

## **Are the Periods of Currency Collapse an Impediment to Entrepreneurship and Entrepreneurial Haven? Evidence from Regional Comparison**

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**ABSTRACT:** Currency collapse, exchange rate misalignment and macroeconomic volatility, are key vices that pose a significant threat to entrepreneurial quality, prosperity and survival. Following to this, and using the philosophies and concepts of the catastrophe theory we show by means of theoretical and conceptual arguments how these factors are impeding the entrepreneurial survival prospects. From these conceptual and theoretical analyses and using a graphical representation, we predict the gaps that could be significant multiplicities of an entrepreneurial haven using the comparative evidence of three regions, namely Africa, Asia and the Middle East. The findings of the study established that the period of currency collapse has been a strong impediment to entrepreneurial activities; in addition to this, the conceptual and theoretical analysis enable us to discover that, in theory, the establishment of a common position that could be an entrepreneurial haven is almost impossible. In contrast to this theoretical finding, while using the empirical data provided by the World Bank and by means of graphical representation, we found how the African region could be a confluence of multiplicities of the entrepreneurial haven comparable with the rest of the two regions. The study concludes with the recommendation that for an entrepreneurial haven to persist across the region, the Green Entrepreneurial (GE) process should be put into practice in order to ensure a successful, efficient and effective exploitation of opportunities in the identified haven.

**Keywords:** Currency collapse; linear and non-linear; green entrepreneurship.

**JEL Classifications:** F3; F31; G32; L26; M16; M21

### **1. Introduction**

All entrepreneurial ideas and intrapreneurial process directed towards the efficient and effective transformation, preservations and promotion of entrepreneurial end results are totally dependent on the availability of capital resources (finance). These forms of resource are invariably dependent on the sophistication, quality and coordinated financial intermediation of an entrepreneurial entity. These resources are in themselves a function of the larger economic conditions of a country. Needless to say that entrepreneurial entity must interact with the regional, local and global financial markets. One vibrant issue again is that at the domain of every local, regional, formal and informal entrepreneurial entity, is the economic environment which filters, mediates, promotes, accepts, rejects, disrupts or even destroy qualitative entrepreneurial ideas irrespective of age or regeneration and irrespective of the innovative and creative talent used in hatching them, be it from the world's most sophisticated incubators or otherwise.

The majority of the literature surveyed in this study indicates that exchange rate misalignment is a prelude to currency overvaluation and undervaluation and that these two phenomenon are the twin agents that precede currency collapse which relegates the quality of asset and the creation of a wide range of systematic risks, in addition to this, exchange rate inconsistencies and a foreign reserve deflation will be imminent during this period. Needless to say, that currency collapse breeds wholesome and unquantifiable magnitude of risk which has no regard to the myriads of entrepreneurial echelon attained. In essence, currency collapse does not result directly into the devastating effects of

most financial crises. However, when a currency collapse is accompanied by macroeconomic inconsistencies, then the financial crisis will undoubtedly occur with strong pervasive influence on economic systems and subsystems. The pervasiveness and severity of the crisis in terms of adverse economic consequences depend on the solidity of a nation's financial institutions, economic diversification, entrepreneurial and intrapreneurial competence and wherewithal. In a related development, Ghura and Grennes (1993) argued that the period of RER misalignment is usually followed by weak market prices and where the degree of misalignment turned out to be chronic, a decline in entrepreneurial profitability will result due to shrinkage in the tradable and non-tradable sector of the economy which most entrepreneurial entities depend upon.

From another perspective, it is vital to note that macroeconomic fundamentals are volatile in nature, and their volatility is a function of how efficient are valuable resources exploited, coordinated and marshaled to achieve the greatest objective and how these resources are being distributed efficiently to improve public social security and other result-oriented economic objectives. In this respect, entrepreneurial skills and innovation, act as the propellers of economic growth the world over. They equally serve as a formidable avenue where national economic objective could be anchored to help in shielding the national economy against endogenous and exogenous shocks. The question, therefore, arises: Can the incessant impediments and shrinkage in entrepreneurial supply as a result of currency collapse and other macroeconomic factors allow for the possibilities of an entrepreneurial haven? How could an entrepreneurial haven be spotted in an era of currency collapse? It is in line with these questions that this paper owes its terrain to identify an entrepreneurial haven in an era of currency collapse using the mechanics of Green Entrepreneurology, among other things.

Apart from the introduction in section I, section II will discuss the empirics of macro-financial complication to entrepreneurial entities. In section III, the paper will delve into a comparative study and analysis of the entrepreneur, the entrepreneurial firm and entrepreneurship in Africa, Asia and the Middle East. Section IV, on the other hand, will proceed to evaluate features of currency collapse and entrepreneurial firm failure. Following the discussion in section IV, section V will focus on the concepts of catastrophe theory. Section VI will focus on the analysis of evidence from theoretical review and spotting the gaps; this will include among other things the Green Entrepreneurology and the determination of the entrepreneurial haven. The paper ends with discussions of the findings, conclusion and recommendation.

## **2. The Empirics of Macro-financial Complication to Entrepreneurial Entities: An Overview**

From the confluence of empirical and theoretical studies, Aghion *et al.* (2006) assert that, harsh macroeconomic conditions, when addressed by exchange rate misalignment, tend to affect firm's cash inflows particularly those entities with international trading linkages. The author continued to argue that it is extremely likely that entrepreneurial firms will be catastrophically influenced by liquidity constraints, and this will hinder innovation, and create low productivity. Similar to this set of arguments Servén (1998) empirically confirms the positive association between macroeconomic volatility and firm's value. The author argued in a more specific terms that macroeconomic volatility can cause severe financial constraints to entrepreneurial entities, by shrinking investment income which in turn affects profitability. This then combines to influence the entrepreneurial value of the firm. In another development, Martin and Rogers (1997) and Talvi and Vegh (2000) also echoed how an increase in macroeconomic volatility transcends into an exceptionally strong phenomenon that leads to vast increases in corporate direct and indirect cost. In the same vein, Baffes *et al.* (1999) argued that deteriorating macroeconomic fundamentals fuelled by varying fiscal policies play a significant role during periods of currency collapse and financial crisis by dousing the passion of crisis to a peak level, such as in the case of Russia and Eastern Europe. Complementing the above findings, Chionis and Liargovas (2003), in their empirical analysis, argued that deteriorating fundamentals underlie the currency crises in Bulgaria, Romania, Russia and Ukraine, which exposed a large number of entrepreneurial entities to a drastic decline in value, while some had to be declared bankrupt. This situation vividly shrank the urge for entrepreneurial pursuit for many years.

Solidifying this lines of arguments put forward by Baffes *et al.* (1999) and Chionis and Liargovas (2003), Demir (2009), in his empirical findings, while using biannual data for most of the publicly traded real sector entities in Turkey, the author argued that an increasing macroeconomic

volatility can have an economically and statistically significant impact on an entrepreneurial firm's profitability which in turn shrinks the magnitude of entrepreneurial supply, quality and prosperity. He also argued that the result of the effects of the risk factors inherent in macroeconomic volatility on investment is what usually makes the effect to be more serious, particularly if the entity is dependent on income that accrues from investments in import and export of tradable and non-tradable sectors of the economy.

Similar to these findings are the seminal results of prominent authors like Jorion (1990), Amihud (1993), Bartov and Bodnar (1994). These classical authorities, while focusing on what causes the volatility of profits on US entrepreneurial firms, discovered a positive effect between macroeconomic volatility and a firm's value as one of the major factors. Shapiro (1974) and Dumas (1978) investigated the effects of the exchange rate on a variety of entrepreneurial investments. Along the lines of their research findings, the authors were able to identify how the effects of exchange rate volatility could inhibit the thriving of investment. Buttressing the linkage on how exchange rate misalignment affects entrepreneurial entities, Claessens et al. (2000) established that the financial structure of virtually all entrepreneurial firms are too weak to withstand the combined shock of increased interest rates, devalued currencies, exchange rate overvaluation and exchange rate volatility as well as sharp decline in domestic demand.

Dornbusch (2001), in his own research wisdom, reestablished that there is a considerable link between misaligned exchange rate and the overall value of an entrepreneurial firm through its balance sheet. While Aguiar (2004), Bénassy *et al.* (2009) and Prasetyantoko (2007) added that currency appreciation and depreciation also inhibit competitive effects of the firm, which could lead to the decline in production activities due to substantial cost shock specifically for those entrepreneurial entities suffering from a currency mismatch between revenue and cost.

### **3. The Entrepreneur, the Entrepreneurial Firm and Entrepreneurship in Africa, Asia and the Middle East**

Majority of the consensus literature surveyed identified an entrepreneur as a skilled leader of innovation, motivation and capabilities, an ingenious, creative, alacrity and experienced individual, a skilled judge who can forge ahead amidst all odds, an eloquent and brave orator who can convince the market to accept his products, a super role model who can motivate employees to work willingly and enthusiastically for the job, a risk taker that never fails, an intelligent man who can stir the dust and amicably and resolutely settles it down, a brave warrior and conqueror who never fears competition, an ardent shaker and mover of business decisions with synergistic effects, a decisive business politician with a composed Laissez-Faire attitude, a man of wisdom and strategic know-how who spreads his business tentacles to amass fortunes and bring hives of business opportunities to his organisation, a visionary CEO, who forges the business ahead of time to the greatest international echelons, diversifications and revenue regeneration and finally an accountant and master planner of cost and revenues, as well as a production optimality enricher. In another added dimension, Schumpeter, (1928, p.111) asserts that:

*"The essence of entrepreneurship lies in the perception and exploitation of new opportunities in the realm of business ... it always has to do with bringing about a different use of national resources in what they are withdrawn from their traditional employ and subjected to new combinations."*

Synthesizing from the menace of harsh macroeconomic conditions and exchange rate misalignment and juxtaposing them with the models of entrepreneurial qualities and the theoretical and empirical discoveries of an entrepreneur, we proceed to assess entrepreneurial patterns in Africa, Asia and the Middle East. This will among other things enable us to determine the myriads of entrepreneurial complications in the three regions. From this, we proceed to spot the gaps for the existence of multiplicities of entrepreneurial haven.

