

Finance and Growth under Capitalism

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Once we reject Say's Law and recognize that capitalism is prone to deficiency in aggregate demand, we have to accept that sustained growth in this system requires exogenous stimuli. By exogenous stimuli I mean a set of factors which raise aggregate demand but are not themselves dependent upon the fact that growth has been occurring in the system; that is, they operate irrespective of whether or not growth has been occurring in the system. Moreover, they raise aggregate demand by a magnitude that increases with the size of the economy, for instance with the size of the capital stock. They are in other words different from "erratic shocks" on the one hand, and "endogenous stimuli", such as the multiplier-accelerator mechanism, on the other: the latter can perpetuate or accelerate growth *only if it has been occurring anyway*.

"Erratic shocks" can explain the persistence of business cycles, and can produce more or less regular cycles even when the spontaneous tendency of such cycles is to die down, that is, for the oscillations to be damped; but they cannot explain *growth*. Cycles that keep going because of "erratic shocks" can well occur around a stationary trend, so that, if a positive trend is to be accounted for, then erratic shocks *per se* are inadequate for the purpose.

On the other side, purely endogenous stimuli whose operation is dependent upon the fact that growth has been occurring anyway, cannot explain this growth itself. They can explain the persistence of growth once it has been set in motion, but they cannot explain why the system does not remain stuck at a stationary state; and they cannot also explain why, if growth perchance falters for some reason, it should revive again. (Indeed, as we shall see later, the stationary state is the sole *stable growth path* in a system with only endogenous stimuli). By their very nature, since they are conditioned by the fact of growth itself, they cease to operate when the system is in a stationary state; they cannot be adduced as an explanation for the system experiencing a positive trend. Such an

explanation can only be based on the operation of exogenous stimuli, that is, of stimuli which are not themselves dependent upon the fact of growth taking place.

This last point can be expressed differently. The original Keynesian multiplier was concerned exclusively with rounds of demand-stimulating effect of an initial increase in investment, *via consumption alone*. But of course, demand stimulation through various rounds of consumption may also be augmented by demand stimulation via rounds of *induced* investment as well. This augmented multiplier which takes into account the various rounds of demand stimulation *through both these channels* was called the “super multiplier” by John Hicks (1950) and “compound multiplier” by Oskar Lange (1943). In other words, an initial “autonomous” increase in aggregate demand can cause through its “super multiplier” effects an overall increase in aggregate demand that is several times its size and much larger than what the Keynesian multiplier alone would generate.

The “super multiplier” effect of an initial increase in aggregate demand need not even be finite. An increase in income in other words may give rise to an increase in consumption and induced investment in each round, which together are greater than itself. Putting it in Keynesian parlance, the propensity to consume and the propensity to undertake induced investment may together add up to more than one: if an increase in income causes an increase in consumption that is c times itself and an increase in induced investment that is i times itself, then $(c+i)$ may well exceed 1.

But this fact, which means that successive rounds of additional demand generated do not keep shrinking (and hence tending to wards zero), and hence that the total demand generated by an initial injection of demand is without any upper bound, need not make the system explode, if the successive rounds demand increase are not concentrated within a single period but occur over several periods of real time. The typical assumption made in theoretical discussions is that the rounds of induced consumption effect work themselves out quickly (largely within the single period itself) while the rounds of induced investment effect work themselves out over several periods of real time. In multiplier-accelerator models, the induced consumption effects work themselves

out fully within the single period while each round of the induced investment effect occurs over *one whole period*.

But no matter how exactly these rounds occur through real time, endogenous stimuli refer exclusively to the super multiplier effects *of some multiplicand*; they themselves do not constitute the multiplicand. Exogenous stimuli provide this multiplicand. And they can explain growth only if this multiplicand operates more or less steadily, and in ever growing magnitude.

The distinction I have been trying to draw can be expressed in yet another way. If we take Ragnar Frisch's (1933) distinction between propagation and impulse problems (a distinction drawn in the context of business cycle theory but relevant in the wider context of growth as well), then we can say that exogenous stimuli represent a steady and ever-increasing impulse, which alone can explain the growth of the system.

