Conflict, Distribution and Finance in Alternative Macroeconomic Traditions

Abstract

Power and conflict are issues that loom large in the work of David Gordon. They are also issues that are largely absent in conventional macroeconomics. This paper shows how these concepts can be introduced within alternative macroeconomic traditions, and it shows how their significance depends on the particulars governing the construction of the macroeconomic process. The paper details the implicit economic process embedded in the new classical, neo-Keynesian, classical Marxist, and Kaleckian constructions of macroeconomics. It then develops a general post Keynesian model that fuses the insights of the classical Marxist and Kaleckian models regarding the significance of conflict and income distribution, with the insights of the neo-Keynesian model regarding the place of finance. Lastly, the paper argues that finance matters both for aggregate demand and as a worker discipline device. This represents a supply side channel for finance that links with modern new classical models that emphasize credit rationing.

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I Introduction

Power and conflict over the distribution of income are both important features of economic life, and they are features that were of central interest to David Gordon. These features are noticeably absent in both neo-Keynesian and new classical macroeconomics, and this absence has motivated much dissatisfaction with these paradigms. Undoubtedly, it also contributed to Gordon's dissatisfaction with them.

Within both paradigms, power is suppressed through the assumption of competitive markets which ensure that all are "powerless". Side-by-side, the effects of income distribution are suppressed either through the representative agent assumption which reduces all agents to a single agent, or through permanent income theory which attributes all agents with identical propensities to consume.

Incorporating the effects of power and income distribution into macroeconomics gives rise to two different projects. The first project concerns construction of substantive microeconomic foundations for these phenomena. Thus, developing a micro-founded treatment of power suggests the adoption of non-cooperative bargaining theory, while developing a micro-founded treatment of the effects of income distribution calls for developing theories of consumption behavior that challenge permanent income theory. The second project concerns the placement of power and income distribution within macro models, and identifying how they affect the macroeconomic process. It is this second question that constitutes the focus of this paper.

The macroeconomic significance of power and income distribution is best revealed through a comparative approach that contrasts the manner in which alternative paradigms describe the macroeconomic process. There are two important implications that follow from such a treatment.

First, macroeconomics is ultimately a matter of process analysis, being concerned with causal relations. It is differences in the construction of the underlying causal processes that constitute the primary distinction between competing macroeconomic paradigms. Second, full recognition of the economic effects of power and income distribution give rise to constructions of the macro process that differ significantly from the conventional neo-Keynesian and new classical constructions. It is this feature that gives intellectual and policy significance to the Post Keynesian macroeconomic project.

In the course of surveying the economic processes contained in the above mentioned strains of macroeconomic analysis, special attention is given to the work of David Gordon. It is also argued that Gordon's work fits with the modern post Keynesian tradition. Post Keynesian thinking has focused on problems of aggregate demand and finance, while David Gordon focused on the problems of production and conflict at work. A fusion of the two gives rise to a general post Keynesian theory of macroeconomics that rivals that of new classical macroeconomics. It can provide the foundation for a resurgence of progressive macroeconomics, and when combined with the greater plausibility and better explanatory power of the general post Keynesian theory, it offers hope of a wider progressive intellectual and policy triumph.

II David Gordon and post Keynesian economics.

David Gordon would (and did) deny that his thought was post Keynesian in character.[1] Given that this paper argues differently, it is appropriate to begin with a few observations on this matter. A core proposition of post Keynesian economics is the centrality of aggregate demand in the determination of the level of economic activity. This proposition was clearly

[1].See for instance Gordon (1994a) in which he claimed his social structuralist macroeconomic model was fundamentally different from the post Keynesian model.

evident in Gordon's own macroeconomic work (Gordon, 1995a, 1995b) in which the level of aggregate demand interacted with conditions on the supply side to determine the level of capacity utilization and employment. Digging deeper, Gordon's treatment of the components of aggregate demand was also post Keynesian. Thus, the aggregate consumption function incorporated a Kaleckian (Kalecki, 1942) difference in the propensity to consume out of wage and profit income, thereby introducing a channel for income distribution to impact aggregate demand. The investment function was also post Keynesian with investment spending depending on the rate of capacity utilization, the cost of capital, and the rate of profit.

The monetary dimensions of Gordon's work were weakly developed, but here too he borrowed from post Keynesian economics through adoption of a horizontalist approach to interest rates (Gordon, 1995b). The horizontalist approach (Moore, 1988) maintains that interest rates are exogenously set by the central bank. The money supply expands passively at the given interest rate to accommodate any increase in economic activity. Other post Keynesian accounts of the money supply (Palley, 1987, 1994a) provide a richer account of money supply determination in which interest rates may rise with economic activity. The money supply responds positively to increased credit demand via adjustments in the banking system, but the induced accommodation need not be full and interest rates can rise.