Entrepreneurship in Africa: Africa is blessed with abundant human and natural resources, in terms of flat and less mountainous fertile land, the abundance of a low-skilled, semi-skilled, unskilled, skilled and professional labour force, particularly for intrapreneurial and entrepreneurial use and at an extremely minimal cost considering the economic policy of devaluation adopted in most of the continents. Similarly, Africa's entrepreneurship system is generally based on the capitalist ideology and enjoys the tenderness of a laissez-faire economic system with little control over the imports, and

export. One of the leading advantage of entrepreneurship in Africa is that it is an investment tax haven, also coupled with sophisticated banking system and palatable corporate law in terms of capital repatriation by foreign entrepreneurs. In addition to the preceding points, Africa is blessed by strong market system strengthened by a vast population which is ready for any product or service that provides value for money.

The thorny issue with regards to Africa's entrepreneurial complexities in the 21st century is clearly established by Schaumburg *et al.* (2010). The authors assert that almost 68% of indigenous continental Africans engage in entrepreneurial activities, mostly not by their own enthusiastic feelings of taking advantage of an existing business gap, rather Africa's entrepreneurship involvement, are as a result of one's inability to obtain a white colour job, or as a result of retirement from the civil service, windfalls, and unprecedented economic and social circumstances. Similarly, the alarming rate of poverty in most continental African states warranted the inability of most Africans to demonstrate consistent creative and innovative abilities, to pursue entrepreneurial business, this situation is also backed by poor technological advancement and under-developed infrastructure, formidably constitutes factors that impede the ability to conceive entrepreneurial plan and pursue it to its logical conclusion. The authors further argued that the urge for Africa's entrepreneurial pursuit is driven by the necessity to obtain the means of self-sustenance. Pursuant to this, individuals are forced to contrive entrepreneurial plans which ultimately remain precarious to the level of income and influence in getting the basic essentiality of starting up a venture.

Foremost, indigenous entrepreneurship in Africa does not have a sustainable capacity comparable to Asia and the Middle East. Basically, this is not due to the fact that Africans cannot coin a better business plan, or take up a big risk, but rather, capital constraints, love for goods made by foreign entrepreneurs, poor and un-innovative, entrepreneurial policies coupled with total and absolute reliance on government job opportunities constitute some of the main inhibiting factors to entrepreneurial growth and development in Africa. In addition, Schaumburg *et al.* (2010) re-established that, despite the entrepreneurial hurdles in Africa, it has the cheapest and most palatable business conditions and environment for doing business with international entrepreneurs when compared to other regions of the world. As a consequence to this, the reflection of the small-sized entrepreneurial entities and fragmented informal entrepreneurial firms are what constitute the bulk of Africa's entrepreneurial industry. The economic prospects of most African continents are volatile. However, their volatile economic environment is a function of the low entrepreneurial entities that exist in the continents to enable the galvanization of the economic system that will form a shock absorber to the endogenous and exogenous risk factors inherent in the economic environment.

In addition to this, the vast human and natural resources endowments of the African continents, the distant geographical terrain as well as the non-heavy reliance on the dollarisation of activities gives African entrepreneurs a haven and the comfort to be somewhat fairly insulated from the mega effects of the crisis. In addition to the earlier point, it is evident to note that the rate of economic growth, financial diversification and sophistication of most African economies have not been high enough, thereby making labour very cheap, and easy competition, amidst large continental markets. Similarly with the recent privatization of most public entities, the African economic policies towards the thriving of indigenous and multinational entrepreneurial entities are quite encouraging. In essence, Africa in the current millennium is a virgin land for prospective entrepreneurs.

Entrepreneurship in Asia: Entrepreneurship in Asia is remarkably distinct, dynamic, complex and more sophisticated in most Asian continents when compared to Africa and the Middle East. Entrepreneurial process in this region operates as a contributory mechanism, where different aggregated, but well-articulated plans are pulled together in a single unifying hole for a single venture. Similarly, entrepreneurship in Asia is built on a healthy perspective which requires strong, sound, comprehensive, articulated and a well-strategized and synergized plan, fashioned towards capturing different segments and a demographic "nest" of local, regional, and global markets. In essence, successful entrepreneurial practice in Asia came from the brilliant strategic planning built up specifically for market dominance and formulated with a long life and comprehensive coverage. As a result of this, large number of partners are required to come together to pull out ideas that will be used to engineer, architect as well as articulate the plan. Notwithstanding this strong commitment, financial and other capital requirements in the designed venture is also established, modeled and designed before the inception of the plan. It is in reference to this that the regions' entrepreneurs expand and

diversify their products with relatively fewer hurdles. The dynamism, creativity, innovation and comprehensiveness of the Asian entrepreneurial plan makes it agile to all competitive pressures and gives it ease with which to excel in terms of export, continued product innovation and renewal, market acceptability and dominance. Take, for instance, the cases of Japan, China, Singapore, Korea and Taiwan, where entrepreneurs act like with all keen interest to compete with all existing competitive pressures in order to achieve the goals of their business.

According to Kantis *et al.* (2002), the spirit to become an entrepreneur in Asia starts at a young age, with a strong curiosity to branch out across the globe, and that is the trend, tradition and culture of all meaningfully established entrepreneurial businesses in Asia. In order to solidify the trend of entrepreneurial stability and dynamics, in some parts of South East Asian countries such as Korea, an intending entrepreneur must work in some other SMEs before starting his own venture, while the contrary is true in Singapore and Taiwan which operates a more *laissez-faire* act in the conceptualisation and hatching of entrepreneurial plans. One crucial factor to report is that most entrepreneurs in Asia do not require a substantial, formal education before venturing into business neither is there any consultation with vocational and other entrepreneurial training institutions. Despite this standing fact, it is quicker to get a business ready in Singapore than Japan were wider availability of loanable funds exist. This is contrary to the case of Singapore and the rest of the Asian continent where family and friends combine to raise their venture capital only with little credit from financial institutions. In Asia, entrepreneurs venture into business in order to realise personal development; material consideration is kept at a later period when the business becomes well-established. Entrepreneurial success in Asia is largely from networks which are crucial in providing more access to capital opportunities, material supplies and varied ideas and know how on dealing with the present and potential challenges.

Notwithstanding this laudable entrepreneurial development in the Asian region, it was estimated that in the 2007 financial crisis about 8,000 entrepreneurial entities failed in India (Sharma and Mahajan, 2010). This created an aggregate liability of about \$3 billion in India. In another development, Shirata (1998) reported that, in Japan 16,365, cases of entrepreneurial firm failures were recorded, which is 12.5% more than the 1996 entrepreneurial failure of 14,544 entities. The author continued to provide an estimate of the same period when Japan lost 14.21 trillion Yen as a result of business failure. This was largely due to macro-financial complexities, contagion and spillovers, which mostly affect the region whenever, there are regional and global financial, economic disasters. This trend has been well know factor that continued to besiege the Asian continents whenever it unfold.

Entrepreneurship in the Middle East: Temur (2007) established that a millennium ago the Middle East was a strong, virile, prosperous entrepreneurial hub comparable to none but modern day China. The author continued to establish that, in the 10th century, the region was an economically viable and advanced region that was among the major leading players in entrepreneurship, international trade and investment activities in the global market scene. After decades of this leading role, the Middle Eastern region failed to match their long-standing fame and sustained institutional transformation comparable to the synergistic approaches adopted by Western Europe. As a result of this negligence, the region, that was like a modern day China declined dramatically from their leading global entrepreneurial role. The author, in his emphatic submission, continued to point out that three schools of thoughts render an explanation for the Middle East's loss of global economic standing. The first was seen as the intense Islamic ideology which constitutes the predominant religion of the region, which shapes the cultural, legal, business dealings, attitude, and other behavioural and philosophical norms of the region. This was thereby seen as a key reason behind the region's entrepreneurial failure, and as the main contributory factor which in essence made it incompatible with economic efficiency, innovation and progress. This point was seriously challenged in the 21st century, particularly with the blossoming of Islamic banking, and other Islamic allied financial products which stand shoulder to shoulder with the long-standing Western financial innovations. The third and final point was seen on the claim leveled on Western belligerence and exploitation.

In the 21st century, the Middle East was seen as a confluence state naturally endowed with vast petroleum and natural gas resources such as in Saudi Arabia, Algeria, Bahrain, Iran, Iraq, Kuwait, Libya, Qatar, UAE and Oman. On the other hand, Egypt, Jordan, Israel, Morocco, Palestine, Tunisia, Turkey, Syria, Yemen and Lebanon are non-oil exporting countries but with extensive human capital

endowment, fertile land, stimulating technological knowhow and efficient infrastructural facilities. In addition to this, strong as well as resilient financial and commodity markets exist in these countries. The convergence and divergence of entrepreneurial activities in the oil and non-oil producing Middle Eastern countries are perfectly centered more on a laissez-faire economy. These allow for the freedom of individuals to conceive and hatch their entrepreneurial plans side-by-side with their income, entrepreneurial ideas and skills. However, the mono-economic conditions of most Middle-eastern continents, makes it possible for the easy permeation of currency collapse, although there is no major devastating history to this effect due to the closely knitted Arab to Arab relationship, but the recent uprising in the Arab spring and the 2007/2008 financial crisis has clearly demonstrated a large existing economic gap that could in the near future lead to the possibility of heavy currency collapse to emerge.

