Fallacy of the CFM:
The Fallacy of the Circular Flow Model and Implementation of Four Dimensions to Represent and Embody the Flow of Economics as Determined by Monetary Power and Other Determining Factors

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Honors Advisory Seminar
RSCH 3001
CRN # 23695
Winter 2007-2008
12 January, 2008
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Chapter I Introduction

The history, definition, and context of the CFM.

Frédéric Bastiat (1985), the revolutionary French economist once quoted: “‘But,’ people may insist, ‘it is not enough to tear down; you must offer something constructive.’ I, for my part, think that to tear down an error is to build up the truth that stands opposed to it” (1125). This essay breaks down the numerous errors in the circular flow model—the widely recognized and scholarly economic model—to argue a fallacy of composition that has mislead many modern economists and scholars, and greatly distorted the image of what the different sectors and components of an economy entail. Consequently, this composition argues the following:

the commonly used circular flow model is an inaccurate application of economics due to a very simplified representation of its components and a lack of mention with regards to the invisible hand, outsourcing, corruption, politics, philosophy, and other determining factors including the size and importance of the government in relation to businesses and their monetary power. Furthermore, the following evidence provides a strong argument against the application of the circular flow model in order to abolish its primitive use from economic textbooks and scholarly articles.

The first officially recognized sketch, which economists considered the Circle of Universal Industry, or the modernly known Circular Flow Model (CFM), dates back one-hundred and fifty-eight years and it is representative of free market ideals and industrial illusions.

The basic model consists of a circular diagram that embraces four main sectors and holds an additional connecting sector in the middle. The sectors are: households (HH), product market
(PM), Business (Biz), resource market (RM), and government (G) as demonstrated in diagram 1.1.

Diagram 1.1

Each of the sectors relies on the others in an intricate exchange of goods and services for an even flow of money. For example: the household sector provides a good or service, i.e. labor, in exchange for a stream of revenue, i.e. a worker’s wage. These sectors are held in place by the delicate balance between the productivity of an economy. And in light with the different stages of economic development or periods, the sectors fall or rise simultaneously.

Nevertheless, the circular flow model is subject to various interpretations. According to Ephram Kleiman (1999), Frédéric Bastiat, interpreted the circular flow model, or the Circle of Universal Industry, as a model which more closely illustrated the “consumer surplus caused by an increase in productivity or by the abolishment of a monopoly,” and he argued, “less plausibly, that the total consumer surplus in society is distributed among all its members in what is implied to be an equal or at least an equitable manner” (371). In 1936, John Maynard Keynes, a
revolutionary economist from the Cambridge University, published *The General Theory of Employment, Interest, and Money* where the “business cycle” or microeconomic model was interpreted as the “logical link between investment and output as a whole and hence between investment volatility and output fluctuations” (Wood 1994: 359). Thirty seven years later, Don Patinkin (1973), who wrote *In Search of the Wheel of Wealth*, provided an interpretation in which he claimed that the model illustrated the value theory, namely to account for the differential roles that “families” and businesses fulfill in…a market economy” (365). Bastiat’s interpretation is much older than Patinkin’s and Keynes’ and was published in 1850 (371). Nonetheless, the main objective behind the model has remained the same over the past one-hundred and fifty-eight years.
Chapter II Fallacies of Composition

Why the Circular Flow Model is Not Applicable to Contemporary Economics

Section 1 Globalization

The models longevity, changes of the external environment, and the effects of globalization and technology on the CFM.

It is precisely the models longevity and ability to survive for over one hundred and fifty eight years which constitutes its largest fallacy. Although, the objective behind such a model remains true—only to a very limited extent—it has failed to adapt to the most recent decades of economic advancement. This is a crucial fault, because during the past century more aspects of the various industries, technology, scientific advancements, and human development have progressed more than during any other century in history. While the model has remained the same, absolutely every last detail of the external and internal economic environment changed: the sectors shifted away from the circles, some overseas due to trade, outsourcing, or technologies; new sectors were introduced to existing economies, such as the International Monetary Fund, or the World Bank\(^1\), which account as the main flow of income for developing economies; and in some cases, the sectors were entirely divided and the flow re-directed due to monetary power and social factors. In order to fully comprehend the changes which have swept over the economy and made the microeconomic model inapplicable, it is crucial that each factor is analyzed and traced to its effects.

The first series of events which affected the various economies was the merging of markets and the beginning of globalization. Trade\(^1\) has always contributed to a country’s riches and ability to expand its market; nevertheless, in the twentieth century, trade increased in
importance. Countries did not just trade with each other; they formed treaties, trade associations, and merged economies. As Thomas Friedman (2006) elaborates in *The World is Flat*, the United States can presently not endure economically without China and its cheap labor (246). Similarly, China cannot endure without the spending and flow of money which they receive in exchange for their cheap labor. This example represents a flow of money which leaves the United States in return for the goods and services which flow from China. This relationship defines globalization. It proves that an economy can no longer remain closed and succeed. In addition, it also demonstrates the need for a new and complex model of economics, one which is not satisfied by microeconomic considerations. The diagram below represents the flow of goods and services in exchange for money as exemplified by the United States and China and applied to the common circular flow model.

Diagram 2.1 United States and China

The above diagram illustrates how trade associations and treaties serve as a deviant in light of the circular flow model. Similarly, the North American Free Trade Association\(^2\) no longer allows for a circular flow model which singularly accounts for one economy. Consequently, if one objectively analyzes the value theory in terms of the NAFTA, it is clear that the flow of money
circulates intricately through various economies, forming an expanded monetary flow. This applies to all trade associations and even exports and imports. Based on this conclusion, it is either necessary to enhance the circular flow model to accommodate global economies, or devise a model for each economy which accounts for the streams of revenue from trade associations and outsourcing: this after all, constitutes an important external factor.

Simultaneously, as trade was exploding and unifying markets, another external factor started to grow and close the gap between economies: technology. Suddenly, after years of innovation and industrial progress, as Thomas Friedman (2006) first wrote, the world became flat (5). Although “flat” is only figure of speech, it is undeniable that technology affected economies around the world, particularly those in the developing and developed stage. Technology opened economies: it allowed for businesses where there was little chance for business before. For those countries, like India, which grasped the information era as it was growing, it was a ticket to revenue and economic growth. Technology turned into a competitive advantage which allowed them to compete on the world stage. At the same time, the communication process between India and the United States served to build a complex web of interactivity. This communication, enhanced through advanced technology, first set the stage for successful outsourcing. Businesses located in the United States could suddenly run calling centers in India. Accounts in the United States used computer programs which allowed workers in India to compute and calculated taxes almost overnight. These possibilities shifted the sectors of the economy and created a new flow of money in exchange for goods and services: an outside source which suddenly connected to all sectors of the circular flow model.

Moreover, technology played another part in the globalization and expansion of economies, it allowed for efficiency. Scarcity and choice no longer held the same connotation.
Scarcity was decreased and conversely choice increased. Of course, the demands of human nature as defined by economics are insatiable; nevertheless, advanced technology allowed for an allocation of resources that no longer limited economies and provided high costs of production. This efficiency also improved the quality and delivery of the goods and services. Trade heightened, and resources like fruit or timber turned into a commodity in the most distant corners of the world: this symbolizes the choice. As Keynes predicted, the efficiency increased the monetary flow throughout the circular flow model and increased gross domestic product (GDP) in all sectors of the varying economies. Yet, one has to keep in mind that these commodities were introduced into the economy from an external source, through a flow of money that paid labor across the oceans for products which would then sell in the product market of the model.

