Bangiya Arthaniti Parishad
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XIIth Professor A.K.Dasgupta Memorial Lecture 2018

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KEYNES, DASGUPTA AND BEYOND: TOWARDS A TRANSITION TO STRUCTURALIST MARCROECONOMICS

BISWAJIT CHATTERJEE

Among the Indian economists who reflected on economic theory and development process of the Indian economy during the early days, Professor Amiya Kumar Dasgupta was definitely the leading pioneer, and it is my privilege to deliver this Annual lecture in the memory of this great mind that India had produced. I am thankful to the Bangiya Arthaniti Parishad, and particularly to Dr. Alaknanda Patel for giving this honour to me. I am aware of the challenges that I inherit from my illustrious predecessors who had given this prestigious lecture in the past. Amiya Kumar Dasgupta is considered the doyen of theoretical economics in India during that time , and many of his writings are considered as "Vintage" writings by stalwarts like V.R.Panchamukhi and others. Among what he wrote and authored, was the classic 1954 Economic Weekly paper entitled *Keynesian Economics and Underdeveloped Countries,* followed by another classic monograph entitled *Epochs in Economic Theory*, written in his late years. In these materials, Dasgupta's reflections on the stages of evolution of economics discipline in general, and the process of economic development in less developed economies in particular , are noteworthy and important, and I shall develop my lecture from the ideas that he left at that stage. It may be noted that Dasgupta's Economic Weekly paper was slightly prior to Arthur Lewis's classic Manchester School article on Unlimited Labour Supplies or Surplus Labour in underdeveloped nations in Asia, Africa and Latin America, and together these two pieces are considered as the foundations of modern day development economics.

In my lecture , I shall speak on Keynes, Dasgupta and Beyond taking cues from some of his writings to focus on the evolution of contemporary sub-discipline in the domain of economics science, namely *structuralist macroeconomics ,* which has influenced contemporary discussions on economic processes and policy designs, particularly in the so-called less developed economies. This is my humble tribute to this great scholar and thinker. I shall argue that apart from suggesting a theoretical framework to study economic development of an agrarian economy, in which he used a Ricardian framework, Dasgupta also suggested the operation of multiple constraints simultaneously in LDCs, which was developed later as Structuralist Macroecomoics since the 1980s.

I.KEYNES

The debate in macroeconomics since the days of Classical economists like Marshall and Pigou essentially revolves around two issues: Automatic transition to full employment equilibrium from non-equilibria situations, and Neutrality of money , making equilibrium

solutions in the real sectors of the economy totally independent of the changes in the monetary stock or its demand in the economy. Keynes, in his General Theory, had shown that if the economy is stuck with an equilibrium with involuntary unemployment , there is no automatic mechanism that makes its transition to full employment equilibrium possible. Full employment may be attained only by accident, and unemployment in general prevails, constrained by demand constraint operating in the economy. Money is non-neutral in the Keynesian system, as the changes in its supply or demand affects the equilibrium rate of interest, which affects investment decisions and thereby affect real aggregate output and employment in the economy. The followers of the Classical macroeconomic thought have argued that Keynes obtained unemployment as a *special case* of the classical theory because of his assumption of special rigidities in the free operation of the price system in the form of the downward rigidity of money wages , liquidity trap and interest-inelasticity of saving and investment decisions . These rigidities stand in the way of obtaining full employment equilibrium in a capitalist economy. The debate turned into the question of generality or otherwise of the two approaches to macroeconomics –*Keynes vs the Classics*, to which John Hicks had attempted a synthesis in terms of his *SILL* diagram, later popularized as the *IS-LM* framework. Lawrence Klein's *Keynesian Revolution* is also an attempt at such integration, with variable price level , but the problem remains.

