

## **RESOLVING THE CONFLICT BETWEENORTHODOX AND HETERODOX ECONOMICS: A CONVERGENCE ANALYSIS**

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### **Abstract**

*At the moment, economics is divided into two major streams: orthodox and heterodox. From the late 19<sup>th</sup> century to the present day, the use of quantitative tools of analysis has progressed so unstoppably that critics are wondering whether economics is about human beings or rather mathematics and unrealistic assumptions about man that lend themselves more to elegant quantitative analysis than realistic portrayal of man's economic challenges. Here then comes the rebel heterodox stream that is bent on re-humanising economics by rescuing the discipline from the stranglehold of the orthodox mainstream. Using the political economy analytical approach, this paper interrogates the arguments of the protagonists and antagonists in the great divide to unearth their essential differences and similarities. It was found that both sides had been operating more like silos and less about interdisciplinary and cross functional approaches towards a holistic understanding of the nature of man in the society. The folly of the divide having dawned on economists of both persuasions, the contemporary movement is towards economics pluralism. The paper recommends that rather than dissipate energy in antagonism, both streams should communicate better towards merging their more humanistic and more formalistic approaches with a view to improving the capacity of the science of economics to serve mankind.*

**Keywords:** Economics, Heterodox, Mainstream, Mathematics, Orthodox, Pluralism.

### **Introduction**

According to Campos (1987, p.320) the term "Economics" was popularized by such neoclassical economists like Alfred Marshall as a concise synonym for "economic science" as opposed to the political economy of Adam Smith and David Ricardo. A definition which brings out the quantitative, neo-classical, positive, orthodox, mathematical, contemporary or mainstream aspect of economic thought is that by Robins (1945, p.16) as "the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses" thus highlighting the essential aspects of scarcity, choice and optimisation.

Economic ideas date from earlier Mesopotamian, Greek, Roman, Indian, Chinese, Persian and Arab civilizations while notable writers include Aristotle, Chanakya or Kautilya, Qin Shi Huang, Thomas

Aquinas and Ibn Khaldun up to the 14<sup>th</sup> century. Oweiss (1988,p.115) wrote that after discovering Ibn Khaldun's MUQADDIMAH, Schumpeter changed his mind and viewed Khaldun as being the closest forerunner of modern economics because many of his theories were not known to Europe till relatively recent times.

However, recent research has shown that the Indian Scholar- Philosopher, Chanakya or Kautilya (c. 340 – 293 BCE) predates Ibn Khaldun by 1500 years as the forerunner of modern economics. Jha and Jha(1998, pp. 267-282) and others [Wauldauer,(1996, pp.101-8); Tisdell (2007,p.120); Sihag (2009,p.132)] have revealed that Kautilya's 'ARTHASHASTRA', is the genesis of economic concepts that include the opportunity cost, the demand – supply frame work, diminishing returns, marginal analysis, public goods, short and long run distinction, asymmetric information and producer surplus. The rest of the discussion is organised in the following twelve sections: Origin of the quantitative approach; Marginalism or Neo Classicism; Mathematical analysis; Progress of the quantitative approach 1870 – 1914; 1914 – 1945; Post World War 2 Developments; Criticisms of mainstream Economics; Post autistic Economics; Heterodox counter Movement; Resolution of the great divide; Conclusion and Recommendations.

### **Origin of the Quantitative Approach.**

The year 1870 is generally accepted as the watershed in the development of economics. Blaug (1976,p.309) opines that “the term marginal revolution is usually taken to refer to the nearly simultaneous but completely independent discovery in the early 1870s of the principle of diminishing marginal utility as the fundamental building block of a new kind of static microeconomics by Stanley Jevons, Carl Menger and Leon Walras.” It was characterized by the use of mathematical tools of geometry, calculus and statistics in analysing the behaviour of the ‘economic man’. Thirty two years earlier, Augustine Cournot had provided a good deal of mathematical treatment of economics with a view to formalizing the relationship between demand, costs, prices, downward – sloping demand curve, marginal cost and marginal revenue. Being ahead of his time, he was not understood and not read. Gossens also worked out marginal theory independently and like Cournot was unsung in his time but left us with his three “laws” of equi-marginal utility, diminishing marginal utility and that positivity of marginal utility is dependent on non - surfeit of supply(Bhatia,1981). But ideas of the margin predated above authors to include Malthus, Ricardo and Smith of the political economy school.