Once this distinction is clear, the basic argument of the present paper can be expressed as follows: "finance" itself cannot constitute an exogenous stimulus for growth in a capitalist economy. It may influence how powerfully an authentic exogenous stimulus may operate, and it certainly does influence the strength of the Frischian propagation effects, or the Hicksian super-multiplier effects, i.e. the strength of operation of what I have been calling the "endogenous stimuli". But the exogenous stimuli themselves that underlie sustained growth are something different, something outside of the sphere of finance. And if finance, while strengthening endogenous stimuli, has the effect of choking off the possible exogenous stimuli that capitalism can draw upon for its growth, then, notwithstanding occasional bursts of activity its operation may stimulate (which would be followed by equally severe crises), it will cause secular stagnation.

This in my view is precisely the predicament of contemporary capitalism, characterized as it is by the hegemony of finance. Such hegemony, no matter how much it may strengthen the operation of endogenous stimuli, has the effect of choking off the principal exogenous stimulus that contemporary capitalism can draw upon, namely State expenditure; it thereby gives rise to a tendency towards

secular stagnation. Before proceeding further however let us recapitulate the argument about the role of exogenous stimuli mentioned above.

II

The proposition that a capitalist economy without exogenous stimuli settles down at a stationary trend, which constitutes in fact the only stable trend (the “warranted rate of growth” of Harrod provides an unstable trend) is an integral part of neo-Keynesian growth theory (see Kaldor 1970, Goodwin 1951), for which a rigorous demonstration was provided by Kalecki (1962). The origin of this proposition however goes back to Rosa Luxemburg (1914, reprinted 1963). Rosa Luxemburg’s theory was flawed in many ways: she argued for instance that the entire surplus value of the capitalist sector had to be “realized” through sales to the pre-capitalist markets, which is patently unwarranted and which called forth legitimate criticism from Nikolai Bukharin (Tarbuck 1972); but her basic insight that a capitalist economy, purely on the basis of endogenous stimuli, could not experience sustained growth was perfectly valid (Kalecki (1971) gives a simple exposition of her argument).

Kalecki’s own demonstration of this proposition (1962) was based on taking three different investment functions, his own 1954 version, Harrod’s 1939 version, and the multiplier-accelerator version. In all these versions he showed that the only stable trend that could emerge from the dynamics of accumulation was a stationary trend. A positive trend corresponding conceptually to Harrod’s “warranted rate of growth” does exist but it is unstable, in the sense that any slipping away from it brings the economy back to the stationary trend. Harrod himself had presumed that the instability of the “warranted growth” path would give rise only to cyclical fluctuations *around this path*, i.e. that the trend growth rate through the cycles would coincide with the warranted rate, but this is erroneous. Cyclical fluctuations, even in Harrod’s own model, can occur only around a stationary trend.

This Kaleckian demonstration has been shown to hold for other investment functions as well (Patnaik 1997). But because any demonstration that endogenous stimuli alone cannot explain sustained growth has to take, for an elaboration of

the argument, a specific investment function (or a specific set of investment functions), an impression can arise that the proposition is valid only for that specific investment function (or that specific set of functions). This however is wrong. The inadequacy of endogenous stimuli to explain sustained growth arises from the very fact that a capitalist economy can face a demand constraint, i.e. on the basis of any investment function that takes cognizance of this fact. Let us see why.

The reason why a capitalist economy is at all prone to facing a demand constraint lies in the fact that produced capital goods are not the only form in which people can hold wealth. In addition to capital goods, or claims to capital goods, wealth can also be held in the form of *money*. Since in any money-using economy, money can always be used as a form of holding wealth, such an economy can in principle face a demand constraint for produced goods, whose counterpart will be an excessive *ex ante* liquidity preference. Full employment/full capacity in such an economy cannot obtain if, when full employment/full capacity output is produced, there is an *ex ante* excess supply of goods and a corresponding *ex ante* excess demand for money, which cannot be eliminated through price changes alone, either because money wages/prices are inflexible, or because their flexibility cannot get rid of this excess demand/supply. (It may on the contrary compound them further because of the economy's inheriting a plethora of debt commitments (Patnaik 2009)).

The same fact of the availability of money as a form of holding wealth that causes involuntary unemployment in any given period, also ensures that the level of investment in a dynamic sequence is decided by each capitalist on the basis of a calculation of the expected growth of the market. Since market-shares of firms can change at best slowly, adding to capital stock in excess of the expected growth of the firm's market promises zero returns at the margin. True, this would not be the case if there are a lot of "marginal" producers who can be squeezed out of the business easily through price competition. But once the weight of these "marginal" producers has fallen sufficiently, capitalists' investment gets tethered, in the absence of any exogenous stimuli (on which more later), to the expected

growth of the market, a fact that can be expressed through a multitude of specific investment functions.