#### **4. Currency Collapse as an Impediment to Entrepreneurship and Entrepreneurial haven: The Catastrophe Theory Approach**

Going by the theoretical assumptions of the second and third generation model of a currency crisis, the second generation theory according to its leading authorities, Obstfeld, 1994; Eichengreen et al. (1997) clearly maintain that the second generation theory takes into account the effects of myriad countercyclical issues such as the likely hindrance of credit facilities to entrepreneurial outlets, the authors continue to maintain that this situation will breed production optimality impediments, and as a result of this the situation will lead to the shrinkage of entrepreneurial supply production, innovation and resource exploitation due to the inability of firms to obtain a loan. In the case of the third-generation model, it is believed that financial excesses such as currency overvaluation beyond a minimum threshold could be other sources of the crisis as maintained by Krugman, (1999); Aghion and Bacchetta (2000) and Banarjee (2001). According to these authors, the emergence of this crisis will lead to the deterioration of the quality and value of national financial assets making it possible to pave the way for the fall of its potency and competitive trading wherewithal among national and international entrepreneurial entities.

From the above arguments and synthesising from the theoretical models, it is apparent that the repercussions of the periods of currency collapse is a clear prelude to the demise of any existing entrepreneurial haven in any national and international environment. This is because; the national economy is bound to suffer from:

- Consumption and output drop
- Sudden distortion in export and import
- Distortions in asset prices, bank run and financial asset bubble burst
- High cost of doing business
- Devalued currency
- Persistent exchange rate instability
- Investment instability
- Financial dissavings
- Finally, the combinations of the phenomenon could result in international capital flow reversals

The combination of these factors creates an insidious destructive syndrome following to this, Dewanaelheynas and Hulle (2007), in their empirical research findings, established that systematic risk factors that arose as a result of deteriorating macro-financial fundamentals such as in the periods of currency collapse or financial crisis, cannot be reduced through any means of diversification across industries or at firm level. In reference to this, the overall investment wherewithal will shrink and fail to meet global objectives, thus inhibiting the supply and prosperity of existing and potential ones.

In another related development, Cavallo *et al.* (2002) in their research findings, documented that, during any period of currency collapse, entrepreneurial firms with substantial domestic and foreign currency liabilities will tend to have a large increase in the value of their gearing level relative to revenues, thereby crippling insufficiently hedged debtors and leading to the contractions of entrepreneurial fortunes and intrapreneurial synergism. In another development, Lerner (2010), established that entrepreneurial firms are generally more vulnerable in periods of crisis for many reasons among which are:

- It is more difficult for them to downsize as they are already small;
- They are individually less diversified in their economic activities;
- They have a weaker financial structure (i.e. lower capitalisation);
- They have a lower or no credit rating;
- They are heavily dependent on credit and
- They have fewer financing options.
- Entrepreneurial firms in global value chains are even more vulnerable as they often bear the brunt of the difficulties of the large firms.

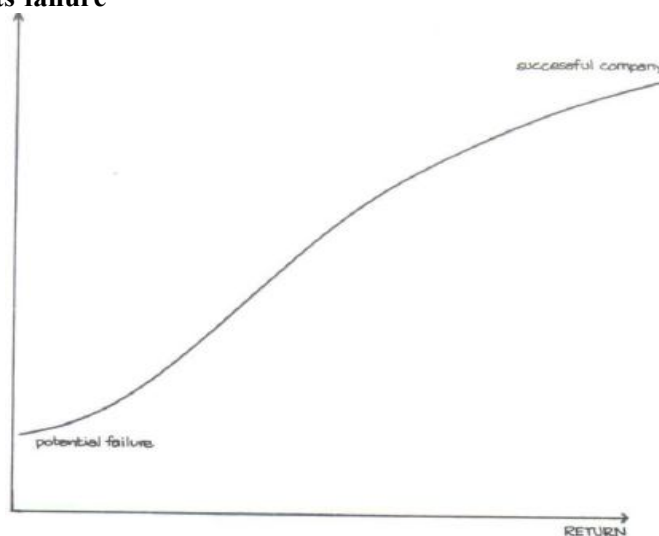
#### 4.1. The concept of catastrophe theory

Following to the above theoretical overview, we invoke the concept of catastrophe theory to show the possibility of a likely entrepreneurial failure as a result of currency collapse and macroeconomic conditions. The idea of catastrophe theory was developed and popularized in the early 1970's. It is a well-established and widely applied mathematical concept, which aim at determining the possibility of continuity or otherwise of a dynamic system, particularly as a result of some perturbation from the external environment. Nowadays, numerous nonlinear phenomena that exhibit discontinuous jumps in behavior have been modeled by using the theory, for instance in the field of chemistry (Wales, 2001), physics (e.g., Aerts *et al.*, 2003) psychology (Stewart *et al.*, 1983), and in the social sciences (e.g., Holyst *et al.*, 2000; Oliva *et al.*, 1992, in Economics (Jakimowickz, 2010). The models' strengths include that complex behavior can be captured by using significantly fewer nonlinear equations than the number of linear equations needed to describe the same phenomena. Catastrophe theory is a mathematical theory that describes the relation between two sets of variables, control variables and behavioral variables (state variables), is so-called gradient system. In the gradient system, with a fixed value of the control variables, the system always seeks an equilibrium state which means that the value of the behavioral variable changes until the minimum (or maximum) of a certain quantity is obtained. Catastrophe Theory is concerned with the nature of such critical points and, particularly, with the instabilities which may arise when the system is disturbed by some factor impinging upon it. It is well known, for instance, that a small disturbance (usually called a perturbation) of the system described by the function  $f(x) = x^2$  will not cause any essential alteration of the structure of the critical point of an entrepreneurial entity, as a result, the parabolic shape and single critical point is retained.

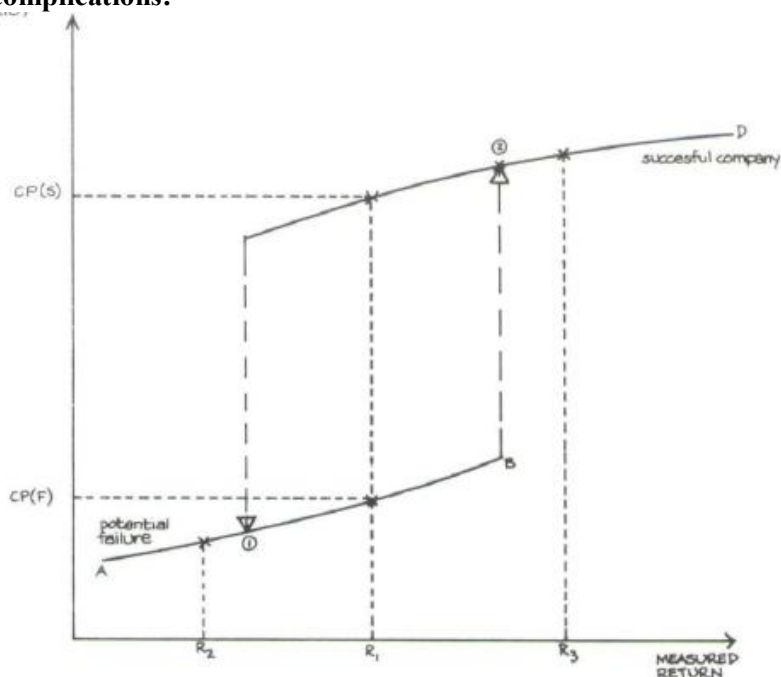
In financial economics, the application of the idea of catastrophe theory follow the utilisation of the minimum position (value) as the perturbation state which affect an entrepreneurial entities prospects of continuity. In essence it is the steady state which allows for the corresponding theory of Walters (1957) to apply, the theory has among its teachings that, an entrepreneurial entity is viewed as a reservoir of liquid assets (value = cash), and in-solvency is defined in terms of the probability that the reservoir will be exhausted as a result of imminent degrees of perturbations (i.e. economic factors such as exchange rate misalignment and macroeconomic volatility, etc.).

According to Scapens *et al.* (1981) the return measured along the horizontal axis should ideally be the 'underlying return' or real economic performance of an entrepreneurial entity. This underlying return may not be accurately disclosed by the measured (or accounting) return in any single period. In most cases, there will be certain variability in the measured return around the 'underlying return' which could be thought of as the long run trend of financial performance for an entrepreneurial firm. The amount of variability in the measured return will depend to a great extent on the risk associated with the firms' economic environment. Figure 1 described the relationship between macroeconomic variables and measured return, assuming little or no operating risk. As the entrepreneurial firms operating risks increases, the variability of the measured returns will also increase. The variability will make it difficult to identify changes in the underlying return from a single measured return. For instance, if a previously successful (but risky) entrepreneurial firms' measured return in a particular period is lower than the measured return in the previous period, it will be uncertain whether the fall reflects a normal variation about the anticipated underlying return or decline as a result of the harshness (perturbation) of macroeconomic variables.

**Figure 1. depicting the position of an entrepreneurial entities' variability of return (income) to a position leading to its failure**



**Figure 2. The position of an entrepreneurial firms' with degrees of perturbation from macroeconomic complications:**



Scapens et al. (1981) continued to assert that a previously successful company with certain operating risks may be expected to report returns in the range indicated by the line CD. A variation in measured returns within that range will involve only minor changes as a result of lesser macroeconomic changes, but a movement outside the range meaning if the level of macroeconomic changes are quite abrupt, then they will cause an entrepreneurial firm to have a significant deviation in its return thus reporting a profit within the range AB. An important aspect of the analysis is the overlap between the two ranges. A measured return of  $R_j$  would be consistent with a firm in either class. It may be assumed that the reaction of the macroeconomic environment to a return of  $R_j$  will depend on the class to which the company had previously been assigned. A change of risk class will occur only if the measured return moves outside the anticipated range. In Figure 2, the effects of macroeconomic variable are associated with the return  $R^{\wedge}$  when the company has previously been regarded as successful.