In addition, the equation below demonstrates how technology and efficiency contribute to globalization and the growth of GDP in all sectors of the CFM. Moreover, it also serves to include the definition of globalization as addressed in this essay:

\[
G = \downarrow TB \rightarrow CA \rightarrow \text{EFF(=P/A)} \rightarrow \downarrow S \uparrow C
\]

Note: Globalization (G) equals a reduction of trade barriers (TB), which leads to a competitive advantage (CA) which leads to efficiency-both productive and allocative (EFF(=P/A)), which leads to decreased scarcity (S) and increased choice (C). Also, to remain globally competitive countries must specialize; this means they must have a competitive advantage.

Last, but not least, technology also affected the circular flow model through elimination of the middle man. Computers, as well as globalization, are responsible for this. The growth of the e-commerce trade, especially on an international level, has provided the household sector with the ability to purchases raw resources or even products directly from the business or the producers. For many industries this has diminished and affected their product market. E-commerce also leveled business opportunities on a global scale, adding more power to the household sectors and allowing individuals to compete against businesses. Moreover, it created
one more external factor which affects the outflow of goods and services in exchange for revenue. All these shifts added components to the CFM which the microeconomic model does not take into consideration.

**Section 2 Government**

_The fallacy of the central government sector, the shift of power with the business sector, and the effects of religious and military control on the circular flow model._

Another fallacy in the CFM is the placement of its central government sector. The government sector serves as the link which embodies a flow of goods and services (i.e. government regulations, government funded programs, etc.) in exchange for taxes from all other sectors of the CFM. Yet, once businesses received the ability to communicate on heightened, fast paced levels, due in part to globalization and advanced technologies, there was a shift of power between the business and the government sector. The business sector received more money and grew in size, and suddenly corporations stated to influence elections, government policies, and even foreign policies. John Perkins (2004), author of _Confessions of an Economic Hit Man_, called this the corporatocracy and described it as, “the big corporations, international banks, and government…the three pillars” (31).

Approximately the past four decades have proved this shift in power and how corporations such as Wal-Mart, and oil organizations such as OPEC, control the most important assets of the United States. And this is not the only factor which has changed the sectors’ importance and role in relation to the CFM. In certain developing countries one could never apply the CFM with the government sector in the middle due to the following reasons: corruption, lack of government control, the invisible hand theory, the International Monetary Fund, and the World Bank.
Jeffrey Sachs (2006), in *The End of Poverty*, writes that Bolivia’s economy, for example, during the 1980s functioned entirely from the flow of money distributed by the World Bank (90). Consequently, the World Bank served as the temporary central sector which regulated and stabilized the flow of money in exchange for goods and services. Nonetheless, this pushed the government sector to the side and allowed for an outside sector to control the economy. That is, of course, exactly what the World Bank and the International Monetary Fund intended. It also occurs quite often that in those economies where there exists no central government, the powerful corporations and the corporatocracy take over. This is only one of the many factors that the CFM does not take into account, but for many developing or third world countries this is their largest problem: the fact that their country is run by businesses and that the government sector is either gone or non-existent.
Chapter III Microeconomic Application

The Lack of Consideration for Social, Political, and Environmental Factors

Section 1 Microeconomic Model

*The application of microeconomic theory and the lack of mention with regards to the political, legal, environmental and social factors.*

Despite the many fallacies listed above, which are representative of the CFM, the worst deterrents of the model are its lack of consideration of external and internal factors of the environment and its application to microeconomic theory. The immense complexity of economics and the merging of economies no longer allow for limited thinking; yet, economists and scholars continue to rely on a model which is completely microeconomic in an attempt to apply it to a macroeconomic level. This is dangerously misleading and can allow for many mistakes or misinterpretations.

In John Cunningham Wood’s (1994) critical assessment of Keynes, it is stated that Keynes wrote, “Economics is a science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world” (469). Keynes recognized the importance of a current model which spanned across various different sectors of an economy; nevertheless, it was also he who initially explained the model in microeconomic terms. Yet, it is unfair to state that the Keynesian theory is dead; after all, Keynes published *The General Theory of Employment, Interest, and Money* during a time when the economies, and the world in terms of economics, was not nearly as developed or complex as it is now.  

1. None of the changes described in prior parts of this essay were prevalent during
that time. Although a significant number of his theories are no longer accurate, they are by no means dead: they simply lack consideration for some of those changes which have transgressed the economic environment and elevated the intricacy of the study. As Wood (1994) writes perfectly in his analysis of Keynes work:

A model of this kind is, quite obvious, highly intractable. In its most general form, the model does not include any specific hypothesis on changes in independent variables and expectations that determine them: everything can change at any time, making the model appear too general. Therefore, the model has to be ‘tamed.’ (400)

When Wood (1994) mentions ‘tamed’ he refers to simple changes which can update the model and transform it to a more accurate representation of contemporary economies. Wood continues to explain:

First, the economist has to decide what variables to study (the choice of the model) and then to make a hypothesis on the values that those variables actually take. At this point, introspection-i.e., reflection on individual experience and reasoning through analogies from the individual level to the general level—is required. Dealing with psychological factors, and making generalizations about the values they tend to take on in the actual economic system, means speculating on people’s behavior and expectations in certain circumstances. For this purpose, generalizations from
individual experience, judged by intuitive thought and introspection, become important. (470)

Based on that knowledge, the following parts of the essay will cover some of the most important components which the CFM neglects to acknowledge, including social and political, and environmental factors.

**Section 2 Social**

*The Social aspect of economics and the inherent traits and behaviors of humanity which drive economics and affect the CFM and why social traits deserve just consideration in the model: the invisible hand.*

The first internal factor which deserves close analysis is the social factor. As Francisco Louçã (1999) states:

This can be seen most clearly if we consider the final goal of economic theory, which is to clarify the inter-relationship between the various factors, and to do so in such a way as to secure a basis for evaluating what practical measures are most suitable to promote socio-economic aims. (409)

Strangely enough, the world’s most renown and admired economist recognized the importance of the study of sociology and philosophy in terms of economics. After all, both the study of sociology and philosophy revolve around the reactions and actions of humans, which in turn serve as the driving forces of the economy. If the external factors are what compose the CFM, it is the essence of human behavior and thought which drives it. This refers back to the definition of economics and the belief that “greed,” a simple human trait, is the principal driver.²

In relation to greed, Adam Smith, philosopher and father of modern economics once wrote, “Consumption is the sole end and purpose of all production,” and he classified successful commercial societies, such as the United States, as “consumerist,” according to Charles S.
Griswold (1999: 16). From that statement, however, Smith transgressed to another important thought: he believed that the pursuit of wealth was often purchased at the cost of virtue, and he referred to this as the “corruption of the moral sentiments” (17). Griswold (1999) interprets these traits as a natural danger to the commercial society: “Greed, dishonesty, a willingness to exploit others, vanity; these are among the vices that both we and Smith associate with the promotion of our material well-being, or of what he calls ‘bettering our condition’” (17).

