requirement for competition rules to regulate fair competition among business players, as well as to supervise their behaviour.** There would be very little point in eliminating various barriers and national boundaries imposed by ASEAN countries if these governmental restraints were replaced by concentrations and other restrictive business practices as well as concerted practices among private firms (Korah, 1997a: 1). **Therefore, agreements restricting competition as well as the abuse of dominant positions of market power should be controlled under competition laws. This is the rationale for regional competition law for strengthening economic integration in ASEAN.**

This article will analyse the scope and basis for a comprehensive competition law in ASEAN for implementing economic integration in the region. Dr Lawan also focuses on competition law and policy as the reinforcement function of ASEAN investment regime and regulations. Since ASEAN will develop its integrated regional market, it requires a regulatory regime that can facilitate free movement of trade and investment intra-ASEAN. Competition law is compatible with "open regionalism" because it is basically neutral and non-discriminatory. ***Moreover, the development of a regional competition law and policy that enhances fair competition among firms doing business in the region might also provide a basis for evaluating the economic benefit to ASEAN of entry by a foreign investor on competition grounds, rather than the discriminatory criteria used in screening procedures.***

2.3.2. Regional Integration in the CEMAC zone under the peril of implosion - Chofor[15]

Mr Chofor Che, criticized in its article countries which do not harmonize key policies and regulations especially in regional integration. The below article motivates reason why country members should harmonize their policies.

In June 2013 Head of States of Cameroon, the Central African Republic, the Republic of Congo, Gabon, Equatorial Guinea and Chad met during their last summit and agreed amongst other issues that visa requirements would henceforth not be obligatory for citizens of member states circulating in these states. This move was to take effect as from January 1, 2014. These six member states out of the eleven member states of the Economic Community for Central Africa (ECCAS) region share a common currency zone (the CFA Franc) and a monetary zone union called CEMAC (Communauté economique et monetaire d'Afrique centrale). I argued in an article published on the 22 July 2013 by Africanliberty.org that the huge population in these six member states makes it potentially a lucrative consumer market, yet regional cooperation arrangements amongst these

[15] http://africanliberty.org/content/regional-integration-cemac-zone-under-peril-implosion-chofor-che

countries have not succeeded in unleashing this full economic potential and move it towards economic integration.

Equatorial Guinea and Gabon most especially seem not to be in agreement with decisions arrived at during the June 2013 summit. In other to travel to Gabon for instance, citizens of member states are still requested to obtain a visa. As one who has worked closely with the Gabonese Embassy in Yaoundé, obtaining a visa is expensive and documents especially an invitation letter have to be notarized by local authorities in Gabon and sent to concerned individuals and organizations before they can obtain a visa. The process was very frustrating especially for citizens of the same regional group. The situation in Equatorial Guinea was even worse. On the 6 of January 2014 Cameroonians working at the Equatorial Guinean and Cameroonian border town of *Kyo-Ossi*were dismayed that the border was closed. Cameroonians who worked across the border were not allowed to carry out their operations. The Equatorial Guinean and Gabonese borders were also shut down. What an aberration when we are clamoring for regional integration. Analysts have argued that a state like Equatorial Guinea is afraid that opening up its boarders to citizens of members states will encourage massive illegal immigration of citizens of member states of the CEMAC zone to the detriment of Equatorial Guineans. This precarious situation in the CEMAC zone impinges on the development of the market for consumer goods while stifling local entrepreneurship. Local producers are left with no choice than to be involved with smuggling and illicit exportation. Why can't the leaders of the CEMAC zone especially Equatorial Guinea and Gabon not copy from other regional groups like the Economic Community of West African States (ECOWAS) by eradicating barriers like visas for citizens of member states?

