The Impact of Competition Policy and its Effect on the Growth of the Economy- EU vs. US Competition Policies

- Will a Divergent or Convergent Competition Policy be Beneficial to the EU and the US?
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Abstract

This thesis examines the impact of competition policy and economic growth. It has been hypothesized that the convergence or divergence of the competition policy of the EU and the US will go a long way to strengthen the markets on which their products are traded. However, due to regional and international differences and interpretations of competition policies and components of competition policies, there exist some obstacles which prevent such policies from being effectively harmonised for the greater good of world trade.

The EU and US together, possess a significant amount influence on the world market and as such, anti-competitive behaviour which exists on certain parts of the world trade market can be wiped out through the harmonisation of policies on competition.

Such harmonisation of policies could go a long way in promoting the economic growth of nations involved in trade with the EU and the US.

This thesis finds that though competition policy does not directly contribute to economic growth per se, through the models of endogenous growth models, with emphasis on innovation, long-term economic growth can be achieved. In order for this finding to hold true, policies that are geared towards innovation and competition should be enacted to the research and development of new products and ideas.

To this end, the EU and US lack a very important ingredient in their quest for a common competition policy, namely, the enactment of laws and policies to encourage innovation and the extending of such ideas and know-how across national boundaries.

Keywords: competition policy, EU, US, Exogenous growth, Endogenous Growth, Sherman Act, Clayman Act, Article 81, Article 82, Treaty of Rome, Treaty of Paris, Innovation, Schumpeterian Economics,
1 Introduction

If... capital is divided between two different grocers, their competition will tend to make both of them sell cheaper, than if it were in the hands of one only; and if it were divided among twenty, their competition would be just so much the greater, and the chance of their combining together, in order to raise price, just so much the less (A. Smith 1976, pp.163-4)

One fundamental aspect of modern day economics is the economic freedom which enables an individual’s ability to partake in the economy with minimal interference. Thus economic freedom comprises mainly of the freedom to engage in contracts and the right to compete. The freedom to engage in contracts is one basic assumption underlying economic development which ensures that assets of the economy are transferred to individuals who utilizes them best. The non-existence of non-market obstacles often result in the freedom to engage and this ensures that firms enter, stay or partake in markets where there is no collusion of any form. These two freedoms; the freedom to engage in contracts and the freedom to compete is very vital in an economy which strives at ensuring a free market where suppliers and consumers can enter and exit without any hindrance from any stakeholder and the main motive of profit maximizing will result in the greatest social good as seen by Adam Smith.

No matter how perfect laws or policies may be in ensuring this “greatest social good” there will always be some contradictions in them. First of all, suppliers desire to minimize cost through a perfectly competitive input markets where the forces of demand and supply dictate the price and at the same time, want to maximize profits for their outputs through monopolistic practices. As a result of this, there exist a strong incentive to compromise their output markets through competition. Thus, without laws which restrict such practices, firms will be willing to make use of their freedoms to contract and in the process eliminate competition all together.

Technological advancement in the modern day economy has made it much easier for firms to collaborate on a scale which has never been seen before. Such collaboration, which might be good for the social benefit and development of the economy as a whole, do come with it its bad sides as well. Step in, globalization.
Globalization as a driver for economic integration brings along with it, some form of national and international competition. Competition is said to be conducive for the economic outlook of any nation. In the global economy, competition compels firms to achieve full efficiency in production or face the prospect of being driven out by more efficient firms. In modern day globalization several barriers of trade, which existed before World War II, have been lowered to increase the level of competition among nations. That being said, the World Trade Organization, which oversees trade among nations, has put up a number of initiatives, which will facilitate international competition and thus, promoting free trade and eliminating anti-competitive practices of nations. Initiatives such as the reduction or elimination of some tariffs in international trade, the creation of free trade zones and its subsequent reduction or elimination of tariffs, the reduction of capital controls or total elimination thereof has gone a long way in facilitating international trade and hence international competition among nations.

However, due to regional and economic differences between nations, international competition still faces some challenges. These challenges arise due to the nature of policies in place to control competition. Again, the intervention of governments is still needed in the definitions and enforcement of laws that prevent anti-competitive behaviour. As such, this paper will focus on international competition in an economic perspective of two of the world’s biggest economies; the United States of America (U.S) and the European Union (EU) and how competition policy contributes to the growth of the economy.

Competition policy or anti-trust laws refer to all laws, which aim to maintain a fair degree of competition by eliminating the restrictive practices of private entities. Thus, economists see the benefit of competition as an allocative efficiency and as such, more economists tends to be pro competition rather than the converse. To this far, it is interesting to note that the competition policy of the two largest regional economies i.e. the EU and the U.S have somewhat similar regulations for healthy competition to prevail in their respective regions. This paper is motivated by the fact that if competition policies of these two large economic regions are similar, will a merger of their competition policies be beneficial to the their respective economies?
This idea is hatched on the premise that a multilateral competition policy between the EU and the U.S will protect their domestic markets from large trans-national cartels or monopolies dominating a section of their economies. Again, such a multilateral competition policy will allow their own firms to compete more successfully abroad in markets, which were previously closed.

This paper is motivated against the backdrop that the EU and the U.S might have similar or different competition policies in place as regards the various forms of competition. The implementation of competition policies across nations is increasingly becoming more and more common among countries as these nations see the need to protect consumers and their economies as a whole.

Given this premise, how should the U.S and E.U streamline their competition policy in order to effectively control their domestic markets and at the same time, support their industries? Shall a convergent or divergent competition policy be an effective tool for the common market? Is there a need for a common policy between these two economic superpowers?
2 Hypothesis Development/Problem Statement

The main focus of this thesis will be to explore the link between competition, innovation and growth. In this sense, the author will seek to explore two areas of economics that are not often considered together:

1. Competition theory - the study of the causes and consequences of competition will be touched on, on a more microeconomic level

2. Growth theory - drivers of economic growth will be deliberated upon on a macroeconomic level.

In brief, the theory of perfect competition proposes that firms will enter a market until marginal cost of production equals the price. In such a situation, economic profits will be zero and the market is Pareto optimal. Growth theory on the other hand has evolved into the new growth theory which aims at explaining the drivers behind the long-term economic growth, i.e. advancements in technological processes (innovation).

To be able to draw any meaningful conclusion from these areas of economic studies, in relation to actual EU and US competition policy, two areas of economics become important. First of, Schumpeterian economics will be employed to highlight the importance of the role of competition in knowledge creation and retention for economic growth.

Secondly, economics of trade will also be touched on because the writer is of the belief that this is the area of economics where much attention is being paid to the link between competition and growth.

To this end, the proposed thesis will be centred on the mutual benefits of a joint competition policy between the EU and the US, based on the foregone discussion above. Therefore, the main question this study will seek to answer is
“Will a joint competition policy between the EU and the US ensure economic growth within their respective economies?”

In order to answer the main question, the author will seek to answer these underlying questions:

**Is there evidence of economic growth that can be attributed to competition policy?**

To answer this question, the empirical evidence that exists to show the link between competition and growth will be drawn from three main sources: case studies and studies conducted in accredited economic journals.

**What challenges will a joint competition policy between the EU and US face?**

Challenges to a proposed joint competition policy between the two economic powers in question will be reviewed and suggestions will be made to such challenges.

**Will a joint competition policy necessarily be beneficial to both the EU and the US?**

The author will seek to evaluate the pros and cons of a joint competition policy based on the theories, case studies, and econometric methods that will be employed in this paper.

In order to further understand the relationship between growth and competition, a divergent approach to both standard competition theory and standard growth theory will be needed to explain this relationship. An integrated theoretical approach to this relationship will be constructed with elements of the Schumpeterian economics in order to describe the competitive process rather than the competitive equilibrium.
2.1 Methodology
This thesis is extensively based on economic literature, primarily in the form of empirical economic articles. These articles have been chosen and utilised based on their neutrality and credibility.

The author intends to draw on one source of empirical study which involves the coding the competition policies of several different countries and testing the contribution of competition policy on national growth.

In order to carry out this study, the use of a series of theories will be necessary to portray the effect of competition in the economy. Theories such as the competition theory, the Schumpeterian effect, and explanation of the welfare loss among others will be employed in this paper. Furthermore, case studies which have a direct link to the application of the various competition policies within the EU and from the U.S will be used in giving practical examples on the impact of competition on growth and its total effect on the economy. The author will also seek to draw from empirical sources and economic literature as well as scientific articles. These articles and literature have been chosen based on their neutrality and credibility.

The method to be used will be to first of all lay the theoretical foundations and from there, apply theory to practice.

2.2 Structure of the paper
The initial part of this paper will give a theoretical background to the issue of competition and growth. This should pave the way for further empirical discussions and analysis to be made.

The empirical part of this paper will introduce us to some empirical studies done in the field of economics to highlight the issues or evidences of competition policy promoting innovation and economic growth.

Finally, the evidence provided in the empirical studies will be evaluated in the context of the problem statement/hypothesis and meaningful conclusions will be drawn from it.
2.3 Delimitations
The issue of competition policy will be tackled mainly from a competition point of view. As such, issues regarding what makes up an industrial policy, which might have the same objectives as compared to that of competition policy, will not be touched on.

Moreover, competition policy in the context of this paper will pertain to national competition policies and hence, perfect competition on a micro economics level will be deliberated upon briefly in order to understand competition at the macro-level.