The statement above, unfortunately, delineates a harsh truth, especially because those traits are evident in almost all societies. The need for self fulfillment and search to decrease scarcity and increase choice—the greed, as mentioned above—holds the power to interfere with the sectors of the CFM in numerous ways. It is also caustic in nature and destroys the “circular” flow of money as depicted in the model: “It seems to allow one group to exploit another—say, those specializing in management to exploit the workers who assemble widgets” (Griswold 17).³

Adam Smith called this the invisible hand; an important economic term which accounts for the intangible traits and human behaviors which affect the economy; especially, in terms of greed and corruption. In many cases the invisible hand also accounts for the income inequality and the uneven distribution of wealth. Griswold describes it as a force that “like the divinities invoked by some ancient tragedians, transforms the good into the bad and even the bad into the good.” If the CFM is utopian, the invisible hand is best described as the anti-utopian. Essentially, the invisible hand is why monopolies exist and why the “flow” is in reality not circular. It is the social deviant which stretches the model away from its idealist representations of a perfect market economy and makes it inapplicable. Nonetheless, the invisible hand is not the only social trait which accounts for changes in the monetary power.
Keynes, who was also a philosopher, despite his microeconomic practice, believed that there were three fundamental psychological factors which economists needed to consider in relation to the flow of money. According to Woods (1994) they are the propensity to consume, the attitude to liquidity, and the expectations of future yield from capital assets (465). He thought one social aspect was the skill and quality of labor; the other he described as the three psychological factors. Although, he never built a new model or revitalized the “classical” version, Keynes was well aware that a more accurate model required a new set of variables, once which could explain the actual behavior of the economy, in particular, the “moral” nature of the economic science (471). In addition, he believed that social economists must “recognize that…economic behavior represents a complex intersection of the innate traits of human nature…and the peculiar or particular social institutions, social relationships, and social processes…through which the individual is socialized,” and that economists must develop a specific concept “of the motive-force in…human pursuits” (41).

Later in his work, Keynes added a lot of references which focused on expectations and rational behavior. He also took his philosophical views and applied them to his understanding of what would happen in a system where uncertainty was an inescapable fact of life (487). He felt that if he could explain the behavior of the people, he could better explain the behavior of the model; hence, he insisted on the importance of philosophy and social consideration. As far as Keynes microeconomic applications were concerned, John Cunningham Wood, author of John Maynard Keynes: Critical Assessment, appropriately writes:

…It is very interesting that Keynes who spent most of his life writing and thinking about open economies, on the whole wrote The General Theory in terms of a closed economy. In the modern
world, that is just impossible because we are so interrelated and so
have to bring back the open economy aspects of Keynes’
macroeconomics. (494)

Conclusively, it is clear that the social aspects of human nature in relation to economics are too relevant to ignore. Moreover, they account for internal and external factors that can create significant changes between the various sectors and the circular flow of money. Especially, the application of the invisible hand, and the consideration of corruption and other such inherent traits will help economists reach a better understanding of the appropriate use of the CFM and its accuracy to contemporary economics. Regardless, social economics is only one attribute which the microeconomic model neglects the address. In order for a macro theory to apply, it is also important to take into account the political and legal factors.

Section 3 Political

*Political, legal, and other such aspects which influence the flow of money.*

In opening this section of our subject the first general position which I desire to establish is this, that it would have been almost a miracle for any man living in the time of Adam Smith to lay even the groundwork for a science dealing either with political, social, religious, or moral problems which should have permanent and final validity and authority for men living at the present; and above all a Science of Political Economy. In the first place the great conception of Evolution with its dynamic point of view had not yet, except perhaps in the mind of Goethe and a few French Sociological Thinkers, even dawned on the intellectual world,
much less had any attempt been made to reconstruct the distinctly human sciences of Religion, Ethics, Politics, or Economics, on the lines of fundamental principle. And the consequence is that no system of thought having had its origin and development in the Eighteenth Century (Always barring of course the Mathematical and Physical Sciences, for reasons which we have given in our first chapter), but has become hopelessly antiquated and superannuated for readers of the present age; and the antiquity which was once the consecration of human thought and institutions has now become their tomb.

-John Beattie Crozier

This phenomenal description of economics in terms of the current environment, and the sectors which it neglects to illustrate, again represents the microeconomic theories which are no longer applicable. Since Chapter II Section 2 of the essay addressed the social component which is missing from the CFM, this section will closely look at the political and legal affluences in terms of the model and its effects on the five basic sectors.

First, it is important to recognize that although the government may no longer serve as a central sector of the model, the political aspects which relate to the economy are still a key concern. After all it is the policies and legalities that shape the form and grandeur of the model and its potential for growth. For example: if the political and legal institutions endorse trade and encourage globalization, the economy will grow rapidly with increased amount of GDP and capital investment. Conversely, if the laws and regulations of the legal system are incredibly tight with regards to foreign policy, trade, or even immigration, the limitations will serve to
tighten in the economy and shrink the size and power of the circular flow model. Consequently, it is important to keep these aspects in mind.

Second, it is strong policies and a great legal system which can ensure a circular flow of money in the model and prevent disruption from the invisible hand. As mentioned in Chapter II, Section 2 of the essay, it is the lack of appropriate political and legal implications in the internal environment of an economy that accounts for much of the corruption, distorts the balance of the sectors, and destroys the circular flow of the money. As long as there is control in the form of laws, rules, regulations, tariffs, and taxes—as well as industry controls—the chances of corporate power and conglomerate of the corporatocracy remain smaller.

Also, it is the documents and policies which protect the inherent human rights which would intertwine with the social factors to boost consumer confidence and encourage spending. This spending in turn can increased GDP and help establish the economic goals. Last, these examples serve to demonstrate how the political factor most often directly relates to the size and power of and economy and how it expands or shrinks the sizes of the sectors and the flow of money in exchange for goods and services.

Henceforth, all of these values and considerations are important for the overall accuracy of the CFM. Otherwise it as Crozier states, “…These old systems serve only to choke up libraries, to waste time, and to cumber the ground. Indeed there is no need for us to refute them, they have done that for us themselves…For where now are the political doctrines of ‘natural rights,’ and the ‘state of Nature,’ of abstract ‘liberty and equality,’?”