A second financial feature emphasized by post Keynesians is debt, and this feature is completely absent in Gordon's work. That said, it is easy to see how it can be included since it impacts the demand side, and the Gordon's demand side was post Keynesian. The focus on debt derives from the seminal work of Minsky (1982) which has been formalized in a number of business cycle models (Foley, 1987: Palley, 1994b, 1997a). Debt is initially expansionary as

agents spend their borrowings, and this drives the upswing. However, over time the accumulation of debt service burdens act as an increasing drag on demand, and this triggers the downturn. If prices and nominal wages begin to fall, the accumulated debt burden becomes an even bigger drag on demand, and this undermines the new classical claim that price and wage flexibility can ensure an automatic return to full employment (Palley, 1996a, 1999).

A final area of finance emphasized by post Keynesians but neglected by Gordon is that of finance constraints. Here, the argument is that investment spending may be constrained because of finance constraints operating on the firm. The importance of such constraints has been empirically documented by Fazzarri (Fazzarri et al., 1988). Once again, because these constraints operate on investment spending and the demand side, they can be seamlessly incorporated into Gordon's macroeconomic framework.

When it comes to the supply side, David Gordon and the post Keynesians worked on different issues. The post Keynesian focus has been schizophrenic. One side has addressed the question of the significance of aggregate demand for firms' supply decisions, while another side has addressed the abstract notions of the production function and capital. Gordon's focus was on the historical and sociological situatedness of production. These are big differences. However, the questions raised by post Keynesians are germane to Gordon's theoretical work, while Gordon's theoretical work is fully consistent with the post Keynesian vision of the supply side.

With regard to firms' production decisions, many post Keynesians have been willing to use the standard neo-classical production function apparatus and impose demand constraints on individual firms. This analysis is in the spirit of Barro and Grossman (1971) and Malinvaud (1977).[2] Others (Davidson, 1983) have sought to abandon the marginal product of labor curve as

[2]. However, while accepting this framework, post Keynesians reject the claims of Barro and

having anything to do with the labor demand schedule, and have argued for replacing the aggregate production function apparatus with Keynes' (1936) aggregate Z - supply function. However, microeconomic excavation of the Z - supply function suggests that it is a reduced form that embodies the aggregate production function so that the marginal product of labor remains present, albeit in the background. Palley (1997b) presents a model of Keynes's Z - supply function that distinguishes between aggregate demand and aggregate supply, but has aggregate supply depend on firms' expectations of aggregate demand. This treatment incorporates a production function and the marginal product of labor, and is consistent with Keynes' Z - supply schedule outlined in The General Theory which openly made reference to these features. In this framework, firms' expectations of aggregate demand replace the demand constraints of the Barro and Grossman (1971) framework.

A more heterodox group of post Keynesians (see for example Lavoie, 1992) have abandoned both diminishing returns to labor and the notion of continuity in the production function regarding choice of the labor - capital mix. In their macro models, an aggregate production function still exists, but it is of the fixed coefficient type. Analytically, the purpose is to provide a framework of constant average costs that can generate a simple mark-up pricing rule. This goal can also be reached by adoption of an institutionalist perspective in which information is complex, incomplete, and costly to acquire and process (Cyert and March, 1963). Under these conditions, firms may adopt simple pricing rules of thumb which take the form of a mark-up over normal average costs. In this framework, the standard production function remains

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Grossman (1971) and Malinvaud (1977) that price and nominal wage flexibility would automatically restore full employment.

intact yet the firm is still led to mark-up pricing behavior.[3] This illustrates how different microeconomic reasonings can lead to the same macroeconomic representation.

Another implication of the fixed coefficients approach is that the neo-classical marginal productivity theory of income distribution can no longer apply. This is because choice over capital - labor mix is not continuous so that marginal products are not well defined. A new theory of income distribution is needed. For many post Keynesians this has led to adoption of the Kaldor (1955/6) - Pasinetti (1961/2) approach which emphasizes the demand side of the economy, but for others (the author included) this approach is unsatisfactory because it has no role for conflict in labor markets.

Finally, a more subversive post Keynesian criticism that also has its origins in the excavation of the supply side is the Cambridge (U.K.) capital critique. This critique maintains that it is impossible to aggregate capital, and therefore impossible to have an aggregate production function. Without an aggregate notion of capital, it is also impossible to talk of a marginal product of capital, and once again marginal productivity theory cannot provide a coherent theory of the return to capital and income distribution. However, the capital critique also destroys the notion of an aggregate fixed coefficients production function since that also relies on the notion of a capital input. Thus, the fixed coefficients critique and the Cambridge (U.K.) Capital critique both destroy the marginal productivity theory of income distribution, but they in turn stand at odds with each other.