But, again in the absence of exogenous demand-sources, the growth of the market itself, upon which alone can expectations about the future growth of the market be based, depends upon nothing else but the tempo of investment (via the multiplier). It follows then that investment fuels itself; or growth on the basis of endogenous stimuli occurs on the basis of past experience of growth. But exactly by the same token, if there is a decline in growth, a slackening in the tempo of accumulation, then this slackening itself becomes self-reinforcing, and the economy keeps going downhill. No positive trend therefore can be a stable trend. On the other hand, if the economy is in a stationary state, or in a state of simple reproduction, then this state too tends to be self-perpetuating. And if perchance the economy is disturbed from this stationary trend, then the self-reinforcing nature of accumulation only produces cyclical fluctuations (where the boom may come to an end through either demand-side or supply-side constraints), but no positive trend.

It is not therefore a question of some specific investment function giving us the conclusion about the inadequacy of endogenous stimuli; it follows on the basis of any investment function that takes due cognizance of the role of the expected growth of the market (whether this is expressed as expected profits, or expected sales, or in some other way) in the determination of investment by a capitalist firm. If investment is determined on the basis of the expected growth of the market, and if the actual aggregate demand, on the basis of which expectations are formed, is not boosted by any external source and is determined exclusively by capitalists' aggregate investment (via the multiplier), then the economy's only stable trend is a stationary trend, around which it may experience cyclical fluctuations. If we have to explain sustained growth then we have to turn to exogenous stimuli.

III

The exogenous stimulus that has figured most prominently in the economic literature is "innovations" in the widest Schumpeterian (1939) sense. Kalecki

(1968) explains the manner in which innovations introduce an external stimulus as follows. When an innovation becomes available, the firm that is the first to introduce it believes that it can steal a march over its rivals. It therefore undertakes some additional investment, over and above what it would have done anyway in response to the endogenous stimuli (as part for instance of the multiplier-accelerator process). Since all firms think this way, all of them (or at least several of them that have access to the innovation and to the requisite finance) undertake this additional investment. The net result is a larger investment, and hence a larger size of the market, which *retrospectively justifies each firm's belief that it could sell more by introducing the innovation than it would have done otherwise.*

If innovations appear in a steady stream then in each period there is an additional amount of aggregate investment undertaken (both gross as well as net); if the amount of innovation-caused investment in each period is linked, say, to the size of the capital stock, then we have a steady positive trend arising on account of innovations as an external stimulus. Thus for innovations to generate a positive trend, they must appear in a steady stream and cause an amount of investment that is linked to the size of the economy, e.g. its capital stock. (In Schumpeter's model, where innovations do not appear in a steady stream and do not necessarily cause an amount of investment linked to the economy's capital stock, they do not give rise to a positive trend. Schumpeter obtained a positive trend only by *assuming* full employment to be the equilibrium state of the economy, i.e. by ignoring aggregate demand problems. But if we recognize the problem of aggregate demand, then innovations as visualized by Schumpeter could well cause cycles around a stationary output trend, with employment declining secularly (if labour productivity rises owing to innovations), *even when the share of wages in output remains unchanged*)¹.

¹ This may appear to contradict the simulation results of Goodwin (1982) which show that if wages rise fast enough then at the end of a Schumpeterian "wave" of innovations the level of output, even if determined by demand, will be larger than in the initial position. But there is no contradiction between Goodwin's simulation results and the above assertion. Goodwin's results not only assume the absence of any acceleration effects, but, implicitly, something more: since

The argument for innovations constituting an exogenous stimulus however are by no means convincing. If a firm, considering additional investment because it plans to introduce an innovation, expects retaliation from its rivals (whether or not they also introduce the innovation), then it will not undertake the additional investment. It would then believe that such additional investment will either lie idle; or cause a price-war to the detriment of all, including itself, in the event of its attempting to outcompete its rivals to sell more, on the basis of its lower costs owing to the innovation. Thus whether innovations actually cause additional investment over and above what would otherwise have occurred depends upon whether they expect retaliation from rivals, i.e. on the elasticity of their “imagined demand curve” (which takes rivals’ responses into account) for downward price movements from the existing state. If this curve is inelastic, as in the standard “kinked demand curve” perception, then innovations will cause no additional investment.

