African Economies and Relevant Economic Analysis: A Heterodox Approach to Economic Research in Africa[1]

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In this article, an attempt t is made to critically examine how the African economic crisis is understood by mainstream neoclassical economics. This is contrasted with an alternative way of looking at the same crisis from another angle, which can loosely be termed as the heterodox approach or the political economy approach to economic analysis. These two approaches are different not only in the application of economic tools to understand the African economic crisis, but more importantly by the philosophical basis or methodological basis of how economic research should be conducted. To this end, the article examines the philosophical basis of the two approaches so as to deepen our understanding of these two different approaches to economic analysis. This will, in turn, help us to understand the methodological basis of neoclassical economic research in Africa, sponsored by the International Financial Institutions (IFS) and which has dominated the continent in the last three decades. The article then outlines the practical manner in which economic tools are deployed by economists with heterodox persuasion within the developing countries context. From these two fundamental backgrounds, the last section of the article draws up lessons for use by CODESRIA in its future economic research in Africa.

The Challenge: Understanding the Political Economy of Growth and Poverty Reduction in Africa

The recent optimism about African economies notwithstanding, the performance of these economies since the time of political independence can only be described as dismal. There has been a clear deterioration in terms of trade, particularly from the mid-1970s. The level of external debts has grown enormously, leading to near insolvency. Dependency on foreign aid has grown at an alarming rate, and this has been exacerbated by stagnation in exports. In contrast, levels of investment have been extremely low. Partly as a result of the latter, physical and social infrastructures have also deteriorated. Political instability, frequent wars, and natural disasters have further aggravated this situation. The major question to be asked then is 'why?'. In fact, it might be relevant to ask whether there are identifiable features specific to Africa that can help explain the massive poverty and inequality that have engulfed the continent. What is interesting in this regard, which is the focus of this study, is that the approach to these challenges also has implications.

Africa's Economic Crisis: What Caused It?

There are three sets of contending explanations for Africa's economic crisis. The first is set out by the World Bank in the Berg Report of 1981 and a number of subsequent World Bank publications. An alternative explanation for Africa's economic problems, associated with the United Nations' Economic Commission for Africa (ECA) is outlined in *African Alternative Framework to Structural Adjustment Programmes*, AAF-SAP (ECA 1989a). Finally, there exists a third view, which is less clearly associated with any particular institution and largely held by academics of the Marxist orientation. This latter position is often offered as a critique to the other two explanations. The scope of all three sets of explanations is general, encompassing every aspects of the African economic crisis.

The World Bank's *Agenda for Action* (1981) argues that Africa's problems relate to underdeveloped human resources, political fragility, problems of restructuring colonial institutions, inheritance of poorly shaped economies, climate, and geography and population growth. The Bank's insistence that policy failure represents the *main* explanation for Africa's economic crisis, and consequently, emphasis on the need for reforms, has continued with the publication of its long-term perspective study (World Bank 1989). The Bank argued in the 1990s that orthodox macroeconomic management represents the road to economic recovery in Africa and, hence, that more adjustment, not less, is required (World Bank 1994). This assertion has been the subject of various criticisms, coming from different angles (see, among others, ECA 1989; Adam 1995; Mosley, Subasat and Weeks 1995; Lall 1995; White,1996; Alemayehu, 2002 cited in Alemayehu and Abebe 2006).

In contrast, the ECA (1989) prefers to explain Africa's problems in terms of deficiencies in basic economic and social infrastructure (especially physical capital), research capability, technological know-how and human resource development, compounded by socio-political problems. The ECA sees inflation, balance of payments def-icit, a rising debt burden and instability of exports as resulting from a lack of structural transformation, unfavourable physical and socio-political environment, as well as an excessive outward orientation and dependence. The ECA study suggests that weaknesses in Africa's productive base, the predominant subsistence and exchange nature of the economy and its openness (to international trade and finance) have all contributed to the continent's dependence on foreign aids. Hence, one of the striking features of the African economy is the dominance of the external influence and control. This has the effect of rendering African countries quite vulnerable to exogenous shocks. Consequently, according to the ECA viewpoint, perceiving African problems in terms of internal and external balance problems and seeking a solution within that framework (most notably, through the implementation of structural adjustment programmes) implies not only a wrong diagnosis but also a wrong treatment. The ECA study argues that '…both on theoretical and empirical grounds, the conventional SAPs are inadequate in addres-sing the real causes of economic, financial and social problems fac-ing African countries that are of a structural nature' (ECA 1989:25).

Based on this alternative diagnosis, and the major objectives of the Lagos Plan of Action (OAU 1981), the ECA formulated an African alternative framework to the

Bank/Fund's policy recommendations. The ECA framework focuses on three dynamically interrelated aspects, which need to be taken into account. First, the operative forces (political, economic, scientific and technological, environmental, cultural and sociological); second, the available resources (human and natural resources, domestic saving and external financial resources); and third, the needs to be catered for (i.e., focusing on vital goods and services as opposed to luxuries and semi-luxuries). The adoption of this general framework would allow the different categories of operative force to influence not only the level and structure of what is produced but also the distribution of wealth. These forces may then influence the nature of needs to be catered for and the degree of their satisfaction. At a concrete level, this is envisaged as taking a number of policy directions. Firstly, how to improve production capacity and productivity, mobilize and resources efficiently, dvelopm human resources, strengthen the scientific and technological base, and diversify vertically and horizontally. Secondly, how to improve the level and distribution of income, adopt a pragmatic balance between the public and private sectors, put in place 'enabling conditions' for sustainable development (particularly economic incentives and political stability), shift (non-productive) resources, and improve income distribution among various groups. And, finally, how to focus on the required needs, particularly in relation to food self-sufficiency, reduce import dependence, re-align consumption and production patterns and manage debt and debt servicing (see Alemayehu 2002 for details).