The Keynes vs Classics debate turned into a Keynesian counter - revolution in the 1970s.This followed as a sequel to the neoclassical synthesis led by the seminal work by Don Patinkin in 1965. The basic problem noted in the context of Keynes's construction of the General Theory was the integration between value theory and monetary theory. Neoclassical synthesis posits the value theory as equivalent to the theory of general equilibrium of the Walrasian variety with tatonnement mechanism to set the correct set of market clearing prices, where all markets, including money and labour markets are simultaneously in balance. The fact that such simultaneous equilibria in all markets do not hold in practice due to informational and structural asymmetries and frictions , has resulted in the consideration of multi-market non-Walrasian equilibria with rationing to explain unemployment and inflation . Following Patinkin and Clower, neo-Keynesian disequilibrium models with quantity rationing have been developed by Barro and Grossman, Malinvaud , Hahn and Benassy , among others , mainly towards the end of 1970s and the whole of 1980s . They distinguished between Classical unemployment with excess supply in labour market and excess demand in commodity market , and Keynesian unemployment with excess supply in both labour and commodity markets. The short-side rule determines which constraint is binding and hence the consequential disequilibrium.

It has been argued by Malinvaud (1977) and following him, Benassy (1986) that when unemployment (excess supply in the labour market) coexists with excess supply in the

commodity market, it is Keynesian unemployment, whereas when unemployment coexists with excess demand in the commodity market, it is considered as classical unemployment. In the absence of a real balance effect, a low real wage aggravates the problem of effective demand via income distribution towards the thriftier class and thus creates excess supply in the commodity market. On the other hand, too high a real wage rate diminishes the profitability of investment and output, and as a result creates excess demand in the commodity market. The basic clue to the above distinction between two types of unemployment rests upon two opposing effects on the level of aggregate employment and output following variations in real wage rate. John Hicks (1974) distinguished between a 'savings effect' and a 'substitution effect' of a change in real wage rate to focus on how these contradictory forces operate on the level of employment and output. A higher real wage rate stimulates effective demand by reducing savings through the redistribution of income from profits to wages (on the assumption that $s_p > s_w$), whereas a higher real wage rate also tends to depress the profitability of producers and induce substitution against labour – intensive methods of production thereby reducing the demand for labour. Bhaduri and Marglin (1990) have shown that the old wage–cut controversy between Pigou and Keynes could be resolved if we acknowledge the twin effects of a wage cut (for a given price level). Wage cut encourages under -consumption by reducing wage bill via redistribution towards profits, and it accelerates investment by enhancing profitability via unit cost reduction .The net effect on aggregate output and employment depends on which effect dominates. If the first effect dominates then a Keynesian unemployment would ensue with a low real wage rate and vice versa. On the other hand, if the second effect dominates then a classical unemployment would ensue even with a low real wage rate and conversely. Thus a policy of wage reduction would not necessarily stimulate employment as argued by the proponents of classical macroeconomics or the fixed price non-Walrasian macro-economists like Malinvaud and Benassy. In fact , the failure of the non-Walrasian models to explain realisation of profits in the investment goods sector arises from the fact that demand is endogenous for the consumption goods sector, whereas it is exogenous for the investment goods sector.

According to Paul Davidson (2007), Keynes's revolution in macroeconomic theory essentially revolves around his rejection of the three axioms of the Classical economic theory of aggregate output and employment, enunciated by Pigou, namely "neutrality of money", "gross substitutability", and "ergodicity" axioms. Keynes provided a more general framework with fewer axioms to drive home the essentiality of effective demand as the principal determinant of aggregate output and employment in a free enterprise capitalist monetary economy. Keynes argued that the potential of insufficient aggregate demand standing as a constraint to automatic transition to full employment in a capitalist economy arises from the possibility that saving prevents current production from being automatically consumed, and the leakage or gap cannot automatically filled in because of uncertainty of investment, due to