David Gordon's own theory of the supply side is represented in his profitability function

[3]. The focus on costs of collecting and processing complex information is the focus of the new neo-classical institutionalism. Costs at the margin continue to be all important, but now the focus is marginal costs of information collection and processing and the marginal benefits of additional and improved information.

(Gordon, 1995a, 1995b). In many regards, this function is a theoretical black box that implicitly incorporates both the production decisions of the firm and the outcome of the wage struggle in labor markets. Gordon openly talks about an aggregate capital stock which implies that he rejected the Cambridge capital critique and accepted the possibility of an aggregate production function. Standard micro economics of the firm shows that the profit function embeds the firm's production function. Gordon's own profitability function is continuous and differentiable, and employment can vary despite the fixity of capital. This implies that inside the black box of his profitability function there is a neo-classical styled aggregate production, which places Gordon in the same camp as those post Keynesians that have been willing to use the neo-classical production function apparatus.

Gordon's major contribution was to historically and sociologically situate production. This is the foundation of his social structures of accumulation argument (see for example Gordon et al., 1987). However, because the profitability function is a black box that is never derived from microeconomic foundations, its theoretical workings are hard to ascertain. The microeconomic logic appears to rest on contested exchange theory (Bowles and Gintis, 1990; Bowles, 1985), which in turn belongs to the wider efficiency wage paradigm. Contested exchange theory emphasizes issues of ownership and control, with different structures of ownership and control inducing different provision of worker effort and requiring different levels of firm monitoring of workers.

Contested exchange - efficiency wage theory substantively enriches the aggregate production function adding worker effort and firm monitoring costs as variables. This is a significant improvement upon the standard production function used by post Keynesians.

However, that said, post Keynesians have willingly embraced efficiency wage theory as is evident by the articles on it published regularly in the Journal of Post Keynesian Economics, the flagship post Keynesian journal. Moreover, post Keynesians have themselves had a long standing interest in the sociological foundations of the firm as evidenced by Eichner's (1976) work on the megacorp and Penrose's (1959) work on the theory of the firm. Thus, though the particular focus of Gordon's work differed from that of the post Keynesians, it is fully consistent in spirit. At the same time, the supply side work of the post Keynesians is relevant for Gordon's own theoretical framework.

In sum, David Gordon and the post Keynesians shared a broadly similar underlying vision of how modern capitalist economies work, and they also shared a common theoretical architecture (both on the demand side and the supply side) for describing that vision. It is for this reason that one can say that David Gordon's work fits within the modern post Keynesian tradition.

Finally, there is one last reason why David Gordon distanced himself from post Keynesians, especially from American post Keynesians. Gordon's greatest strength was as an empirical economist, and he had an unquestioning faith in the ability of econometric analysis to distinguish truth from error. However, a group of American post Keynesians, principally associated with Paul Davidson, assert that the real world is non-ergodic.[4] By this is meant that economic events are not governed by knowable probability distributions, and that economic life partakes of historical uniqueness. This matter is of importance for the question of expectation formation in a fundamentally uncertain world. It also implies that the assumptions underlying econometric theory do not hold in the real world. The American post Keynesian non-ergodicity critique therefore diminishes the credibility of econometrics. On this issue there was no room for

[4]. See Davidson (1991).

compromise, and when combined with a clash of personalities, it led David Gordon to unnecessarily overstate the divide between his work and that of the post Keynesians. Both sides contributed to this division, and all lost as a consequence. It is time to close that divide.

III Competing constructions of the macroeconomic process

Since The General Theory (Keynes, 1936), systems of simultaneous equations have constituted the historic language of macroeconomics. Behind these systems of equations lie implicit descriptions of the economic process, and aspects of this process are expressed in the functional arguments, patterns of inter-dependence across equations, and equilibrium conditions.

The new micro foundations approach to macroeconomics seeks to provide a microeconomic grounding for the behavioral equations in these systems of simultaneous equations. In principle, the micro-foundations methodology is consistent with Marxian, Keynesian and classical macroeconomics. It is not a willingness to incorporate micro-foundations that distinguishes the paradigms. Rather, it is differences in the representation of the causal economic processes that are contained in the various systems of equations. This section briefly outlines the analytic contours of four traditions in macroeconomics.

The classical macro process

Figure 1 describes the economic process embodied in the new classical approach to macroeconomics (see Sargent, 1979, Chapter 1). Table 1 defines the variables. The classical process is marked by a unidirectional line of causation running from labor markets to goods markets, and on to the financial sector. The classical model's economic logic is as follows. The labor market determines employment and real wages, with labor market outcomes being determined in a perfectly competitive market through the interaction of the forces of labor supply

and demand. Labor demand depends upon the existing capital stock and the productivity of labor, which in turn depends upon the production technology. Labor supply depends on household wealth and preferences over leisure and consumption. Given, the level of employment determined in labor markets, firms' production technology then determines output. It is in this sense that economic activity depends upon the triplets -- tastes, technology, and endowments. Money is irrelevant, and this is the basis of the classical dichotomy.