Thus, the core of the disagreement between the views of the World Bank and those of ECA centres on the role of the market mechanism (Oskawe, quoted in Asante 1991:179). While the Bank believes in the market mechanism as representing the fundamental instrument of resource allocation and income distribution, the ECA questions this viewpoint. Thus, while the Bank focuses mainly on financial balances, the ECA considers a much broader transformation as an enabling condition for the former. While the Bank emphasizes the export sec-tor, the ECA strategy advocates selectivity (see also Asante 1991:180). While the Bank expresses concern about anti-export bias and pop-ulation policy, the ECA prefers to emphasize the need to ensure to-tal structural transformation and food self-sufficiency. While the Bank places more emphasis on short-term policies than on Africa's long-term needs, the ECA strategy, as defined in the Lagos Plan of Action, stres-ses the importance of also addressing issues of long-term transformation, alongside these short-term policies. However, these institutions do agree on some major issues, such as the need for human resource development, improving the efficiency of parastatals, and sound debt management.

The ECA analysis was quite comprehensive in addressing the causes of the crisis and in suggesting not only short-run solutions but also a framework for long-term transformations. From ECA's (1989) analysis and recent events, it could be argued that some of the elements that may help explicate Africa's severe under-development include; 1) weak initial conditions (such as ailing institutions, human capital and an extractive and lingering colonial history) at the time of independence; 2) the dependence of almost all African countries on primary commodity production and trade; 3) the lack of non-aid financial capital and the alarming level of aid-dependency; 4) the lack of ownership of policies because they are invariably imposed on Africa by donors; and 5) the prevalence of conflict and poor governance.

It is unfortunate that this deeper insight and a heterodox/structural approach to economic analysis of the ECA in the late 1980s has been completely replaced by the World Bank and IMF policy of Structural Adjustment Programs (SAPs) in subsequent ECA research following this publication (since the 1990s). This has led the policy discourse in Africa to be dominated by the World Bank and IMF views noted above.

The Policy Discourse in Africa: 1980s to the Present

Notwithstanding the ECA's intellectual challenge to the SAPs in the late 1980s, SAPs have been the (macroeconomic) policy framework informing policy making in Africa for the past three decades, beginning in the 1980s. The World Bank argued that the economic management strategies prescribed in SAPs represented the road to economic recovery for Africa (World Bank 1994).

According to Mkandawire and Soludo (ECA 1999), SAPs in Africa have made significant progress on economic fundamentals but poverty remains widespread and the institutional requirements for sustaining growth, and equitably extending its benefits to the population, remain onerous (ECA 1999). They noted that poverty in adjusting countries is comparable to the regional average, if not worse. Initially, there were attempts to address the negative social impacts of SAPs by ad hoc 'social safety net' measures, but this has changed over time. The recent emphasis of the World Bank and the IMF is to link SAPs with poverty reduction through Poverty Reduction Strategy Papers (PRSPs). The PRSPs and the realization of the Millennium Development Goals (MDGs) are key elements of current public policy discourse in Africa. The PRSPs are essentially extensions of the SAPs where the major macroeconomic policy direction in SAPs cannot be questioned in the new PRSPs and sponsored by the Breton Wood Institutions. PRSPs suggest that there are opportunities to scale up participatory learning strategies from grassroots to national levels, while also offering new possibilities to budget for these activities and increase public interest and participation in poverty monitoring (UNDP 2002). Success in PRSPs requires, among other things, realization of sustainable growth.

The last five to seven years saw a significant improvement in growth and growth prospects of Africa. However, this optimistic scenario has been clouded by the possible impact of the global economic crisis. Though the impact was mild by world standard, the task of coping with the global crisis was daunting, especially when seen in the context of limited fiscal and monetary space countries in Africa have. It is interesting to see if this growth has been translated in poverty reduction. Some country experiences also show that growth is the most powerful weapon in the fight against poverty. It creates jobs that use labor, the main asset of the poor in developing economies like that of Africa. According to recent estimates, growth accounts for approximately 80 per cent of the poverty reduction that has occurred over the last 15 years, lifting 500 million people around the world above the poverty line (Ministry of Finance Japan, 2008). Growth among emerging and developing economies has been generally strong, with activity driven by a robust global growth, sound economic reforms, and strong domestic private demand in recent years. Thus, growth is definitely linked with poverty

reduction but this needs to be looked at in the context of the political economy of growth and policy making.

The Political Economy of Growth and Poverty Reduction in Africa: The Recent Evidence

A recent comprehensive study of the political economy of growth in Africa, using over 27 countries as case study, by the African Economic Research Consortium (AERC) noted that there were about four political regimes that characterized the political and policy landscape of post-independence Africa. These are: State Controls (SC), Adverse Redistribution (AR), Inter-temporally Unsustainable Spending (IUS), and State Breakdown (SB). Also presented is the complementary Syndrome-free (SF) category (see Fosu 2008 and Table 1). The study noted that the quality of economic policy pursued by each of these regimes has a powerful effect on whether countries seize the growth opportunities implied by global technologies and markets and by their own initial conditions (Fosu, 2008). According to Fosu's summary, this syndrome-based classification aggregates multi-dimensional policy into broad patterns that occurred repeatedly in African countries. The evidence that the syndromes reduce growth is strong in the AERC studies: Fosu and O'Connell (2005) find, for example, that avoiding the syndromes is simultaneously a necessary condition for attaining sustainable growth in SSA and a nearly-sufficient condition for preventing growth collapse. Indeed, being syndrome-free may add as much as 2.5 percentage points per year to per capita growth (See Fosu 2008).