The authorities of Equatorial Guinea and Gabon are definitely making a great mistake. Eradicating visa requirements for member states of the CEMAC zone remains a laudable initiative especially as such an initiative would go a long way to facilitate business transactions and economic gains amongst member states of this region. This would definitely unleash the full economic potential and facilitate the move towards economic integration in the region. The eradication of the visa requirements for these six concerned states of the CEMAC would ease the circulation of goods and agricultural produce in these member states. Closing the boarders by Equatorial Guinea is definitely a wrong policy move especially in an era of globalization. Such a move has never stopped illegal immigration and illicit smuggling of goods. The Head of State of Equatorial Guinea needs to rethink fast about such a measure before it causes diplomatic and economic tensions between member states of the CEMAC zone. It is also important that Heads of State of these member states put in place other measures like curbing heavy taxes in their respective member states so as to encourage local business initiatives as well as small and medium size enterprises. Encouraging partnership cooperation among the private sectors of these member states so as to facilitate rapid regional integration and economic growth is also very vital for regional integration. **If such measures are not taken into consideration, the CEMAC region will continue to be considered a failure in terms of governance, democracy and economic growth because such porous policies have contributed to the region's poor image regionally and internationally.**

2.3.3. Trade Policy Review of the East African Community[16]

Regional and Economic integration, member countries most of the time sit and revise their policies with aim of improve growth between members and increasing conducive business environment. It is in this regards that I present to you an article written by Willemien Viljoen, Researcher.

[16] http://www.tralac.org/2012/11/28/trade-policy-review-of-the-east-african-community/

Willemien Viljoen, Researcher, discusses the Trade Policy Review of the East African Community.

The second joint Trade Policy Review of the East African Community (EAC) countries (Burundi, Kenya, Rwanda, Tanzania and Uganda) took place from 21 to 23 November 2012 in Geneva, Switzerland. The previous Trade Policy Review of the EAC was in 2006. The basis for the review was a report by the World Trade Organization (WTO) Secretariat along with Annexes containing the Government reports of the five member countries.

According to the WTO Secretariat Report intra-EAC trade has increased by 16 percent over the last five years, from 1.8 US$ million in 2005 to 3.8 US$ million in 2010. However, intra-EAC trade are still hampered by the high cost of doing business in the region due to poor physical infrastructure and the high cost of energy. In terms of EAC trade with the rest of the world, the EAC countries are primarily importers of goods from the EU, US and other African countries.

The following important aspects regarding the trade and investment regimes, trade policy measures and sectoral trade policies in the EAC are highlighted in the WTO Secretariat Report:

- The EAC Common External Tariff (CET) has been fully operational for Kenya, Tanzania and Uganda since 2005. Burundi and Rwanda started the implementation of the CET in January 2009.
- Non-tariff barriers (NTBs) in the region are a major concern for trade and business development, including **non-harmonized technical standards, sanitary and phytosanitary requirements, customs procedures and documentation, different rules of origin regimes and road blocks**. In order to address these NTBs National Monitoring Committees (NMCs) have been

established in all the EAC members who report quarterly to the EAC Sectoral Committee on Trade, Industry and Investment which is responsible for resolving outstanding NTBs.

- There are a wide variety of trade policy measures which affects imports, exports and production. These include **non-standardized customs documentation and procedures**, high tariffs on sensitive products, required export authorization for specific goods and the EAC Competition Act.

In the concluding remarks of the Chairperson of the Trade Policy Review Body some areas where there is the need for further action or improvements in the EAC were highlighted. These include tariff protection and conformity with the WTO provisions, addressing overlapping membership to regional trade agreements, removing distortions hampering production and trade in the agricultural sector, aligning Intellectual Property Right regimes with international norms and identifying services liberalisation and investment incentives in the services sector.

2.4. Experiences of Other Countries in Environmental Management[17]

There is an international movement towards plastic use ban because of their negative effects on the environment management. A number of studies has been conducted and came up with the findings highlighting negative consequential impact on human being, harmful consequences caused by plastic bags on people's health, environment and infrastructure worldwide. Rwanda is one of the Countries that have chosen to definitely ban the plastic use in different sectors and this is a good thing for the Country's image abroad since it demonstrates that Rwanda cares about environmental protection

[17] http://en.wikipedia.org/wiki/Phase-out_of_lightweight_plastic_bags

and management. However, lessons learned from abroad show that no country has fully implemented such a radical global ban on plastics.