Given this level of output, the goods market is cleared by interest rate adjustment. This clearing process rests on the loanable funds theory of interest rates, with has interest rates adjusting such that real loan demand for consumption and investment equals income saved. Adjustment of the interest rate therefore clears the goods market, and it is interest rate adjustment that validates Say's Law.[5]

Lastly, given the level of interest rates, the financial sector determines the price level. Financial market equilibrium is achieved by price level adjustment which ensures that the demand for real money balances equals the supply of real money balances. The demand for real money balances depends upon the level of income and interest rates, which have already been determined in the labor and loanable funds markets. Price level adjustment ensures sufficient real money balances, given the existing nominal money stock. This concludes the classical macro process. The important feature is that there are no feedbacks between markets, and it is in this sense that the flow of causation is unidirectional.[6]

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[5].In more complicated models with a wealth effect, the real value of financial wealth can affect goods market allocations and the interest rate, which introduces a feedback loop between the goods market and the financial market (Metzler, 1951).

[6]. Modern new classical models do allow for some feedback from financial markets into the production process and labor markets. These effects operate through credit rationing (Stiglitz and Weiss, 1981). Information imperfections result in financial markets restricting the availability of

Within the classical macroeconomic process, power and income distribution are absent. Labor markets are characterized by perfect competition, which means that both labor and firms have "no power". Economically, this means that they are both price takers: this is different from the assumption of "equal power". In the loanable funds market, which ensures balance between demand and supply for goods, income distribution is also absent. Permanent income theory ensures that all households have the same marginal propensity to consume, independent of their level of income. The fungibility of money income means that the distribution of income between profits and wages doesn't matter.

Can power and income distribution be introduced? The answer is yes. If workers are given power through trade unions, then union preferences over wages and employment in combination with firms' labor demand schedules, determine the level of employment and output. Thereafter, the economic process in the goods market and financial sector is as before. Given a downward sloping labor demand schedule, workers can only gain higher wages at the expense of lower employment.[7] Thus, introducing unions gives rise to reduced output and unemployment.

The effects of income distribution can also be introduced by dropping permanent income theory. If household spending is governed by conventional Keynesian consumption theory, and profit income is concentrated amongst higher income households, then the marginal propensity

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credit to firms, which restricts the amount of employment and production that firms can undertake. The important feature of this feedback is that it operates from financial markets through the supply side. This distinguishes it from the Keynesian tradition which emphasizes demand side effects of financial markets. Both are important.

[7]. In Nash bargaining models of unions (McDonald and Solow, 1981), the wage - employment outcome lies on the contract curve which is positively sloped. An increase in union power can therefore result in an increase in both wages and employment. However, the Nash bargaining model requires that unions directly control the employment decision. This is counter-factual, and therefore renders the model problematic.

to save out of profits will be larger than that out of wages. The distribution of income will therefore affect saving, which in turn affects interest rates in the loanable funds market. However, it has no impact on the level of employment. An increased wage share increases consumption, and this raises interest rates and lowers investment spending. Thus, improved income distribution is bad for capital accumulation and growth. This is the economic logic behind "trickle down" theory.

In sum, adoption of the classical macroeconomic model leads to a characterization of the economic process whereby increased worker power reduces employment and output. Improved distribution of income raises interest rates, lowers investment, and reduces capital accumulation and growth.

The neo-Keynesian macro process

Figure 2 illustrates the neo-Keynesian macro process, as typified by the ISLM model (Hicks, 1937). Now, there is an interdependence between the goods market and the financial sector, and they jointly determine the level of output and interest rates. This interdependence is captured by the lower causal arrow running from the goods market to the financial sector, and by the upper causal arrow running from the financial sector to the goods market. The level of AD determines the level of income, which in turn influences the demand for financial assets. The latter then influences interest rates, which feed back and influence AD.

Once the goods market and financial sector have jointly determined the level of output, firms' production technology determines the level of employment and real wages (marginal product of labor) consistent with this level of output. Thus, in the neo-Keynesian macroeconomic process the direction of causality is the exact opposite of the classical macroeconomic process, and runs

from the goods market to the labor market.

The neo-Keynesian construction of the macro process has goods market conditions determining real wages and employment. AD determines employment which in turn determines marginal costs, and changes in marginal cost are passed on in the form of price changes. Given exogenous nominal wages, the real wage is determined by the price level which in turn is determined by the marginal cost of output. This neo-Keynesian process is the reverse of the classical process in which employment and real wages are determined in labor markets independently of goods market conditions.