the animal spirit of businessman or what may be described as the consequence of *expectation not being right.* The neutrality of money proposition states that "changes in the quantity of money in the economy have absolutely no effect on the aggregate level of employment and production in the system". The mainstream interpretation of Keynes's emphasis on effective demand hinges on the rejection of the above neutrality proposition based on nominal rigidity of wages and prices. This argument is flawed, argues Davidson, because in a barter economy , the only way to save is to accumulate durable goods, such that savings automatically creates investment, and Says' Law holds by definition in such an economy as a matter of definition. This necessarily breaks down in a monetary economy, wherein money income may be saved by holding one's holding of liquid monetary asset, and this liquidity preference function is a result of choice between alternative assets under capital uncertainty , faced by the agents. To quote from the General Theory, "An *act of individual saving means—so to speak- a decision not to have dinner today. But it does not necessitate a decision to have a dinner or to buy a pair of books a week hence, or to consume any specific things at any specified date. ...there is always an alternative to the ownership of real capital assets, namely the ownership of money and debts.*"Say's Law of markets necessarily breaks down in a monetary economy and with it break down the tenets of automaticity of full employment and monetary neutrality, and this is true independent of rigidity of nominal wages and prices. This means that even when all prices including the nominal wage rate are flexible, and may even adjust instantaneously, attainment of full employment equilibrium in the short run may be eluded in principle because of the paucity of aggregate effective demand. And such a paucity of effective demand may nullify the Gross substitutability axiom of the Classical economic theory which presumes that prices would automatically fall to clear the market in the face of inadequate demand, because demand curves are necessarily downward sloping .This presumption of micro-theory that demand curves slope downward(which rests on the axiom of gross substitutability) is theoretically fragile at the macro-level—if price level of every good declines because of excess supply, where is the scope for substitution? And if the price level of everything falls, including labour, there is no change in the purchasing power of income in the aggregate because nominal incomes have fallen along with output prices, barring the real balance effect on consumption expenditure and interest rate effect on investment, deflation cannot boost aggregate demand and involuntary unemployment emerges in equilibrium – thus excess supply of labour coexists with excess supply in the commodity market. The wealth effect or the real balance effect- a la Pigou-Patinkin-Metzlar, even if it is present, is likely to be quantitatively tiny, and only relevant assets are outside monetary assets, which are relatively small proportion of total wealth. The interest rate effect is potentially more robust, but empirically weak. In line with Keynes' own enunciation in chapter 19 of the *General Theory* on long-run expectation, it is clear that deflation could be destabilizing, i.e. downward price and wage adjustment in the face of insufficient aggregate demand and

unemployment makes things worse because of the following reasons—(a) redistribution of wealth from borrowers to lenders when debt contracts have fixed nominal terms;(b) reduced spending by indebted consumers who tighten their belts in an attempt to maintain individual budget constraints; (c) disruption to financial intermediation as deflation increases the incidence of default; and (4) the expectation that falling prices in the current period signal future declines, raising anticipated real rate of interest rates , incentivizing agents to defer- or curtail current expenditure. All these suggest that in the static framework, aggregate demand curve might be *upward sloping,* such that lower wages and prices induced by unemployment and deficient demand conditions could worsen the problem.

In fact, Keynes' treatment of uncertainty and long term expectations in chapter 19 of his *General Theory* indicates his rejection of the *ergodicity* axiom of Classical Economic theory: people do not know that they do not know, and only can form expectations which may not prove to be right. If your vision of the process of economic behavior is hundred years, you almost know what is there beyond that time, but if your adjustment process of economic behavior and decision making is one or two years, you really do not know what lies ahead, and are likely to err in your judgment regarding future investment prospects, and therefore planned investment may not be adequate to absorb planned savings in the short run, leading to the onset of demand deficiency and associated contraction that multiplier process may initiate (Leijonhufvud, 1968).Suppose the world is ergodic, but we have monetary exchange and there is no automatic mechanism to ensure that investment is adequate to absorb full employment savings. In such a case, the system will not automatically converge to Classical full employment, even if investment and consumption decisions are based on expectation of an ergodic stochastic process. As a result, the failure of monetary neutrality and gross substitution together would work to give the centrality of effective demand principle –James Tobin called it "Keynes Mark I (Tobin, 1975).They also explain why insufficient aggregate demand prevents the free enterprise capitalist economy from fully employing its resources including labour and producing its potential output—neither interest rate nor wage-price adjustment provide an adequate answer to the problem. Davidson (2007) calls Keynes' rejection of ergodic uncertainty as "Keynes, Mark II". One may look to Keynes' *Treatise on Probability* as the source of his perception about uncertainty, and significant post-Keynesian contributions to the decisions under uncertainty around his line of argument include G.L.S.Shackle or Hyman Mynsky, the latter developing the theory of financial crisis in the post War capitalist economies.