Table 1: Anti-growth Syndromes - Relative Frequencies of Occurrence from Independence to Year 2000, 46 [26] SSA Countries (%)

	State Controls	Adverse Re-distribution	Inter-temporal	State Breakdown	Syndrome Free
Unweighted	33.8 [37.1]	21.9 [18.2]	8.8 [11.5]	10.2 [8.8]	25.4 [24.4]
Population-weighted	26.3	31.6	13.1	10.2	18.9

Notes: The first row comprises the set of non-weighted relative frequencies, with figures for the 26-country case-study sample in square brackets.

Source: Fosu 2008.

The AERC study underlined that at the time of independence in many African countries, strong central governments were perceived as the optimal mechanism for nation building. In many instances, these efforts appear to have actually succeeded in preventing state breakdown in terms of open rebellion. Unfortunately, however, the strategies adopted then also resulted in the various anti-growth syndromes of controls, adverse redistribution and inter-temporally unsustainable spending (Fosu 2008). According to Fosu's summary from these studies, without the appropriate checks and balances, the executive was free to carry out policies unencumbered, a process that seems to have spawned many of the syndromes. Meanwhile, the military became the only real credible agent for changing governments through coups d'état. This situation resulted in elite political instability (EPI), which has been deleterious to growth in Africa (Fosu 1992, 2001 cited in Fosu 2008). In its severe form, furthermore, EPI could constitute state failure, a phenomenon that tends to be the most growth-inhibiting syndrome (Fosu and O'Connell 2005, cited in Fosu 2008).

What is also asserted in this AERC study is that the relationship between the type of political system and the choice of policy regime is found to be empirically significant (See Bates 2008a). According to Bates, based on AERC 27-country case study, the political forces that underpin the choice of control regimes seem to appear to arise from three sources. One is ideology. High levels of government intervention occur when governments find principled reasons for overriding the allocations generated by markets. A second is the power of organized interests – interest groups constitutes the primary means by which political preferences shape policy choices. Regional inequality constitutes the third; it generates incentives to adopt policies designed to overcome the economic impact of disparate endowments and to create political institutions with the power to elicit the transfer of resources (Bates 2008a). In short, these forces, according to Bates, have shaped the political conduct and economic performance of governments in post- independence Africa. This is compounded by tendencies of state failures with their associated cost for growth and poverty reduction in some conflict prone Africa countries (Bates 20008b).

What is the implication of such pattern of political process for the growth of African economies and poverty reduction? In short, as Bates (2008c) noted, the poverty of the state, the prospects of wealth from predation, and the prospect of losing office form the conditions under which growth and development could be undermined. In a situation where these tendencies are avoided and yet competitive democracy and democratic institutions are missing, private sector operators may suffer from the risk and uncertainty related to the political order. According to Gunning (2008), again based on the 27 case studies of the AERC, African economies may well face more risk than other countries (e.g. because of their reliance on rain-fed agriculture in a situation where growing seasons are extremely short). In addition, the scope for risk-coping is often lower than elsewhere: low population density makes it difficult to rely on insurance or credit. Governments have increased the risk exposure of private agents while at the same time undermining institutions which support risk-coping (see Gunning 2008).

According to Bates (2008c) recent political reforms seem to have less impact upon the management of the macro-economy. In the face of prospective political defeat, the evidence suggests, Bate (2008) noted, that governments in competitive systems tend to spend more, to borrow more, to print money, and to postpone needed revaluations of their currencies than do those not facing political competition. The relationship between political competition and macroeconomic mismanagement appears to have weakened over time. This will compound the micro level risk that private agents face in Africa. As aptly remarked by Bates (2008c), the empirical results nonetheless pose a challenge to those who seek, in political reform, the remedy for Africa's economic malaise (Bates 2008c). In general, however, as noted by Gunning (2008), one needs to know to what extent growth is reduced by governance-based risk or by governance-related restrictions on risk-coping by private agents. However, on these questions, there is as yet no evidence, and further research is in order.

In general however, existence of economic and political stability, avoidance or scaled down bureaucratic obstacles and interventions, prudent investment regulations and availability of infrastructure are usually regarded as conducive environments for development. Wali (2000) indicates that sub-Saharan African countries, from South Africa to Senegal, from Ethiopia to Namibia, from Nigeria to Kenya have made considerable efforts over the past decade to improve their policy and investment

climate. Regardless of such improvements, from indicators in the areas of macroeconomic stability, finance, market structure, infrastructure, skills, customs procedures, labor regulations, business regulations, corruption, and security, it is evident that the African economic environments still have serious shortcomings compared with their international competitors (Eifert and Ramachandran 2004). Thus, good policies are central in improving the economic environment. It is perhaps for this reason that the first message of Africa Competitiveness Report 2007 (World Economic Forum 2007) is that good policies matter more for the investment climate than resource abundance or sea access – 'for improving the investment climate, geography and geology count less than good policies'. Good policies however require, *inter alia*, good economic research which in turn is a function of the methodology of research adopted. However, in the context of the challenges noted above, a new approach to economic research and policy formulation in Africa need to be looked at.