An important implication of the neo-Keynesian description of the macro process is that workers actions in labor markets are economically irrelevant for the determination of real wages and employment. This is because the existence of unemployment means that employment outcomes are off the labor supply schedule, and it is the labor supply schedule that describes workers actions. Instead, firms' production technology and production level decisions are all that matter for employment and real wages. The actions and decisions of workers, as embodied in the labor supply function, are of no consequence. This contrasts with the classical process which has workers actively involved in the determination of employment and real wages through their labor supply decisions. Paradoxically, the classical model gives a stronger role to workers than does the neo-Keynesian model.

Though the neo-Keynesian model is weak regarding the treatment of worker power, it does a much better job regarding the effects of income distribution. These can be incorporated readily within the neo-Keynesian model, thereby linking it to the Kaleckian tradition in macroeconomics. If the propensity to consume out of wage income exceeds that out of profit

income, a shift in distribution toward wage income will raise aggregate demand, output, employment, and interest rates. In the ISLM model, this corresponds to a rightward movement of the IS curve.[8]

Incorporating AD effects of income distribution within the neo-Keynesian macro model raises questions about the determination of income distribution. The neo-Keynesian model, as did Keynes (1936), relies on perfectly competitive marginal productivity theory to resolve the problem of income distribution. Real wages are determined by reference to the exogenously given marginal product of labor schedule, and this excludes social considerations of power. Opening income distribution to social influences therefore requires a departure from perfectly competitive marginal product theory.

One channel for accomplishing this is the introduction of goods market imperfect competition and mark-up pricing (Palley, 1991/2). Prices are then determined as follows

(1) $P = [1 + m]W/f_N$

where P = price, m = mark-up, W = nominal wage, and f_N = marginal product of labor (MPL). The effect of introducing imperfect competition is to replace the MPL schedule with a mark-up adjusted MPL schedule. Increases in the mark-up shift this schedule down and reduce real wages for every level of employment. Variations in the mark-up now affect real wages, and the mark-

[8]. There are a number of possible ways of including the effect of income distribution on AD. The first is liquidity constraints: if wage households are liquidity constrained, these households will have a marginal propensity to consume of unity, and shifts in distribution toward wage income will increase consumption demand. The second is life cycle consumption theory: if the young are wage earners and have a higher marginal propensity to consume than the elderly, then an increased wage share will also increase consumption demand. Rule of thumb saving behavior is a third channel: in this instance, households may save all profit and interest income, and only consume out of wage income. Suspending the super-rationality of households is a fourth channel. In this case, households may not reduce personal saving to offset saving done by pension funds on their behalf through retained dividends and interest paid to the pension fund.

up becomes a point of entry for influencing the distribution of income. In neo-classical constructions of imperfect competition, the mark-up is determined by reference to the elasticity of product demand, which in turn depends on consumer preferences. In the left Keynesian construction of the macroeconomic process (see below) it is the outcome of business - labor conflict.

A second channel for allowing social considerations to influence employment and real wages is efficiency wage theory (Palley, 1996b). In this case, the productivity of workers depends on their effort. For a given level of real aggregate demand, the level of effort determines the needed level of employment. Firms also have an incentive to pay efficiency wages to elicit an optimal amount of effort. If the amount of effort provided depends on the perceived fairness of the wage, this provides an avenue for social considerations to influence wages and employment since these perceptions are socially influenced.

A third channel whereby social influences can affect income distribution is by endogenizing technology. This channel has been emphasized by Bowles and Gintis (1990) in their "contested exchange" paradigm, and it was also emphasized by David Gordon in his book, Fat and Mean (1996). Firms choose technology with a view to maximizing profits. Two important implications follow from this. First, there is a potential conflict between productive efficiency (defined as the most output for a given amount of input) and income distribution. This is because firms may choose productively inefficient technologies that reduce the size of the pie, if such technologies increase the absolute size of the slice going to profits. Second, the allocation of control regarding choice of technology now matters for income distribution, and since control is socially determined, this means that social influences again matter.

Finally, it is worth noting that the neo-Keynesian construction of the macro process is incompatible with the traditional neo-classical model of trade unions. According to the neo-classical union model, unions maximize a strictly concave objective function defined over employment and real wages, and choose a unique optimal level of employment. This construction is consistent with the classical macro process in which the labor market determines employment, real wages, and the level of output. However, it is inconsistent with the neo-Keynesian macro process in which output and employment are determined in the goods market by the forces of aggregate demand. Unions have no direct control over the level of aggregate demand, and according to Keynesian theory they therefore cannot determine the level of employment.