3 Literature Review

3.1 Theoretical Framework
In order to understand the concept of competition and the policy that comes with it, it will be appropriate to lay out the theoretical framework which forms the basis for competition. In classic economics, competition may take one of several forms, notably; perfect competition, Monopoly and oligopoly. Perfect competition is defined as a market with several sellers and several buyers. In other for a market to be classified as a perfect competitive one, several assumptions should be met. Thus, a perfect competitive market has the following characteristics:

1. Independence of firms
2. Homogeneity of products
3. Free entry and exit of firms
4. All buyers are equally knowledgeable of the products on the market
5. No transportation costs
6. There are a large number of sellers and buyers on the market.

As a result of the above mentioned characteristics, buyers in a perfect competitive market are classified as price takers due to the fact that no one buyer can influence the current market price. In the nutshell, the concept of perfect competitive markets simply implies that
1. Firms who raise their prices will experience a fall in the quantity of output sold and their competitors will switch to other suppliers.

2. Firms face a horizontal firm-level demand function at the current market price.

3. Firms can sell any quantity at their disposal at the current market price.

The assumptions and implications above indicate that in perfect competition, firms earn normal profits. However, when we analyze the short-run effect of perfect competition on the market, we realize that in the short-run, firms can and do earn abnormal profits as evident in economic literature. Thus perfect competition paves the way for work to be done on the issue of competition policy. There exists a vast array of economic literature on the subject of competition policy. Several scholars have conducted research to point out the impact of economic competition on the growth of the economy.

3.2 Competition and Innovation

Aghion et. al (2005) prove that the relationship between competition and innovation is not linear but hill-shaped. In their survey, they found out that competition might increase the incremental profit from innovation, which they called the “escape-competition effect”. At the same time, competition may also reduce the innovation incentives for laggards, which they called the “Schumpeterian effect.” Thus, in effect, there may be both good and bad sides to the competition. In their paper “Competition and innovation: An inverted-U Relationship” Aghion et. al posits that the average technological distance between leaders and followers increases with competition and that the inverted-U shape is steeper when industries are more neck-and-neck. The inverted U-shape as described by Aghion et. al (2004) is the balance between the escape effect and the Schumpeterian effect which generates a U-shape in their highs and lows as seen in the figure 1.
Schumpeterian theory seeks to advocate that entry and exit parameters will have gainful consequences on innovation and growth. Aghion (2005) highlights this in his “Appropriate Growth Theory: A unifying framework” paper. In this paper, Aghion writes “…Schumpeterian theory implies that entry, exit and turnover all have a positive effect on innovation and productivity growth, not only in the economy as a whole but also with incumbent firms”. Aghion goes on to write in his paper that “…when innovations are step-by-step the entry threat effect is stronger the closer an economy or sector is to the world technology frontier”. Formal implications of Aghion’s argument are that increased entry and exit in an industry is healthy for innovation and productivity growth and hence, competition because incumbent firms may seek to innovate more at the threat of a potential entrant into the industry. Aghion predicts that

1. Entry and entry threats in an industry promotes growth
2. Entry and entry threat enhance productivity growth even among incumbent firms when the threat has exceeded some threshold, but reduce productivity growth among incumbents below that threshold.

3. Entry and entry threat in an industry enhance innovation and productivity growth among incumbents in sectors or countries that are initially close to the technological frontier, as the escape entry effect dominates in that case.

4. Entry and entry threat discourages innovation and productivity growth among incumbents in sectors that are far below the frontier as the discouragement effect dominates in that case.

Another advocate of the notion of competition policy contributing to the growth of the economy is Porter. Porter (2000) found a positive relationship between the intensity of local competition and the effectiveness of national antitrust policy on the growth rate of GDP per capita. Nicoletti et.al (2000) also backed this argument by using data from OECD countries to confirm the fact that growth is positively affected by competition. In their study, Nicoletti et.al used OECD data from the early 1990’s to prove that the deregulation of industries at that time helped OECD economies to enjoy the highest growth rate per capita in the late 1990s. On the contrary, Schumpeter, according to Cohen et. al (1989) thought that profit from ex-ante market power could serve as a source of internal financial resource for innovation activity by implicitly assuming an imperfect capital market and thereby giving firms little incentive to innovate. Schumpeter (1949) backed this argument by saying that ex-ante market power induces firms to innovate and if firms expected excessive rivalry after the innovation, they would have little incentive for innovation. Furthermore, Schumpeter’s propositions in the context of endogenous growth theory puts forward no hard evidence for any negative trade-off between competition and growth as postulated by Aghion et.al. in their 1992 paper, “A model of Growth through Creative Destruction”.

Last but not least, Dutz and Hayri (1999) studied the strength of association between intensity of economy wide competition and growth. They constructed three variables related to policy, structure and mobility. In their research, policy measures captured the quality of the microeconomic incentive regime and the enabling legal and regulatory framework in area that directly promote competition. The structure variable reflected the extent to which market structure is concentrated from an economy wide
perspective. Mobility on the other hand measured the ease with which new enterprises could enter and grow in any market. In their conclusion, they noted that the effect of competition policy on growth is robust and goes beyond that of trade liberalization, institutional quality and a generally conducive policy environment.

However, Bianco (2007) finds that as a result of the combination between resource allocation and the Schumpeterian effects, the inverted U-relationship between competition and growth as postulated by Aghion et.al (2005) has some fallacies, in that, the resource allocation effect is always negative which reinforces the Schumpeterian effect on growth.

3.3 Competition and Growth

Empirical evidence exists to prove that competition policy when properly implemented promotes efficiency and hence, growth in the economy. Blundell, Griffith and Van Reenen (1995) showed that while firms with higher market share indeed tend to innovate more, firms in competitive industries tend to have a higher probability of innovation. In particular, they noted that as large market shares generate an increase in the level of industry concentration, they might lead overall to a reduction in aggregate level R&D investment. Thus the argument that competition fosters innovation so that firms who do not innovate are often left out hold true and valid.

Nickell (1996) also examined the link between competition and total factor productivity for 670 manufacturing companies in the UK over the period 1972-86. In his paper, Nickell found that high rent firms have lower labour productivity growth on average as compared to firms of low rent. Firms in less concentrated industries were also found to have higher total factor productivity growth. Dutz (2002) also argued that the adoption of competition policy inculcate a culture of competition. A greater impact of discipline incentives spurred the competitiveness of firms by reducing managerial slack (X-efficiency) and leads to the natural selection of domestic firms, i.e. closure of poorly managed firms. These two findings goes to complement the fact that competition compels firms to reduce waste, improve the technical efficiency of production, abandon outdated production techniques and operations and invest in new technologies.
Last but not least, competition policy in lieu of the growth of the economy is used as a tool to restructure sectors of the economy which have lost their competitiveness. Money and resources are moved from weak and uncompetitive sectors towards the more competitive sectors. Thus, competition policy directs the efficient allocation of resources and leads to the closure of inefficient firms.

3.4 Common Components of Competition Policy

Generalizations on the concept of competition policy can be very elusive. However, from the onset, three important components of competition policy can be identified; collusion, abuse of dominance and mergers.

3.4.1 Collusion

Collusion in the sense of competition policy refers to the co-operation of would-be competitors. The primary aim of collusions is that of price setting. In a competitive market, firms are price takers whereas monopoly firms are price setters. Firms through explicit price setting may set monopoly prices as noted by Motta (2004). To reach the same outcome, colluding firms may divide the market among themselves allowing firms to act as a monopolist in its assigned market segment or area. Colluding firms are usually referred to as cartels or trusts. For instance, the oil industry’s organisation OPEC acts as a cartel, which fixes the price of oil on the world market. Competition authorities have longed dedicated resources to fight the creation of cartels in many industrialized countries.

3.4.2 Abuse of Dominance

Abusing a dominant position on the market is also a form of anti-competitive behaviour which competition authorities take a serious view of. Abuse of dominant power is unique from collusion in that with abuse of dominant power, one firm usually acts alone. This sometimes helps individual firms acting alone to be under the radar of competition authorities and their acts are typically not targeted by competition policy but rather, some other policy such as consumer policy, environmental policy and/or labour policy. Individual firms that act contrary to any of
these policies are under ideal circumstances prevailing on the market, punished as such. However, should the firm be large enough as determined by its market share, its actions may go unnoticed. This act of violation may be seen in exclusionary practices or exploitative practices by such firms with the soul aim of excluding competitors either from entering or forcing them to exit the market or both. A good example of such practices may be predatory pricing which forces competitors from either entering the market or forcing them to exit.

Exploitative practices, on the other hand, are used by firms to extract higher prices from customers via price discrimination. It must be noted that price discrimination in itself is not illegal per se. Rather, it is illegal when used with the soul aim of discouraging a competitor from entering the market or forcing a competitor to exit the market. Price discrimination is evident in the re-sale or parallel import of goods and services. When used by a dominant firm, price discrimination can effectively prevent parallel imports by a dominant firm which could enforce non-re-sale clauses with its customers. (Motta, 2004)

3.4.3 Mergers

Merger as a component of competition policy is one area where competition authorities place a lot of focus on in both the U.S and EU. A merger is defined as the purchase acquisition or pooling together of the interest of two firms with the aim of creating a single entity. Of most importance to competition authorities is the threat of horizontal mergers in any given economy because horizontal mergers are mainly carried out with the view of obtaining a significant amount of power in any industry. The surviving entity becomes a dominant firm, if it is able to acquire a significant amount of the market. This will enable it acquire some amount of control over price. It may limit the price to maintain its position or it may gradually give up market share to new markets. In such an instance, the dominant firm becomes an oligopolistic firm.