But if it had previously been regarded as a potential failure, the same return,  $R_j$ , would lead to the same result of allowing significant variability on the firms' earnings until a position that will yield to its failure. The previously successful entrepreneurial firm that are able to withstand the impacts of macroeconomic shocks (perturbations) would only be substantially affected when its return falls below  $C$  - for instance to  $R_2$ . The catastrophic jump 1 would occur at point  $C$ ., in addition to this if the, company was previously regarded as a potential failure, however, would not have substantial improvement until its return increased beyond  $B \sim$  for instance, to  $R_3$ . The catastrophic jump 2 would occur at point  $B$ . If the return of the firm (with given operating risk) changes drastically over several time periods, as a result of this the degree of perturbation will lead to the strongest variability of its income thus creating a series of catastrophic jumps - similar to 1 or 2. One of the cardinal impacts of explaining entrepreneurial failure using catastrophe theory is the impact of the sudden change such as during the periods of crisis which in most cases also affects successful company to a classification as a potential failure (or vice versa).

From the catastrophe manifold, as shown in Figure 2, entrepreneurial firms outside the cusp can be classified as either potential failures (left-hand-side) or successful entrepreneurial entities (right-hand-side). The area within the cusp reflects the overlapping sheets of the manifold. Catastrophies occur at the cusp-lines on paths from inside to outside the cusp - for instance at  $Y$  and  $W$ . Companies within the cusp cannot be classified without knowledge of their previous classification. The indeterminacy within the cusp makes it difficult to discriminate between potential failures and successful entrepreneurial entities using risk and return data.

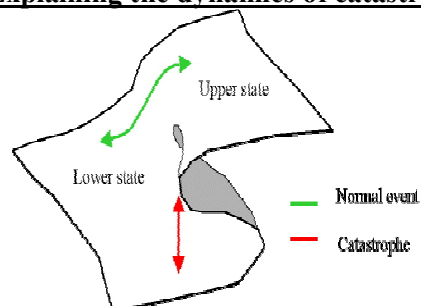
The extent of the difficulty increases with operating risk, as the width of the cusp and consequently the area of overlap increases. However, behind the cusp (where there is little or no operating risk) return data will represent appropriate discriminatory information. A model of this nature may help to explain the differing rates of misclassification observed in the studies which used accounting ratios to predict failure of entrepreneurial entities. The analysis used by Beaver (1966) correctly predicted non-failed (i.e. successful) firms to a greater extent than the failed firms. Discrimination along the line  $pqr$  in Figure 2 would have a similar effect. To the left of that line are only potential failures, but to the right there are both successful firms and the potential failures on the lower sheet directly above the cusp. Jakimowicz (2010: 643) clearly explained the theoretical function of the model of catastrophe theory as follows:

**Table 5. The theoretical model of catastrophe function**

Basic Characteristics	Cusp catastrophe	Butterfly catastrophe
Dimension of state space	1	1
Dimension of control space	2	4
Representation	$f: R^2 \times R^1 \rightarrow R$	$f: R^4 \times R^1 \rightarrow R$
Potential function	$f(a,b,x) = 1/4x^4 + 1/2bx^2 + ax$	$f(a,b,c,d,x) = 1/6x^6 - 1/4dx^4 - 1/3cx^3 - 1/2bx^2 - ax$
Mani fold	$M_3 = ((a,b,x): df/dx = 0, df/dx = x^3 + bx + a = 0)$	$M_5 = ((a,b,c,d,x): df/dx = 0 df/dx = x^5 - dx^3 - cx^2 - bx - a = 0)$
Singularity set	$S_3 = ((a,b,x): d^2f/dx^2 = 0, d^2 f/d^2x/dx^2 = 3x^2 + b = 0)$	$S_5 = ((a,b,c,d,x): d^2f/dx^2 = 0, d^2 f/d^2x/dx^2 = 5x^4 - 3dx^2 - 2cx - b = 0)$
Bifurcation set	$B_3 = ((a,b): 4b^3 + 27a^2 = 0)$	$B_5 = ((a,b,c,d): F(a,b,c,d) = 0)$

Scapens *et al.* (1981) were the first researchers who considered company failure as a catastrophic event and who used 'catastrophe theory' to explain corporate failure. Catastrophe means a violent, sudden transition of the tested system into a new state. The term "catastrophe" has a much broader meaning in this theory than the colloquial one, where it is associated with something evil or hazardous, e.g. some kind of disaster. Catastrophe is illustrated by boiling water in a kettle, a bull market, or a company going into liquidation. What is noteworthy here is the rapidity of changes in the behavior of the situation as compared with the mean change in the past.

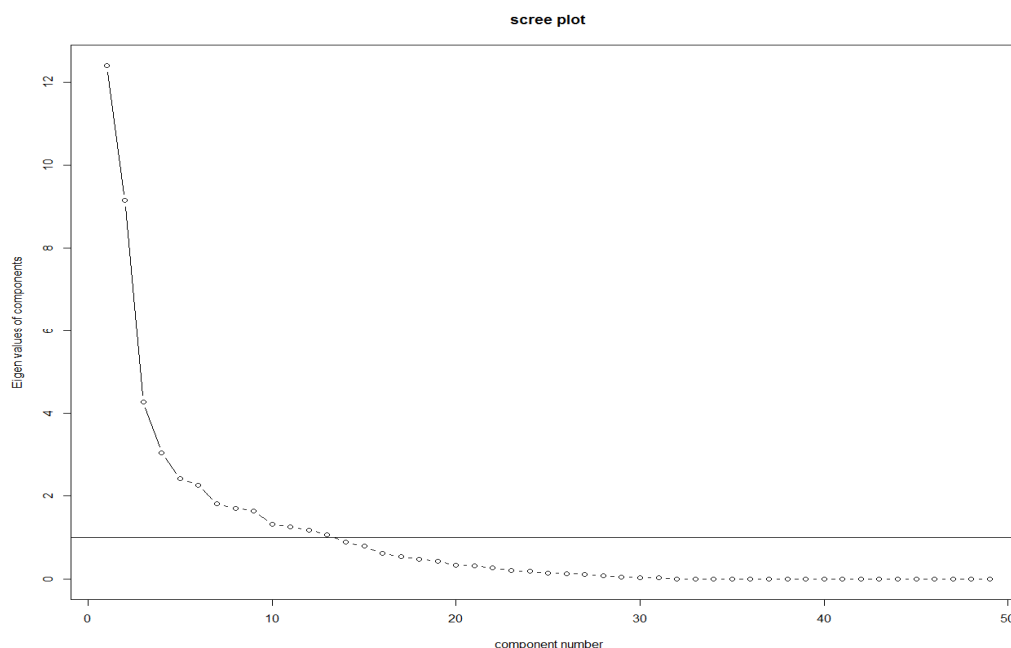
**Figure 3. Explaining the dynamics of catastrophic events**



From the figure above which demonstrates a clear position of a cusp catastrophe position, let us imagine a situation where the degree that led to any occurred changes in the economic system are at short run equilibrium position, and this is demonstrated by the upper leaf of the cusp catastrophe figure above. In this respect, the green line depicts a situation where the level of short run equilibrium change will vary so that the event (change) falls over the fold. However whenever, the economy is in a long run disequilibrium an event (change) due to the variables that necessitated that change or event will move down that is in between the lower leaf. This is because there are only two paths to the movement that can necessitate a change.

One path is to move back under the fold and then have a jump return to the top leaf, the other route to the top would be to move around the cusp, and eventually return to the original starting point. The first type of return would generally be much faster than the second since the second return relies exclusively on the movements of the slow variables. Whichever, type of return occurs depend entirely on the nature and force of dynamics that triggered the event (change), and the extent of the perturbations. Following to this, whenever, the movement of return in order to regain the full equilibrium fall within the axis below the red arrow indicated in the diagram then an abrupt changes that are catastrophe is said to occur which can arise as a result of chronic economic situation as in our case or due to some key variable that necessitated an abrupt change. In the above case, an event is defined as a transition from either the lower state to the upper state or vice versa. If the transition occurs on the back edge of the surface following the green line, the event is normal and continuous. If, however, the transition occurs along the front edge following the red line then the event is a sudden and abrupt change which is a catastrophe. This situation as postulated by Thome (1975).