The above observation highlights the need for a new Keynesian theory of unions. Incorporating unions into the neo-Keynesian macro process requires abandoning the assumption that they can directly determine the level of employment. Instead, unions can determine a real wage - employment schedule (i.e. a wage curve such as that empirically estimated by Blanchflower and Oswald, 1990, 1994) which replaces the marginal product of labor schedule. This wage curve serves as a surrogate labor demand schedule, and where the economy settles on this surrogate demand curve depends on the state of aggregate demand. The specific determination of this wage curve then allows considerations of labor market power to enter the neo-Keynesian model.[9]

The classical Marxist process

Figure 3 provides a "schematic" representation of the classical Marxist process. Labor market outcomes, which include the wage rate, the level of labor intensity, and the size of the reserve

[9]. See Palley (1998).

army, determine the rate of profit. These labor market outcomes depend on structural conditions including the political consciousness of the working class and the nature of technology. The rate of profit then determines investment spending and the rate of capital accumulation. The rate of profit also determines the rate of interest. The level of investment spending feedbacks and affects the rate of profit through its impact on the level of the capital stock. It is this loop that lies behind Marxist theories of crisis predicated on the falling rate of profit resulting from increased capital intensity of production. Finally, investment spending and capital accumulation may also impact the nature of technology, thereby impacting outcomes in the labor market.

The classical Marxist macro process informed much of David Gordon's work in the 1970s, and it also informed his notion of the social structure of accumulation, SSA (Gordon, 1978). The SSA approach seeks to historically and sociologically situate the institutional arrangements governing the particulars of production and labor markets, and their effect on profit rates. Bowles and Gintis's (1990) contested exchange paradigm was also initially developed with an eye to the classical Marxist perspective. Though using neo-classical microeconomic methods, it provides an economic account of the role of ownership and control over technology choice in determining income distribution and profitability.

There are a number of noticeable features in the above rendering of the classical Marxist process. First, the classical Marxist process has a longer time horizon in mind given its focus on capital accumulation. This contrasts with the new classical and neo-Keynesian approaches which are strictly short run in focus and take the capital stock as given.

Second, the classical Marxist process has some similarities with the new classical process in the sense that at any moment in time with given technologies, labor market outcomes are

primitive. Thus, causation flows "out" of the labor market and the supply side of the economy into the rest of the economy. This contrasts with the neo-Keynesian process in which aggregate demand determines economic activity and labor market outcomes are a residual.

A third feature of the classical Marxist process is that profit rates, which are determined in the real economy, determine the interest rate. Thus, finance is very much super-structural, and this may explain why so little attention has been paid to financial issues by SSA proponents.

Lastly, considerations of aggregate demand are absent from the classical Marxist process. This is a contentious claim, since theories of under-consumption are also part of heterodox economics. However, these latter theories have a strong Keynesian dimension to them. The Marxist notion of over-accumulation is not an aggregate demand phenomena. Instead, it is a supply-side phenomena that rests on excessive capital deepening.[10]

The evolution of the profit rate is central to classical Marxist accounts of the economy. The profit rate is the ratio of the level of profits to the capital stock, P/K. Classical Marxists have a tendency to focus on the denominator, K. An alternative approach is to focus on the numerator, P. This is the spirit of the Kaleckian approach in which investment spending by capitalists determines the level of profits. This identification of an investment spending - profit relationship introduces aggregate demand back into the model, and opens the possibility for a link between the economics of Keynes and Marxist dynamics of accumulation. This link is explored in the next section.

The Kaleckian process

[10]. The work of Anwar Shaikh (1989, 1992) includes significant demand dimensions and addresses both short and long run aspects of the economic process. Shaikh's work illustrates the contentiousness of the current classificatory schema. It is placed within the Marx - Keynes-Kalecki synthesis that is described later.

Figure 4 shows the Kaleckian construction of the macro process. This description of the economic process developed largely out of the Cambridge (U.K.) Post Keynesian school of economic thought associated with Robinson, Kaldor, Kalecki, and Goodwin. In his early work on macroeconomics David Gordon (1978) focused more on concerns suggested by the above classical Marxist approach. However, his later work had more of a short run focus (Gordon, 1995a, 1995b) and effectively adopted a Kaleckian process.

The key feature about the Kaleckian framework is the looping process linking goods markets and labor markets. Goods markets are Keynesian in construction, in that the level of output depends on the level of AD. However, the level of AD depends upon the functional distribution of income owing to differential propensities to consume out of wage and profit income. This is the Kaleckian contribution to the short run Keynesian model, and it serves to embed income distribution in the model.