II.DASGUPTA

Amiya Kumar Dasgupta traversed a wide field in the domain of economic analysis like theory of value and distribution, growth and development , money, international trade and public finance , and contributed significantly on economic planning ,wage policy, austerity,

black markets, inflation, Gandhian economics, Marshallian theories, Keynesian economics and Marxian political economy and so on. Influenced by his contemporaries like Joan Robinson and Nicholas Kaldor, Dasgupta excelled in framing the temporal behaviour in economics within the framework of classical political economy, where the capitalist form of production, in its essential form, had evolved through crises and fluctuations, and in less developed nations like India the question of employment of surplus labour through the process of economic development became the focal point of his analysis. He considered General Theory as a *classic*, making a distinct epoch in economic theory, something on which historians of economic thought might find continuous interest. But the essential thrust of his argument was a *theoretical* one, which is related to the behavior of wage rate with employment, and its evolution through time—i.e. in the short run and the long run as was analysed by Marshall. He writes, "*The period of reference is a 'short period' over which, among other things, capital equipment and technique are given and constant, these being the result of past investment. Labour is employed upon a given capital equipment, and is pushed up to the margin of profitableness. A short period equilibrium is thus envisaged for the economy as a whole. However, although Keynes' analysis runs in terms of a short period, it does not preclude longer run inferences. For, a long period is a succession of short periods, each endowed with different capital equipment and carrying the legacy of the past*."(Dasgupta, 1954).Thus it is clear that Keynes was inverting the Marshallian sequence of the behavior of the supply curve for a single industry between very short run , short run and the long run to depict the aggregate supply curve for the economy. In the domain of Marshallian analysis, the very short run supply curve of a single firm or industry is a vertical one, as most of the factors of production are fixed, upward sloping in consonance with the profit maximizing behavior of producers when some factors become flexible and factor substitution is allowed, but becomes a horizontal one in the long run when all factors become flexible for use by the producer and profit maximization continues as an objective of the individual producer. For Keynes, who was interested in depicting the behavior of the aggregate supply curve in the very short run, short run and long run, the exact opposite sequence would be valid: in the very short run for the economy as a whole, if each individual producer faces only limited use of factors of production, in the aggregate resources and capacities remain idle, such that if demand for output is forthcoming, then supply would increase without any increase in the price level- a horizontal aggregate supply curve gives credence to Keynes's idea of effective demand led expansion of output in the very short run via what he called the *multiplier process.* The short run supply curve in Keynes for the economy as a whole is exactly the same as the Marshallian one for one industry within the ambit of profit maximization under perfect competition- thus micro transcends to macro exactly in the short run. In the long run, when every individual producers faces perfect flexibility in the use of the inputs – all factors are treated as variable for individual producer, no resources in the economy as a whole or no

capacities installed could remain idle, such that the effective demand elasticity of output becomes zero – the aggregate supply curve becomes vertical, and we enter into the regime of demand determined prices in the long run for the economy as a whole. According to Keynes, this is the Classical full employment, which he argued that a capitalist economy could attain only by accident, and not as a general tendency. The general tendency is a characterization of very short or short run equilibrium for the economy as a whole with involuntary unemployment- a phenomenon of demand determined equilibrium from which a free enterprise capitalist economy does not automatically gravitate to full employment equilibrium in the long run. Augmentation of effective demand in such an economy is crucial in relaxing the demand-constraint, which requires outside government policy stimulus. While monetary stimulus may not suffice to initiate the process of demand expansion because of the peculiarities of expectation about future asset prices vis a- vis the current market rate of interest in the short run -a phenomenon that Keynes dubbed as 'liquidity trap'- a policy of direct fiscal expansion would relax the demand constraint and initiate the process of recovery from recession towards full employment equilibrium, no matter what the mode of financing the additional fiscal spending might be. This essentially is the Keynesian theory and Dasgupta concurs with Keynes' diagnosis and explanation. What Dasgupta questioned was the applicability of the Keynesian theoretical apparatus to explain the process of development in less developed nations, and he maintained that the applicability of the Keynesian theory in the context of underdeveloped economies could *at best be limited.* That was the basis of his famous 1954 classic paper which slightly predates Arthur Lewis's much-quoted celebrated Manchester School paper on Surplus labour.