A Methodological Approach to Studying African Economies

The General Philosophical Approach

Methodological discussions in economics are usually problematic. Mainstream (neoclassical) economists usually follow the Popperian approach [of theory -hypothesis - critical test/evidence - falsification or corroboration chain] (see Blaug 1992). However, it could be argued that this approach is more relevant for physics than it is for economics. Unfortunately, it is this methodological approach – referred as the 'positivist approach to economic analysis' by the Nobel laureate Friedman – that informed the methodological approach to the study of African economies and their policy formulation as espoused by the World Bank and IMF. We have briefly noted below. The section concludes by suggesting an alternative methodological approach to the study of African economies, from a philosophical perspective.

Most of the standard results of the mainstream/ neoclassical economic models that informed policy making in Africa and dominated economics departments of African universities depend on the assumptions of the model. This brings us to the question of the significance of the realism of these assumptions to judge the relevance of a model for the issue at hand in a particular African country context. In other words, what will happen if we found that most of the assumptions of the models used by neoclassical economist in Africa do not tally with the reality of Africa? Does it imply then that the model and its predictions are not relevant for Africa? This is an important philosophical question which is beyond the scope of this article but which still needs to be looked into, at least briefly. Thus, we highlight two contending views on this issue so as to guide readers to the relevant literature and enable them to draw their own conclusion about the use of neoclassical models (or generally economic models) in the developing countries' context in general, and African economies in particular.

One of the views is associated with the influential American Economist and Nobel laureate, Milton Friedman. In his *Essay on Positive Economics* (1953), Friedman argued that the realism of assumption is not relevant to evaluate a model or theory, so long as its predictions are acceptable. On the other hand, 'Realist Economists' (see below: for instance Lawson 1997, 2003), among others, argue against this view.

According to Friedman, economic theories should not be judged by their assumptions but by their predictive implications. In particular, the unrealism of the assumptions of a theory is no reason for validating a theory. For Freidman, the only relevant test of the *validity* of a hypothesis is the comparison of its predictions with experience. The hypothesis is rejected if its predictions are contradicted ('frequently' or more often than predictions from an alternative hypothesis). On the other hand, it is accepted if its predictions are not contradicted. In short, testing is by predictive implications, not by the realism of assumptions. Thus, what matters is the predictive performance of a theory relative to that of alternative theories. Friedman (1953) has two interesting examples that are given in Boxes 1 and 2 below, which are used as analogies to further explain this Freidmanist hypothesis.

1. The Leaves of a Tree

In this famous example, Freidman considers the density of leaves around a tree. He suggests the hypothesis that the leaves are positioned *as if* each leaf deliberately sought to maximize the amount of sunlight it receives, given the position of its neighbors, *as if* it knew the physical laws determining the amount of sunlight that would be received in various positions and could move rapidly or instantaneously from any one position to any other desired and unoccupied position. Now, some of the more obvious implications of this hypothesis are clearly consistent with experience: for example, leaves are in general denser on the south than on the north side of trees but, as the hypothesis implies, less so or not at all on the northern slope of a hill or when the south side of the trees is shaded in some other way. Is the hypothesis rendered unacceptable or invalid because, so far as we know, leaves do not 'deliberately' or consciously 'seek', have not been to school and learned the relevant laws of science or the mathematics required to calculate the 'optimum' position, and cannot move from position to position? Clearly, none of these contradictions of the hypothesis is vitally relevant; the phenomena involved are not within the 'class of phenomena the hypothesis is designed to explain'; the hypothesis does not assert that leaves do these things but only that their density is the same *as if* they did. Despite the apparent falsity of the 'assumptions' of the hypothesis, it has great plausibility because of the conformity of its implications with observation. We are inclined to 'explain' its validity on the ground that sunlight contributes to the growth of leaves and, hence, leaves will grow denser or more putative leaves survive where there is more sun. The result achieved by purely passive adaptation to external circumstances is the same as the result that would be achieved by deliberate accommodation of them. This alternative hypothesis is more attractive than the constructed hypothesis, not because its 'assumptions' are more 'realistic' but rather because it is part of a more general theory that applies to a wider variety of phenomena, of which the position of leaves around a tree is a special case, has more implications capable of being contradicted, and has failed to be contradicted under a wider variety of circumstances. The direct evidence for the growth of leaves is in this way strengthened by the indirect evidence from the other phenomena to which the more general theory applies.

(Extracted from Freidman 1953)

2. The Billiard Player

A largely parallel example involving human behavior has been used by Freidman and one of his co-author, Savage. In their