Section 4 Environmental

The social and political factors which affect the CFM are crucial. Nonetheless the environmental factor plays an equally important role, and as Cutler J. Cleveland (1999) wrote in a paper on Biophysical Economics with regards to the CFM, “These models have been criticized for their lack of a sophisticated and realistic treatment of the role of natural resources and ecosystem services in human economic affairs” (3). Similar to the political and legal aspects which can enhance the overall productivity of the model, various factors of the environment affect the monetary flow, including: biophysics, economic geography, climate changes, etc. It is also important to remember that the energy and resources derived from the environment serve as the underlying force for fuel efficiency, innovation, economic development, and production. In the past decade since environmental changes have become a principal topic, economists have finally begun to understand the importance of environmental consideration and have started to recognize the role which it plays in the development of economies. Nonetheless, as Herman E. Daly (1995) points out, there is still not enough application of the environment to the CFM:

It is impossible to study the relation of economy to the ecosystem in terms of the circular flow model, because the circular flow is an isolated, self-renewing system with no inlets or outlets, no possible points of contact with anything outside itself. Yet in economic theory the circular flow has the spotlight, while the concept of throughput is only dimly visible in the shadows. Consequently, the relation of the economy to its environment is a topic which economic theory has only occasionally illuminated and often obscured. (20)
Daly argues that the model is also seriously incomplete because it represents the circular flow of exchange value rather than the throughput of low-entropy natural resources from which all goods and services are ultimately derived (20). Howard T. Odum, a fellow biophysical economist, supported Daly’s views and pointed out that wherever a dollar flow exists in the economy, there was a requirement for an energy flow in the opposite direction (15). They referred to this as the “natural law” and subcategorized it into two components: physical and moral laws. The physical aspects included, “The regular course of all physical events in the natural order which is self-evidently the most advantageous to the human race” (4). The moral law included, “The rule of human action in the moral order conforming to the physical law which is self-evidently the most advantageous to the human race” (4).

Unfortunately, there is a problem if the economies indeed depend on the energy derived from fossil fuels or other such resources. As best demonstrated by the current price of oil, these resources are depleting and their scarcity labels them as a main source of controversy. Cutler J. Cleveland (1999) believes that approximately during the 1970s, scientists and economists used information on fuel dependency to argue that the United States should adopt stronger energy conservation ethics to offset diminishing supplies of domestic fuels and increased reliance on foreign sources of fuel (17). This dependency on fuels and the environment is clearer than ever before, they deserve timely consideration as a primary external factor in terms of economics. Moreover, it is possible to build an economic model around energy and the sector of the environment. Saudi Arabia would serve as the perfect example: their economy after all, literally relies on the fuel economy and their oil trade—OPEC—serves as the central sector of their monetary flow. The following diagram depicts Saudi Arabia and their dependency on oil:
Note: Please, observe how in this case oil is situated as the central sector and how it provides the main monetary flow. There is also a lack of government represented in this model, which is due to the fact that the economy is centralized around the oil industry more than government policies.

The equation below represent the relation between the environment and various additional factors which affect the CFM:

Environment $\rightarrow$ Biophysics $\rightarrow$ Energy $\rightarrow$ Technology $\rightarrow$ Productivity = Power (IH)

The second external environmental factor which deserves consideration in the CFM is the economic geography of a country. Although one may not apply it directly to the model in the form of a sector, one can demonstrate the effects of geography through the resource sector and the central sector—which if the country depends on a resource is comprised of their competitive advantage. Additionally, the mention of economic geography in relation to economics is important because it affects the part of macroeconomic theory which would heighten the model’s accuracy in terms with contemporary economics. If students and scholars are simply aware of the existence of this external factor and realize how it draws to certain economic events—it would increase the understanding of a model which accounts for many of the basic classroom lectures and theories. Jared Diamond (1999), author of *Guns, Germs, and Steel* describes the influences
of economic geography beautifully in his best seller. First, he describes the direct relation between an advantageous economic geography and successful economic development. He links these relations as follows: “Food production led to high population densities, germs, technology, political organization, and other ingredients of power” (386). Diamond argues, with a significant amount of scientific and genetic support, that the environment is the most important determining factor of economic success; indeed, he proves that the most modernly advanced societies are the ones which are located in ideal geographic locations. Diamond writes:

The remaining extensions of *GGS* [*Guns, Germs, and Steel*] has been into one of the central questions of world economics: why are some countries (like the United States and Switzerland) rich, while other countries (like Paraguay and Mali) are poor? Per-capita gross national products (GNP) of the world’s richest countries are more than 100 times those of the poorest countries. (438)

That answer is perhaps best explained through an economic model which takes into consideration the environmental factors which may have affected the social and even political progresses of an economy. If one can look at a country like Kenya and analyze its economic position in accordance with the geographic location, one can quickly draft a new applicable model which not only exposes many of the country’s weaknesses but considers the following factors: Kenya’s location in accordance with the axis theory, Kenya’s geographical barriers and loss of foreign direct investment (FDI), Kenya’s climate and resources, Kenya’s ability to produce or receive biophysical energy, Kenya’s levels of efficiency, technology, and GDP, Kenya’s infrastructure, Kenya’s position on the ladder of development, and as a consequence Kenya’s lack of monetary flow and government control, and as a last affluence, Kenya’s levels
of corruption and the invisible hand as a consequence of economic instability. The following model will attempt to break each of these factors into primary and secondary considerations, and will attempt to embody the relation of each in accordance with a slightly modified CFM.

Diagram 3.2

**Primary Considerations:**  
Kenya’s location in accordance with the Axis Theory  
Geographical barriers  
Climate  
Resources

**Secondary Considerations:**  
Biophysical Energy  
Technology  
Infrastructure  
Efficiency*  
FDI  
GDP  
Government  
Social  

*measured in terms of GDP and size of monetary flow

Note: The dashed lines represent an unstable flow—i.e. in this case an unstable flow of goods and services provided to the HH sector; hence, the high poverty levels. The HH also has no money to buy the products which; consequently, there is no line from the HH sector to the PM sector. The concentration of arrows on the BIZ sector also demonstrates a concentration of money in the BIZ sector, which in turn also forms the invisible hand (corruption) and allows the BIZ sector to take advantage and abuse the HH sector. Of course there is no central sector (government or competitive advantage) to take control of this situation or distribute the monetary flow.

The model above demonstrates the interconnectivity between each sector and the influencing internal and external factors of the geographic environment as they affect the economy of Kenya. The lack of a central factor, demonstrated by the void of a competitive advantage or government sector, explains how the monetary flow is not regulated. This void also indicates a clear lack of government regulation which also allows for a stronger intervention from the invisible hand—i.e. corruption. This further explains Kenya’s economic instability, income inequality—and uneven distribution of wealth.

The diagram below again demonstrates the ripple effect of the various determining factors:
Last, economists also need to account for regional changes in the environment, climate, etc. This is important because extreme environmental changes such as the Tsunami in Indonesia or hurricane Katrina in the United States leave huge effects on the monetary flow and resource sectors. Moreover, changes in the environment can immediately increase production prices and costs. For example, the increased temperatures and heat in Spain have made it extremely difficult for wine and olive growers to continue with their usual production methods; conversely, wine growers in California have taken advantage of the temperature changes to produce superb wines in ideal climates. The market of the coffee beans also depends largely on the climate and environment changes. When the tsunami hit parts of Indonesia, many of the fields it affected belonged to the coffee growers. Coffee and tea are huge exports in India; consequently, when these changes occurred the entire circular flow of money was decreased and most of the sectors where affected which distorted the usual economic flow. Furthermore, as with biophysics and economic geography, it is important to recognize the huge impact which climate has on the resource market. Economists often forget that the entire CFM is dependent on its surrounding environment for the provision of resources and energy. Energy allows for the flow of money in exchange for the production of goods and services; energy basically is represented on the CFM by the arrows that connect all sectors.
Conclusively, the environmental factors are so important that many scientists, including Daly, argue that it deserves to serve as the main focus and sector of the model. They believe biophysics and the environment deserve the central placement in a model which should incorporate all factors or at least represent the flow of value as energy instead of money. After all, one could rationally argue, as Odum did, that energy—derived from the environment and its resources—composes the main source of economic value.