**Figure 4. A Scree plot showing the pattern of firm failure in period of currency collapse**



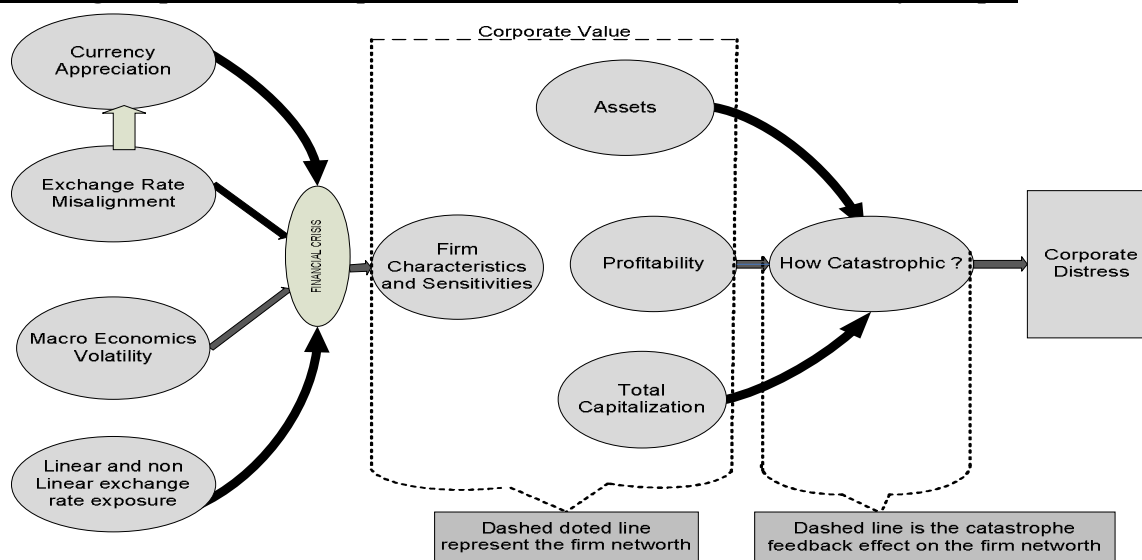
In figure 4 is a scree plot which models the result of entrepreneurial failure, the direction of these entities failure threats as demonstrated by the graph above, shows the starting point from a position when there is remarkable performance, and suddenly the position of the firms earning streams will begin to decline due to high exogenous risk factors inherent in the macroeconomic system of a country which makes it impossible for these entities to shield. The curve continue to demonstrate a pattern of threat as being posed to these entities is seen ascending downwards, suggesting a continued reductions in their cash holdings which resulted in poor operating performance. The resulting effects of harsh macroeconomic environment equally contributed significantly in allowing the possibilities of the continued withering away of their earning's stream from the highest position (12) until when it ascend down touching the linear line of bankruptcy which run from the vertical to the horizontal axis and indicating the lowest level (0) which means that the effected entities cash holding stream is virtually empty or may face the possibilities of being emptied down.

#### 4.2. Theoretical framework

The linking theories that led to the conceptualisation of this idea are

1. The financial, economic theory which established a clear fact that the exchange rate misalignment is independent of macroeconomic volatility, and macroeconomic volatility is also independent of exchange rate movement, while exchange rate misalignment is a prelude to crisis
2. The systematic risk theory
3. Institutional theory of firm failure that asserts that an entrepreneurial entity is widely seen as a reservoir of cash holding (value). The firm is then considered as being in bankruptcy (going concern problem) only and only when the reservoir (value) becomes empty (Walters, 1957).
4. The positive and normative theories of firm failure established that there exists a fundamental correlation between the phenomenon of an entities' failure as being induced by structural macro and microeconomic dynamics, such as a market, supply, the economic cycle, inflation, international trade and foreign exchange, and its attendant exposure as well as preceding macroeconomic volatilities.
5. While normative corporate failure theory, on its own position, is directed at shaping the rules necessary for regulating the interaction of these phenomena.
6. The ideas of catastrophe theory will be applied which will enable us to know what level of economic catastrophe, by implications of the selected variables (macroeconomic volatility, exchange rate misalignment, exchange rate exposure, linear and non-linear exchange rate exposure, firm characteristics, and periods of financial crisis), can lead to entrepreneurial value destruction in line with Jakimowicz (2010)

#### Modelling the pattern of entrepreneurial firm failure in an era of currency collapse



Note: Adapted from: Rafindadi and Yusof (2013)

In this respect, we follow the conceptual framework of Han shin and Stulz (2000) and the theoretical model of Benoit *et al* (2013) and Brownless and Engle (2012) the authors in their theoretical model show how the value of  $N$  firm can be affected by its  $r_{it}$  the return of firm  $i$  at time  $t$ . through periods of crisis or rising economic uncertainties, they continued to argue that the market return is the value-weighted average of the total firm return  $r_{mt} = \sum_{i=1}^N \omega_{it} r_{it}$  where  $\omega_{it}$  denote the relative total corporate value in this context. Following to this, the concept of systematic risk can affect an entity  $i$  through systematic risk as measured by Expected Shortfall (ES) of the system equation proposed by Acharya *et al* (2010). By definition, the ES is a position where the firm value can be affected at an  $\alpha$  % level and also the expected return in the worst scenario can also be affected by  $\alpha$ %. Theoretically this can be expressed in the following equation form:

$$ES_{mt}(C) = E_{t-1}(r_{mt} | r_{mt} < C) = \sum_{i=1}^N \omega_{it} E_{t-1}(r_{it} | r_{mt} \leq C) \dots\dots 1$$

$$MES_{it}(C) = \frac{\partial ES_{mt}(C)}{\partial \omega_{it}} = E_{t-1}(r_{it} | r_{mt} \leq C) \dots\dots\dots 2$$

The MES is a coherent risk measure formulated by Artzner *et al* (1999) this measures the increase in the risk of an entity which is measured by ES which try to identify the level of the firm's risk factor to the entirety of the risks factors inherent in the financial system. These can also be extended by the following System Expected Shortfall SES as in:

$$\frac{SES_{it}}{W_{it}} = kL_{it} - 1 - E_{t-1}(r_{it} | \sum_{i=1}^N W_{it} < k \sum_{i=1}^N A_{it}) \dots\dots\dots 3$$

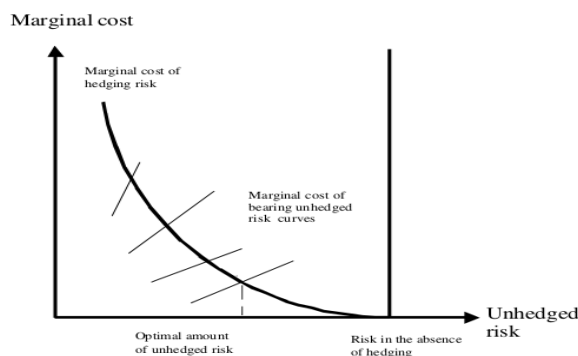
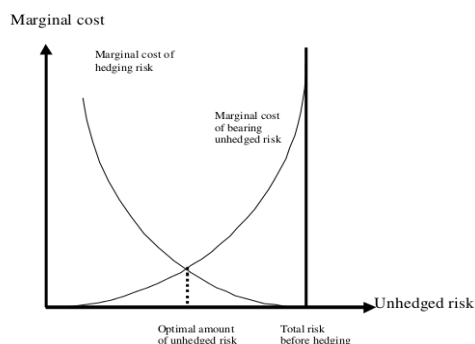
Where  $L_{it}$  the leverage is  $(\frac{A_{it}}{W_{it}})$ ,  $A_{it}$  refers to the total asset of the firm and  $W_{it}$  is the total corporate value in this study. According to Acharya (2010) the above term can also be expressed in a linear form:

$$SES = (k L_{it} - 1 + \theta MES_{it} + \Delta_i) W_{it} \dots\dots\dots 4.$$

Where  $\theta$  and  $\Delta_i$  are the constant term. Graphically, we use the ideas of Han-shin and Stulz (2000) in demonstrating how firm value and risk can arise to escalate the total corporate risk to bankruptcy. These ideas are graphically illustrated in:

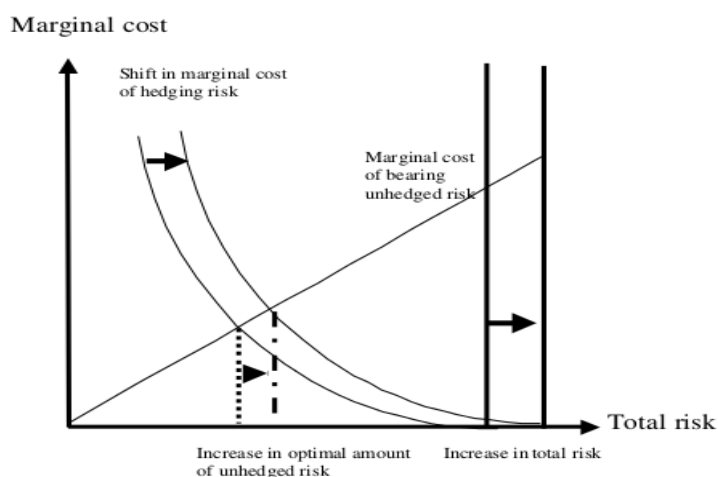
Figure 5 explains the assumption that the marginal cost of bearing unhedged risk in the period of currency collapse and harsh macroeconomic condition is increasing the unhedged risk while the marginal cost of hedging risk is decreasing in unhedged risk. While figure 6 explains the assumption that all entrepreneurial entities have the same marginal cost function of hedging risk, but have different marginal cost functions of bearing unhedged risk as the risk factors continued to escalate. Finally, figure 7 explains how the impact of optimal unhedged risk increases the entrepreneurial risk stream. It explains that as the firm's unhedged risk increases, the marginal cost for a given amount of risk reduction is kept the same so that the marginal cost curve of hedging risk shifts to the right. As the firm's unhedged risk increases, the marginal cost of bearing unhedged risk is kept constant for each level of unhedged risk.

**Figure 5. showing the effects of unhedged risk**      **Figure 6. marginal cost of unhedged risk**



Boyd and Prescott (1986), stress that an entrepreneur must essentially demand four basic services from the financial system. With this development it makes him open to the wider financial economic system of his immediate operating environment as a result of this dependency ratio the authors claimed that the entrepreneurial values can be influenced by the effects of the analysis in figure 5, 6, 7 and table 5. Boyd and Prescott (1986) proceed to identify the linking models of the entrepreneur with the financial system as being: first the demand for relevant entrepreneurial innovations which requires financial resources to execute key entrepreneurial plans and innovation. According to the authors, key entrepreneurial innovations are in the form of the proposal that must be evaluated on real monetary terms and the financial value and implication ascertained in terms of the overall contributions of the project to a required set standard (i.e. NPV). From this evaluation, the outcome may be uncertain depending on the economic circumstances in existence at the time of the decision. Following to this, a significant or lesser degree of the outcome may deviate, and this takes place depending on the degree of macroeconomic uncertainties prevalent in that region or country. This situation is as clearly explained by figure 1, 2 and 4 and the catastrophe model in table 5 attempts to delineate the pattern of the effects of harsh macroeconomic conditions on entrepreneurial investment prospects and how these macroeconomic conditions can lead to their discontinuities. It is widely believed by catastrophe theory proponents that harsh macroeconomic conditions which necessitate the incursion of currency collapse strongly derelict the innovative capabilities of an entrepreneur and his key investment plans through huge increase in operating cost and wide margin of unchangeable risk.