Even back in time, the Physiocrats as represented by Quesnay had, by 1756, linked natural philosophy (rule of nature), free enterprise or ‘laissez fair’, human society and human anatomy to produce his ‘tableau economique’ which depicted the circular flow of money and commodities in an ideal free competitive economy. It was the ‘tableau economique’ that gave rise to Leontief's input – output model of macroeconomic analysis (James and Throsby, 1979, p.242)

### **Marginalism and Neo-Classicism**

Neoclassical economics is often called “the marginalism school”. The term was originally introduced by Thorstein Veblen in 1900 to distinguish marginalists in the tradition of Alfred Marshall from those of the Austrian School. Today, it is often used to refer to mainstream economics and the Chicago school, although it has been an umbrella term encompassing a number of schools of thought excluding the ‘heterodox’ ones. Broadly speaking, neoclassicism rests on three assumptions:

- People have rational preferences among outcomes that can be identified and associated with a value.
- Individuals maximize utility and firms maximize profits.
- People act independently on the basis of full and relevant information.

The objective therefore, is to understand the allocation of scarce resources among alternative ends and for which a wide range of theories were propounded;

- Profit maximization lies behind the theory of the firm.
- Derivation of demand curve leads to an understanding of consumer behaviour.
- The supply curve allows for an analysis of the factors of production.
- Utility maximization is the basis of the theory of consumption, derivation of demand curve, etc.

Marginalism is a subset of neo-classicism and as noted earlier, the popularity of the tool of ‘the margin’ over ‘the average’ together with greater emphasis on atomistic elements in economics favoured the use of mathematics all the more.

### **Mathematical Analysis**

Mathematical analysis was attractive to the neo classicists as a tool for the espousal of their ideas over verbal language mainly because of their higher level of abstraction in micro analysis of relative scarcity, rationality, constraints, individual choices and optimisation. The power of mathematical analysis is in enabling the analyst to discover and estimate the signs and sizes of the economic phenomena’s variables in quantitative terms.

In this regard, Bhatia (1981, pp.342-352) opines that (a) “mathematics has the quality of imparting that precision, sequence and logical coherence to an argument” in abstract analysis; (b) when the argument involves substantiation with quantitative data, it is sine qua non in empirical analysis; (c) with increasing complexity in the economic environment, the need for sophisticated mathematics has also increased and branched into mathematical economics, empiricism and modelling. Henderson and Quandt (1980, p.4) eulogises that;

Mathematics is useful for translating verbal argument into concise and consistent forms. However, it does more than this. Mathematics provides the economist with a set of tools often more powerful than ordinary speech; mathematics possesses concepts and allows operations for which no manageable verbal equivalents exist. The use of mathematics enlarges the economist’s tool kit and widens the range of possible inferences from initial assumptions.

Akpakpan (1999, p.381) summarises the allure of the mathematical or quantitative approach as follows: Conciseness – it saves time and space through the use of symbols. Precision – aids reasoning and avoid illogicality Comprehensiveness – as several variables can be captured in a functional relationship. Verifiability – enables quantitative measure of theory against reality. Computerisation – enables economists to delve into previously “dark areas” due to the limitations of manual/ semi manual

computing power of man with respect to complexity, time and space. Cooley (1998, p.158) further explained that “most studies in economics and business involving regression are of the multiple type because in practice, human decisions are naturally influenced by more than one factor’.

### **Progress of the Quantitative Approach: 1870 – 1914.**

Just like 1870 was a watershed in the rise of marginal analysis, 1914 was significant because it marked the outbreak of the First World War. In surveying the development of economics over the period, Schumpeter (1959, pp.954-955) wrote that;

It was during this period that the inevitable happened: mathematical methods began to play a significant and indeed decisive role in the pure theory of our science. Numerical and algebraic formulations and numerical calculations had occurred of course in the earlier stages of economic analysis.... But the use of figures – Ricardo made ample use of numerical illustration – or of formulae – such as we find in Marx – or even the restatement in algebraic form of some result of non-mathematical reasoning does not constitute mathematical economics: a distinctive element enters only when the reasoning itself that produces the result is explicitly mathematical.