This elasticity in turn however depends upon the “times”. In a boom the elasticity of the “imagined demand curve” is likely to be greater than in a slump, in which case innovations may cause additional investment, over and above what would otherwise have occurred, in a boom, but not in a slump. If this be so, then innovations cease to be an exogenous factor. They are likely to cause more and more investment when the economy is experiencing a boom, but less and less investment when it is going downhill. They would not lift the economy from a slump; and for that very reason they would not introduce a positive trend. To say this is not to claim that innovations will remain un-introduced; but they would get introduced only as new equipment replacing the old within the firm’s overall gross investment. They may even hasten the scrapping of old equipment, and for that purpose raise the level of *gross investment*, but the effect of that will be only

the entire increase in output between the beginning of the “wave” of innovations and its end accrues to the workers (which is why there is a net increase in demand and hence in output), the *share wages is assumed to increase between the two points*. (Though Goodwin himself has a very different wage determination equation, such an increase in the share of wages is a necessary fall-out in all cases where the output is supposed to increase between the beginning and the end of the “wave”).

to associate the stationary state with a higher *level of activity* (output and employment) but not to break its stationarity (for which *net investment* has to be positive).

This view, which runs contrary to conventional wisdom and was first put forward by Stiedl (1952), finds support among economic historians. Arthur Lewis for instance explains the enormous increase in labour productivity in post-war capitalism by the fact that a number of innovations had remained largely dormant during the inter-war period because of the depressed conditions and got vigorously initiated only during the post-war boom. He sees the introduction of innovations not as independent of the economic conditions, i.e. not as exogenous stimuli, but rather as endogenous stimuli, which cause more investment during the boom and less when activity is slackening.

Of course there may be certain innovations which are so significant that the products resulting from their introduction are bound to sell irrespective of the state of demand. The capitalists introducing them are certain of stealing a march over their rivals irrespective of the state of the economy and hence do introduce them. These are what Baran and Sweezy (1966) call “epoch-making innovations”, like automobiles and railways. They can be considered genuine exogenous stimuli, but they are, of course, by their very nature, few and far between. The general run of innovations can be considered no different from endogenous stimuli.

IV

The two powerful genuinely exogenous stimuli that have played a profound role in the history of capitalism are: the colonial system, and the State. The colonial system, taken in its entirety, played this role right until the first world war. By the term “colonial system in its entirety” I mean not just the colonial and semi-colonial possessions like India and China, but also the so-called “settler colonies” from where the “native population” was driven away to accommodate immigrants from the capitalist core. The “colonial system” propped up growth under in the capitalist core in the following manner.

Along with migration of population from the core to the “settler colonies” or the temperate regions of white settlement, there was also a parallel migration of capital to these regions, but this “export of capital” from the core was made possible through an appropriation of surplus, *without any quid proquo*, from the colonial and semi-colonial possessions. So the “drain” of surplus without any quid pro quo from India and other colonies financed the capital exports from the capitalist core to the settler colonies (Bagchi 1972).

But underlying these movements in “value” magnitudes there were also important changes relating to the commodity composition: Britain the leading capitalist country, and also the leading capital-exporting country, did not produce goods which were in high demand in the settler colonies like the United States. The demand there was substantially for raw materials, i.e. minerals and primary commodities, which were produced in the colonial possessions. Hence Britain’s capital exports were made possible by British goods like textiles being sold in the Indian and other eastern markets, and goods from these latter countries being exported to a matching, or, where “drain” occurred, to an even greater, extent from these countries. British goods could be sold in the colonial and semi-colonial countries because they were markets on “tap”: their markets could be used for unloading British goods, to the extent required, any time.

This entire pattern of global movement of capital and commodities, which was very convenient from the point of view of the capitalist core, underlay the prolonged boom that capitalism witnessed from the mid-nineteenth century until the first world war. After the first world war, however, this pattern collapsed. Domestic bourgeoisies in colonies like India, wanted their own space; Japan emerged as a rival to Britain in Asian markets; the scope for investment in the “new world” got exhausted with the “closing of the frontier”; and the scope for further de-industrialization in economies like India also began to get more and more limited. The Great depression of the 1930s was an expression of the fact that the old mechanism for stimulating buoyancy in capitalism could no longer function.

The Depression ended only when the second major exogenous stimulus for capitalism, namely State expenditure, came into effect, initially for war preparations, and after the war, under the impact of working class pressure and the threat of socialism, for introducing some “welfare state” measures. But, “State intervention in demand management” has also now run its course: the emergence of international finance capital as the hegemonic force under capitalism has attenuated the scope for it.