In most cases, the western countries introduced the levy in form of tax where they impose it on shopping plastic bags and the money raised is generally dedicated to environmental projects. For example Ireland introduced the imposition of high taxes on plastic bags leading to the reduction of 90% since 2002. South Africa and Kenya are applying the same approaches. In UK, Australia and New Zealand have been encouraging the consumers to reduce their plastics bags use by rewarding the reusing of special ones. Some other countries apply the same encouraging approach.

2.5. Balancing Environment Legislation with the Business Growth Objectives[18]

The Government of Rwanda continues to promote a private sector- led market economy with the objective of making the country a favorable place for investment and business. The business community believes that business investment can go hand in hand with clean environment by designing legislative framework that strikes a balance between business and sustainable environment as is done in the other parts of the world.

The ban of plastics created business opportunities for some companies to shift from manufacturing plastics to recycling packaging materials and produce environmentally friendly packaging materials. A considerable cost was created for others, especially companies that needed to shift to alternative packaging.

[18] Statement of Minister of Finance and Economic Planning

The aim of the economic policy in this area should be to support the environmental policies of the country with adequately strong support to development of industries producing environmentally friendly products. At the same time the cost of transition to industries affected by the ban on plastics should more justly divided between the private sector and the public interests.

3. RESEARCH METHODOLOGY

3.1. INTRODUCTION

This chapter describes the methodology to be used in this study. According to Bailey (1978: 26), methodology means the philosophy of research process. This includes the assumptions and values that serve as rationale for research and standards of criteria that the researcher uses for data interpretation and drawing conclusion.

While conducting this study, the researcher will use a simple interview guide/table, discussion, observation and documentary methods of data collection. This chapter out study design, sources of data and approaches used in collecting data.

3.2. METHODS

3.2.1. Analytical method

This method will be useful in our study because it will be used after collecting data in the presentation of results from interviews and in their interpretation. It will be useful in characterization of facts and reality on field according to the findings from interviews. Empirical data analysis will be used to understand and interpret the findings.

3.3. TECHNIQUES

3.3.1. Documentation

The documentation is always necessary for everyone who wants to realize a research (Grawitz, 1987); it is a systematic search of any written document in relation with the domain of the research. This technique helped us to elaborate an appropriate literature review using documents, reports, news papers, working documents and books of different kinds written on macro-economic and economic integration, and all of related information; the internet was also one useful source of information for this study.

3.3.2. Interview

Interviewing, when considered as a method for conducting research, is a technique used to understand the experiences of others. This will guide the researcher in gathering information. This technique will be used to the sampled seven companies most affected by the law in Rwanda.

3.4. SAMPLING

Given that time frame, resource availability and the purpose of the research, sampling confirmed to be the right way to conduct this study.

3.4.1. Population size

In this study, the population refers to all businesses affected by the mentioned law and 7 companies were interviewed. Most affected products but not limited to; are Mattress, Water, Flours, Milk and Soaps.

3.4.2. Stratified sampling

Stratified random sampling was used to obtain a sample population that best represents the entire population being studied. 6 representative companies subject to be affected by the law were identified and interviewed.

3.5. Data collection

3.5.1. Data collection sources

In this research, government institutions especially Ministry of Trade and Industry in its unit in charge of Export and Import and other organs we managed to collect primary and secondary data. Primary data are those collected at first hand in MINICOM and interviews and secondary were documents that are providing relevant information on the topic.

Mattress, Water, Milk, Soaps and Flours were identified as most affected by the law and manufacturers of those products are still complaining for advocacy. It is in this regards, that we conducted a guided interviews and collected key information from manufacturers and traders.