Mergers are a primary focus area of competition authorities because of the vast amount of resources that comes into play and the potential rewards firms stand to reap from it. The 2008 World Investment Report indicates that foreign direct investment (FDI) in the year 2007 was 21% higher than the previous record set in the merger wave of the early 2000s with merger transactions totalling a whooping $1, 637
billion\(^1\). In the fight against anti competitive behaviour such as collusion and abuse of dominance, existing regulations are applied \textit{ex-post} in the investigation and prosecution of such observed behaviour whereas merger regulations are applied \textit{ex-ante} meaning that potential or expected effects of mergers are evaluated before the any merger is approved. This is essentially done to prevent concentration or monopolization of the market. Typically, competition authorities may block mergers where the market share involved between the firms is large enough to consider the firm dominant.

\(^1\) World Investment Report, page xvii
4 Historical Overview and Development of Competition Policy

Any policy that seeks to enhance economic efficiency by promoting or safeguarding competition among firms can be termed as competition policy. Furthermore, competition policy can be termed as a set of instruments or policies that are intended to encourage competition in markets and to encourage the allocative efficiency that generally accompanies competition. Thus, in the nutshell, competition aims at promoting allocative efficiencies in any economy. Allocative efficiency on the other hand can be defined as the situation in which the resources of an economy or nation are distributed, according to the wishes of its consumers. Competition policy is also known as antitrust laws (in the U.S) and as such, throughout this paper, the term competition policy and antitrust laws will be used interchangeably.

It is widely known that competition is an important force in achieving allocative efficiency, based on deductions that can be made from the theoretical model of perfect competition. Therefore, it is of utmost urgency that economies put in place some form of laws to curb any practices, which might be detrimental to the aims of competition.

Competition policy generally seeks to enforce efforts aimed at

- Preventing price fixing through cartels
- All efforts which seek to lessen competition in the case of a merger between two or more firms,
- The enhancement of the market power of any single seller on the market.

In order to understand the full effects of competition policy on economic productivity, it is pertinent to study the theory behind competition policy and the effects it has on the economy as a whole.

Eucken (1951) described the process of and development of competition in his book “The foundations of Economics- History and Theory in the Analysis of Economic Theory”. In his book, Eucken described the discovery of the market order as an instrument which paved the way for a connection to be made with the idea of freedom. The market order was described by Eucken as the “the idea that market

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prices determined on the free market could coordinate a nation’s economy”. Again, this idea could present a solution for taking away the responsibility of the government to control individual people’s incentives and actions in order to make them do what is best for society. Eucken meant that in such a system, individuals would be self regulated to coordinate their efforts automatically to benefit the society as a whole. The government will then be faced with the task of protecting these conditions by providing institutions and laws that withheld the ideals of the market forces. In the nutshell, the control of the economy, the stimulations or motivation of individuals to be productive will be guided through the market process and individuals as well as firms will be able to understand those signals and act accordingly. The end result was that, the market would automatically direct individuals’ actions in a way that allows private profits to be made from socially beneficial actions.

Looking back at Eucken’s idea of the market order, one is simply forced to ask, “what if the market order fails?” Governments back then realized the need for laws and regulations to be written to ensure the continuity of the market order. Thus laws were made which prevented individuals from making decisions which went against the society as a whole.

4.1 United States Antitrust Laws
Throughout history, economists are aware of the fact that much of the laws governing antitrust behaviours take its roots in U.S antitrust policies. The enactment of antitrust laws in the US stems back from the 19th century as a response to the growth of corporate trusts. According to Lipczynski et.al, “the trust was an arrangement whereby shareholders of different companies signed over the ownership of shares to a single group of trustees. Consequently, there was a tendency for independent competitor firms to be consolidated into large entities, which rapidly came to dominate their respective industries”. These trusts become connected to big monopolies that were a perceived threat to democracy and the free market that these trusts represented. The 19th Century witnessed an extensive economic expansion of the American economy and as such, the expansion brought about numerous collusion among firms in sectors such as the railroad, oil, steel and finance. “The term ‘antitrust’ originated from the 19th century practice of placing the stock of a large
number of competing companies into the hands of trustees who were then able to restrict competition in that industry”. Thus in the latter parts of the 19th century and early 20th century, the Sherman and Clayton act were enacted to protect the institute of competition.

A significant amount of practical work carried out in the field of competition law or antitrust policies takes place in two places: the courtroom and academic world, each complementing the other. Notably, the Chicago School of Economics has had a significant influence on American anti-trust laws. Advocates such as Robert Bork believe that government intervention in the field of anti-trust is both unnecessary and potentially harmful and that cooperation and mergers can have substantial gains in terms of efficiency (Bork, 1993). Thus far, American competition policy has been characterised by less of a per se illegality approach, instead emphasizing the rule of reason.

The enactment of antitrust policies in the United States started with the case of big trusts such as the Standard Oil Company and U.S Steel. Standard Oil Company was a dominant oil producing company established in the 19th Century. By the late 19th Century, Standard Oil Company controlled about 88% of the refined oil flows in the United States. Back in the 1800s, one company could control and entire industry and consumers had no choice about whom to buy from. Standard Oil Company, as a monopoly controlled the oil industry and determined the supply and price of oil as a commodity. Thus prices skyrocketed and quality for consumers was non-existent. Thus the American population at that time became worried because the practices of companies such as Standard Oil Company and U.S Steel (which controlled the entire steel industry) posed a threat to the American prosperity (Bringhurst, 1979)

According to Bringhurst (1979), Standard Oil controlled about 88% of the refined oil flows in the U.S and by 1904 had a 91% share of the total production and 85% of final sales in the oil industry by 1890.

The American population demanded something to be done about the situation. Later on in the 19th Century, President Roosevelt enacted the “antitrust” laws with the aim
of protecting consumers and promoting competition in the market place. This gave birth to the enactment of the Sherman Act of 1890.

### 4.1.1 The Sherman Act of 1890

The Sherman Act of 1890 had two main sections of interest, with regards to competition policy, namely;

*Section 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations, is declared to be illegal. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine.*

*Section 2. Every person who shall monopolize or attempt to monopolize, or combine or conspire with any other person or persons to monopolize any part of the trade or commerce among the several states, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine.*

The Sherman Act empowered the courts to fine any individual or firm up to US$ 5000 and by the end of 1992, the fine had increased to US$ 10 million. To date, the act has been in used in such landmark cases as the American Tobacco case of 1946 and the AT&T case of 1974.

The Sherman Act was not applied that often in the strict sense of the word during the early years of its existence. The Act subsequently was enforced in 1897 when a Supreme Court decision on a trust of 18 railways which fixed the fares for the transport of goods (Trans-Missouri Freight Association) clearly established that price agreements were illegal. The Supreme Court took the view that the aim of the Sherman Act was to outlaw all price agreements among competitors and this was not

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4 [www.loc.gov](http://www.loc.gov)
up to the judges to decide which agreements were reasonable and which were not (Posner, 2001).

The goals of antitrust policies in the U.S can be categorized as economic and non-
economic goals. For instance, an analysis of the Sherman act will conclude that the
Sherman Act was concerned with the restriction of output. Thus Sherman’s arguments
were based on the fact that

1. Increasing cost to the consumer will cause a problem to the consumer

2. Higher prices could arise as a result of restricting output

3. Deadweight welfare loss, which measures the cost imposed on society, could
   arise as a result of restricting output.

Thus far, the original goal of the Sherman Act was to minimize the deadweight loss
due to market power, that is, welfare loss due to misallocation of resources among
industries (Chalmers, 1984)

4.1.1.1 The Standard Oil Verdict
A prominent case in terms of the use of the Sherman Act is the famous case of
Standard Oil as discussed above. The acts that were committed by Standard Oil
Company were judged against sections 1 and 2 of the Sherman Act. According to
Eliot (1922) with public outcry against Standard Oil, the government sued Standard
Oil under the Sherman Act of 1890 for sustaining a monopoly and restraining trade by
rebates, preferences and other discriminatory practices in favour of the combination
by railroad companies; restraint and monopolization by control of pipe lines and the
unfair practices against competing pipelines…espionage of the business of
competitors, operation of bogus independent companies and the payment of rebates
on oil with the like intent.

Accordingly, Eliot (1922) states that the government identified four illegal patterns of
trade within the Standard Oil Company i.e. secret and semi-secret railroad rates,
discrimination in the open arrangement of rates, discriminations in the classification
and rules of shipment and discriminations in the treatment of private tank cars.
The government also accused Standard Oil Company of raising prices for its monopolistic customers whiles lowering prices to hurt competitors, by disguising its illegal actions through the use of bogus independent companies it controlled.

Subsequently, on May 15th, 1911, the US Supreme Court ordered that Standard oil be split into 34 separate companies with different boards of directors because it found out that Standard Oil was an “unreasonable” monopoly under the Sherman Act (Motta, 2007)

4.1.1.2 The Sherman Act in Modern Day Perspective- The Case of Microsoft Corporation

The much-publicised case of the software giant Microsoft against the U.S Department of Justice is worth mentioning here because of the elements of the case which pertains to the Sherman Act. The case against Microsoft was brought forward to the U.S District court by 20 U.S states in 1998. The case alleged that Microsoft abused monopoly power in its handling of the operating systems sales and the web browser sales. To prove their point, the plaintiff in the case alleged that Microsoft bundled the web browser, Internet Explorer in copies of its operating system, Windows, and this made it impossible for other competitors to capture a fair share of the browser market.