example, they considered the problem of predicting the shots made by an expert billiard player. It seems not at all unreasonable that excellent predictions would be yielded by the hypothesis that the billiard player made his shots *as if* he knew the complicated mathematical formulas that would give the optimum directions of travel, could estimate accurately by eye the angles, etc., describing the location of the balls, could make lightning calculations from the formulas, and could then make the balls travel in the direction indicated by the formulas. Our confidence in this hypothesis is not based on the belief that billiard players, even expert ones, can or do go through the process described; it derives rather from the belief that, unless in some way or other they were capable of reaching essentially the same result, they would not in fact be *expert* billiard players. It is only a short step from these examples to the economic hypothesis that under a wide range of circumstances, individual firms behave *as if* they were seeking rationally to maximize their expected returns (generally, if misleadingly, called 'profits') and had full knowledge of the data needed to succeed in this attempt; *as if,* that is, they knew the relevant cost and demand functions, calculated marginal cost and marginal revenue from all actions open to them, and pushed each line of action to the point at which the relevant marginal cost and marginal revenue were equal. Now, of course, businessmen do not actually and literally solve the system of simultaneous equations in terms of which the mathematical economist finds it convenient to express this hypothesis, any more than leaves or billiard players explicitly go through complicated mathematical calculations …. The billiard player, if asked how he decides where to hit the ball, may say that he 'just figures it out' but then also rubs a rabbit's foot just to make sure; and the businessman may well say that he prices at average cost, with of course some minor deviations when the market makes it necessary. The one statement is about as helpful as the other, and neither is a relevant test of the associated hypothesis. Confidence in the maximization-of-returns hypothesis is justified by evidence of a very different character. This evidence is in part similar to that adduced on behalf of the billiard-player hypothesis; unless the behavior of businessmen in some way or other approximated behavior consistent with the maximization of returns, it seems unlikely that they would remain in business for long. Let the apparent immediate determinant of business behavior be anything at all – habitual reaction, random chance, or what not. Whenever this determinant happens to lead to behavior consistent with rational and informed maximization of returns, the business will prosper and acquire resources with which to expand; whenever it does not, the business will tend to lose resources and can be kept in existence only by the addition of resources from outside. The process of 'natural selection' thus helps to validate the hypothesis – or, rather, given natural selection, acceptance of the hypothesis can be based largely on the judgment that it summarizes appropriately the conditions for survival.

(Extracted from Freidman 1953)

After an examination of Friedman's examples and their implications for economic methodology, Maki (2003) noted that the key thesis of Friedman (1953) is to hail unrealistic assumptions, and prescribe against the pursuit of realistic assumptions. This has emancipatory effect on that top ranked part of economics that is mathematically highly refined and rigorous, but is also accused for being unconnected to real world facts and issues. The strong version of Friedman's view about unrealistic assumption acknowledges the claim that 'unrealisticness' is a virtue. He said, 'truly important and significant hypotheses will be found to have "assumptions" that are widely inaccurate descriptive representation of reality and, in general, the more significant the theory, the more unrealistic the assumptions …. The reason is simple; a hypothesis is important if it explains much by little, by abstracting the common and the crucial' (Friedman 1953). Many readers have found the strong version unacceptable, even outrageous. According to Maki (2003), it appears that Friedman himself does not hold either version of the thesis consistently or without qualifications. It appears that, for him, predictive tests serve as indirect tests of the approximate truth of assumptions. The required degree of approximation is relative to the purposes that a theory is supposed to serve: 'the relevant question to ask about the "assumptions" of a theory is . . . whether they are sufficiently good approximations for the purpose at hand' (Friedman 1953:15). And the way to measure whether the required degree has been achieved is to put the theory in predictive test: complete 'realism' is clearly unattainable, and the question whether a theory is realistic 'enough' can be settled only by seeing whether it yields predictions that are good enough for the purpose in hand or that are better than predictions from alternative theories (Friedman 1953:41). This implies that the unrealism of assumptions is not irrelevant at all, something to be ignored, even for Friedman (Maki 2003). On the contrary, one is advised to pay attention to their actual degree of realism and to judge whether it is sufficiently high for the purposes at hand. Another way of putting these ideas is to say that some of the assumptions of a theory are to be paraphrased as statements about the negligibility of a factor, and that predictive tests are a way of assessing such claims about negligibility (Musgrave 1981; Mäki 2000, cited in Maki 2003; Friedman 1953). Summing up his view about the realism of assumptions, Friedman said: 'The confusion between descriptive accuracy and analytical relevance has led not only to criticisms of economic theory on largely irrelevant grounds, but also to a misunderstanding of economic theory and a misdirection of efforts to repair supposed defects'. Thus, for Freidman:

> A meaningful scientific hypothesis or theory typically asserts that certain forces are, and other forces are not, important in understanding a particular class of phenomena. It is frequently convenient to present such a hypothesis by stating that the phenomena it is desired to predict behave in the world of observation as if they occurred in a hypothetical and highly simplified world containing only the forces that the hypothesis asserts to be important. In general, there is more than one way to formulate such a description – more than one set of 'assumptions' in terms of which the theory can be presented. The choice among such alternative assumptions is made on the grounds of the resulting economy, clarity, and precision in presenting the hypothesis; their capacity to bring indirect evidence to bear on the validity of the hypothesis by suggesting some of its implications that can be readily checked with observation or by bringing out its connection with other hypotheses dealing with related phenomena; and similar considerations. Such a theory cannot be tested by comparing its

> 'assumptions' directly with 'reality'. Indeed, there is no meaningful way in which this can be done. Complete 'realism' is clearly unattainable, and the question whether a theory is realistic 'enough' can be settled only by seeing whether it yields predictions that are good enough for the purpose in hand or that are better than predictions from alternative theories. Yet, the belief that a theory can be tested by the realism of its assumptions independently of the accuracy of its predictions is widespread and the source of much of the perennial criticism of economic theory as unrealistic. Such criticism is largely irrelevant and, in consequence, most attempts to reform economic theory that it has stimulated have been unsuccessful (Friedman 1953:40-41).