**Section 5 Closed Economy**

*The CFM and its representation of a closed economy which supports a socialist, communist, or totalitarian system in theory.*

The CFM—even though it is perceived to embody a perfect free market economy—is misleading because it represents a closed economy which fits a socialist, communist or totalitarian model in theory. It accounts for no external factors and therefore no flow of goods and services in exchange for money which might possibly link to another economy or secondary source (i.e. trade, imports, exports, etc.). The CFM implies that an economy is perfectly “circular” and capable of maintaining itself through a stabilized and even flow of money. Unfortunately, this is rarely the case unless the economy is heavily controlled by either a socialist, communist or totalitarian system.

As written in Wood’s critical analysis of Keynes work on the General Theory with regards to the CFM as a closed economy:

*It is very interesting that Keynes who spent most of his life writing and thinking about open economies, on the whole wrote The General Theory in terms of a closed economy. In the modern world, that is just impossible because we are so interrelated and so*
have to bring back the open economy aspects of Keynes’
macroeconomics. (494)

Moreover, in a German edition of *The General Theory*, Keynes explicitly wrote that the theory of output as whole was much more easily adapted to the conditions of a totalitarian state\(^{10}\), “…than is the theory of the production and distribution of a given output produced under conditions of free competition and a large measure of laissez-faire” (52). Keynes, therewith dedicated an entire paragraph of his study to the accurate application of *The General Theory* to the functions of a totalitarian state where national leadership was more pronounced\(^{11}\).

Peter Boettke (1993), an economics scholar at the George Mason University, wrote with regards to socialism and the CFM: “The very idea of socialism is impossible. Socialism is not impractical, it is impossible. The idea is intellectually bankrupt” (9). Again, this statement relates to the assumption that all sectors on the model are moderately balanced and kept in place by equal distribution of income and wealth, which a socialist system would embody. Then, of course, there are always the communist systems as well. Theoretically, the CFM is accurately representative of a communist economy. First, it applies because communist economies are either regulated through a strong and pertinent central sector—or lack thereof—which closely regulates the flow of money in exchange for the flow of goods and services. Furthermore, communism aims to keep all sectors of the economy in perfect balance through an equal—yet limited—“distribution” of wealth. As a result, the economy is indeed circular and closed—due to the restricted exchange of goods and services, especially in relation to cross border trade. North Korea exemplifies this perfectly. Nevertheless, one of the main issues with these socialist and communist systems is that without an outside flow of goods and services, these economies cannot grow which eventually leads them to fall into a recession and then a trough. This also
explains why when communist economies suffer, liberal economists usually implement new policies which open the economy and allow for those outside resources which can once again expand the monetary flow.

Totalitarian, communist, and socialist economies are also restricted through their lack of competition. Unlike a capitalist economy–which in part comprises the economic system of the United States–a closed economy limits entrepreneurial abilities. The two diagrams below illustrate the main differences which account for open and closed economies:

Diagram 3.4
Closed Economy vs. Open Economy

Note: The above diagrams depict a closed and open economy in respective order. The GE in the second model represents Global Economies; the OS represents Outsourcing. In the open economy the business sector receives FDI from the GE (which could represent any international open economy). The sector GE also receives money from the BIZ sector for certain products which the GE market can also sell as products in the PM. For example, the items they provide to the BIZ sector could come in the form of a microchip which the Dell Company uses for computers; the stream of goods and services which the GE provides to the PM sector could represent items such as cars (i.e. foreign import).

Based on that nature, the CFM represents the closed economy, but does not apply to a free market economy. Nonetheless, this contradicts the very fundamental nature of the CFM as taught throughout universities and in numerous textbooks. Conversely, free market economies undeniably generate a large amount of their GDP in part through the numerous outflows and external inflows (i.e. trade, outsourcing). In addition the free market system is driven by greed,
entrepreneurship, and individualism: it is a reward system based on the right to property and freedom which allows any given sector to grow through entrepreneurial skills at any time. This ability of growth expands the model and shifts the weight alternatively throughout the sectors. In the United States, this is again exemplified through the growth of the corporatocracy—the network of business and institutions that are currently in economic power—versus the government.

Conclusively, even though the CFM was designed with the full intention to represent a free market economy, it has in the past 148 years of existence failed to account for the increase in trade, foreign dependence, outsourcing, and globalization—the external factors—which have allowed the economies, exempting the totalitarian, social and communist economies, to grow and expand. As a matter of fact, applied to current free market economies, the model is an immensely idealized representation of economics: an economic utopia which is merely representative of such highly idealized economic systems which highlight the socialist and communist theories of closed economies.
Chapter IV The New Four Dimensional CFM

Proposed New Four Dimensional CFM with the Inclusion of Affecting Internal and External factors

It is of extreme importance that this section not only introduce the new model but that it also explain the necessity behind the creation of a four dimensional model and some of the challenges with regards to its design. Nevertheless, it is first essential to recognize the controversy with regards to the CFM, described best by Keynes in his *The General Theory*.

The fallacies of composition as described in part III account for much of the disdain with regards to the Keynesian theory and the CFM; yet, while some proclaim that the Keynesian theory is dead, according to Vladimir Kraus (2005) the CFM continues to serves as “the conceptual framework for virtually all mainstream macroeconomic schools” (19). As the graduate student at the Universities of Paderborn explains about the model:

> It is allegedly nothing more than a handy tool to analyze and understand everyday economic relationships. However the analogy is misplaced…it is utterly and completely contradictory, thus intellectually useless and potentially a dangerous tissue of fallacies. (20)

According to Kraus it is worrisome that so many graduate and undergraduate level courses base their teachings on a model which most obviously does not apply to current economies. Richard B. Hansen, similarly expressed in an article on the study of economics: “Principles textbooks are very important. The perceptions of thousands of students are formed in their introductory courses. We must, therefore, scrutinize the content of these books to make sure that they contain both good pedagogy and good theory.”
However, this does not signify that the Keynesian theory is dead. A.J. Millmow, one of the many authors who analyzed Keynes work in John Cunningham Wood’s (1994) critical assessment, wrote: “Keynes is not dead, Keynes is very much alive and kicking” (496). Millmow hopes that the Keynesian theory, in the form of cyclical growth, will once again play a predominant role in economics. He has faith that the younger generation will learn to interpret Keynes as the philosopher and social economist who included macroeconomic theory in his models. Likewise, another critical assessment of Keynes explains:

The “classical” model for Keynes, was unable to give account of the phenomena that characterize actual economies. The way out of this difficulty was not simply to “update” the model or to fill in more ‘realistic’ hypotheses, but to build a new model. The later classical school failed to provide a satisfactory economic theory because it was not able to choose and develop a new model adequate to its contemporary world. (471)

Keynes himself realized that, “the grave fault of the latter classical school…has been to overwork a too simple or out-of-date model, and in not seeing that progress lay in improving the model” (471).