3.5.2. Data collection instruments

Primary data will be collected using guiding table format and interviews. The interviews will be used as a technique of data collection in order to complete and increase the reliability of data collected, the interview will be administrated to the selected managers of companies. A template was designed to collect data from Ministry of Trade and Industry. Secondary data sources are the foundation for which the theoretical and conceptual framework of the research is built. Relevant literature from existing empirical studies and reports from the different libraries, websites, Government of Rwanda (relevant ministries) and EAC were reviewed.

3.5.3. Validity and reliability

To ensure accuracy and consistency of data, the researcher will make sure that the interview guide is clear and in the same way understandable by the researcher himself and the respondents. In this perspective, ahead of selecting persons to be interviewed, the researcher will make sure that interviewed persons is in senior management team so that we can confirm that information received are reliable.

The combined research instruments and methods that the researcher intends to use grant the reliability of the data to be collected.

3.6. Data analysis

The data were collected by using 2 ways: individual private companies and aggregate data from Ministry of Trade and Industry.

a) Analytical interpretation of data received from interviewed persons from different manufacturers affected by the ban.

b) Analysing data from MINICOM between import and Export of goods most affected by the ban; after setting the techniques to be used in collection of the data, the researcher will use the cross-tabulation, which is to present cross tabs, description statistics, and relationship between 2 variables, regression analysis and T-tests. Findings will be summarized in the form of statistical tables. The tool of analysis that the researcher will use is SPSS which will help to summarize the primary data into quantitative data. Then, the researcher will try to give proper interpretation of the results basing on research objectives and questions.

4. DATA ANALYSIS

4.1. Presentation of information from interviewed people.

Table 1: Comparison prices of packaging before and after the law in Frw

Most affected companies	Initial price / Before law	Additional cost	New cost after law
SOSOMA Industries	30	220	250
PN Mushrooms	50	200	250
Inyange Industries	35	113	148
Entreprise URWIBUTSO	30	90	120
Soft Group	80	270	350
SULFO	100	200	300

4.1.1. Impact on the total cost of products

Table 2: Comparison prices of packaging before and after the law in %

Most affected companies	Initial % on total cost	Additional cost in %	% of packaging on total cost
SOSOMA Industries	5%	25%	30%
PN Mushrooms	3%	12%	15%
Inyange Industries	3%	12%	15%
Entreprise URWIBUTSO	5%	15%	20%
Soft Group	3%	14%	17%
SULFO	3%	10%	13%

In agro-processing Business, SOSOMA industries was greatly impacted to change packaging plastic materials to appropriate and legally package, it took long process to get the right packaging. Over time, the SOSOMA packaging price increased from Rwf 30 (before the ban) to Rwf 54 up to Rwf 94 for semi- packaging materials known as "papier grafts", and Rwf 200 to Rwf 250 for aluminum bags.

For this case of SOSOMA Packaging price increase, the cost is almost nine times of the initial packaging cost, and this contributed 30% of additional cost to the price of product. The initial packaging cost was equal to 5% of total cost.

To keep its product high quality and durability, the Company is currently using Aluminium packaging materials which are extremely expensive. The increased additional cost due to the ban has overtime increased the cost of production, which makes SOSOMA products unable to favorably compete with products coming from other regional countries.

Inyange Industries Ltd revealed that after the enactment of the law prohibiting manufacture, import, use and sale of polythene bags in Rwanda, suffered a number of impediments.

According to Inyange additional packaging cost as mentioned above, it's clear that polythene is seen as the least expensive packaging materials, the ban of polythene makes the company products more expensive due to the packaging materials.

The same problem is not only faced by Inyange Industries Ltd as the other manufacturers such as PN Producers (for mushrooms processing).