Thus, the central issue to the case was whether it was permissible for Microsoft to bundle its flagship browser with its Microsoft Windows operating system. The plaintiffs alleged that bundling the two products ensured that Microsoft won over its competitors in what became known as the browser wars because every copy of Windows came with a free installation of internet explorer and since windows enjoyed a relatively large share of the market for operating systems, competitors such as Netscape and Opera did not stand a chance of penetrating into that market.

Another issue with the case was whether Microsoft made changes to the Windows operating system so that third party browsers will not run efficiently in the Windows operating system thereby forcing consumers to abandon third party browser to the advantage of Internet Explorer.

In their defence, Microsoft stated that the two products- Microsoft Windows and Internet Explorer were merged as a result of innovation and competition and that the
two products were linked together and consumers were getting the services of Internet Explorer for free.

The Plaintiff argued that the browser was a separate product which could work on its own and did not need to be bundled to the Microsoft Windows operating system. This argument was based on the fact that internet explorer existed (at that time) for the MAC operating system (produced by Apple Inc) which is totally different from the Windows operating systems and could function flawlessly without the aid of the Windows operating system.

One is tempted to ask the question of why a similar case was not brought against APPLE Computer, producers of the Mac OS which comes bundled with the Safari web browser or, Be Inc., producers of BeOS which also comes with a pre-installed version of their web browser NetPositive.

According to Jean-Louis Gassee, CEO of Be Inc., the real problem with Microsoft was not that it bundled the Internet explorer browser to its Windows operating system but rather that Microsoft offered Original Equipment Manufacturers (OEMs) license rebates if they included the Windows operating system in their products. This prevents other operating systems from gaining a significant share of the market for operating systems and web browsers\(^5\).

\(^5\) [http://lists.essential.org/info-policy-notes/msg00005.html](http://lists.essential.org/info-policy-notes/msg00005.html)
4.1.2 The Clayton Act of 1914

The Clayton Act of 1914 on the other hand was passed in 1914 to supplement the Sherman Act in areas of price discrimination, mergers and acquisitions, and exclusive dealings.

Section 2(a) of the act states that “it shall be unlawful for any person engaged in commerce, in the course of such commerce, either directly or indirectly, to discriminate in price between different purchasers of commodities of like grade and quality...where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly in any line of commerce, or to injure, or prevent competition”.

Price discrimination arises when different customers are charged different prices for the same product. Thus the Clayton Act prohibits price discrimination only when it is likely to be anticompetitive.

Again, section 7 of the Clayton Act goes on to stipulate that:

“No corporation engaged in commerce shall acquire, directly or indirectly, the whole or any part of the stock or other share capital and no corporate subject to the jurisdiction of the Federal Trade Commission shall acquire the whole or any part of the assets of another corporation engaged also in commerce, where in any line of commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly”

Section 7 was mainly concerned with prohibiting the acquisition by one corporation, of the stock of another corporation where the effect may be substantially to lessen competition or to restrain trade between the corporation, or to tend to create a monopoly. Thus from the wording at the enactment of the Act, firms discovered a loophole which made it possible for them to acquire considerable amounts of assets in other corporations and thereby attain significant control in the business of those corporations.

In 1950, after a long campaign “to unplug the loophole” section 7 of the Clayton Act was amended to include the prohibition of assets as well as stock acquisitions, according to Martin (1959).
More recently, the enactment of the Antitrust Improvement Act of 1976 and the Federal Trade Commission (FTC) Act have helped promote competition and deter any act that seeks to create a monopoly in the merger and acquisitions of the firms. Section 5(a) of the FTC Act explicitly states that

“Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are declared unlawful” (Stephen, 1994)

Through the Antitrust improvements Act,

“Firms with assets exceeding US$100 million wishing to merge with firms exceeding US$ 10 million are required to give appropriate regulatory authority 30 days before the merger is due to take place” (Lipczynski et al., 2005)

4.2 European Union (EU) Competition Policy
EU competition policy has two different dimensions namely; member country policies and Union policies. Although the collective competition policy has its roots from that of some member countries, these policies are less important now because all member states are expected to adhere to the competition policies of the Union.

On Issues regarding the competition on the common market, the Union’s collective competition policy takes precedence over national policies.

The Treaty of Paris, which was signed in 1951, gave birth to EU competition policy. Subsequent revisions and provisions were adapted by the Treaty of Rome in 1957. These provisions were passed on to member states for their own interpretations with the supervision of the European Court of justice. According to Motta (2004) case law has played a vital role in the evolution of EU competition policy.

EU competition policy encompasses the both traditional economic objectives and the objective of market integration, according to Steiner et. al (2003), with the main focus of EU competition policy embodied in Articles 81 which deals with collusion and Article 82 which deals with issues pertaining to the abuse of dominance of the Treaty of Rome 1957.
4.2.1 The Treaty of Paris 1951
Laws against unhealthy competition within the European Union (EU) can be traced as far back as 1951 when pro-competitive measures were adopted by Germany, Italy, France and the Benelux countries. During that period, the main objectives of those laws were to prohibit trade barriers and other practices which were capable of distorting competition among these countries. Thus, the Treaty of Paris was established in 1951 and also created the European Coal and Steel Community (ECSC).

According to Motta (2007) the Treaty of Paris was established to diminish the power of Germany by making available to the other European countries such essential outputs as coal and steel. Again, the principle of free competition was beginning to be appreciated as the only viable way to attain and efficient functioning of the market, also in view of the success of the US economy that had continuously relied upon antitrust rules. The Treaty of Paris can thus be said to have laid the foundation for modern day competition policy in the EU. This is so because certain portions of the modern day competition policy can be traced back to the articles dealing with competition issues in the Treaty of Paris.

4.2.2 The Treaty of Rome 1957
The body of policies on competition laws and polices within the European Union (EU) is enshrined in two main articles of the Treaty of Rome (formerly known as the Treaty establishing the European Community) mainly, Article 81 and Article 82. Article 81 goes to state that

“The following shall be prohibited as incompatible with the common market: all agreements between undertakings, decisions by associations of undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the common market, and in particular those which:

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6 Motta (2007) pp 13
7 Goyder (1993) pp 19
(a) Directly or indirectly fix purchase or selling prices or any other trading conditions;

(b) Limit or control production, markets, technical development, or investment;

(c) Share markets or sources of supply;

(d) Apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

(e) Make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts”\(^8\).

Article 82 on the other hand also states that

“Any abuse by one or more undertakings of a dominant position within the common market or in a substantial part of it shall be prohibited as incompatible with the common market insofar as it may affect trade between Member States.

Such abuse may, in particular, consist in:

(a) Directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions;

(b) Limiting production, markets or technical development to the prejudice of consumers;

(c) Applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage;

(d) Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts\(^9\).

\(^8\) http://ec.europa.eu/competition/legislation/treaties/ec/art81_en.html
\(^9\) http://ec.europa.eu/competition/legislation/treaties/ec/art82_en.html
Clearly, these two articles contained in the treaty of the EU prohibit unhealthy competition in any form which the commission deems detrimental to the common markets of the EU”.

It is pertinent to note that mergers were not explicitly the main reason for the enactment of competition policies in the European community until the adoption of Merger Regulations in 1989. It is assumed that mergers and acquisitions as well as other price fixing behaviour all can be categorized as forms of competition. However, the United Kingdom and Germany wanted mergers to be judged only on the basis of competition issues whereas France wanted to consider the criteria of industrial policy and social issues. Eventually, regulations on mergers prevailed (Goyder, 1998).

4.2.3 Article 81: Horizontal and Vertical Agreements
Article 81 deals with potential horizontal and vertical agreements and this itself gives rise to some economic problems. In vertical agreements where the collaboration is between two entities on different levels of the production or distribution line (cooperation between a manufacturer and a retailer), Article 81 does very little in explaining when such a cooperation will be deemed illegal and anti-competitive. This kind of cooperation could be produce efficiency. The prohibition of this cooperation in the view of the author lies in the fact that if the manufacturer or retailer is involved in the cooperation enjoys a considerable amount of market share, then the abuse of dominant power will come into play and render this cooperation illegal. The EU upon recognising this disparity has set out a list of conditions to be met in order not to classify such efficiency giving cooperation as anti competitive behaviour. In order for such cooperation not to be so classified, the supplier’s market share shall not be more than 30% or in cases of exclusive supply, it is the buyer’s market share which shall not exceed 30%10.

Due to these exemptions granted firms in Article 81, it can also be concluded that firms in the defence, agriculture and transportation are excluded from the prohibitions of Article 81.