This positivist methodology is widely contested. Some researchers argue that the purpose of scientific theories is not to make prediction but to explain things. Predictions are then tests of whether the explanations are correct. But one has to test the whole logical chain of explanation, not just the conclusion reached at the end (Beinhocker 2006:49). Beinhocker (2006) illustrated this in his book, *The Origins of Wealth*, by stating that one could propose a theory that would explain that the sky is blue by assuming the existence of giants who paint it blue every night while we are sleeping. Taken to an extreme, Friedman's logic would say that the assumption of giants is irrelevant as long as the theory makes the correct prediction, that the sky is blue, which it does. The argument, however, is that one cannot just test the correctness of the conclusion. Rather, to accept such a theory, one would also have to observe the giants in action. Beinhocker (2006) noted, as the economic philosopher Daniel Hausman has put it, that one must 'look under the hood' of a theory to see that the casual chain of explanation is valid as well (Beinhocker 2006:49-50). Another interesting illustration Beinhocker (2006) offers is the map of a particular place or city (say Cape Town), and the reality (i.e. the city of Cape Town). The only perfect map of Cape Town is Cape Town itself, which is too big to fit into your pocket or car when you drive across Cape Town. Just as map makers idealize and leave out certain features of terrain, scientists simplify idealize their theories. What is included or left out depends on the purpose of the map or theory (i.e. if you are driving across the country, say South Africa, you may need only the highways. If you are, on the other hand, looking for a particular house in Cape Town, you may need a detailed one). Likewise, a cosmologist might be looking at the universe at the level of galaxies, while a chemist might be looking at it at the level of atoms – each researcher needs different types and amounts of idealization. Hence, Beinhocker (2006) noted that the key is that both the coarse and fine-grained maps (and theories) must agree with each other and the observations of underlying reality. If a highway map places a river in a particular location, the river must be in the same location on the local map too, and must agree with observation of where the river actually is … in map making, one cannot just move roads and rivers around for the sole purpose of making the maps easier to draw (Beihocker 2006:50).In the same line of argument as that of Beinhocker (2006), there are also other groups of economists who disagree with Friedman's methodological approach and subscribe to an alternative methodology. One such tradition is what is called the 'Realist Approach to Economics'. The realist approach to economics differs from the mainstream approach of 'deductivism'. In the latter tradition, we have approaches such as that of Friedman's 'positive economics' or Karl Popper's 'falsification', where you have a theory or a model and a hypothesis to be proved or falsified (although some argue that the Freidman test is a specific methodological principle, which is not inferred from any preferred philosophy of science, such as Popperian – see for instance Boylan and O'Gorman 1995). In response to the Freidman thesis noted, Boylan and O'Gorman (1995) argue that of course all assumptions are unrealistic, as Freidman says, but some assumptions are more realistic than others. For them, thus, the 'realisticness' of assumptions need to be judged in the context of background knowledge such as observable behaviour of firms and consumers in economics, available knowledge of human information processing, the psychology and philosophy of human action and the like. The hypothesis such as 'optimization' may be unrealistic if the evidence noted does not converge to that in reality. These authors finally noted that in conditions where such evidence of convergence is lacking, and we hypothesize that firms will collapse if they are not profit maximizers, 'analogical arguments based on limited similarities between a business firm and billiard player are no substitutes for a thorough empirical investigation into the collapse of firms over both the short and long run'. In short, the collapse of firms in the modern world 'cannot be settled by analogy to billiard players or to the density of leaves on a tree… it is a matter for empirical investigation' (Boylan and O'Gorman, 1995:193-195). Similarly, Kaldor commented about the unrealistic assumptions of neoclassical model by saying that most of them are either unverifiable – such as profit maximization – or are directly contradicted by observation. For Kaldor, the latter includes, *inter alia*, perfect competition, production function, etc., none of which are operationally defined in relation to empirical material (see Boylan and Oborman 1995 and Kaldor 1972, 1985). Thus, for Kaldor, science is '… a body of theorems based on assumptions that are empirically derived and which embody hypothesis that are capable of verification both in regard to assumptions and the predictions'. One important philosophical approach that subscribes to the basic tenets of this Kaldorian approach is what is called the 'realist' approach to economics. The 'realist' approach aims at identifying, explaining and illuminating the structures and mechanism, powers and tendencies that govern or facilitate the course of events. The scientific objective is to identify relatively enduring structures and to understand their characteristic ways of acting. Explanation, as opposed to prediction, is central in this approach and entails providing an account of those structures, powers and tendencies. Hinging upon such an approach, one of the components of the process of assessing the explanatory power of some hypothesis is checking the reality of any mechanism postulated. Lawson (1997) argues that:

> …. it is not good enough to argue, as Friedman (1953), that the hypothesis of mobile leaves moving about the branches of the tree in search of light explains the distribution of leaves on the tree, when we know the hypothesis of mobile leaves to be false. It is not good enough because, unlike Friedman, we have accepted (through argument and evidence) that the explanatory goal is to identify mechanism, etc., really productive of any identified phenomenon of interest. Thus, any hypothesis couched in terms of some mechanism known *not* to exist or to be in play cannot be said to be

> explanatory in the requisite sense at all. It is for this reason that assessing the reality of some hypothesized mechanism can be subsumed under the head of assessing that hypothesis' explanatory power (Lawson 1997:217).

Hahn (1985), as quoted in Lawson (1997), has also picked on Friedman's example and noted that:

> '….. As if prediction methodology' has taken over [in mainstream economics]. Recall Freidman's example: leaves on a plant orientate themselves as if the plant were maximizing surface area of the leaves exposed to the sun. This may well predict the orientation of leaves but it is not an account which we understand precisely because we know that plants are not, as Friedman notes, capable of any calculation. So we do not leave matters there. We investigate chemical feedback mechanisms which account for the observation and which we understand. They fit to what we know generally about chemical substance in quite different contexts and into what we quite generally stipulate about casual process (Hahn 1985, as quoted by Lawson 1997).