Dasgupta was engaged in a debate with V.K.R.Rao regarding whether the Indian Economy in the early 20th century was demand constrained or supply constrained, and how the process of its economic development could be explained. Dasgupta, who based his analysis of underdeveloped countries on the Ricardian model of real wage rigidity, to oppose the claim of V.K.R.V.Rao that Keynesian multiplier operates in a country like India. As early as 1942, while commenting on an important book on 'India's Fiscal Policy', Dasgupta raised the following set of questions:

"*Is there anything like involuntary unemployment in this country? Is it not pertinent if one asks for a demonstration of its existence before one accepts any judgment of policy which begs so delicate an assumption? Mr. Keynes, I think, had the case of his own country in view when he enunciated his theory of involuntary unemployment. A country which is in an advanced state of economic development, where population is fast coming to a stationary level, and where, further, there exists a strong trade union organisation to resist any reduction of money wages, provides a peculiarly suitable soil for the application of Keynes' theory… Indian economy, on the other hand, is characterised by an entirely different set of conditions.*

It is not capital saturation, and surely not a refusal of the people to multiply that accounts for a low marginal efficiency of capital. The trade unions are just in their infancy and are not sufficiently organized, so that there is still scope for 'plasticity' of wage rates. General considerations suggest that mass unemployment, in this country, is mostly seasonal, although partly also it is due to inertia and lack of mobility of capital" (Dasgupta, 1942).

Dasgupta argues further,

"The relation of Keynesian economics to the problems of underdeveloped countries is a subject which has received wide attention from our economists recently. In a series of articles in the Indian Economic Review (Vol I, Nos 1, 2 and 3), Dr V K R V Rao called attention to the special features of underdeveloped economies and enquired to what extent the Keynesian propositions apply to these economies. It was a subject of discussion in the 1953 session of the Indian Economic Association, and a good many papers were devoted in the Conference to a consideration of this problem. In general, the authors, despite differences in emphasis on specific points, seem to come to the conclusion that Keynesian economics, insofar as it is formulated in the General Theory of Employment, Interest and Money, has little validity in the context of underdeveloped economies, that Keynesian involuntary unemployment is not the kind of unemployment from which these economies suffer, and that the problem in these economies is one of long-term economic development rather than the attainment of 'full employment' in the Keynesian sense."(Dasgupta, EPW, January 1954).

Dasgupta's characterization of Keynes' very short run equilibrium for an economy as demand constrained , and long run equilibrium as supply constrained , and the simultaneous operation of quantity and price adjustments in the short run macroeconomy, and his emphasis on structural rigidities in the underdeveloped economy, indicate the simultaneous operation of multiple constraints in different sectors of the economy of LDC in the short run , which tend to restrict the operation of Keynesian multiplier. As a result, Dasgupta was skeptical of the applicability of pure Keynesian theory in the context of underdeveloped economies. To quote Dasgupta (1954), "*The test of economic progress is not just maintenance of full employment. A country which is already advanced and has a high average standard of living can afford to take full employment as a unique goal of economic policy, a certain minimum level of growth being implicit in it. But for an under-developed country such as ours where in the past the rate of capital formation has failed to keep pace with the growth of population and where peoples' standard of living has been systematically pressed down, the essential test of economic progress is rising productivity of labour; maintenance of full employment is not enough. This is what makes the task of economic development of an under-developed economy so formidable*." This indeed is a difficult task, requiring lots of organizational efforts, managerial skills and planning involving inter-temporal choices based

resource allocation in a mixed economy, and Dasgupta was candid in delineating the importance of such factors in the economic development of a poor backward nation like India.