**Figure 7. Showing the marginal cost of bankruptcy**



The second assertion of the authors maintain that irrespective of the nature features and scale of the investment project identified by the entrepreneur it is clearly obvious that the entrepreneur must seek for a substantial pooling of capital from major or small savers of funds, making it inevitable for the financial systems to mobilize efficiently and sufficiently the necessary resources for the projects. The thorny issue in this second factor is that the value and quality of funds significantly deteriorate in the period of currency collapse. This is in the sense that, while the cost of fund escalates, it is also believed that the availability of funds will shrink making it uneasy to diversify due to impending factors that could herald to market failure. The overall position of this situation will make the earnings before interest and taxes (EBIT) to fall. Following to this, and with respect to the absences of haven currency in most developing continents of Asia, Africa and the Middle East the situation will inhibit entrepreneurial prosperity by causing the discontinuities of overall investment value as demonstrated in figure 1, 2, 3 and 4.

The third, outcome according to Boyd and Prescott (1986) arises in an attempt where the degree of perturbation inherent in the macroeconomic condition of a country cannot be hedged (i.e. systematic risk) following to this, to innovate and invest in these innovations breed significant degree of uncertain thereby making it difficult for any feasible hedging instrument not to succeed as illustrated in figure 5,6 and 7 particularly in developing countries, complementing this assertion were the empirical findings of Diamond (1984) where the authors maintain that it is the position of the state

of the financial system that dictate the success or otherwise of all entrepreneurial capabilities and innovation needless to say that the question of risk diversification in periods of currency collapse is under the influence of those macroeconomic variables which cannot be insured.

The fourth factor relates to the productivity enhancement requirements. It explains that some entrepreneurs choose to engage in risky innovation activities rather than produce existing goods using existing methods. Following to this and since the expected rewards to innovation are the stream of profits which accrue from different confluence of income, it became essential to assert that the financial system depending on how benign it may be has the ultimate power of discounting the value of these profits particularly in periods of currency collapse. Following to this, we argue that the financial system with incessant currency collapse inhibit productivity and degrades the improvement of choosing high-quality entrepreneurial innovations and projects. In addition to this, the periods of currency collapse destroy the vehicles for diversifying the risk of innovative activities, and continuously create a sway of the existing potential of large profits generations due to the high degree of uncertainties in the macroeconomic system. In these ways, better financial systems stimulate better entrepreneurial growth by accelerating the rate of productivity enhancement.

### **5. Analysis of Evidence from Theoretical Study and Spotting of Gaps**

The evidence learned from the theoretical investigation in section IV when juxtaposed with the confluence of theoretical findings in section V and also taking into account the suppositions of Obstfeld (1994) and Eichengreen et al. (1997), the authors emphatically argued that speculative attacks inherent in periods of currency collapse and the financial crisis, are like balloons, squeezing one side makes it possible for the sliding of the effects to the other closed contagious region. Consequent to this, the speculative attacks likely to affect one entrepreneurial area in the period of currency collapse will undoubtedly have a contagion and spillover effect on the nearest region or area. In line with this argument, the first generation model provides a clue that in trying to arrest the menace of currency collapse, through raising interest rates and the demand for domestic currency, the situation may grievously affect the amount of lending available for entrepreneurial entities, which could in turn restrict entrepreneurial firms' access to financing need, and in regional countries where lending is sensitive to interest rates, an escalation in the nominal interest rate can be detrimental, and this could lead to alter the productive capacity of the economy by stifling entrepreneurial activities. This will create a perceived decline in total output which will provide additional pressure on the exchange rate. The confluence of conceptual and theoretical analysis studied in the previous sections created the following gaps which necessitated the need for an entrepreneurial haven:

- a. Concentration of entrepreneurial activities in the region with continents closely linked together and having similar economic fundamentals (although inevitable) is susceptible to contagion and spillover which leads to massive entrepreneurial firm failure during the financial crisis, currency collapse, or both. This is due to the ballooning effect of the crisis.
- b. The incapacity of corporate failure models to accurately predict and provide a clear picture of entrepreneurial firm failure during the period of financial and currency crisis to gauge the survival possibility or otherwise amidst economic and financial complications or as a result of any wholesome risks could lead to the continued decoupling of innovation and inhibit entrepreneurial sustainability and prosperity.
- c. Inconsistent macro-financial policies further augment the complexities of crises due to an individual continental need for economic growth. This situation leads to monetary dilation and proceeds to create an overflow of money, thus warranting the theorisation in the third-generation model of a currency crisis to hold true. This situation breeds consistent devaluation of a currency that in turn squeezes entrepreneurial quality value and competitive wherewithal.
- d. From a retrospective view of most periods of currency collapse, it is possible to argue that neither regulations nor new macroeconomic theories will be capable of preventing future cases. This is because no country operates as an island. Globalization has, among other things, eliminated national barriers; international entrepreneurial entities search continually for the best business environments throughout the globe. This strategic behavior creates potential impediments that may arise from dealing with exchange rate exposure and other accompanying international trading dynamics. In the face of such dynamics, problems arise. In fact, today, there is a dynamic and interwoven global system and subsystems or chains of economics,

business and financial empires. These are complicated and besieged with problems that are difficult to repair overnight. It is against this backdrop that this research aims to discover an entrepreneurial haven.

### 5.1. Green entrepreneurship: spotting the entrepreneurial haven

From the gaps spotted in (a-d) and the complications of the periods of currency collapse, as identified in preceding pages of the theoretical framework the study progresses to spot entrepreneurial haven irrespective of the identified complications. This will be done using the mechanics of green entrepreneurship. The term Entrepreneurial haven can be defined as any region with the minimal investment hurdles among the three regions identified above. While green entrepreneurship, on the other hand, can be seen the 21st century methodology of studying, analysing, espousing, directing and innovating workable, but ethical, practical and technical knowhow that relates to dealing with entrepreneurial problems in such a harmonious, scientific, diligent and effective way, contemporaneously with existing environmental values, circumstances and subsisting resources.

From the above direction, and going by the theoretical defense of Ellis (1983), Filion (1991), Gibb and Ritchie (1981) and Julien and Marchesnay (1996), the authors argued “entrepreneurs should reflect the characteristics of the period and the place in which they live”. In a similar direction from Gibb and Ritchie (1981), Miller and Friesen (1982) found that market turbulence, economic complications and competitive intensity cause firms to be more entrepreneurial than their counterparts who face more benign environments. In his creative and innovative wisdom, Drucker argued that an entrepreneur is not qualified for his position neither is he competent nor could he be called an entrepreneur unless he has a championing vision that enables him to see far above what other people see as a challenge and he see them as opportunities. Drucker continued to insist that innovative entrepreneurs are people who see challenges only as opportunities. Summing up these assertions, Drucker (1985, P.32) asserts that:

*“commitment to the systematic search for imaginative and useful ideas is what successful entrepreneurs share...entrepreneurship can occur in a business of any size or age because...it has to do with...innovation, the disciplined effort to improve a business’ potential...from a conscious, purposeful search for opportunities – within the company, industry and larger social and intellectual environment...from pulling together different strands of knowledge, recognizing an underlying theme in public perception, or extracting new insights from failure. The key is to know where to look.”*

Drucker went on to argue that Unexpected Occurrences, Incongruities, Process Needs, Industry and Market Changes, Demographic Changes, Changes in Perception and New Knowledge as key areas in which entrepreneurs should look for innovative opportunities. In complementing this assertion, Ross J. W., (1997) maintained that Jodie Ray, CIO of Texas Instruments, cited that in the 21st century other than focusing on costs, product and process quality, speed and efficiency, entrepreneurs and intrapreneurial firms should strive for new sources of innovation and creativity. Businesses have to develop technology rapidly and continuously introduce new and better designs and business strategies to stay ahead of the competition. Ray was quoted as saying:

*“It used to be that the efficiency of transactions was all that mattered. Now, the capability to change quickly is more precious than money – it’s more important than having the lowest transaction cost, hence, the illiterate of the 21st century would not be those who could not read and write. They would be those who could not learn, unlearn and relearn”. (Jodie Ray, CIO, in Ross 1997)*