Interestingly Kraus, Millmow, and Keynes, all realized that there was a flaw in the model. Kraus, believed the model was outdated. Keynes, was frustrated because the “classical” model for him could not provide a satisfactory explanation of the real world. Nevertheless, both Millmow and Keynes believed that it was possible to implement a new model which accurately accounted for the monetary flow in economics and included a social and political factor among other considerations.
Based on that research, it was clear that a new and accurate model was required: a model which was applicable to the current economies and could account for globalization and the merging of economies. The goal was to design a CFM almost in the same manner as the constitution, with enough loopholes and flexibility that the model could transcend time and adapt to various political and economic environments. This of course, presented many challenges. First, there was the challenge of adding mobility to the model. How does one include various sectors and factors, all which interrelate, without limiting their representation in terms of the monetary value and their importance in terms of economic stability? Second, how does one categorize the various factors and its effects on the economy? Third, how does one account for those economic drivers or influences, such as the invisible hand, which can disrupt the monetary flow at any given time, yet remain intangible? These are all questions that the new four dimensional model attempts to answer in the most accurate manner.

After various attempts and in depth research, the new model was designed to include the following four dimensions: dimension 1, which includes the four sectors form the original model; dimension 2, which represents the political system; dimension 3, which accounts for internal influencing factors (social, legal, religious, etc); and dimension 4, the most important dimension which accounts for the external factors (i.e. trade, outsourcing, FDI, etc.). Dimension 4 includes all streams of revenue, or monetary flows, which leave the nuclear economy to a sector located outside the country.

Furthermore, each dimension is graphically represented by a circle which overlaps and rotates to form a sphere. This allows the sectors to expand or contract in accordance to consumer spending and the monetary value. The sectors are evenly distributed along the radius of the
spheres, and like the circles they are designed to expand in accordance to the monetary power. Therefore, whichever sector or dimension is predominant in an economy is the sector or dimension that will appear on the forefront of the diagram. The sectors or dimension which are the smallest represent the least amount of monetary value. However, the model’s level of accuracy will depend entirely on the scholars or economist ability to recognize the relation between all the sectors and the effects that the factors have on the economy. Moreover, the scholar or economist must also have the basic economic knowledge to arrange the sectors of the economy as believed most accurately represents the economy in question.

The following sections of the essay explain the dimensions, sectors, and application of the new four dimensional flow model in greater detail, in hopes to disprove the current CFM, discourage its continued use throughout classroom and textbook lectures, and encourage the application of a more complete and macroeconomic model.

**Section 1 Dimension 1-The Four Sectors**

*Introduction of the four basic sectors as the first dimension of the CFM.*

The first dimension of the CFM consists of the four main sectors: the household sector, the product market, the resource market, and the business sector. The sectors interlink with a flow of money which transgresses from one through the other in a circular motion in exchange for the flow of goods and services. Nevertheless, while the sectors only contribute to one dimension of the model, they are interlinked with all other sectors and factors which revolve throughout the four dimensions.

The household sector, which serves a decision maker in the monetary flow, is where households and consumers sell resources in exchange for money which they then utilize to purchase products from the product market. The resource market is the place where resources or
the service of resource suppliers are bought and sold: in other words, households sell and businesses buy. The business sectors, is the second decision maker in the model and it is identified by the purchase of resources for production, and the sale of products for the product market. The product market is the place where goods and services produced by business are bought and sold: in other words, businesses sell and households buy.

The purpose and balance of the sectors remain the same as in the common CFM. The following diagram represents the first basic dimension of the model.

Diagram 4.1

Although the sectors are illustrated in the same size, it is important for the sake of accuracy to keep in mind that the sectors will shift in weight in accordance to their importance and monetary worth: at any given time a scholar or economist should have the ability pull a certain sector closer if it is a dominant sector. Conversely, a sector which is inferior due to its monetary worth, or because it is not yet fully developed, will move toward the background demonstrating a clear monetary gap between the two sectors. This facilitates the analysis of
economies and illustrates where there is a need for increased monetary flow in order to achieve the balance between the sectors and economic stability. In summary: the sectors will work in a four dimensional system where the goal is to achieve the perfect balance between all sectors.

**Section 2 Dimension 2-Political**

*Incorporation of political systems (i.e. government and military) in the CFM.*

The second dimension is the central sector: the political sector. The political sector implies that there is some form of regulation or policy which helps regulate the flow of money in exchange for the flow of goods and services. This sector can consist of either a form of government or the military—if the military serves as the governing body set in place for a country. The central sector, comparative to the common CFM, remains located in the center of the four sectors. Nonetheless, the political sector is illustrated by a round circle, and in accordance to the power and regulation, the size of the central sector will expand or contract. For example, the United States—although it might arguably hold the business sector in the middle versus the government (corporatocracy)— has a small government central sector. Cuba, on the other hand, has a large military middle sector due to its current communist system which tightly regulates economic movement. The diagram below illustrates a representation of each economy with their respective middle sectors.

**United States:**
- Political system: democratic government
- Purpose of government: regulate economic movement/ensure even distribution of wealth and income
Note: A small central sector represented by G symbolizes limited government control.

**Cuba:**
Political system- communism
Purpose of military- oversee all economic ability/ tight regulations

Note: A larger central sector represented by M symbolizes the military and tighter military control.

In this section which revolves around the central sector, it is also of the highest importance to mention that many factors can serve as the central force of the economy. It is a fallacy to limit the extents of the central factors to government and military; after all, there are many other forces which often serve as the regulating body and main force. In some countries it is businesses, in others like India it is technology, and in countries like Saudi Arabia it is oil. The central sector is simply that which practices the most control over the flow of money, but it is crucial to recognize that this changes from country to country; therefore, it should change from model to model for the sake of accuracy.
Section 3 Dimension 3- Internal Factors

*Introduction of the internal factors which affect the monetary flow in an economy including incorporation of the social and legal factors and the social subcomponents of philosophy and religion.*

The third dimension introduces the internal factors into the CFM to account for those economic effects which have remained neglected: social, political, philosophical, and religious effects. These intangible drivers immensely influence the true monetary flow, and they serve as stimuli for economic activity. Moreover, they are also the factors that account for the invisible hand and other such social factors as mentioned in Chapter II, including social trends, consumer confidence, and fear.

The legal factor, which accounts for laws and regulations, is also important because like the social effects, it has the ability to either expand or contract economic activity and consumer spending. After all, the laws and regulations greatly affect the main sectors of the first dimension. As a result, it is best to illustrate these effects through sectors on a circle which orbits around the first two dimension and has the ability to revolve. Since the circle represents a dimension that constantly moves and changes in accordance with external factors, the circle must also have the ability to grow or contract in accordance with consumer confidence. Consumer confidence, after all, increases an economy’s overall spending and affects GDP.

Religion, as part of the social factor, plays an important role in this dimension because it affects the models accuracy in terms of current economies through the influence that it practices on consumption and spending. Moreover, it also affects the factor of philosophy, politics, and laws and regulations.

Consequently, the new four dimensional CFM illustrates the internal factors and its effects in the following manner:

Diagram 4.3
Note: PH represents philosophy; PO represents politics; LE represents legalities, RE represents regulation; RG represents religion. This sector can rotate and the size of the sectors adapt in size.

This dimension still allows for flexibility amongst the sectors and spheres, which in turn permits the model to adapt to its most current environment.