Debates on the effectiveness of policy options notwithstanding, the assumption of fixed prices as the basis of disequilibrium revokes the question of rationality of such behaviour or their micro-economic foundations. Kalecki's theory of cost-plus mark-up pricing at an imperfectly competitive market structure with demand-determined output in the short-run provides a new escape route for Keynesian macro-theorist to salvage the non-Walrasian result of fixed price constrained disequilibria as explanation of Keynesian unemployment. The Polish economist Michael

Kalecki made important theoretical contributions to this effect exploring the relationship between mark-up pricing, capacity utilisation, investment pattern and its financing and effective demand in a capitalist economy, both in the short run and in the long run. In a series of papers written between 1933 and 1942, Kalecki developed his theory of effective demand and income distribution for a capitalist economy, where the markets were imperfectly competitive. He argued that in a capitalist economy, since production is demand determined owing to the existence of under-utilised capacities, the spending behaviour of different income classes are important in determining the level of effective demand, given the distribution of income between wages and profits by the mark-up pricing by industrial capitalists. Kalecki assumes that all wages are consumed and that all profits are spent on capitalist's consumption and investment expenditure. It is the volume of investment expenditure which is crucial in determining the level of profit and the national income in a capitalist economy, and therefore business upswing or downswing is crucially related to the fluctuations in investment demand and the factors underlying it.

Although there are important methodological and analytical differences between his analysis and those of Marx and Keynes , Kalecki's analysis of degree of monopoly based income distribution precisely fixes the real wage rate and hence does the same trick as the Marxian notion of '*rate of exploitation'*, or the Keynesian construct of wage unit does. His primary focus on consumption of wage goods and spending of wage bills on them constituted the core of modern discussions of macroeconomic adjustments under alternative forms of unemployment. Unlike Keynes, who had emphasised the importance of government spending as the panacea to overcome the deficiency of effective demand in a capitalist economy, Kalecki had argued that industrial capitalists would in general object to the maintenance of full employment through public investment because such large scale government intervention may dampen private confidence and crowd out private investment. Kalecki's emphasis on selective government control and planning for the priority sectors of the less developed economies, and his perception of social and political forces inhibiting the process of economic growth have important insights for the analysis of the dynamics of mixed economies and the

political economy of their development. His use of the distinction between cost-determined and demand - determined prices for industrial and agricultural products constitutes the basis of present-day Structuralist macroeconomic modeling for the LDCs, with multiplicity of constraints operating in such economies at the same time. These constraints include : (a) the paucity of tangible capital stock required to expand capacities in the industrial sector, (b)unequal distribution of income and the effective demand constraint,(c) the paucity of foreign exchange and limited availability of foreign credit so that transformation possibilities through foreign trade get limited, (d) the small size of domestic savings , (e) low productivity in agriculture, i.e., slow growth of *'necessities'* like wage goods , and (f) the political constraints which limit the domain of public actions in the mobilisation of savings and investment . While the effective demand problem emanating from unequal income distribution and oligopolistic market structure may restrict industrial output in the short run, Kalecki has laid greater emphasis on the wage goods constraint which may initiate a process of inflation during the course of economic development, with adverse consequences for income distribution and growth. The capital shortage problem of the LDCs may be relaxed through the mechanism of raising the share of investment in national income for capital formation; such a process would however release extra demand for food and other necessities, whose growth being sluggish, would contribute to price increase. This is precisely the danger that Vakil and Bramhananda pointed out in their opposition to the Mahalanobis strategy of planning in India.

III. BEYOND: STRUCTURALIST MACROECONOMICS

The essential point of departure of Structuralist Macroeconomics is to recognize the presence of multitude of structures inherently built in the economic system that reflect the simultaneous existence of constraints in the macro-economy. Some of these constraints are in the nature of demand constraints and some are in the nature of supply constraints .In a less developed economy such constraints operate in different sectors of the economy at the same time at least in the short run. A typical example of supply constraint in such a less developed economy is its agricultural sector, while its industrial sector may face demand constraint due to the insufficiency of demand for output arising due to difference in spending patterns of agents at different levels of income distribution. Lance Taylor (1983) and Mihir Rakshit (1982) have developed short run structuralist macro models for LDCs using the Keynesian principle of effective demand and Kalecki's notion of income distribution and effective demand. Such models can be extended to the open economy analysis to examine the effects of policies on expenditure switching between domestic and foreign goods, and expenditure reducing programmes, and test for the operation of the Keynesian multiplier analysis. Another strand of *Structuralism* could be to provide a heterodox theoretical structure such that we may have a Classical D Ricardian version of capital accumulation in some competitive sector,