According to James and Throsby (1979, p.4) this “inevitable” growth in mathematical economics has continued till the present day. In addition to the pioneering contribution of Cournot, Gossen, Jevons, Walras and Menger; and later by Edgeworth, Pareto and Fisher in marginal and functional analysis, Alfred Marshall is also credited with an attempt to put economics on a more mathematical footing but as notes to his treatises. Though a mathematician, he viewed mathematics as a way of simplifying economic reasoning, a way of investigation, a means to an end, not an end in itself. This much was reflected in a private letter to his student, A.C. Pigou;“(1) Use mathematics as shorthand language rather than as engine of inquiry. (2) Keep to them till you have done. (3) Translate into English. (4) Then illustrate by examples that are important in real life. (5) Burn the mathematics. (6) If you can’t succeed in 4, burn 3. This I do often” (Butchholz, 1989, p. 151).

### **Mid War Quantitative Period: 1914 – 1945**

Marshall was on the last reform of his ‘Principles of Economics’ at the outbreak of the First World War (1914-1918) during which the economies of Britain, Germany and France were geared towards destruction as Russia relapsed into Marxist revolution in 1917. The massive economic disruption of Europe in the war years capped the advance of quantitative economics. It was the beginning of tests of validity of the assumptions and prescriptions of neo-classicism. Keynes not only opposed the vindictiveness of the victorious allies on Germany with respect to reparation demands in the Versailles Conference of 1919 in his *Consequences of Peace* (1919), but also predicted the immediacy of a world financial crisis which could lead to another world war.

While orthodox economics called for a tightening of spending until business profit and confidence levels could be restored in the long run, turbulence continued to ravage World, especially European, economies. By contrast, Keynes argued in ‘*A Tract on Monetary Reform*’ (1923) that a variety of factors determined the level of economic activity and that it was not enough to wait for the long run market equilibrium to restore itself. He remarked that;“... this long run is a misleading guide to current affairs. In

the long run, we are all dead. Economists set themselves too easy, too useless a task if, in tempestuous seasons, they can only tell us that when the storm is long past, the ocean is flat again”.

The fluctuations in the world economy reached its peak in 1929 when Wall Street crashed. The imperfections of the market economies of the late 1920s and early 1930s led Joan Robinson and Edward Chamberlain to develop *The Economics of Imperfect Competition* and *The Theory of Monopolistic Competition* respectively in 1933(Bhatia (1981,p.404). With the use of marginal analytical method, they proved that for profit maximization, firms will always equate marginal costs with marginal revenues. The major gap left by both authors, which is oligopoly, could not be handled with marginal analysis and had to wait till John Von Newmann and Oskar Morgenstern’s “Theories of Games and Economic Behaviour” was published in 1944 that a tool which could deal with moves and countermoves in an oligopolistic market emerge. A very significant development in qualitative economics during this period was by Frisch (1933, pp.1-4) - a Norwegian Mathematician, Statistician and Economist. He is credited with coining the term “Econometrics” as we use it today although it had earlier been used by Pawel Ciompa in 1910.The following quotation from the opening editorial of “Econometrica” written by Frisch in 1933 is apposite here:

But there are several aspects of the quantitative approach to economics, and no single one of these aspects, taken by itself should be confounded with econometrics. Thus, econometrics is by no means the same as economic statistics. Nor is it identical with what we call general economic theory, although a considerable portion of this theory has a definite quantitative character. Nor should econometrics be taken as synonymous with the application of mathematics to economics. Experience has shown that each of these three view points, that of statistics, economic theory, and mathematics, is a necessary, but not by itself sufficient, condition for a real understanding of the quantitative relations in real economic life. It is the unification of all three that is powerful. And it is this unification that constitutes econometrics.

According to Wonnacott and Wonnacott (1979, p.3), “Economics is the study of how and why variables in the economy are related. Econometrics involves measuring these relationships, and using them to predict”.James and Throsby (1979, p.6) concurs that “all economic theory will ultimately meet its fate in the econometrician’s laboratory in the process of testing models against actual data”.Koutsoyiannis (2001, p.4) submits that econometrics is a “combination of economic theory, mathematical economics and statistics but is completely different from each of these three branches of science”

### **Post World War II Developments**

After the war, a more orthodox and conservative body of thought took root reacting against the lucid debating style of Keynes and focused on remathematising the economics profession. It was as if the war years and the economic depression in between combined to promote Keynesianism while suspending the development of quantitative economics. But it would appear that a lot of post-World War II revival of the quantitative approach had remote roots in the war years’ developments in other areas which were later applied to economic analysis.