The PN producers invested a lot of money buying polythene filling and packaging materials (now in stock) and when the law came into force they kept stock until further notice, the PN Producers management wondered why the law could not give the transitional period and they use at least their stock they bought before the ban. The additional packaging cost affected also the profit margin of the companies. Concrete example in PN Mushrooms the situation is clear and when initial packaging cost was 50 Rwf per kg the total product price was Rwf 1,500 and when the ban came into force, the alternative packaging become Rwf 250 per unit cost and total price become Rwf 2000, considering of course other factors such as taxes, energy, water and labour cost.

The owner of Urwibutso revealed the same problem.

Soft Group limited mentioned that the company was affected and additional costs incurred as a result of the ban of plastic use. The company management reported on the extra cost of packaging of its products like straws with alternative packaging from Rwf 80 prior to the ban to Rwf 350 for the carton based packaging after the ban. With the biodegradable or recycled packaging, it would be still cheaper at Rwf 120. Even if it is acceptable to buy plastic from local manufacturers who recycle, the products do not have enough capacity and produce lower and poor quality.

SULFO Rwanda Industries Ltd faced a big challenge in 2007 when the Minister of State in charge of Land and environment orally directed SULFO Rwanda to discontinue the use of plastic shrink wrapping fills and bags for the packaging of toilet Soaps and Cosmetics products, irrespective of the thickness of the film used. The expensive funding was put in place for alternative packaging for replacing the shrink wrapping fills for cosmetic products and plastic bags used for soap packaging. The cost associated with the use of the new environmental friendly packaging is three times more compared to the previous used plastics.

4.2. Regional EAC perspective

The all mentioned cases highlight the impact of ban of polythene is affecting businesses in Rwanda and reducing competitiveness in country and in the region.

The additional cost associated with packaging in environmentally- friendly materials are the ever-increasing overall costs of production for local market in Rwanda, and for the export markets in the region and rest of the world market. Regional competitors like Kenya and Uganda companies can purchase packaging materials locally at much lower cost and their product are usually sold in wider regional market at lower and competitive prices comparing to Rwandan products. There is an urgent need to release the ban at local level or if the total ban of plastics is to be maintained in Rwanda, then it should apply to all imported commodities so as there is fair competition.

Different manufacturers and traders find themselves limited by an uncompromising law banning the plastics in Rwanda, regional competitors and many other international companies continue to dominate the local and regional markets because of an unfavorable packaging advantage. Some of the major affected manufacturers and traders in Rwanda such as Inyange and Sulfo Industries face severe competition with other regional and international manufacturers and traders in region like Mukwano Industries, Unilever whose goods packaged in plastics are not restricted in Rwanda, they have cheaper products, which are better quality and are better packaged than Inyange and Sulfo products.

4.3. Illustration on how the most affected products in the regional market in terms import and Export.

The data used in the following tables were collected in Ministry of Trade and Industry.

Table 3: Comparison between imports and exports within EAC

Product	Period	Import EAC (in Kgs)	Export EAC (in Kgs)
Flours	2007	23,649,915	-
	2008	4,430,442	-
	2009	2,131,389	35,822
	2010	11,970,820	6,500
	2011	3,868,376	32,785
	2012	2,909,063	8,000
	2013	3,640,069	34,650
Mattress	2007	425,118	-
	2008	431,873	-
	2009	214,657	-
	2010	66,718	-
	2011	0	2,635
	2012	0	30
	2013	179,818	-
Milk	2007	735,582	-
	2008	1,261,487	-
	2009	1,269,997	-
	2010	1,097,243	6,276
	2011	892,942	50,500
	2012	1,373,816	49,919
	2013	965,921	32,582
Mineral water	2007	35,355	30,408
	2008	256,478	47,026
	2009	271,109	51,125
	2010	132,948	67,735
	2011	489,076	39,436
	2012	1,042,213	420
	2013	1,704,287	240

	2007	11,403,344	192
	2008	13,051,049	171
	2009	17,630,586	299
	2010	18,320,136	4,199
	2011	16,995,975	30,810
	2012	20,630,335	39,463
Soap	2013	22,062,593	28,592

Table 4: Total imports and exports in EAC

Period	Total Import EAC (in Kgs)	Total Export EAC (in Kgs)
2007	36,249,314	30,600
2008	19,431,329	47,197
2009	21,517,738	87,246
2010	31,587,865	84,710
2011	22,246,369	156,166
2012	25,955,427	97,832
2013	28,552,687	96,064

From tables above, imports of products having plastic bags is still being done and most of those products are from EAC member countries.