and a purely Keynesian investment function or a Kalecki D Steindl form of investment function relating the degree of capacity utilization and rate of profit to portray the short-run or long run equilibria in a macro-economy with imperfect competition. Marglin (1984) has suggested such a synthetic heterodox macro-model, and one may integrate the Marglin version with the Taylor- Rakshit variety to explain the adjustment mechanism and the effects of policy shocks on rate of profit and unemployment in a capitalist less developed economy operating under multitude of constraints. Here one may note the important insights of Amiya Dasgupta that these constraints are reflected in the shape of aggregate supply curve and since the long run is a succession of short-period equilibrium(as the waves of the sea) , the process of capitalist development as well as the adjustment mechanisms underlying therein could be effectively characterized as important elements of structures in the LDC macro-economy so as to be able to reflect on possible consequences of policy shocks in these economies.

The *'Structuralist'* macro-models, have explicitly taken into account the economic and structural constraints operative in LDCs in different forms: the interdependence between sectors through the channels of demand for and supply of wage goods , the role of social classes in determining the pattern of income distribution and effective demand in a generalized framework . Both flex-price and fix-price adjustment mechanisms in different sectors determine the nature of growth path of the endogenous variables and define the domains of government intervention to attain the targets. The basic tenets of the structuralist approach to development economies have been to develop inter-sectoral macro-models for developing economies by integrating the principles of effective demand developed by Keynes and Kalecki with the theory of income distribution among social classes to highlight the importance of specific structural rigidities that are evident in many LDCs. It makes specific assumptions about the working of different sectors of the economy on the basis of inherent structural features and institutions which are obtained from history. In particular, the structuralist approach to macroeconomics for developing economies seeks to provide a macroeconomic framework for a 'dual' economy variety of development models, pioneered by W.A. Lewis (1954), among others.

The contribution of Taylor (1982, 1983) lies in developing the relationship between food prices, inter-sectoral terms of trade and inflation in a less developed economy. The industrial prices are set by some mark-up rules a la Kalecki while agriculture is determined by the level of fixed capital and is flex-price. Workers spend all their income on agricultural good while the demand for non-agricultural good comes from investment requirement of capitalists plus capitalists' consumption. The model explains how in short run agricultural prices and non-agricultural output adjusts to maintain parity between planned savings and reinvestment; in the long-run sectoral rate of profits adjust and move to steady state growth.

Taylor has shown that contractionary fiscal and monetary policies can reduce agricultural price and keep inflation under control but it affects employment and output in non-agricultural sector. The overall growth rate of the economy is constrained by the economy's inability to augment agricultural production, and the low level of investment, particularly in the food sector. If the former constraint is relaxed, then buoyant animal spirits of the capitalist class may drive the economy in the long run by depressing the real wage rate and raising their rate of profit. One can allow for differential savings propensities of workers and capitalists in each sector, or even for workers in each sector to enjoy a part of the profit as was suggested by Pasinetti (1962), but the general tenor of arguments in Taylor's model and the qualitative comparative static properties do not change because of such a differences in specifications. If, however, an autonomous investment function of the Keynesian type is replaced by more realistic ones typifying the corporate behaviour over time in an oligopolistic market as in Kelecki-Steindl, then of course, one has to move to a more general framework than was attempted by Taylor. And the strength of the wage goods constraint to determine the actual growth path of the economy and the behaviour of industrial output and inter-sectoral terms of trade shall in general depend on the nature of income distribution that such investment would sustain, and the link between future and the present via the nature of expectation formation function. Thus the structuralist model of Taylor provides clues to address the macro-economic issues of a less developed nation under oligopolistic market structure, where production and investment behaviour of industrial enterprises are linked through the solution of an inter-temporal optimisation programme.

Mihir Rakshit (1982), however, contends that the relevance of Keynes in the context of less developed nations should be judged from the particular method of analysing macro-economic problems as visualised by Keynes rather than by the set of policy prescriptions he had for the advanced countries that experienced the Great Depression. Extending the Keynes-Kalecki-Kaldor scheme of income distribution and effective demand in a labour surplus economy of the Lewisian (1954) variety , where the real wage rate in the agricultural sector is fixed in terms of corn by the prevalence of 'unlimited labour supply', Rakshit has introduced demand constraint in the production of both wage goods (agriculture) and non-wage goods (industrial). Workers in both sectors are assumed to spend all their incomes on wage goods, while landlords and industrial capitalists spend on non-wage goods. A rise in industrial investment not only expands industrial production, but also creates extra demand for agricultural output, such that agricultural production goes up instead of remaining stationary as in the Lewis model, the value of the multiplier being simply the reciprocal of the share of the landlord's income in the value added in the wage goods sector. The most interesting result of his model is that due to an autonomous shift in the terms of trade in favour of industry , the industrial output actually could contract through the scale and redistribution effects , i.e. , the aggregate surplus of the landlords and industrial capitalists class together