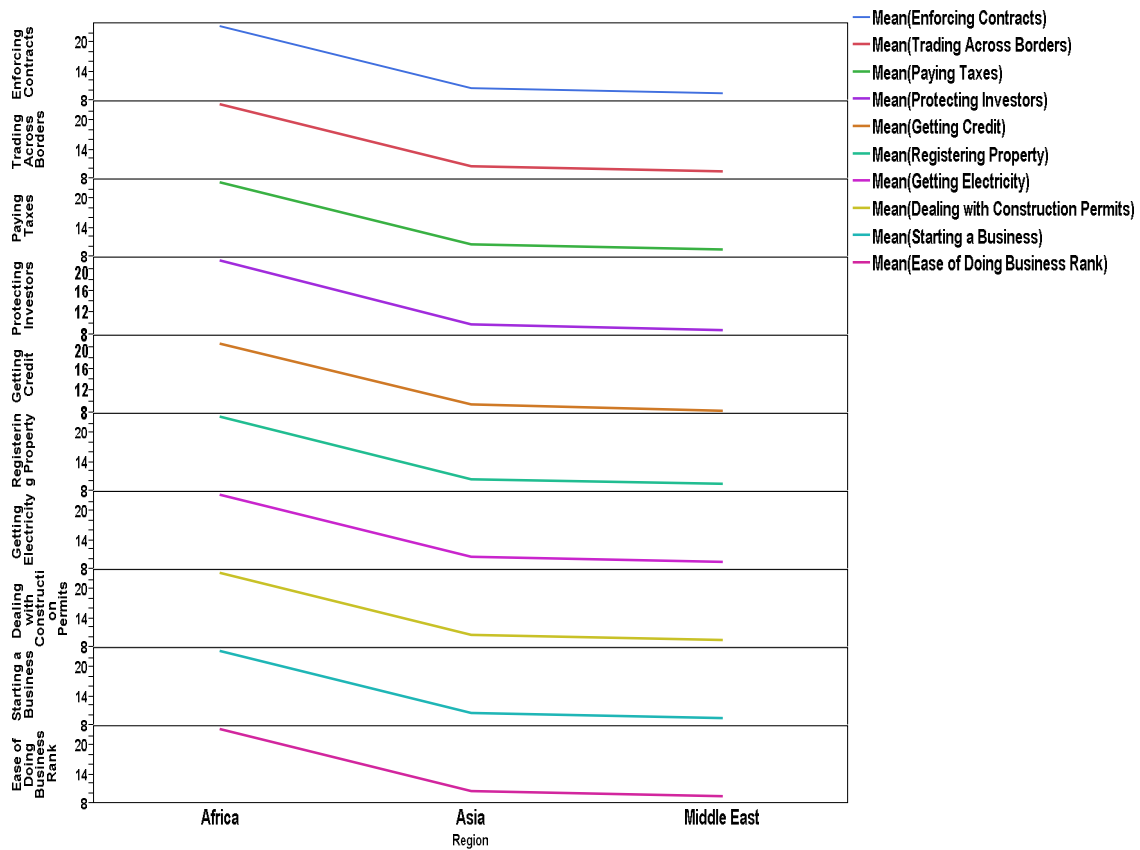
Revisiting Schumpeter in his scientific wisdom and judgment, the entrepreneurial precursor asserts that:

*“The essence of entrepreneurship lies in the perception and exploitation of new opportunities in the realm of business...it always has to do with bringing about a different use of national resources in what they are withdrawn from their traditional employ and subjected to new combinations.” (Schumpeter, 1928, p.111)*

Going by the declaration of leading authorities and juxtaposing their views with the graphical data analysis of figure one, analysed using data obtained from Doing Business, International Finance Corporation and the World Bank, the data heavily supported Africa as the key entrepreneurial haven from among the three selected regions of our comparative study.

*Are the Periods of Currency Collapse an Impediment to Entrepreneurship and Entrepreneurial Haven? Evidence from Regional Comparison*

**Figure 8. A graphical representation of three regions showing the position of the region that is an entrepreneurial haven.**



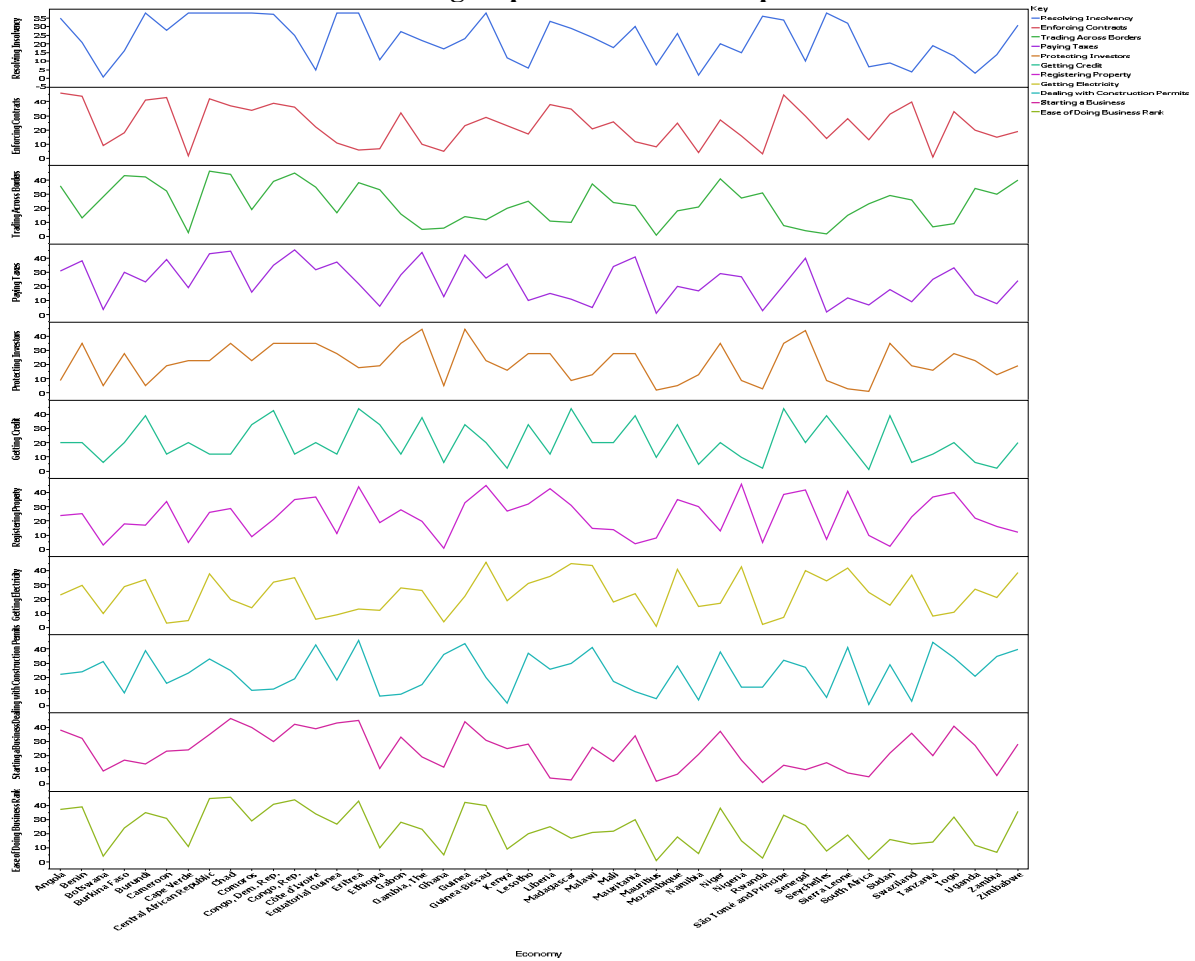
Source: computed by the researcher using JMPSAS.

Data obtained from Doing Business, International Finance Corporation, the World Bank.



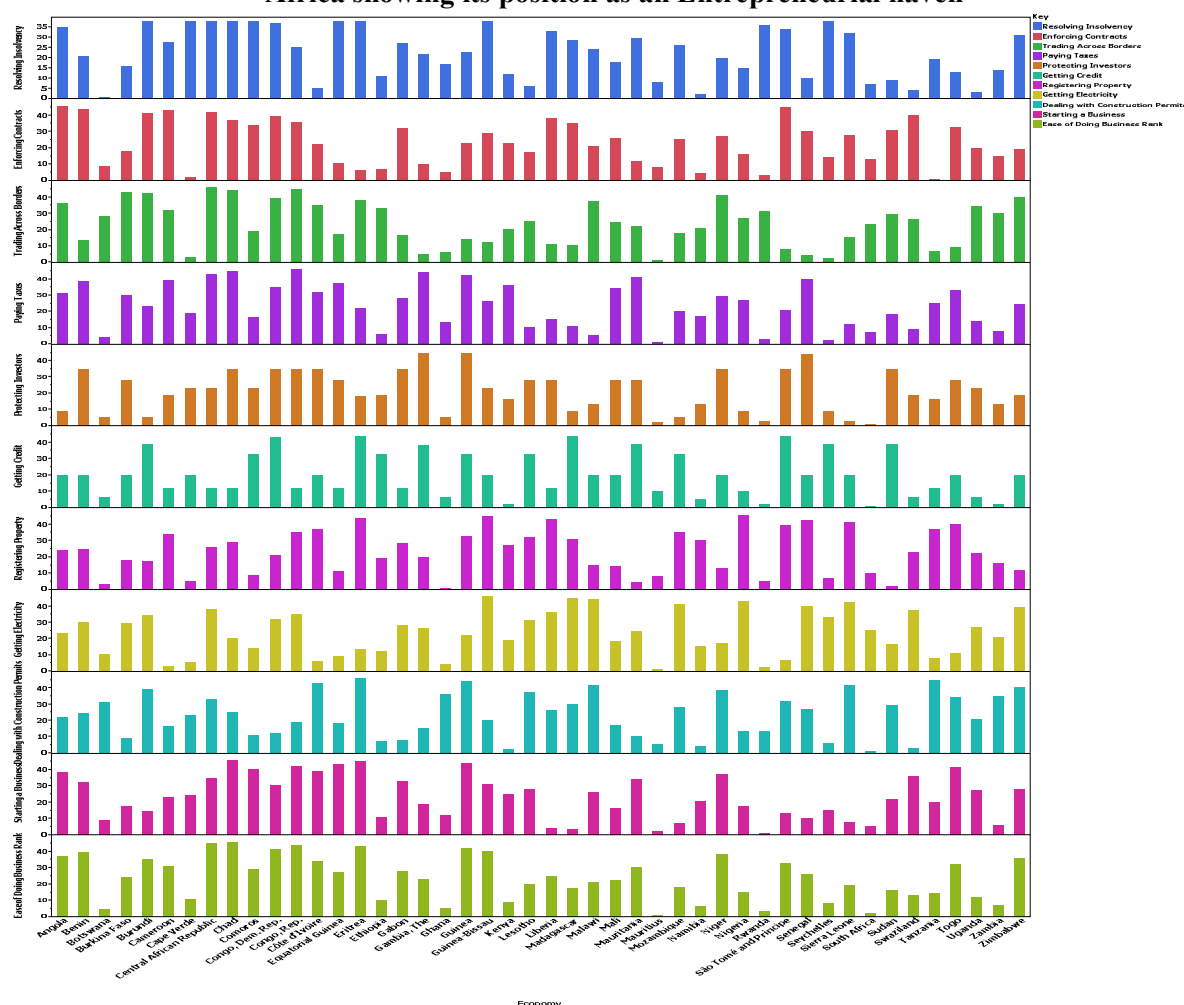
5.2. Graphical representation of variable decomposition in the haven area

Figure 9. A graphical representation of variable decomposition for the region of Africa showing its position as an Entrepreneurial haven.