4.2.4 Article 82: Abuse of a Dominant Position

Article 82 is formally centred on exploitative behaviour, and exclusionary practices. Exclusionary practices may occur in the form of exclusive dealing, refusal to supply and tying. Thus Article 82 is against all forms of dominance that a firm might exert on the market in order to benefit its sole purpose of profit maximization. In terms of abuse of dominant position, it is worthwhile to note that

1. Price discrimination is exempted from the abuse of dominant position. Price discrimination occupies a special place in the economic integration of the European Union

2. Exploitative abuse which consists of charging excessive prices to buyers (or extorting too low prices from suppliers) is also exempted from the abuse of dominant position clause. Remarkably, this is an area where the EU competition laws differs from US antitrust laws which does not provide the competition authorities with the power to intervene in the case of “too high” prices (Motta, 2007)

According to Motta (2007), it is important to emphasise that European law does not punish the creation of a dominant position but rather, just its abuse. This is to say that it is perfectly legal to create a dominant position on the European market through innovation, investment and marketing activities. It is rather the abuse of such position that will be considered forbidden by Article 82. The reason behind this, according to Motta (2007) is that “one does not want to punish firms just because they are better, successful or even luckier than others, as this would reduce incentives for firms”
5 Theory of Competition Policy

5.1 The Role of Competition
Generally, there are two types of competition; price competition and non-price competition. Price competition involves the use of price as the basis for competition whereas non-price competition employs the use of other variable such as product differentiation as the basis for competition. In competitive markets, firms become price-takers which implies that the markets determines the prices at which firms sell their products. No one single producer or seller can influence the price on a competitive market. Price competition is an important part of competition and it can easily be established that price competition is an essential component economic contexts. Non-price competition is usually seen in the form advertising and R&D. These two variables, according to Pepall (2005), are used by firms in attempts at avoiding price competition by differentiating their products from those of other firms. Since advertising is hard to perceive as improving efficiency or driving innovation efficiency improvement and innovation can be said to be the direct and explicit results of R&D and advertising.

5.1.1 Market Power, Efficiency and Welfare
Market power gives rise to allocative inefficiencies, which in turn results in welfare losses as described by Motta (2007). On the other hand, competition can help achieve welfare efficient outcomes, shown by the two Theorems of Welfare Economics proposed by Perfloff (2004). According to Motta (2007) whereas firms with substantial market power have lower incentives to innovate, firms in competitive markets are forced to compete by raising their productivity either by means of increased investment, innovation or more efficient business practices. This finally results in the emergence of improved efficiency and welfare.

5.1.2 Maximum Versus Optimum Competition
In lieu of the importance of competition, perfect competition is virtually unattainable and to some extent, undesirable in modern day economics. The idea behind this is that the strengthening of competition on an already competitive market does not necessarily lead to the attainment of efficiency in resource allocation. Schumpeterian hypothesis supports this notion, given that for each new firm that enters the market,
the market share of the other firms decreases and lowers the concentration on the market. Schumpeterian hypothesis goes on to conclude that the possibility for technological progress is greater in concentrated, yet still competitive markets than those in small firms (Pepall 2005). Therefore, since maximum competition is not generally desirable, there must be some level of optimum competition. The question, however, is how to find that level and how to attain it.

As can be seen from the figure 2, the ultimate goal, according to Sengupta and Dube (2008) is greater investment. To their original figure, a further distinction to competition policy has been added. *Competition Advocacy* may also be included in competition policies to encourage healthy competitive atmosphere in the growth of an economy. In every economy, the desired end product is a functioning market which brings about improved efficiency through increased productivity and innovation and lower prices. Improved efficiency is always a goal which should also translate into lower prices as seen in figure 2. Efficiency may still improve absent competition, but will then not only translate into lower prices. With the notion of lower prices in mind, advocates of competition policy may be tempted to think of competition policy as a set of consumer protection laws. Though this may seem to be partially true, a look back at the definition of competition policy may suggest that the avoidance of detrimental effects on society and maximizing national welfare only means avoiding dead-weight losses. Thus, this phenomenon does not take into consideration transfers between consumer surplus and producer surplus.
5.1.3 Social Welfare
The European Commission’s policy on competition clearly states that;

“The first objective of competition policy is the maintenance of competitive markets” (EC 2000). Competition policy serves as an instrument to encourage industrial efficiency, the optimal allocation of resources, technical progress and the flexibility to adjust to a changing environment. In order for the Community to be competitive on worldwide markets, it needs a competitive home market. Thus, the Community’s competition policy has always taken a very strong line against price-fixing, market sharing cartels, abuses of dominant positions, and anti-competitive mergers. It has also prohibited unjustified state-granted monopoly rights and state aid measures which do not ensure the long term viability of firms but distort competition by keeping artificially in business. The second is the single market objective. An internal market is an essential condition for the development of an efficient and competitive industry…the commission has used its competition policy as an active tool to prevent, prohibit, and fine heavily the parties to, two main types of agreement: distribution and licensing agreements that prevent parallel trade between Member States, and agreements between competitors to keep out of one another’s ‘territories’ 11

Goyder (1993) again notes that social reasons are also taken into account in EU competition policies. The commission may grant exemptions from acts or practices such as crisis cartels, - agreements where firms engage in reciprocal reductions in capacity and output- provided such reductions in over-capacity are permanent, favour specialization and are implemented in such a way that they minimize the social costs of unemployment which may result from the cutback of production.12

5.1.4 Total and Consumer Welfare
To understand the concept of total and consumer welfare, we need to first of all, understand the concept of welfare in itself. Economic welfare measures how well an industry performs. This measure of how well the industry performs sums up the welfare of the various components of an industry or economy. Recall that in economics, welfare in a given industry is characterised by the summation of individual and producer surplus. This is also known as total surplus. The surplus of any individual consumer is defined as the difference between the consumer’s valuation for the good considered and the price which she effectively has to pay for it.13 According to Motta (2004) consumer surplus is then the aggregate measure of the surplus of all consumers, whereas producer surplus is the sum of all profits made by producers in the industry. Thus, one will conclude that an increase in the price at which goods are sold will create a decrease in the consumer surplus and an increase in the producer surplus. However, Motta (2004) stipulates that this is not generally the case. Motta (2004) writes, “…in general, as the price increases, the increase in profits made by firms does not compensate for the reduction in the consumer surplus. Hence, welfare is lowest when the market price equals the monopoly price and highest when it equals the marginal cost of production”

The choice of which welfare standard to use in the context of this paper will be that of total welfare, as we believe that this is the appropriate welfare standard to use in industrial economics, due to the fact that it incorporates both consumer and producer surpluses in its calculations.

12 Goyder (1993) pp 162-165
13 Motta (2004)
5.1.5 Market Integration
A major focus area of EU competition policy is the integration of the various markets which make up the Union. This is also outlined in the treaty of the EU which advocates for a common internal market. Competition policy helps to avoid the issue of price discrimination through arbitrage to a certain extent. In so doing, all participants in the market are assured of appropriate pricing for the goods and services which they make use of. Competition policy in this context also ensures that goods and services are not moved from a more competitive market to a less competitive market in order to increase profits through arbitrage.

5.1.6 Strategic Reasons
Competition policy can be used as a tool to protect local industries against the threats of foreign firms. Competition policy can be enacted against dumping of goods by foreign firms. Dumping is a situation whereby foreign firms sell below their costs on an external market to the detriment of local firms. When competition policy is used to enact laws against such practices, it is known as anti-dumping laws.

Governments may also opt for a more relaxed competition policy to help domestic firms set foot in foreign markets. The general belief is that a more relaxed competition policy will help domestic firms be more successful abroad on the same level as their foreign rivals.

5.1.7 Environmental Reasons
Studies of competition policy might warrant the argument that competition policy is only aimed at creating a level playing ground for firms in achieving economic efficiency through the efficient distribution of resources. This might be right to some extent. However, competition policy has some environmental considerations to it as well. Competition policy might be used in setting the minimum acceptable environmental standard for products traded on any market. For instance, Lopez (2000) argues that the European Commission has approved an agreement for producers and importers of washing machines which together account for 95% of European sales to allow the discontinuation of least energy efficient washing machines. As such, this
agreement might negatively affect competition and increase prices because the least energy efficient are the less expensive ones. The commission however was of the view that the agreement will benefit society in the long-term environmental outlook which will allow for the reduction of energy consumption. This is because consumer to a certain extent does not take energy savings into consideration when making their purchase decisions and as such, such an agreement will help realise the environmental externality associated with the purchase of high-energy consuming equipment.

5.2 Public Policy and Antitrust Legislation

From the onset, governments have proclaimed competition to be good for consumers and monopoly to be bad. This notion has been the backbone of competition policy in several economies and hence, the need for politicians to enact competition policies. Consider a demand curve for a commodity and a flat average cost curve, $AC_c$ as shown in figure 3. Under perfect competition, the price will be equal to $AC_c$ which will be equal to $P_c$ and the quantity of the product produced and sold will be $Q_c$. Under a monopoly, the monopolist will restrict output to $Q_m$ which it can then sell at $P_m$. If however, the formation of the monopoly allows the monopolist to take advantage of certain production efficiencies then the average cost drops from $AC_c$ to $AC_m$ as can been seen from figure 3.

According to Hunt and Arnett (2001) the triangle I represents the “deadweight” welfare loss resulting from the resource allocation inefficiency of monopoly. In contrast to perfect competition, the market forces of supply and demand would have allocated more resources towards this commodity. The price hence, will then be $P_c$ and quantity supplied would have been $Q_m$, instead of $P_m$ and at quantity $Q_m$.

Furthermore, area R represents an estimate of the rents or economic profits that accrue to the monopolist. At price $P_c$, no economic profits are earned, according to Hunt and Arnett. Therefore, in their opinion, area R represents a transfer of wealth from buyers of the commodity to sellers of the commodity.

Lastly, Hunt and Arnett argue that area E is an estimate of the resource cost savings as a result of the shift from perfect competition to monopoly i.e. through mergers. In comparison to area I, they argue that area E is a societal efficiency gain.
5.3 Competition Policy vs. Industrial Policy

5.3.1 Industrial Policy
Industrial policy in contrast to competition policy does not serve the same purpose. In developed economies, the existence of an industrial policy is primarily to protect certain industries. As mentioned under section 4.2.3, competition policy like Article 81 of the EU has some exemptions to it and these exemptions can be classified as industrial policies. Industrial policies according to Pittelis (2006) can be defined as “a set of measures taken by a government and aiming at influencing a country’s performance towards a desired objective. Johnson (1984) defines industrial policy as “the initiation and coordination of governmental activities to leverage upward the productivity and competitiveness of the whole economy and of particular industries in it. The OECD defines industrial policies as “being concerned with promoting industrial growth and efficiency”. This definition lies well with the aims of some of the exemptions that occur under US and EU competition policies.