dwindles , and further it gets redistributed more in favour of industrial capitalists at the expense of landlords ; the former having higher propensity to save , the total effective demand for the industrial output shrinks . A rise in real wage rate in the agricultural sector, on the other hand, has stimulating impact on the demand for both wage goods and non-wage goods, although the size of industrial profits is reduced. As Rakshit remarked, 'the interests of landlords and workers coincide and stand opposed to capitalists." (Rakshit, 1982, pp. 130). It is an interesting result for the study of political economy in an underdeveloped economy, although arrived at through a different methodology.

It is however unlikely that in both sectors of the LDCs, quantity adjustment mechanism would prevail. While the market for agricultural products is more likely to behave flex-price, in the industrial sector oligopolistic price setting and demand constrained quantity adjustment behaviour are often seen to be existent, at least in the short run. Rakshit draws upon the framework of non-Walrasian macroeconomics under rationing as was suggested by Malinvaud (1977) and Benassy (1986) to formulate a dual adjustment mechanism where the food market exhibits the Marshallian flex-price adjustment whereas the Keynesian quantity adjustment prevails in the market for industrial products. The inter-sectoral terms of trade become endogenous as the assumption of Say's Law of markets in Lewis (1954) is dropped. Rakshit, like Kalecki, has perceived three proximate constraints operative on the industrial sector: (a) wage goods / marketable surplus constraint, (b) profitability constraint, and (c) the effective demand constraint. If the first constraint is binding, rapid industrialization becomes contingent upon the modernisation of the agricultural sector; if the second constraint is however binding, then only expansion of effective demand, possibly by supplementing private investment by government expenditure or easy money policy may be thought of. However, in a situation of industrial stagnation constrained by paucity of aggregate demand, a rise in industrial investment expands industrial output and employment through a change in terms of trade in favour of agriculture, and the industrial capitalists may be accordingly left impoverished relative to the landlords. If, on the other hand, the marketable surplus of food is augmented via a policy of Green Revolution say, when the industry is demand constrained, then we may encounter a paradox of plenty - a bumper harvest may fail to stimulate or may even reduce production in the industrial sector and further improve the terms of trade in favour of agriculture. A policy of technology-push industrialization will, on the other hand, will increase the demand-constrained level of industrial production and profitability, but the resultant price rise of agricultural goods will depress the real wage of fixed income groups and augment the incidence of poverty. In the opposite case where industrial production is supply constrained and there is no problem of marketing new output of the industrial sector, an expansion of industrial investment, although may attractive to industrial entrepreneurs, may be detrimental to the cause of the capitalist class as a whole. As the terms of trade more against industry, we may encounter a phenomenon of inflationary contraction .

IV. CONCLUSION

Evolution of macroeconomics since the days of Keynes and Dasgupta has taken fascinating paths. Structuralist macroeconomics has focused on the operation of multiple constraints in different sectors of the economies of LDCs. Dasgupta called for classification of epochs in economic theory on the basis of questions asked, and not necessarily on the chronological sequence of the evolution of economic ideas and theories. His characterization of Keynesian macroeconomics as the inverted sequence of Marshallian periodisation and identification of structural constraints in the underdeveloped countries, are important pointers to the development of macroeconomic discipline. Keynes was not concerned with the long run, but if long run is nothing but a succession of short run equilibrium, an important question that remains is what causes transition from one short run to another and the mechanisms underlying the process. The factors that propel a matured capitalist economy may not be appropriate in the context of an underdeveloped economy, and so the questions asked are deemed to differ. The solutions are perhaps to be sought beyond the theoretical discourses of short run macroeconomics, more so for underdeveloped countries.

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