The level of output, in conjunction with the production technology, affects the level of employment in labor markets. The level of employment then positively affects the level of wages, which in turn affects AD and goods markets. One theoretical mechanism for this labor market channel is the real wage Phillips curve which dates back to Goodwin's (1967) classic work on the cyclical accumulation process. An alternative mechanism involves labor market bargaining, and this mechanism has been explored in a short run macro model by Palley (1998).

The Kaleckian mechanism emphasizes the effect of labor markets on real wages and consumption demands. However, the level of real wages also affects profitability since there is an isomorphism between changes in real wages and changes in the profit rate holding the capital stock and the level of employment constant.. This isomorphism opens a second channel whereby

labor market outcomes affect profitability, thereby affecting investment spending, aggregate demand, and goods markets. This channel has been explored by Bhaduri and Marglin (1990), and it links with Cambridge (U.K.) Post Keynesianism which has long emphasized that profit rates matter for investment spending. Thus, we can define a variable that is the ratio of the profit rate and the interest rate given by

(2) $q = [P/K]/i$

Investment is positively related to q.[11] Changes in the wage bargain that raise real wages will therefore tend to depress P and q, resulting in lower investment spending. Whether output expands depends whether the wage - consumption effect dominates the profit - investment effect.

The link between wages and profit rates also ties back to the question of the mark-up and imperfect competition in macroeconomics. Neo-classical treatments of imperfect competition treat the mark-up in terms of the elasticity of product demand and the degree of monopoly power. This is a theme that is echoed in the Kaleckian tradition, but the Kaleckian mark-up can also be seen as determined by labor market outcomes which determine wage and profit shares. Assuming a constant marginal product of labor, and using equation (1), yields expressions for the profit, wage share and mark-up given by

(3a) $s_P = m/[1 + m]$

(3b) $s_W = 1/[1 + m]$

(3c) $m = s_P /s_W = s_P /[1 - s_P]$

The mark-up is therefore equal to the ratio of the profit and wage shares, where these shares are

[11]. This statement of q differs from neo-classical q theory (Hyashi, 1982) in which the profit rate is identified with the marginal product of capital. It also differs from Brainard and Tobin's (1968, 1977) q in which the profit rate is identified with the cost of equity capital, which in turn depends on equity prices.

influenced by conditions of labor market power.

The channels (consumption and investment spending) whereby real wages and profits affect AD are clear. Less clear is the microeconomic logic whereby goods market activity affects labor market outcomes. The "contested exchange" paradigm, which David Gordon adopted and underlay much of Fat and Mean (1996), focuses on the problem of extracting effort from workers. In Gordon's formal macroeconomic work (1995a, 1995b), this effort extraction problem generates the relation between the profit rate and the level of employment. As labor markets tighten, effort extraction becomes more difficult thereby inducing firms to pay higher efficiency wages, and this constrains economic expansion. Gordon sought to identify policies that could relax this constraint. He recognized that the effort extraction problem depended on the nature of firms' organization, and he argued that making corporations more democratic could generate a cooperative response on the part of workers that eased the extraction problem.[12]

An alternative construction of the labor market - real wage nexus is in terms of non-cooperative bargaining theory. Labor market conditions impact the relative bargaining power of workers and firms, with lower unemployment increasing worker bargaining power thereby enabling them to win higher real wages. Just as choice of production technology matters for the effort extraction story, so too it matters in the bargaining power story. In the bargaining framework (Skillman, 1988, 1991; Skillman and Ryder, 1993), firms choose technologies that increase their bargaining power vis-a-vis workers through such means as making it easier to replace existing "insider" workers with "outsiders".[13]

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[12]. Moreover, it might also lead to higher productivity because firms would be freed from a concern with choosing technologies that were "extractively efficient." Instead, they could choose those technologies that were most "productively efficient".

[13]. This is subtly different from the contested exchange story. There, firms choose the production

The effort extraction and bargaining mechanisms are not mutually exclusive, but they are different. David Gordon (1994b, 1996) tended to focus on the problematic of business organization and effort extraction. Cambridge Post Keynesians have tended to emphasize bargaining strength considerations.

A Marxist - Kaleckian synthesis

Earlier, I alluded to the possibility of a synthesis of the classical Marxist and Kaleckian approaches. Such a synthesis is shown in Figure 5. The top half of the figure is identified with the Marxist process shown in figure 3, while the bottom half of the figure is identified with the Kaleckian process shown in figure 4. This figure therefore contains both short and long run concerns, and it has strong affinities with the work of Anwar Shaikh (1989, 1992).

Beginning with the bottom half, aggregate demand (AD) determines the level of output (y) in goods markets, which in turn determines the level of employment (N) in labor markets. This much is Keynesian. Labor market outcomes then determine the relative bargaining strength of workers and firms, which determines real wages (w) and the mark-up (m).[14] Wages and employment then determine consumption spending which feeds into aggregate demand. The mark-up determines the profit rate, which determines investment spending, which in turn feeds into aggregate demand.