For one, Paul Samuelson was one of a group of mostly American economists who worked to combine Keynes’ economic theory with statistical methods and mathematical representation for the description of

equilibrating behaviour of economic systems. He adapted the thermodynamics formulae of physics to economic theory. (Fusfeld,1994,p.21).Starting with '*Foundations of Economic Analysis*' in 1947 and the influential and widely adopted introductory textbook '*Economics*', Samuelson won the Nobel price in 1970 for merging mathematics and political economy. Reasserting economics as a 'hard science' was being done in the United Kingdom also, and a once celebrated "discovery" of A. W. Phillips' was of a correlative (negative) relationship between inflation and unemployment.

Further impetus for the development of quantitative economics arose from two but closely related developments – operations research or management science and computerisation. The tools of management science were developed during World War II years, first in England and later in the United States. They were initially aimed at assisting field Commanders "solve perplexing strategic and tactical problems" and consequently maximise the war effort. After the war, management science extended into industry and services with the tools available for the reformation, refinement and extension of mainstream economics. These tools include, but are not limited to: Decision theory ; Utility and games theory ; Forecasting ; Linear programming ; Distribution models ; Network models ; Dynamic programming ; Markov Analysis ; Inventory models; Waiting lines ; Simulation and Heuristic programming.(Turban and Meredith,1991, pp.12-17)

With advance in computerisation, information and communications technology, including the internet, the quantification of economics has become unstoppable as confirmed by James & Throsby (1979,p.4) who opined that "this inevitable" growth in the use of mathematics in economics has continued to the present day, in agreement with Schumpeter on the impact of mathematics on economics in the period 1870 – 1914. Continuing with their thesis, James & Throsby (1979, pp.3-6) argue that;

Economics in the 20th century has been characterised by a continually increasing use of the techniques of quantitative analysis ... it is important because it is possible to formulate in quantitative terms almost all the questions economists ask... in addition, in the current technological environment, most economic problems are no longer simply verbal ... there has been a growing appreciation of the practical value of the quantitative approach via clear specification of problems, development of powerful theories and empirical testing of real world conditions ... very importantly, the factor responsible for the ever growing emphasis on quantitative analysis is the electronic computer with which economists can confidently tackle problems which hitherto would have been considered impossible to solve or would have taken years to fathom.

Their submission is that "the student of modern economics should not feel enslaved by the techniques used, but liberated. Computer technology will now leave him free to concentrate on ideas rather than preoccupying himself with laborious calculations and worrying about the need to 'get his sums right'. In any practical problem, all his sums will be done for him".

### **Criticisms of Mainstream Economics**

- Economics has been subjected to the criticism that it relies on unrealistic, unverifiable or highly simplified assumptions because in some cases their assumptions lend themselves to elegant

mathematics. Examples include perfect competition, profit maximization and rational choices (Boland, 2008, p.150).

- In the theory of the firm, the fundamental factor, behaviour, was neglected in the formal model (Joskow, 1975, p.271).
- Mainstream Graduate programmes have become increasingly technical and mathematical (Johannson, 2004, pp.515-538).
- Although most of the ground-breaking economics research in history involved concepts rather than mathematics, today it is nearly impossible to publish a non- mathematical paper in top economics journals(Sutter and Pjesky, 2007, pp.230-240).
- Policy failures in economic advising have been attributed to an uncritical and unscientific propensity to imitate mathematical procedures used in physical sciences. (Hayek, 1974).
- Theory and data are often very imprecise and lend themselves to the direction of a change needed, not its size (Hayek, 1974).
- The emergence of ‘heterodox economics’ is a counter movement against the stranglehold of the profession by orthodox economics. By heterodox is meant economists of non – mainstream persuasion. (Mishra, 2008, p.9).
- It is the contention of heterodox economists that orthodox economics has been “an apologia in defence of the market economy based on the institution of private property and individualism” (Mishra, 2008, pp.11-12).

### **Post-Autistic Economics**

The most strident critics of neoclassical economics are the dissidents called Post – Autistic Economics (PAE) Movement. Led by Frenchman Bernard Guerrien and made up of disaffected French economics students, they hit limelight after an interview in “Le Monde” of June 2000. It was supported by Cambridge Ph.D students in 2001 with the publication of “Opening up Economics: A proposal by Cambridge Students”, later signed by 797 economists. The term “autistic” is used to indicate “closed – minded” or “self – absorbed” mind-set of the neo-classical. From the United Kingdom, it spread to the U.S and worldwide through the internet.