Driscoll and Behrman (1984) contends that industrial policies in their current use denotes the promotion of specific sectors rather than industrialisation overall. They go
on to say that industrial policies are direct, micro and selective. Driscoll and Behrman (1984) also note that governments enact industrial policies to alter the decision making of companies or to alter market signals. In their view, such policies as industrial polices in contrast to competition policy are means of “legal discrimination” which seeks to support losers whiles at the same time, stimulating advancing sectors.

Between competition policy and industrial policy, one could even be led to believe the notion that competition policy contradicts industrial policy and that industrial policy has proved pivotal for the economic growth of most industrial countries. This connects with the infant industry argument that protecting domestic industry will in time allow it to grow competitive. This might be true in the short-run, but in the long-run, only through fully exposing domestic industry to competition can full competitiveness be developed, according to a 2007 UNCTAD report.

Proponents of the infant industry argument commonly point to Japan and Korea where co-operation was initially favoured over competition. Over time, competition has grown more and more important as indicated by the revitalization of Japanese competition policy. The Korean government too favoured co-operation over competition but competition still proved to be fierce with substantial inter-firms rivalries. (UNCTAD 2007)

In recent years, the use of industrial policy and co-operation has gained some momentum, particularly in public-private endeavours; so-called clusters initiatives, formed to create agglomerations. Economic theory and empirical evidence point to agglomerations as a driving force for competitiveness by way of innovation and increased productivity. Though cluster initiatives to some extent must involve co-operation, clustering and inter-firms co-operation is not equivalent to collusion as noted by Porter. According to Porter (1998) competition is vital for the survival of a cluster and that co-operation in clusters usually takes place vertically between firms, that is, between firms upstream and downstream, not horizontally.

In many industrial countries, vertical co-operation between firms can be targeted by competition policy and as such, public policy on competition should therefore provide room for public-private cluster initiatives as well, and to a certain extent, vertical co-operation.
From the above, it is evident that competition policy and industrial policy do have some conflicts, which makes the other less favourable depending on which side of the scale one is on. First of all, industrial policy generally does not favour competition policy because an industrial policy mainly seeks to highlight the performance of efficient sectors as against the less efficient sectors. This can be argued by the fact that exemptions which occur in competition policy mainly do so because such efficient sectors as insurance, agriculture and fishing cooperatives, export cooperatives etc. These sectors already have successful industrial policies, which contribute significantly to the growth of the economy, and as such, governments are hesitant in implementing competitive policies which will hamper their contribution to the growth of the economy.

In the U.S such industrial policies are known as “intervention policies” which the federal government employs in ensuring that certain aspects of the economy are not within the reach of competition policies. For instance, the US federal government has polices in placed such as international trade restrictions, international investment restrictions, “Buy American” policies for government procurement, agricultural policies that subsidize and protect domestic farmers against the threat of foreign imports, as well as tax and subsidies policies that favour some industries over others. Such policies go a long way in dampening the spirit of competition policy.

Advocates of competition policy might be tempted to think that competition policies are always in the best interest of the economy but as white (2008) puts it “there are of course legitimate market failure arguments for modifying market outcomes including problems of significant spillovers or externalities and significant information asymmetry problems”. As such, competition policy should not be expected to encompass remedies for these types of problems. Therefore, the need for additional polices such as interventionist policies is warranted.

Ackerman and Hassler (1981) however argue that interventionist policies are primarily concerned with rent-seeking and income redistribution. They contend that even such polices which are truly aimed at dealing with externalities such as environmental pollution; rent seeking often inhibits the development of programs that would encourage competition and enhance efficiency.
6 Theory of Growth

So far, the forgone discussion of this paper has been centred on the theory of competition and competition policy. Despite the enormous literature abundant on the theory of competition and its influence on growth, there seems to be limited empirical studies on the issue of competition and how it affects growth in the economy. To this end, the author of this paper has chosen to incorporate empirical evidence which links economic growth to increased or decreased competition through competition policy.

Empirical literature on the issue of growth has been centred on two main growth models, namely: Exogenous or the Neo-Classical growth model as postulated by Robert M. Solow and the Endogenous growth theory also known as the New Growth Theory.

6.1 Exogenous Growth Model

The main idea\(^{14}\) behind the exogenous growth model is that capital (as a factor of production) is liable to diminishing returns. Assuming a fixed stock of labour, the impact on output of the last unit of capital accumulated on the previous unit of capital will always be less than the one before. Again, assume technology progress is constant and there is no technological growth or growth in the labour force, diminishing returns will imply that at some point, the amount of new capital produced will only be enough to make up for the amount of existing capital lost due to depreciation. Based on the assumptions of no technological progress and no growth in the labour force, the economy will cease to grow\(^{15}\).

In the short run, the rate of growth as the economy converges to what Robert Solow describes as the “steady state” is determined by the rate of capital accumulation. The short run effects of the exogenous growth model is also accountable for policy measures like tax cuts or investment subsidies which affect the steady state level of output. Capital accumulation, on the other hand, is in turn determined by the savings rate (the proportion of output used to create more capital than consumption) and the rate of capital depreciation.

\(^{14}\) Ideas presented here are based on a summary of books on exogenous growth models and the author would like to make readers aware as such.

\(^{15}\) This idea was hatched by the author through the laws of diminishing returns which can be read in any basic economic literature.
The long run effect on the rate of growth of exogenous growth models is determined outside the boundaries of the model. The most common prediction of such models is that the economy will always move in the direction of the steady state rate of growth, dependable on the rate of technological progress and the rate of labour force growth. Thus in effect, a country with a higher rate of savings will experience explosive growth.

Empirical evidence for the existence of neoclassical growth models is that income levels of poor countries have the tendency of circulating around that of rich countries. This evidence is stronger for within country convergence leading to the adoption of the conditional convergence concept. The main determining factors for convergence is based on characteristics of the economy such as

- Institutional arrangements or industrial policies,
- Trade and competition policies with other countries and
- Education policy.

The exogenous growth model is derived from the aggregate production function:

\[ Y_t = k_t^\alpha (A_tN_t)^{1-\alpha}, \]

where

- \( A_t \) - Productivity level
- \( N_t \) - labour force
- \( Y_t \) - Output

This production function links output \( Y_t \) to inputs \( K_t \) and \( A_t \). Theory of growth from the production function is derived from the specification of the evolution of \( K_t \) and \( N_t \) over time. From the onset, it is assumed that the labour force and the level of productivity are constant over time, \( N_t = N \) and \( A_t = A \). Again, we assume that there is a constant proportion of output is invested in capital in each period under study, such
that $0 < S < 1$ and investment $I_t$ satisfies the equation $I_t = sY_t$. In each period, a fraction of $0 < \delta < 1$ of existing capital depreciates. Thus,

$$K_{t+1} = (1 - \delta)K_t + I_t = (1 - \delta)K_t + sY_t = (1 - \delta)K_t + sK_t^\alpha (AN)^{1-\alpha}$$

The change in capital, which results from the proportion of output invested in capital, therefore, has an effect on the economy which can be modelled as

$$K_{t+1} - K_t = sK_t^\alpha (AN)^{1-\alpha} - \delta K_t$$

In the nutshell, the change in capital is actually the difference between new investment and depreciation.

**6.1.1 Exogenous Growth Model Explained**

![Figure 4. Solow Growth Model](image)

Section 6.1.1 begins with an explanation of one of the most popular exogenous growth models advocated in our time. The model is made up of elements of the production function as denoted by
n = population growth rate

d = depreciation

k = capital

y = output per worker

L = labour force

S = saving rate.

The model is based on the neoclassical production function, \( y = f(k) \) which implies that output per worker is a function of capital per worker. This function assumes that, there are diminishing returns to capital as can be seen by the slope of the red production function in figure 4. The diagram is based on the assumption that when the savings rate is greater than the population growth rate plus the rate of depreciation, then capital per worker increases. If this phenomenon continues at a rate, which is enough to keep pace with the population increase and depreciation, it leads to a widening in the capital base of the economy.

Point A of figure 4 denotes the steady state of the economy as described by Solow. At the steady state, output per worker is constant. However, total output grows at the rate of n, the rate of the population growth. The left hand side of point A denotes a greater savings per worker than the amount needed to maintain a steady level of capital. In effect, capital per worker increases. On the other hand, to the right of point A, capital per worker decreases as a result of the lack of investment to combat population growth and depreciation. The result is that, output per worker decreases from \( y_2 \) to \( y_0 \) as can be seen from figure 5 below. In figure 5, the second savings function \( s_1 \) indicates a higher savings rate. It shows that an increase in the saving rate shifts the whole function up. Savings per worker is now greater than the population growth plus depreciation, so capital accumulation increases, which in turn shifts the steady state from point A to B. From the graph, we can see that output per worker correspondingly increases from \( y_0 \) to \( y_1 \). At the onset, the economy expands at a faster rate and eventually, returns to the steady state of rate of growth, which equals n.
A major fallacy of the model is that it is not a model geared for long run economic growth. There is no further growth of the economy once the steady state capital, $k$ is reached. At this point, the economy stagnates.