Having these contending views, we may now return to the question of where this does leave us about the importance of the realism of the assumptions in our economic models, in particular in the context of developing countries. Do we have to believe the policy implications of trade models if their assumptions are unrealistic? This is a major philosophical (or methodology of science) question.

A Suggested Methodological Approach for Economic Research in Africa

Given the above contending views, some of the problems researchers in developing countries might face while following the Popperian (positivist) approach noted above include the possibility of excluding rival explanations *ex-hypothesis*, as well as the difficulty of obtaining 'evidence' or 'facts'. Moreover, as noted by Feyerabend (1975), a method that adheres to a binding principle stands in contradiction to the history of research/ science. Indeed, openness in research, and Feyerabend's principle of 'anything goes', may be defended under all circumstances. However, as Dutt (1990) notes, the problem that Feyerabend does not address is how a researcher may become versed in all the relevant theories pertaining to a particular problem. Dutt's answer to this question is, 'by specializing in areas or problems' (Dutt 1990:6). One might add, by an explicit recognition of the fact that the researcher is dealing with an aspect of a problem, which is presumed to fit the overall structure, not as a jig-saw-puzzle but as an integral part of it – i.e. there is always a context. This implies an obvious trade-off between depth (in the sense of deeply focusing on the particular), and breadth (which entails focusing on the overall picture). The approach suggested here departs from the Popperian one in favour of a realist approach. It is our view that the adoption of such an approach represents a much more fruitful avenue of research in developing countries. This methodological framework is noted in the works of, *inter alia*, Lipton (1991, 2004), Mukhrjee and Wuyts (1991), Wuyts (1992a, 1992b), Lawson (1989, 1997, 2003) and Kaldor (1985). The overall framework adopted in such an approach is Lipton's 'inference to the best explanation' (or 'contrastive inference'), which looks for residual differences in similar histories of facts and foils as a fruitful method for determining a likely cause (Lipton 1991:78). This approach entails testing competing hypotheses in the process of research. On a practical level, a more refined version of this approach is proposed by Mukhrjee and Wuyts (1991), in which *a working hypothesis* is confronted with the evidence and various rival explanations. Wuyts (1992b) argues that 'the best way to test an idea (wrapped up as a hypothesis) is not merely to confront it with its own evidence, but to compare it with rival explanations. It then becomes easier to detect which explanation has more loose ends or will need to resort to *ad hoc* justifications to cope with criticism' (Wuyts 1992b:4). Once a working hypothesis has been arrived at, the dialogue between data and alternative explanations may best be handled by exploratory data analysis, which comprises graphical display, techniques of diagnostic analysis and transformation of data (Mukherjee and Wuyts 1991:1). This does not imply that theory has no role to play. Rather, that theory is important 'as a guide to pose interesting questions that we shall explore with data' (Wuyts 1992a:2). The generation of working hypotheses, and the subsequent examination of these, may be pursued along Kaldorian lines (Lawson 1989, Lawson et al., 1996, Kaldor 1985). In this realist approach to economic analysis, the researcher is free to start from Kaldorian 'stylized' facts – broader tendencies ignoring individual details – and to construct a working hypothesis and model that fits with these facts. The final stage of the analysis entails subjecting the entities postulated at the modelling or explanatory stage to further continuous scrutiny (Lawson 1989; see also Boylan and O'Gorman 1995). Building on this methodological background, a research could be divided into three main steps. In the first of these steps, a theoretical literature study in line with the research problem could be undertaken. This would help to shape alternative theoretical explanations, in order that the questions and problems posed might be more clearly defined. In the second step, the dialogue between the data and alternative explanations will be explored. At this stage in the analysis, the researcher is faced with the practical problem of being open to all conceivable explanations for a particular phenomenon. However, economists might differ on their view on a particular economic phenomenon (Dutt 1990:6). Based on this line of thinking, the underlying view of structuralist economists is that the African economy has its own peculiarities. Moreover, it is a fact that different institutions and agents, both in the developed and developing countries, have different behavioral rules by which they operate. This, in turn, affects the functioning of the economy. Since such structures are explicitly incorporated in the analysis, the suggested approach may be seen as lying within the structuralist school (see, for example, Taylor 1983, 1991, 2004; FitzGerald and Vos 1989; FitzGerald 1993, 2003; Weeks 2011; Alemayehu 2002). Thus, the amalgamation of the view of an economy with the 'inference to best explanation' leads one to work under a specific paradigm *a la* Khun. The wider context of 'inference to best explanation' is not lost, however, because as research progresses, the view about the economy and judgment about theories follow a dynamic process of learning. Once the empirical exploration is conducted within this framework, the final step is to depict the stylized facts, which emerge from the dialogue between data and theory, using modeling techniques which, in turn, will be further scrutinized using observable facts. We are not saying this is 'the best' approach, but it is a better alternative approach to the neoclassical approach that has dominated research and policy making in Africa for the last three decades.

Conclusion and Way Forward

We may begin by highlighting some of the major hurdles that today's African economic researchers may encounter in the course of their economic research. This list may include:

1. Their economy is usually analyzed by expatriate consultants whose only economics is mainstream neoclassical analysis *a la* the World Bank and IMF. These are powerful forces, not only because they hold the key to aid for African governments but also because they are intellectually dominant, owing to the resource and publication outlet they have for their type of research.

2. Critical and progressive thinkers on economics in Africa have worked on another extremely radical perspective of political economy (notice Amin's work here), using a Marxist approach. Such an approach, legitimate as it may be, has given little weight to quantitative economics and the operation of markets and economic agents' behavior at both micro and macro levels. We think there is a need to be open to other heterodox approaches which give due emphasis to the working of the market economy, and yet recognise the limitation of market (and hence market failure) as well as the limitation of government (and hence government failure). Such a heterodox approach uses both analytical (narrative) and quantitative (mathematical) approaches rigorously.