Source: computed by the researcher using JMPSAS. Data obtained from Doing Business, International Finance Corporation, the World Bank.

Figure 10. A graphical representation of variable decomposition for the region of Africa showing its position as an Entrepreneurial haven



Source: computed by the researcher using JMPSAS.  
Data obtained from Doing Business, International Finance Corporation, the World Bank.

## 6. Findings

From the graphical representation in figure 8, the findings of this research indicate that among the three regions under survey, the terrain of Africa is found to have the characteristics leading to a heavenly entrepreneurial environment compared to the rest of the two regions, particularly for starting a new entrepreneurial venture. This may be due to the low business risk, safe and friendly trading business environment across borders; in addition to this, the protection of investors with regards to the ease with which credit can be obtained by foreign and indigenous investors irrespective of the period of currency collapse or the financial crisis also contributed to waxing the characteristics of the region towards a heavenly entrepreneurial environment.

The reason attributable to this fact was due largely to the low cost of doing business in the region, derived by the already existing devalued nature of the continent's currency when compared to other currencies from developed and emerging markets. This means that the risks inherent in the periods of currency collapse may not have an impact on entrepreneurial entities when compared with the extremely low costs of doing business in the region. Similarly, the wide scattered terrain of Africa could provide less aggravating impacts to the ballooning effects of spillovers and contagion that is common in the periods of currency crisis. In addition to earlier mentioned research findings, it is our opinion to state here that the recurring impacts of macroeconomic volatilities and exchange rate misalignment can be fairly addressed by the successful fulcrum of efficient and effective

entrepreneurial activities in the region. This is because the continued manifestation of this phenomenon is due largely to the sparse entrepreneurial opportunities, low business and industrial outlets in the region. Moreover, the influx of foreign capital, increased prosperity in terms of employed labour force, new innovation and technological opportunities that will explore and exploit the hitherto neglected abundant natural and human capital endowment of the region will, among other things, help in jettisoning the majority of the economic vices that exist. In principle, increased production, innovation, and absorbing the teeming unemployed youth into gainful productive ventures will also lead to entrepreneurial spawning, as well as backward and forward linkages and this will contribute significantly in economic rejuvenation of the continents to a greatly diversified entrepreneurial echelon which the region has lacked for decades.

Apart from the findings in figure 8, in Figure 9 to 10 is another graphical representation of the impulse response function which is commonly known as the variance decomposition or the Innovative Accounting Analysis (IAA). Figure 9 indicates the reaction of the variables due to shock arising from the respective economic ups and downs of the continents. From that graphical representation we found that the overall behavior of the variable of resolving insolvency is quite encouraging; this can be seen in the manner in which the variable has consistently fallen within the range of 20<sup>th</sup> 25<sup>th</sup> to the 35<sup>th</sup> strata, and with subsequent insignificant deviation from the inherent macroeconomic shocks arising from individual continental macroeconomic differences. However, the study found that at the beginning and tail end there was an initial decline which seems to have forced the momentum of the curve to decline to -5 in the first strata and also to 0 in the last end of the curve. This may be due to forecast error stemming from other parts of African continents that were badly hit by the financial crisis. To support the direction of this finding figure 10 shows a consistent rise in that variable. This signifies the efficient performance of that variable in the region.

In another related development, the study also found the variable of the enforcing contract to have an equal if not better stand when compared with the earlier variable. We found the existence of a strong momentum from the variable that consistently falls within the lower bound of 10 to the upper bound of 40, declining however at the 1<sup>st</sup> 2<sup>nd</sup> 9<sup>th</sup> strata and the 10<sup>th</sup> strata. The reason behind this may be due to effects of the financial crisis, which created a significant cash crunch in most of the African economies where the momentum lessened due to forecasting errors stemming from declining economic growth and trading prospects of the continents. This situation is very necessary, considering the dearth of entrepreneurial entities that could have helped in reducing the impacts of the shock to the continental economies. In another related development, the study discovered an encouraging result with respect to the variable of trading across borders, however with relative fluctuations due to forecast error emanating from the shocks inherent in the financial and currency crisis. Similar inferences could be drawn from the variables of getting credit, paying tax, protecting investors, ease of doing business and dealing with the construction permit. However, dealing with the construction permit variable was found to be affected by poor performance in the 2<sup>nd</sup>, 4<sup>th</sup> 8<sup>th</sup> and the 13<sup>th</sup> stratum. This may be due to the significant shortage of construction outlets to cater for existing demand of entrepreneurial business in the region, which arguably requires more concerted effort and training of new venture construction activities, particularly on how to deal with new challenges. Notwithstanding the laudable performance of the variables analysed yet, we discovered how the variable of acquiring electricity constitutes the major obstacle in the region. The study discovered the performance of this variable to be un- encouraging the persistent downward trending of the variable, particularly from the 2<sup>nd</sup> strata up to the 13<sup>th</sup> strata nonstop and with little or insignificant improvement along the line. We attributed this finding to the strong financial inabilities of all the African continents to finance nuclear and other renewable energy, as commonly observed in Asia, Europe and the Americas. However, this may be another gap where willing electricity entrepreneurs may partake of this lucrative venture, more so with the current trend in electricity sector privatization in most of the African continents.

## **7. Conclusion and Recommendations**

In conclusion, the study identified that the period of currency collapse acted as a strong impediment to entrepreneurship and entrepreneurial activities through the four basic models identified in this study. The model informs that the financial systems affect the entrepreneurial activities that lead to productivity improvements in four ways: (i) the financial systems evaluate prospective entrepreneurs and choose the most promising projects (ii) the financial systems mobilize resources to

finance promising projects. (iii) the financial systems allow investors to diversify the risk associated with uncertain innovative activities (iv) the financial systems reveal the potential rewards to engaging in innovation, relative to continuing to make existing products with existing techniques. The four models identified are also well the cardinal penetration point by which entrepreneurial innovations are stippled. Consider a situation where the financial system is besieged with a currency crisis or a financial crisis; this situation obviously means that there is going to be a significant threat to the entrepreneur in those periods by causing the financial system to be more risky, which in turn allows the permeation of large fixed operating costs as a result of the risks inherent in currency collapse that are common in most developing countries, particularly that some countries in the selected region do not have a safe haven currency system.

Following to these, the study discovered that, in theory, the establishment of a common position that could be regarded as an entrepreneurial haven is almost impossible. However, and in order to determine a common position where an entrepreneur may escape some of the vagaries of the periods of currency collapse within the three selected regions, we analysed the empirical data provided by the World Bank (doing business) and by means of graphical representation, we discovered the African region to have the highest mean value that conforms to the characteristics of being an entrepreneurial haven comparable with the rest of the two regions. This may be due to the region's aggregate least cost of doing business, abundant and almost untapped new venture areas, sufficient as well as available human skills and other existing natural resources, which the Africans are yet to devise entrepreneurial means of developing a venture around.

To support the direction of our research findings mentioned above, figure 8 and 9 provide a pictorial analysis of the variance decomposition of how Africa emerged as an entrepreneurial haven against the rest of the regions. In that analysis we discovered that it is only the variable of getting electricity that constitutes the major obstacle to the region. We discovered the performance of this variable to be highly discouraging, particularly with the persistent downward trending of the variable throughout the observation period.

Notwithstanding this nostalgic factor, yet, with the discovery of African region to have the characteristics of a new entrepreneurial haven against the two other regions, we conclude that the Green Entrepreneurial (GE) process should be put into practice in order to ensure a successful, efficient and effective exploitation of the new wealth in existence in the new haven; this can be done by means of innovative and creative resources exploitation, and investing heavily into the energy sector in order to provide sustainable and efficient entrepreneurial prospects. In addition to this, we are of the view that the green entrepreneurial process will among other things enable the entrepreneurial and intrapreneurial activities of the region to thrive, with minimum risk to the new haven investors.

In conclusion, we argue that once this option is captured by potential international entrepreneurs, the saturation of the ladder in vertical specialisation, which is common with most parts of the developed Asian continent and the rest of the European continent, can now slope down to the new African entrepreneurial haven. Additionally, we believe that the new entrepreneurial opening will create the fastest entrepreneurial spawning that could ensure the most feasible operationalisation of green entrepreneurial prospects to the globe at large. While this is in observance, we recommend that government policies in the region should be pursued, consistent with industrial output shock elimination in both the short run and the long run, particularly if spillovers, contagion, and the series of macro-financial complications inherent in the region are to be eliminated and allow entrepreneurial prosperity to reign.

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