In order to explain sustained economic growth which is exhibited by real world economies, the assumption of constant labour force and productivity needs to be abandoned. This leads to the assumption that both productivity and population grow at a constant rate. Thus

$$A_{t+1} = (1+g)A_t$$
$$N_{t+1} = (1+n)N_t$$

Where $g$ represents the growth rate of productivity and $n$ represents the growth rate.

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**Figure 5 The Solow Growth Model with Changes in the Savings Rate**

6.2 Endogenous Growth Model
Contrary to exogenous growth models which builds on the assumption that the long run rate of growth is externally determined by assuming a savings rate or a steady rate of technological progress, endogenous growth models or the new growth theory...
which was developed in the 1980s tries to explain growth from a microeconomic point of view and gradually extending this point of view to macroeconomic foundations. In endogenous growth models, policy measures are assumed to have an impact on the long-run growth rate of an economy. This can be explained by for example the case of subsidies. The incentive to innovate and thus achieve a higher competitive status is encouraged through subsidies on research and development. Firms will most likely venture into the research and development of products and services where governmental subsidies are available. This is a natural phenomenon supported by the fact that firms wants to minimise their losses in the research of new products. As such, if governments make subsidies available in the R&D of such new products, firms are most likely to enter into such ventures. The primary aim of such ventures by firms may be to develop products to attain competitive advantages.

An interesting attribute of endogenous growth theories is that often, the marginal product of capital does not tend towards zero. In other words, this attribute of endogenous growth theories does not seek to imply that larger firms will be more productive than smaller ones. This is because at the firm level of production, marginal product is constantly diminishing.

Endogenous growth models or theories are different from that of exogenous growth theories in that in exogenous growth models, one cannot substitute labour for capital in production (Solow 1956, p.65). According to Solow, models of economic growth in the neoclassical tradition have focused on the role increases in net investment plays in driving an economy’s growth. Endogenous growth models are better suited towards the idea of innovation and competition based on the fact that these models incorporate policies geared towards competition, change and innovation. As noted by Howitt and Aghion (2006), “sustained economic growth is everywhere and always a process of continual transformation. The sort of economic progress that has been enjoyed by the richest nations since the industrial revolution would not have been possible if people had not undergone wrenching changes. Economies that cease to transform themselves are destined to fall off the path of economic growth. The countries that most deserve the title “developing countries” are not the poorest countries in the world, but the richest. They need to engage in the never-ending process of economic development if they are to enjoy continued prosperity”.


It is evident that Aghion and Howitt have come to the full realisation that the attainment of economic growth is not enough to sustain prosperity. Nations need to keep on innovating and obtaining the best use of their resources if they are to ensure the continual enjoyment of economic prosperity.

6.3 Endogenous Growth Model and Economic Integration

This section is based on a study conducted by Rivera-Batiz and Romer (1991). In their study, “Economic Integration and Endogenous Growth”, Rivera-Batiz and Romer sought to model the effect of economic integration on the economies of developed countries based on endogenous growth. In their study, they hypothesized that economic integration can cause a permanent increase in the worldwide rate of growth. They based their model derivation on the R&D sector of two developed economies, U.K and the U.S, each with the same level of endowment and technology and thus eliminating any imbalances in the derivation of the model.

First of all, Rivera-Baitz and Romer looked at the flow of goods and ideas and concluded that the flow of ideas should be apportioned the same importance as the flow of goods along a cargo network in that government policies can affect the flow of ideas across national boundaries as it does to the flow of goods. They conducted three experiments between the flow of goods and the flow of ideas between two economies and concluded that

1. The free flow of goods does not affect the split of human capital between manufacturing and research and hence, does not change the balanced rate of economic growth or the interest rate.

2. Communication of ideas speeds up growth because increases in the set of ideas available for use in each country’s R&D sector increases its productivity in the manufacturing. This change in relative productivity induces a shift of human capital out of manufacturing and into research.

3. Complete integration causes a permanent increase in the rate of growth.
In arriving at these conclusions, Rivera-Batiz and Romer distinguished between two types of effects, namely, level effects and growth effects. Level effects were described as the gains that accrue to the economy in the short run whereas permanent changes to the growth rate of the economy due to economic integration were labelled as the growth effect. They noted however that attempts at quantifying the effects of integration using neoclassical growth models often suggest that gains from integration are small and insignificant. In the context of endogenous growth models, integration might be found to be much more important.

In their experiment, Rivera-Batiz and Romer specified two models based on the manufacturing sector and R&D.

6.3.1 Manufacturing Sector
In the manufacturing sector, two types of manufacturing activities were established, namely production of consumption goods and production of the physical units of the types of capital goods that have already been invented. Both manufacturing activities use the same production function specified as

\[ Y(H,L,x(.)) = H^\alpha L^\beta \int_0^A x(i)^{1-\alpha-\beta} di, \]

where

- \(X(i)\)- Stock capital of type \(i\) used in production
- \(A\)- Index of most recently invented good
- \(Y\)- Aggregate Output
- \(H\)- Human capital
- \(L\)- Labour

This model makes it possible to produce one unit of a capital good if one unit of consumption good is foregone. The authors were quick to point out that this relation does not imply that consumption goods are directly converted into capital goods but rather, the inputs needed to produce one unit of consumption are shifted from the production of consumption goods into the production of capital goods. Since output
from the two different manufacturing sectors uses the same production function, the authors went on to combine the two outputs into a single sector output and to represent the total manufacturing output as a function of the total stock of inputs used in the combined manufacturing sectors and described the division of inputs between the sectors by the equation

\[ Y = C + K \]

Where C represents the inputs of consumer goods and K represents the Stock of capital goods.

6.3.2 Research and Development (R&D)

With regards to research and development, Rivera-Batiz and Romer specified two models for the R&D process. First of all, they specified the Knowledge-driven specification of R&D. In the knowledge driven-specification of R&D, it is assumed that human capital and knowledge are the only inputs that influence the output of designs. The model was defined as

\[ \dot{A} = \delta HA \]

Where

\( A \) - Denotes research and development

\( \dot{A} \) - Denotes the stock of general scientific and engineering knowledge as well as the practical know-how that accumulates from previous designs in the engineering process. This is equivalent to the index of the most recently invented good as denoted in the manufacturing production function above.

\( H \) - denotes the stock of human capital used in research.

The authors contended that neither unskilled labour nor physical capacity has any value in R&D.
Rivera-Batiz and Romer went on to specify a second model for the R&D process which contradicted their first R&D model. They named this model the lab equipment specification of R&D. In this model, they specified R&D as

\[ \dot{A} = B H^\alpha L^\beta \int_0^{A} x(i)^{1-\alpha-\beta} di \]

which implies that R&D is makes use of human capital (H), unskilled labour (L) and capital goods (B). The contradiction in this model to that of the first model for R&D lies in that fact that in the latter model, the authors claim that knowledge in itself does not have any productive value. They argued that if a nation has access to the designs for all previous goods and are familiar with the ideas and know-how that they represent, this knowledge will not be helpful in the creation of new designs. This fact is particularly evident in the real world case of China and that of the industrialised nations. Knowledge of goods produced in other economies does not help China produce or create new designs but rather, the production of similar goods that in turn are classified as copy products.

In effect, River-Batiz and Romers concluded that the flow of ideas that stem from economic integration could speed up growth. This conclusion was established from the knowledge-driven model of the R&D process. However, the lab equipment model of the R&D process concluded that closer integration could speed up growth even in a model in which the flow of ideas has no effect on production. This is because, as argued by the authors, ideas, and in this case, knowledge in itself is not useful in the production process but rather, a combination of knowledge and human capital can speed up growth in an economic integration.

One interesting conclusion drawn by the authors was that knowledge spillovers are fundamental in the integration process and that increasing the extent of the spillovers is how integration speeds up growth. On the contrary, the lab equipment models proved this to be false because the lab equipments model does not factorise knowledge spillovers in its specification.

Again, increasing returns from the lab equipment model can be enjoyed by both parties in involved in an integration because in the lab equipment model, the production function \[ \dot{A} = B H^\alpha L^\beta \int_0^{A} x(i)^{1-\alpha-\beta} di \] exhibits constant returns to scale as a
function of H, L, and capital goods, \( x(i) \). The fixed cost that is present in this model comes from the cost that be incurred to design a new good. With integration, this fixed cost needs to be incurred only once. Under isolation, it must be incurred twice, once in each country (Rivera-Batiz and Romer, 1991).

Though River-Batiz and Romer sought to outline the advantages of having an economic integration between two countries with the same amount of technological endowment, Grossman and Helpman (1990) documented that trade between countries that have different endowments or technologies will induce shifts between the manufacturing sector and the R&D sector that can either speed up or slow down worldwide growth.

The models specified for the R&D process as well as the manufacturing production function are well suited for economic integration between countries or regions of the same economic endowment. These models do not apply well to economic integration between two regions with unequal economic and technological endowment. Since this paper is about the possible integration of the competition policies of two developed regions of the world, each assumed to have the same technological know-how, we can use these models in the further analysis of how competition policies can contribute to the growth.
7 Analysis of the Theories of Competition and Growth

7.1 Is there Evidence that Competition Policy can Contribute to the Growth of An Economy?

In order to answer the above question, we need to cast our minds back to the precluding chapters of this paper. First of all, we have identified what competition policies entails, given components of competition policies, and named a few cases where such components of competition policies were breached. We then went on to discuss the issue of growth in its various forms and which factors that can contribute to growth.