3. Finally, the global economy is dynamic and challenging. It is also fast changing with the emergence of newly developing countries such as Brazil, Russia, India, China and East Asians fast growing economies. Yet, African economists do not have enough resources and interest from their governments' to scan the changing global environment and inform policy.

This calls for a research program under which critical African economists articulate their arguments, share their ideas, advance their careers and push their research agenda to the policy formulation level.

Given the philosophical framework noted as methodology in the previous section, it will be a fruitful effort to adopt the approach of heterodox economists, including that of ECA 1989, in conducting research in Africa. This approach begins from the premise that an 'An economy has a structure if its institutions and the behavior of its members make some patterns of resource allocation and evolution substantially more likely than others. Economic analysis is structuralist when it takes these factors as the foundation stones for its theories' (' Taylor 1983). The Structuralist/ heterodox approach embraces three premises (FitzGerald & Vos 1989; FitzGerald 1992, 2004):

i. Economies are built up from agents such as firms, governments and households who are not simple optimizers but whose behavior depends on the context of institutions, production organization or social class in which they operate;

ii. Markets may show rigidities, perverse response to price owing to institutional behavior, power, imperfect information and class interest;

iii. Institutional setting and related market rigidities are basic structural features but are not unchangeable over time.

In addition, the structuralist approach (Taylor 1983, 2004; FitzGerald 1993) emphasize:

i. The role of interest groups/ class and distribution of income and pursue a political economy approach in its analysis of economic issues;

ii. The importance of intuitions and economic structures in shaping agents behaviors;

iii. The possibility of both quantity and price clearing in markets (prices could be formulated either competitively (flexi-price) or as mark-up over prime cost (fixi-price) depending on the degree of monopoly firms have);

iv. The assumption that saving propensities differ by class;

v. That short-run models are set-up in variables normalized by capital stock (to emphasize growth and profit as opposed to levels of investment and payment to factors;

vi. That macro balance is decomposed sectorally (stability is attained by minimizing sectoral excess demand to zero – with Jacobean checked for model stability);

vii. That imports are split in several ways (capital goods as a function of investment; intermediate as a function of output) as different types of imports might have different impacts across social groups;

viii. That long-run issues are investigated by setting up transitions between steady states in which all variables growth at constant rate;

ix. Finally, that direction of causality varies model to model (that is all what analysis is about).

This heterodox approach is a relevant approach for conducting economic research in Africa because African economies have unique structures that emerged from their colonial history. It has been shown (see Alemayehu 2002) that African nations were in possession of an integrated and autonomous economic structure prior to their intensive interactions with Europeans. It is hard to speculate what the future of such a structure might have been in the absence of colonialism. However, it goes without saying that it would not have been what it is now, since clearly the present is the result of a specific historical process. More specifically, historical interaction with today's developed countries has shaped the structure of the economic activity of African nations. Indeed, economic domination accompanied by colonization has further cemented this structure. Thus, given such historical process, it is not surprising that almost all African nations had become exporters of a limited range of primary products and importers of manufactured goods with weak human capital base by the time of independence in the 1960s. This was further accompanied by a demand for external finance when export earnings were not sufficient to finance the level of public expenditures required for maintaining and expanding the commodity exporting economy. This structure has not changed in any meaningful way even today.

The historical legacy also shows that African countries generally inherited extractive, as opposed to developmental institutions (See Alemayehu 1998, 2002; Acemuglue 2001). These structure basically shapes the behaviour of economic agents and hence the economic outcome. It is imperative to take this structure on board in economic analysis. If that is done the approach used is a heterodox/ structuralist approach. It has to be noted in passing that this approach is what Lin (2011) named as 'old structuralist' as opposed to his 'new structuralist' approach. His 'new structuralist' (which could better be termed as 'neoclassical structuralism') approach does not seem to be that relevant

for Africa for two reasons. First, it is extremely dependent on the importance of the theory of comparative advantage (which can be theoretically challenged as less important to developing countries compared to absolute advantage – see Porter (1995), Shiak (1984), Alemayehu (2011)). Second, although his approach seems to recognize the role of active government and the importance of provision of infrastructure, it is completely devoid of the political economy analysis such as the role of classes and interest groups. Given his important position as chief economists of the World Bank, this is an understandable omission. Thus, what he called 'old structuralist' and what we call 'structuralist' or heterodox approach is the approach suggested here.

Having such an approach, in order to realize the objective of carrying out relevant research in Africa and inform policy, it is imperative to link with economists and universities that work in the rigorous political economy tradition that includes quantitative analysis.

Note

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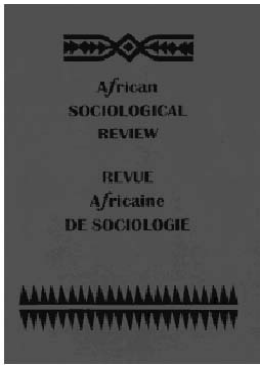

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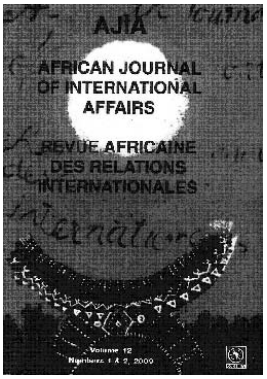

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