Dissidents include top-notch neo-classical economists like Deidre McCloskey, a distinguished professor, who as far back as 1983, posited that much of economics was a con game marked by three primary vices, namely incessant misuse of the tests of statistical significance , endless concern about imaginary and unrealistic economies and arrogance of social engineering. He concluded that “probably three-quarters of the scholarly activity in economics is useless and will result in no understanding of the real world”.

Another mainstream critic is UCLA's Econometrician Edward Leamer who opines that in the 1930s, economics "was done in verbal, written language but the era of Samuelson was so successful in introducing mathematics into the conversation that it is now required that you speak math". He called that unfortunate "because most of our Ph.D. students can never really master that language, and they struggle so hard with the grammar and syntax that they end up not being able to say anything". He and other professors reported that "newly minted Ph.Ds. often cannot comprehend classic prose texts of the discipline. Having not read Smith, Ricardo or Keynes of the 18th, 19th and 20th centuries, the would-be academics learn the 'neo' without the 'classical' (Adapted from Monaghan, 2003). These are some of the profound criticisms of the mainstream that are helping to fuel the post autistic movement.

In *Man as Machine: The Plight of 20<sup>th</sup> Century Economics*, Coyne, Leeson, and Boettke (2003, p.1) decried the thrust of mainstream economics by asserting that "the purging of anthropomorphism was appropriate in the physical sciences. But the purging of man from the human sciences results in the abolition of its subject matter. The human element is eliminated and replaced with a utility machine. Economics developed a theory of the machine economy, but lost complete sight of the human economy".

### **Heterodox Counter Movement – (Mishra, pp. 1-33)**

(a) *Up to 1980*: Heterodoxy rejected the basic assumptions on which neo classical economics was built namely rationality of individual economic agents who seek to maximise individual utilities or profits subject to environmental constraints as a basis for rational choice theory; derivation of demand and supply functions which will lead to a determinate market clearing equilibrium that can be Pareto efficient. They also emphasised time as an irreversible historical process and reasoning in terms of mutual influences between individuals and social structures.

(b) *From 1980*: Significant changes began to occur in economics as a number of new research programmes began, in various ways, to be recognised by the mainstream economics. These include behavioural, complexity, evolutionary, experimental, neuro, energy, agent-based modelling / computational, institutional, ecological, biophysical, green, post- autistic, geographic, information economics, among others.

(c) *Most Recently*: The intellectual agenda of heterodox economists have taken a deliberately pluralist turn and opened up new lines of analysis, criticism and dialogue among dissenting schools of thought with a view to tackling contemporary challenges. An example is Colander (1998), a complexity economist, who argued that the ideas of heterodox economists are now being discussed in the mainstream without mention of the heterodox economists because the tools to analyse institutions, uncertainty and other factors have now been developed by the mainstream. He suggested that heterodox economists should embrace rigorous mathematics and attempt to work from within the mainstream, rather than treating it as an enemy.

Also, Daniel Kahneman, a behavioural economist, was awarded the 2002 Nobel Prize "for having integrated insights from psychological research into economic science, especially concerning human judgement and decision making under uncertainty". Recall that F.A- Hayek of the Austrian School and a heterodox Economist was awarded the Nobel Prize in 1974. Amartya Sen was highly critical of rational expectations theory and devoted his work to human rights and development issues. He expressed considerable scepticism on the validity of neo-classical assumptions but won the Nobel Prize in



1998. Joseph Stiglitz is an information economist, an outspoken critic of global economic institutions, the neoclassical model and the model under market socialism. He won the Nobel Prize in 2001.

Paul Krugman is an economic geographer and 'new trade' theorist who won the Nobel Prize in 2008.

It would appear that these prizes signify the increasing acceptance of heterodoxy by the mainstream and affirmation of some shift in paradigm in the methodology of economic enquiry.