**Section 4 Dimension 4-External Factors**

*Introduction of the external factors which affect the monetary flow of an economy including consideration of environmental factors, technology information, and globalization and the globalizations subcomponents of trade and outsourcing.*

The inclusion of the fourth dimension and incorporation of the external factors is the most significant modification to the new model. This dimension allows the CFM to adapt to the current environment with all of its environmental factors, technological advances, and globalization. It provides economists and scholars with the ability to trace the monetary flow in exchange for goods and services past the borders of a national economy thereby increasing the models accuracy in terms of open economies. Since the one hundred and fifty-eight years of the model’s existence, the external environment has changed drastically, and most of the world’s economies have engaged in a complex web of dependence, trade, and increased communication. Therefore, this is the dimension that raises the model from microeconomic theory to macroeconomic application.
Similar to the other dimensions, the external factors is illustrated through a circle which connects the independent factors, each represented by its own sector. This circle is the largest in the sphere, and like all others has the ability to contract and expand. Moreover, it connects to additionally extended sectors which account for outsourcing, foreign direct investment, even a monetary flow from the international monetary fund (IMF) or World Bank if such a flow exists. This circle accounts for all monetary flows in relation to the external factors. The diagram below depicts the fourth dimension in a manner which explains the interconnectivity and additional components:

Note: This circle is larger than the circle in Chapter IV Section 3 due to the fact that it represents the external environment ad that it affects all other factors. TC represents technology; EN represents environment; IM represents imports; EX represents exports. These are all flows which relate to other economies and are relative to globalization. OS represents outsourcing, which provides imports and also accounts for exports. IMF/WB represents International Monetary Fund and the World Bank- these organizations invest in trade and fuel R&D for the environment.
Although this diagram may seem complicated, one must remember that the model was intended for a program which can depict four dimensions and easily change the weight between the various sectors. Even so, if one fully understands the complexity and relation of the sectors, one can visualize the various effects and analyze which sectors are affected by the internal and external determinants. Ephriam Klaiman (1999) states that this provides a more accurate and complete comprehension of the monetary flow, and depict the “value theory” as it accounts for the differential roles that “families and businesses fulfill in…a market economy” (365).

Note: Please see attached final page of the essay for a diagram of the new four dimensional circular flow model.
Chapter V. Conclusion

The fallacy of composition and the proposal of the new four dimensional CFM

The current CFM represents a fallacy of composition due to a lack of consideration for social, political, environmental factors, and its application to microeconomic theory. Moreover, it fails to apply to the current open economies and does not take into consideration external or internal factors including trade, technology, and globalization, which affect the monetary flow. As described throughout the previous parts of this research, the CFM represents a fallacy of composition due to the following reasons: it does not apply to the current global economy; the microeconomic model is oversimplified in the context to the complex studies and theories of economics; it represents a limited amount of sectors and does not take social factors into account; it neglects to account for changes in the environment which can disrupt sectors; the sector all hold equal measure and weight in terms of evaluation; it lacks internal drivers and does not take into account external factors; and it only fits idealized market economies or command systems in theory.

Considering the model was first designed one-hundred and fifty-eight years ago, it is no surprise that the CFM represent a fallacy. Frédéric M. Bastiat, John Maynard Keynes, and Don Patinkin, all interpreted the study of economics during a time when the world was not nearly as advanced. Additionally, the past decades have brought about more changes in the development, nations, and technology, than any epoch in history, and the microeconomic model failed to accommodate these developing factors.

As a consequence, this essay provides the rough foundation for a new macroeconomic model: a four dimensional flow model which accounts for both the internal and external factors
which affect the economy and the monetary flow. The new four dimensional model allows for an economic theory which has the ability to adapt to various economies and represent “economic realities”, as Keynes wished. Furthermore, the new model hopes to disprove the current CFM in an attempt to discourage its continued use throughout classroom and textbook lectures: as Bastiat (1850) proclaimed, “To tear down an error is to build up the truth that stands opposed to it” (1125).
Chapter I. Introduction

Fallacy of composition is defined as the following in the Economics Textbook by McConnell & Brue: “The assumption that what is true for one individual or part of a whole is necessarily true for a group of individuals or the whole. This is a logical fallacy called the fallacy of composition; the assumption is not correct. A statement that is valid for an individual or part is not necessarily valid for the larger group or whole” (11). William E. Rees (2001), a PHD at the British University of Colombia, writes a passage in his paper titled, “Economics and Sustainability: Conflict or Convergence,” with regards to fallacies and economic methods as based on the commonly used models (3). He discloses the fallacy as follows: “The economists’ myth is so entrenched that its devotees presume to force reality to conform to their models...In short, society has come to take its economic model more seriously than reality! (3). Furthermore, Leopoldo Enriquez (2008), economist and Vice President of Chilean social security firm PlanVital, stated that major problem in the economic models consisted in the fact that each model represented only one situation in a thousand, and a very specific situation, for that matter. Moreover, Peter Boettke (1993) also stated that, “In economics, all arguments are theoretical” (7). Also see Richard Startz’s (1984) “Prelude to Macroeconomics for Information” which refers to a fallacy of composition as: “A fallacy in which what is true of a part is, on the account alone, alleged to be also necessarily true of the whole” (886).

1 The Circle of Universal Industry was described by M. Frederic Bastiat (1851 and 1860), a French Economist and member of the Candlemakers Petition’s, as representative of a theory of value in reverse to the common context of the monetary value. Bastiat described in the Harmonies économiques with regards to the circle:

…the fund of remuneration proceeding from the circumference…has not changed. Who then has gained by the change? As regards to value, no one. As regards wealth, positive satisfaction, the countless body of consumers ranged round the circumference. Just as the progress accomplished by A [representative of an individual] has profited B, C, D, E, the progress realized by B, D, D, E has profited A. By turns A finds himself at the centre and at the circumference of universal industry, for he is by turns both producer and consumer. (331-32)

In addition, it was also Bastiat (1851 and 1860) who first proposed the application of models in terms of economics; therefore, he considers himself the first economist to draw a circle or diagram to support an argument. “A line no more resembles a force or a velocity, than it does a value or utility,” he wrote, “Mathematicians, nevertheless, make use of diagrams; and why should not the economist do the same” (328).

2 Reference to diagram 1.1 of the circular flow model inserted in Part 1, page 2.

3 In Ephraim Kleiman’s (1999) report, there are various disputes with regards to the original age and interpretation of the circular flow model, most in relation to the economist who applied the model in the manner which it is used presently. Rough or similar drafts of a model were discovered in the works of Frank Knight’s The Wheel of Wealth, J.J. O. Lahn’s the Investment Chart, Alfred De Lissa’s Circle of Universal Industry, and F. Ferrara’s Circumference of Universal Industry. Frédéric Bastiat, however, remains the economists whose work contains the oldest trace of these economic ‘circles’ (367-373).

The term illusions refers to the ideal that the “perfect” economy is achieved by the even distribution of wealth and income, which is very representative of a highly socialist-possibly even communist economy-and is highly unlikely to occur due to human nature and the inherent traits such as greed (See Chapter 3, Section 2 for more information on greed as a driver of the economy).