Rwanda ascended to EAC which is a good step in as far as creating opportunities for investors and expanded market for regional products. International and regional integration is one of the six pillars of Rwanda's development blue print, Vision 2020. The whole vision recognizes the necessity to pursue an open, liberal trade regime, minimizing barriers to trade as well as implementing policies to encourage business development and foreign direct investment, the private sector is expected to take the driving seat in the economic growth and development. This is in keeping with Rwanda's integration into three regional communities namely CEPGL, COMESA, and EAC.

However, the ban of plastics resulted into serious business competition with other East African counterparts. All those EAC countries have different policies and laws regarding plastics and they will allow their local industries to pack their products and export in Rwanda.

The additional cost associated with packaging in environmentally- friendly materials are the ever-increasing overall costs of production for local market in Rwanda, and for the export markets in the region and rest of the world market. Regional competitors like Kenya and Uganda companies can purchase packaging materials locally at much lower cost and their product are usually sold in wider regional market at lower and competitive prices comparing to Rwandan products. There is an urgent need to release the ban at local level or if the total ban of plastics is to be maintained in Rwanda, then it should apply to all imported commodities so as there is fair competition.

5. RECOMMENDATIONS AND CONCLUSION

5.1. Recommendations

1. Public Policies and laws should be evaluated mostly basing on its performance as well as the outputs and outcomes that the policies and laws could bring to the society not only in Rwanda but also in the region or any other economic blocs that Rwanda is a member.

2. Effective consultation before the implementation of laws should be done and involve most of the concerned companies. Wide consultation is a key part of the policy and law drafting process and stakeholders should be involved throughout the process in order to ensure that their views and comments can inform policy makers and help shape the proposal at an early stage, and ensure that any differences are resolved as far as possible before the proposal is approved.

3. To give the Rwanda's manufacturers and traders (as well as affected importers or exporters) a level playing field and increasing their profitability and competitiveness at national and regional level

4. Economic policy makers should initiate others alternative to facilitate investments in recycling plants as one of the alternative measures to packaging throughout the financial supports and fiscal incentives to those involved in the manufacturing and trading and recycling industries. The financial incentives should be availed. The fiscal incentives should be suggested in line to support the investments through the tax exemptions and tax holidays or possible removal of TVA to promote the plastics recycling process.

5. Rwanda remains the only country in the EAC region where a compromise on plastics has not been tolerated with a full ban being implemented by REMA. In neighboring countries, private sector groups and other trader unions have been able to reach an agreement with the Government to establish a softer regime and thus plastics continue to be widely used and most products imported from the region into Rwanda markets are packed in materials which Rwandan companies are not allowed to use.

6. The lack of harmonized regional policies and laws and absence of equal commitment in partner states on plastics therefore mean that such goods have continued to flood the Rwandan market hence out- competing similar local products that are packed in relatively low quality paper materials that don't give the same attraction, durability and protective packaging to an item. Policy makers should achieve the objective to harmonize the environmental policy and legal framework at regional level.

5.2. Conclusions

Considering many macro-economic factors and economic integration principles such as comparative advantages, trade creation, trade diversion, economies of scales, aggregate demand and aggregate supply and many others, we conclude by suggesting that laws should be harmonized as far as Rwanda is still interested to be part of EAC and encouraging investors to invest in recycling plants. Transitional period is recommended before implementing any sensitive laws; especially those aligned in international trade and macroeconomic aspects.

We strive to achieve green growth, but it will sustain if a country goes step by step to ensure conducive business environment.

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