### **Resolution of the Great Divide**

The emerging sub - disciplines of information, behavioural, complexity economics and others are already addressing the issues of unrealistic assumptions. Hodgson (2000, pp7-25) has already forecast a major shift in the mainstream approach to economics. Mainstream economists like Keynes and Joscow along with heterodox economists have observed that much of economics is conceptual rather than quantitative. Joscow (1975) believes that the important work in oligopoly was done through informal observation. Regarding mathematical abstraction in graduate schools and journal publications, Colander (1998, pp39-55, 2007), an advocate of complexity economics has made a case for more intuitive heterodox economists to ally with mathematicians and become more mathematical in other not to allow orthodox economists usurp their ideas as has been going on secretly. Economics, since the 1940s, has been undergoing cumulative formalisation towards the application of the hypothetico-deductive method to explain real world phenomena (Blaug, 2007, pp.346-347)

The validity, stridency and popularity of the post Austic Economics Movement has won over a lot of mainstream economists who are privately or openly critical of the status quo. Robert M. Solow of MIT and a Nobel Laureate has objected that the protesters are not sufficiently allowing for neo-classical economists self-critique and evolution e.g. their work on incomplete markets, asymmetric information; Kenneth J. Arrow, also a Laureate at Stanford University believes that the contemporary meanings of the contentious assumptions have become more and more subtle, in agreement with Solow (Monaghan, 2003). Arrow believes that the change in the notion of rational choice occasioned by the introduction of games theory and the acceptance of behavioural economics are not post - neoclassical but a continuation of the neoclassical tradition without the traditional assumptions. Quite a number of heterodox and mainstream economists with heterodox persuasions have won the Nobel prizes over the years. From Hayek, Sen, Stiglitz, Kahnemann and Krugman, it appears that sooner than later, a better and structured form of dialogue between the mainstream and dissidents will emerge. The different currents of heterodoxy are not yet synthesized with necessary tools of analysis put in place. Although they aim to replace neoclassicism, the process of evolution can only allow a convergence of heterodox and orthodox economics.

Heterodox economics is necessitated by the policy ineffectiveness associated with unbridled quantification of economic behaviour. It addresses the human element influencing economic competition, cooperation, decisions and aspirations and is not necessarily adversarial to mainstream economics. Rather, it brings to the fore subjective variables ignored through quantification of economic procedures. Through triangulation, the two models can be used to present a holistic picture of a given economic reality.

## Conclusion and Recommendation

There is no gainsaying the fact that economics is about man in society who is basically more human with foibles and frailties than the myth of “homo economicus”. This paper traced the origin and progress of the quantitative approach to economics and in itself presupposes an evolutionary process. That the quantitative approach grew to the present level of sophistication in economics was because there were necessary and sufficient conditions including the lack of an equally or more powerful contradicting approach along the way.

But this does not in any way absolve those whose stock in trade has been the abuse of mathematical reasoning. They are the pseudo economists and pseudo mathematicians who attempt to quantify unquantifiable variables (Akpakpan, 1999, p.382). Chiang (1967, p.4) had warned about these pseudo intellectuals thus;

An economist with mathematical training is subject to the dual temptations of (1) limiting himself to problems that can be solved mathematically and (2) adopting inappropriate economic assumptions for the sake of mathematical convenience. Unless he is careful, therefore, he may become preoccupied with, and engulfed in, *mathematical techniques* instead of *economic principles*. In other words, one may unwittingly let mathematics assume the status of a master rather than servant. Should this happen, though, it represents the failing not so much of mathematical economics as of the economist himself.

As heterodox economics waxes stronger in providing countervailing humanistic arguments, the mainstream cannot but shift grounds positively by not only making their assumptions more realistic but also accommodating heterodox views. On the other hand, heterodoxy is still woolly with neither central tenet nor analytical tools talk less of a significant embrace of mathematical and econometric sophistication. Consequently, this paper advocates that the two seemingly antagonistic approaches must make conscious effort to be converging slowly into the future. On May 05, 2014, economics students from over 30 countries-ISIPE- published an international student letter calling for ‘pluralism of theories and methods’ so that economics students ‘understand the broader social impacts and moral implications of economic decisions’. Convergence, inclusion, pluralism, complementarities and coordination should be the languages of economics in the 21<sup>st</sup> century.

There is little doubt that a convergence or holistic approach to the theory and practice of economics will impact positively on the articulation and execution of economic policy thereby making economics more relevant than otherwise. This is more so in less developed countries characterised by rigid dualistic structures, a very large informal sector and powerful ‘non-economic factors’ that have been significantly influencing the conduct of public policy.

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