Chapter II. Fallacies of Composition

1 WWII led to the creation of the World Bank, the International Monetary Fund, and the General Agreement on Tariffs and Trade. The World Bank and the International Monetary Fund were founded with the intention to reconstruct a devastated Europe, and they achieved great success. John Perkins reported, “The system expanded rapidly, and it was soon sanctioned by every major U.S. ally and hailed as a panacea for oppression” (Perkins 2004: 199). During this reconstructive period, and leading to the 1960s, there was a pivotal shift from neoclassic to Keynesian economics. Nevertheless, it was not before long that the intentions of the World Bank and the International Monetary Fund veered in another direction: by the late 1980’s and the collapse of the Soviet Union, their intention was not to help deter communism, but to spread democracy for the sake of open economies and new revenue streams. That power soon grew to what Jim Garrison, president of the World Forum described as a
privilege which allows these organizations to, “determine what economic globalization means, what the rules are, and who is rewarded for submission and punished for infractions. Such is the power of globalization that within our lifetimes we are likely to see integration, even if unevenly, of all national economies in the world into a single global, free market system” (Perkins 2004: 200). Essentially, the World Bank and the International Monetary Fund ensnare communities and countries by providing them with a loan to increase their economic development. Once the countries are indebted, private investors promise affluence and a way for countries to use their private sector to work themselves out of debt. This is the viscous circle that maintains the underdeveloped countries inferior to those global economies which pair with the World Bank and the International Monetary Fund.

1 Trade, according to Herman E. Daly (1995) is “the relevance of a critical, but often forgotten assumption upon which the logical argument is based, namely that factors of production, especially capital, are assumed to be immobile internationally—a condition not observed in today’s world” (314). Daly also described, “Over half the world is intra industry trade, i.e., simultaneously importing and exporting basically the same commodity” (316).

2 The North American Free Trade Association (NAFTA) is not always beneficiary for the participating members—sometimes the merge and dependencies of economies allows the stronger economy to extort the weaker economy and detract from their monetary flow. For example, as Herman E. Daly (1995) explains, “NAFTA is likely to ruin Mexican peasants (a fourth of the population is rural) who traditionally produce corn, because “cheap” corn from the US (subsidized by depleting topsoil, aquifers, and petroleum, as well as the US Treasury) will be freely imported into Mexico” (319).

3 Technology accounts for a broad definition which accounts not only for technological advances and industrial progress, but also for the spread of information. Although this is often also referred to as ‘information technology’ this essay will simply refer to all of the effects of the technical advancements as technology. However, reader’s must keep in mind that the digital age, provided by technology, much like the industrial age, provided most of the scientific and social progresses and changed the economy’s main function.

4 Thomas Friedman (2006) uses the word flat to imply a global convergence which is leveling the playing field and slowly merging economies through technology, trade, etc., (3).

5 The definition of scarcity relates to scarce resources and the fact that there are limited quantities of land, capital, labor, and entrepreneurial ability “that are never sufficient to satisfy people’s virtually unlimited economic wants” (McConnell and Brue 2005: G-12).

6 Choice refers to the selection which consumers have of products and services as provided by the biophysical and economical environment.

7 GDP counts as one of the main central blocks in contemporary macroeconomics, according to Vladimir Kraus (2005) and his theories. Furthermore, he writes that “Gross Domestic Product (GDP) provides a very convenient starting point with the help of which we can begin to understand in very precise terms the fundamental flaw in mainstream thinking concerning what is actually produced and spent” (2).

8 Reference to diagram 1.1 of the circular flow model inserted in Chapter I. on page 2.

Chapter III. Microeconomic Application

1 John Maynard Keynes first published The General Theory in English in 1936. This was a time in the United States when the economy was just recovering from the economic recession and the effects of World War I. The resources in the United States were extremely limited during this time, and there was also a fairly small stream of gross domestic product (GDP).

2 Tamed, as describer in the John Cunningham Wood’s (1994) critical analysis of Keynes work, implies that the current model is too general and deserves a break down of the various sectors and flows for clarity and accuracy (487). However, a earlier section in the analysis warns that the model should never receive too much specification with regards to its sectors and flows in order to avoid a generalized and allow for adaptability (471). Therefore, one can conclude that a combination of both a more tamed model with flexibility is what the critics are implying.

3 Edward Miller stated that this is also exemplified by the fact that, “the CFM is stopped whenever recipients put the funds in a deposit account or purchase securities directly or indirectly from a speculator who puts them in a deposit account,” which could signify any powerful organization or individual as deviating the monetary flow (6).

4 The growth of GDP in light with the growth of the circular flow model only applies to a normal circumstance of an economy and excludes inflation or stages during which the economy has reached the trough cycle. The four cycles of an economy are the following: peak-highest, recession-down fall, through-lowest point, and recovery.
The economic goals generally include the following: full employment, stability, economic growth, efficiency, and equity.

John Perkins writes that Saudi Arabia is recognized as the unofficial leading member of OPEC and also as the world’s greatest oil kingdom (92).

Also see Herman E. Daly’s work, “IV Global potentialities, Constraints, and Redistributional Challenges,” which states:

The pre-analytical vision underlying standard economics is that the economy is an isolated system: a circular flow of exchange between firms and households. An “isolated” system is one which neither matter nor energy enters or exists—it has no relation with its environment, and for all practical purposes has no environment. While this vision is useful for analyzing exchange between producers and consumers, and related questions of allocation and distribution, it is useless, nay actively misleading, for studying the relation of the economy to the environment (scale)” (323).

The axis theory according to Jared Diamond (1999) states that countries along certain axis developed at different speeds: “Axis orientations affected the rate of spread of crops and livestock, and possibly also of writing, wheels, and other inventions” (176). Diamond also wrote, “The Americas span a much greater distance north-south (9000) miles that east-west: only 3,000 miles at the widest, narrowing to a mere 40 miles at the Isthmus of Panama. That is, a major axis of Eurasia is east-west” (176). In reference to the example which includes Kenya, it is important to remember Kenya’s location in relation to Africa’s vertical axis.

The axis theory— as it applies to Africa— is a detriment for foreign direct investment (FDI). In addition, another problem which prevents FDI in Africa’s is its geographic characteristics and the fact that it is the continent with the most landlocked countries, one of them, Kenya. The fact that Kenya has no sea-port and a lack of infrastructure prevents the transportation and imports of goods, and discourages foreign investors from financing trade due to high transportation costs.

According to Wood’s critique of Keynes’s work, the German text, which was published in 1936 by Duncker and Humboldt and later reprinted in 1952, 1955, 1966, and 1974, carried the official expression of Totaler Staat (52).

Chapter IV. The New Four Dimensional CFM

This passage perfectly emphasizes on the necessity of flexibility with regards to a dynamic model, as written by Tamás Fleischer (2004) from the Institute for World Economics:

Sustainability definitions generally deal with the time dimension of changes (“for future generations”), but with cities or regions, it is important for sustainability to cover control over time (intergenerational solidarity) and control over space. This aspect is closely tied to the locality/globality problem, as control over space means that ‘a space where people organize their lives may retain its autonomy and its meaning independently from the evolution and dynamics of the space of flows, where most dominant functions and powers are organized...So it is the defense of the place versus the flows, not necessarily to eliminate the space of flows or to eliminate its function... (10).
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