To see this, let us begin by asking the question: why is there so much opposition to State expenditure as a means of overcoming the present crisis both in the United States and Europe? Why is there a persistent demand for “austerity” which, if acceded to, is bound to aggravate the crisis? To say that it is only “bad economics” that underlies such demand is not enough. The “economics” that acquires hegemony at any time is the one that the hegemonic class endorses (a proposition that is particularly true of economics because it has such a direct bearing on State policy). The “bad economics” is one of the mechanisms through which the corporate-financial interests that dominate contemporary capitalism exert their pressure. “Austerity” is being imposed because finance capital is opposed to large-scale State expenditure to stimulate the economy.

It is not opposed to State activism as such, but it wants that activism to take the form of providing incentives to itself, of promoting its own interests, as the means of reviving the economy. It does not want direct State action for this purpose through larger public expenditure. Any State action that operates independently of finance capital, that seeks to work directly instead of working through the promotion of corporate-financial interests, undermines the social legitimacy of capitalism, and especially of these corporate-financial interests, for it raises the question: if the State is required to fix the system, then why do we need the system at all, why not simply have State ownership as such? Finance capital in the U.S. therefore has no objections to \$13 trillion of State support for stabilizing the financial system; but the moment the question of State expenditure for reviving the economy is raised, it begins to preach the virtues of “austerity”. The era of hegemony of finance therefore is an era where “State intervention in demand management” a la Keynes recedes to the background.

As a result, capitalism at present has no exogenous stimuli to sustain its growth process, i.e. it lacks any mechanism for imparting sustained growth to it. Finance itself cannot constitute such an exogenous stimulus. This absence of an exogenous stimulus moreover is occurring in a context where the need for such a stimulus is becoming ever more acute. Let us see why.

V

With globalization there has been much freer flow of capital, including in the form of finance, and also of goods and services, across countries than ever before in the history of capitalism. As a result capital from the metropolis (and domestic big capital as well) can locate production in the third world countries, where wages are low because of the existence of massive labour reserves, and export to the metropolitan markets. This in turn makes the wages of workers in the metropolitan countries open to competition from the lower wages of third world workers, and hence, by inference, vulnerable to the downward drag exerted by the labour reserves existing in the third world countries. In the United States, for instance, in the last three decades the real wage rate of workers has fallen in absolute terms by nearly thirty percent.

In third world countries in turn it is not as if the real wage rate increases; on the contrary the immiserization and displacement of petty producers, including peasants, that is another hall-mark of globalization entails a swelling of the reserve army of labour which also exerts a downward drag on the real wage rate of workers that constitute the active army of labour for capitalism. Taking the world economy as a whole therefore there is a tendency for the real wage rate of the workers to decline, or at the very least, not to increase. At the same time, however, there is a steady rise in labour productivity, which means that the share of surplus value in total output increases.

Now, since a rupee of output coming to the workers gives rise to a much larger amount of consumption than a rupee coming to the capitalists, any rise in the share of surplus value in output has, other things remaining the same, a demand-depressing effect. If capitalists' investment increased when the extra rupee came to them, then this demand-depressing effect could be overcome, and

the entire produced output could be realized. But, we have already seen that the tendency for capitalists' investment, far from rising, is to remain subdued or depressed in the absence of any mechanism for sustained growth. The net result therefore is a pronounced tendency towards over-production crises. The capitalist State that could have provided an antidote to this tendency towards over-production by stepping up its expenditure, and thereby absorbing a larger share of surplus value and helping its realization, cannot do so because of the opposition of finance capital to larger State expenditure.

It follows therefore that the incapacitation of the capitalist State *as a provider of demand at will*, not only leaves world capitalism without the requisite exogenous stimulus for the maintenance of sustained growth, but also pushes it further into stagnation for an additional reason, namely the tendency for the share of surplus value to rise in world output. World capitalism is thus caught in a deep structural crisis from which there are no obvious escape routes. This is not to say that capitalism will collapse, for that never happens. But as in the thirties a new conjuncture is emerging that is pregnant with historic possibilities for the transcendence of the existing system.