An appropriate competition policy can contribute to growth as outlined by Aghion and Howitt (2005). In their paper on Appropriate Growth Theory, they argued that an appropriate growth policy, be it competition policy, entry polices or educational policies vary with a country’s institutions and that countercyclical macroeconomic policies promotes growth.

This idea is however not shared by Easterly (2005). Easterly contends that no linear relationship exists between policy and growth (Easterly 2005).

Innovation and productivity growth have long been considered together by economists with the idea that the greater a country’s innovation abilities are, the more competent it will be against its competitors. Thus innovation plays an essential part in the growth and development of the economy.

Again, according to Aghion and Howitt (2005), countries need to catch up with the technological frontier in order to be innovative and efficient, as already mentioned under section 3.2. In order to catch up with the technological frontier, Aghion and Howitt argue that countries should attract know-how or technological spillovers from frontier firms in more developed countries. Creating an investment atmosphere that is attractive for foreign direct investment in the form of social peace, adequate infrastructure, macroeconomic stability and collaborative ventures between local producers and frontiers buyers can do this.

Competition policy per se cannot be said to contribute directly to economic growth but rather, the spill over in the form of creative ideas and new products which helps
firms stay in competition contribute indirectly to economic growth. Thus in effect, as Easterly concludes, there exist no linear relationship between competition policy and growth but in the context of endogenous growth models, through innovation, research and development of new products, competition policy can be said to contribute to economic growth as outlined under the foregone discussions on endogenous growth models.

7.2 Challenges of a Joint US and EU Competition policy
The question to ask here is “why is a joint US and EU competition policy of interest amidst the several forms of convergence currently taking place on the global market.

It will be worthwhile to note that a combined competition policy between the EU and the US will go a long way in helping establish strong competition policy networks across the globe. First of all, the EU and US together stand for a greater percentage of all international cooperation with regards to technical assistance, experience in enforcing competition policies and economic power. These factors combined, gives the EU and the US a greater degree of freedom to disseminate the effects of their competition policies in other parts of the world.

Due to globalization, mergers and acquisitions, abuse of dominant power, cartels and all anti-competitive behaviours do take place across national boundaries. To this effect, a harmonization of the competition policies of firms from these two regions, namely the EU and US will go a long way in promoting fair economic conditions for consumers in their jurisdiction. A brief description of each phenomena will be appropriate in order to fully understand the impact of a joint competition policy between the US and EU.

7.3 Similarities between EU and US Competition Policies

7.3.1 Cartels
A quick look at the treatment of cartels by the EU and the US tells us that both the US and the EU handle cases involving cartels as serious anti-competitive behaviour. Much resource has been devoted to detecting such behaviours and other arrangements
outside the scope of competition policies. Sanctions for indulging in such behaviour has been increased to deter other firms from engaging in the establishment of cartels. For example, Ireland and the U.K, two EU member states have adopted policies similar to that of the US that seeks the imprisonment of individual offenders in cartel formation (Kovaic, 2008).

Laws forbidding the formation of cartels in the EU have converged to that of the US where leniency is quite often evoked in cases involving the formation of cartels.

7.3.2 Horizontal Mergers

There are a lot of similarities between the horizontal merger policies of the EU and the US taking into account, the revision and changes which have characterised both jurisdictions in the past 20 years. For instance, both jurisdictions demand that the proof of anticompetitive behaviour lies on prosecutors who are charged to prove how collaboration among firms in any case of horizontal mergers will take place at the completion of a merger.

7.3.3 Government Intervention in the Economy

The EU and US both reflects how the different form of government interventions like subsidies can cause harm to competition. Competition authorities from both sides are aware of the potential dangers government imposed barriers to rivalry in certain industries pose to competition. Anticompetitive government interventions are evident in sector performance studies and the initiation of advocacy projects.

Enforcement officials in both jurisdictions have a shared concern of state restraints on competition. However, the EU system provides a better platform to address such concerns. On the other hand, the US system has no such platform in addressing such issues as raised by the competition authorities. Furthermore, the Parker Doctrine\(^\text{16}\), which exempts certain state, mandated actions against anti competitive behaviour, has no equivalent in the EU. This parallel in policies as outlined under this section and the preceding ones create similarities in EU and US competition laws.

\(^{16}\) The Parker Doctrine as it is known was a case brought against a California Raisin farmer in 1942. The Doctrine holds that state mandated or directed restraints are exempted from antitrust liability. The same holds true for the EU as well, where decision taken by member states that match the breadth of a state action are immune to anti competition laws. Source: [http://www.antitrustinstitute.org/Antitrust_Resources/Antitrust_EXEMPTIONS/State_Action_Parker_v_Brown/index.ashx](http://www.antitrustinstitute.org/Antitrust_Resources/Antitrust_EXEMPTIONS/State_Action_Parker_v_Brown/index.ashx)
7.4 Dissimilarities between EU and US Competition Policies

7.4.1 Abuse of Dominance
Much doubt exists to the statutory texts of the EU and the US in the treatment of dominant firm conduct. In consideration, the US has no clause in their competition policy when it comes to abuse of dominance through excessive pricing as outlined by Article 82 of the EU Treaty. In the EU however, the EU commission itself has not invoked its authority over the use of excessive pricing. Rather, member states have shown a greater interest in applying these measures under their own competition laws. Under the terms of Article 82, the proof of burden is placed on the prosecutor to show that anticompetitive behaviour (e.g. tying) was likely to have anticompetitive effects.

Section 2 of the Sherman Act provides a lesser zone of liability in contrast to Article 82 when interpreted by the various courts of the EU and the US. As noted by Kovacic (2008);

“The interpretations of Article 82 by the Court of First Instance (CFI) and the court of Justice have tended to create a wider zone of liability for dominant firms than the decisions of the US courts under Section 2 of the Sherman Act”.

Accordingly, Kovacic contends that in the treatment of abuse of dominance, the EU courts can declare a firm to be dominating a market if its market share is somewhat below the below 40% whereas in the US, market share below 50% are not usually treated as monopolization or as having substantial market power.

7.4.2 Non-Horizontal Mergers
EU laws on competition creates a greater avenue for intervention in the merger of firms and both non-horizontal and vertical transactions. In the possible event of a convergence of the competition policies of the EU and the US, the question to be asked is how these avenues offered by the EU will be pursued? This is because in the EU for instance, the Court of First Instance puts the burden of proof on the Commission in cases of horizontal mergers. It is the commission which has to prove that firms are involved in a merger to form a conglomerate. This can be seen in the
case of Tetra Laval\textsuperscript{17} and GE- Honeywell\textsuperscript{18}, where the Court of First Instance found that the European Commission had failed to provide adequate proof to establish a violation of the competition policy of the union.

\section*{8 Conclusion}
This thesis has been based on competition policy and the impact it has on economic growth. We began by looking at the various forms of competition policies in the European Union and the US and outlined some of the major policies that has shaped competition in these two regions accordingly.

It became evident that competition policy became a tool for preventing the exploitation of consumers back in the 19\textsuperscript{th} century by big US companies known as trusts. Since then, competition policy has played a vital role in ensuring that resources are allocated as efficiently as possible through the existing forms of market interactions.

On the issue of competition policy and its impact on the growth of the economy, it became evident that competition policy per se does not directly impact economic growth but rather, through competition, firms are forced to innovate and bring on new products and ideas onto the market, in order for them to have a comparative advantage over other competing firms. Therefore, through the policies outlined in competition policies of both the US and EU, firms who are innovative enough to bring on new products to the market which they serve contribute their quota to the growth of their respective economies. In the nutshell, competition policies indirectly influence economic growth.

A possible convergence of the competition policies of the EU and the US was also touched upon. In a potential convergence of the competition policies of these two

\footnotesize
\textsuperscript{17} http://curia.europa.eu/jcms/jcms/j_6/home case T-5/02, Tetra Laval BV v. Commission, 2002


56
regions, it was argued the benefits of such a convergence could go a long way in shaping markets served by these two political powers. Endogenous growth models tells us that a potential knowledge spill over and technological know-how will help create long-term economic growth for any economy which involves itself in innovation and R&D. Moreover, the EU and the US could support R&D through economic subsidies to encourage firms to develop new products and ideas. Since the EU and US are both endowed in areas of technology and human capital, a convergent competition policy will go a long way in ensuring their leadership on the world global market for their products and services.

With this being said, it will be appropriate to point out that though this paper talks about the benefits of a convergent competition policy, much work needs to be done to streamline the policies of the EU and the US along a single path of action. For example, interventionalist policies which exists in the US should be done away with in the event of a possible common policy on competition. This is because interventionalist policies do not augur well for healthy competition and as such, certain sectors of the economy will thrive at the expense of others.

On the other hand, environmental lessons (as outlined in section 5.1.7) that have been learnt within the EU through the enactment of policies to curb certain anti competitive practices within the Union can be transferred to the US.

The author is of the opinion that a convergent competition policy will do more good and the externalities that will be derived from such common policy could help other nations in shaping their policies on competition.

8.1 Suggestions for Future Research
This paper was written against the backdrop that competition policy has an influence on economic growth. Suggested future research could look into evidence which suggest a direct relationship between competition and growth. Thus, the author is of the view that future research should not be based on competition policy but rather, competition as it exists in the various sectors of an economy and its influence on economic growth. Furthermore, the author of this paper would like to suggest that future research on competition could focus on the effects competition policy has on the economies of developing nations.
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