VI

To clarify the argument, let us consider a very simple model. Let the rate of growth of capital stock I/K be denoted by i , where i denotes net investment. Let us assume that this rate of growth of capital stock is given by the function:

$$i(t+1) = i(t) + b (u(t) - u_0) \cdot i(t) + \varepsilon \quad \dots \quad (i)$$

where u is the degree of capacity utilization, given by $Q/K\beta$ (with β being the technically given output-capital ratio) and u_0 some desired level of capacity utilization. (For a discussion of the investment function see Patnaik (1997)). Let us also assume that all wages and a fixed share of profits are consumed, and that price is a mark-up over the unit prime cost, which is nothing else but the unit labour cost, with the money wage rate and the labour coefficient per unit of output being given. The relative shares of wages and profits in total output are

therefore given and so is the value of the Keynesian multiplier m . Equation (i) can then be rewritten as

$$i(t+1) = i(t) + b \cdot (i(t) \cdot m / \beta - u_0) \cdot i(t) + \varepsilon \quad (i')$$

If ε which represents the influence of exogenous stimuli was zero, then it can be checked that the system (i') will permit two possible trends, one which is stable is the zero trend, and the other which is unstable is given by $\beta \cdot u_0 / m$, which is nothing else but the "warranted rate of growth" of Harrod. The system however acquires a positive stable trend because of ε being greater than zero, i.e. there being exogenous stimuli.

The argument of the present paper is that the exogenous stimulus which a modern capitalist economy can draw upon is State expenditure. But if the hegemony of finance keeps State expenditure tied to the tax revenue which in turn can also not be raised as a share of output over what has historically prevailed (but may even be secularly lowered), then the system becomes devoid of any external stimulus, and hence tends to settle down at a stationary state. And in so far as the share of profits tends to rise in this state because real wages do not keep pace with labour productivity, it follows that *the level of output in this stationary state will also decline secularly.*

Even leaving aside the question of "bubbles" and their collapse, it follows then that there is a tendency towards stagnation in the world capitalist system in the era of hegemony of finance for two distinct reasons: first, the weakening or elimination of exogenous stimuli, and second, the secularly declining value of the multiplier because of the steady shift of income distribution from wages to profits. *"Bubbles" and their collapse, caused by the operations of finance, are additionally superimposed upon this.* But the crisis that underlies "bubbles" and their collapse is far deeper and structural in nature.

Indeed one can argue that the "bubble-sustained" boom plays the role of camouflaging this structural crisis, whence it follows that the crisis does not consist merely of the collapse of the "bubble", but rather that this collapse actually reveals the extent of the underlying crisis.

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REFERENCES

Bagchi A.K. (1972) "Some International Foundations of Capitalist growth and Underdevelopment", *Economic and Political Weekly*, Special Number, August.

Baran P.A. and Sweezy P.M. (1966) *Monopoly Capital*, Monthly Review Press, New York.

Frisch Ragnar (1933) "Propagation problems and Impulse Problems in Dynamic Economics" in *Economic Essays in Honour of Gustav Cassel*, George Allen and Unwin, London.

Goodwin R.M. (1951) "Non-linear Accelerator and the Persistence of Business Cycles", *Econometrica*, January.

Goodwin R.M. (1982) *Chaotic Economic Dynamics*, Cambridge University press, Cambridge.

Harrod R.F. (1939) "An Essay in Dynamic Theory", *Economic Journal*, Vol.39.

Hicks J.R. (1950) *A Contribution to the Theory of the Trade Cycle*, Clarendon Press, Oxford.

Kaldor N. (1970) "The Case for Regional Policy", *Scottish Journal of Political Economy*, November.

Kalecki M. (1962) "Observations on the Theory of Economic Growth", *Economic Journal*, March.

Kalecki M. (1968) "Trend and the Business Cycle Reconsidered", *Economic Journal*, Volume 78.

Kalecki M. (1971) "The Problem of Effective Demand with Tugan-Baranovsky and Rosa Luxemburg", in *Selected Essays on the Dynamics of the Capitalist Economy*, Cambridge University Press, Cambridge.

Lange Oskar (1943) "The Theory of the Multiplier", *Econometrica*, July-October.

Luxemburg Rosa (1963) *The Accumulation of Capital*, Routledge paper back, London.

Patnaik P. (1997) *Accumulation and Stability Under Capitalism*, Clarendon Press, Oxford.

Patnaik P. (2009) *The Value of Money*, Tulika Books, Delhi.

Schumpeter J.A. (1939) *Business Cycles* (2 Volumes), McGraw Hill, New York.

Steindl Josef (1951) *Maturity and Stagnation in American Capitalism*, Oxford University Press, Oxford.

Tarback Kenneth (1972) *Imperialism and the Accumulation of Capital*, Allen Lane, London.