This short run Kaleckian construction is linked to the long run Marxist process through investment spending and its effect on the capital stock and technology. The formal expression for

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technology by balancing "extractive efficiency" against "productive efficiency". In the bargaining story they choose technology by balancing "productive efficiency" against "bargaining strength".

[14]. Palley (1998) details this process.

the profit rate is

(3) $P/K = P/y.y/K = sp/k = m/[1 + m]k$

where P = level of profits, K = capital stock, y = level of output, k = capital/output ratio. The addition of an upper loop running from investment to the capital:output ratio to the profit rate then allows for capital stock dynamics to fit in. Capital deepening can then lead to a declining profit rate and a Marxist crisis of accumulation. Additionally, investment can impact technology thereby impacting bargaining power, real wages, and profitability.

IV A general post Keynesian synthesis: finance and the macroeconomic process

Both the new classical (figure 1) and neo-Keynesian (figure 2) models have a blind spot regarding power and conflict, whereas the impact of financial markets is under-developed in both the Marxist (figure 3) and Kaleckian (figure 4) models. David Gordon was rightly critical of the deficiencies of the new classical and neo-Keynesian models, but he and other left macro economists have exhibited a blind spot to the weaknesses of their own traditions.

That finance matters for the business cycle is evident in the credit-led U.S. economic expansions of the 1980s and 1990s, and the significance of financial markets has been underscored by the economic crisis that afflicted south east Asia in 1997. Finance matters for income distribution, the process of capital accumulation, and the distribution of power. It therefore needs to figure as a central component of any plausible economic model.

Figure 4 describing the Kaleckian process has interest rates being exogenously set. The fact that interest rates are not set by conditions in the real economy distinguishes it from the classical Marxist process of figure 3. At issue is the question of whether interest rates are exogenous or endogenous, and if they are endogenous, how are they set.

The assumption of exogenous interest rates can be identified with the Post Keynesian "accommodationist" construction (Pollin, 1991) of the endogenous money supply. The limitation of this approach is that it essentially leaves the financial sector out of the economic process, except as an exogenous influence. For this reason it is an unsatisfactory construction of the role of finance in the macroeconomic process.

An alternative is the Post Keynesian structuralist approach to endogenous money (Palley, 1987, 1994a) which has both the money supply and interest rates endogenously determined by economic conditions. Such a description allows for feedbacks between the goods market and financial sector.

Figure 6 describes a general Post Keynesian construction of the macroeconomic process that allows for feedbacks between the financial and real sectors. It is a synthesis of the neo-Keynesian (figure 2) and Kaleckian (figure 4) processes, and the longer run classical Marxist (figure 3) process also fits within it. The left hand side of figure 6 can be viewed as a simplified presentation of the economic process in figure 5, while the right hand side 6 reflects the neo-Keynesian dimension. The strength of the neo-Keynesian school is its analysis of the interaction between goods markets and the financial sector: the strength of the Kaleckian - classical Marxist school is its identification of the loop between goods markets and labor markets.

Though containing a neo-Keynesian financial sector - real sector feedback loop, the post Keynesian construction of the specifics of this loop are considerably different. They differ with regard to the endogeneity of the money supply, and they differ with regard to the significance of credit. Thus, for neo-Keynesians the money supply is determined by the money multiplier which depends on portfolio preferences: for post Keynesians it also depends bank credit demand.

Figure 7 provides a detailed decomposition of the channels linking the financial and real sectors. Just as figure 5 can be thought of as a detailed exposition of the left hand loop in figure 6, figure 7 can be thought of as a detailed exposition of the right hand loop in figure 6. The bottom half of figure 7 shows how developments in goods markets link with the financial sector, while the top half links developments in the financial sector with goods markets.

There are three different ways in which goods markets affect the financial sector. First, changes in income affect the demand for money and other assets, thereby initiating changes in asset prices, interest rates, and quantities of inside assets and liabilities. This channel is the hallmark of the ISLM model, and it has been expanded to a multi-asset context in the work of James Tobin (1969, 1982). Changes in aggregate demand matter if consumption or investment are used to scale money demand (Davidson, 1965). In addition to affecting the demand for assets, changes in income also affect the demand for credit. The absence of credit markets in the ISLM model means that this feature has been relatively neglected, and reviving interest in credit has been another major contribution of the Post Keynesian theory of endogenous money.

Goods markets also affect financial markets through changes in the price level. Changes in the price level change the real value of holdings of financial assets and liabilities. Keynes (1936) focused on the effect on the real money supply, and this has also been the focus of ISLM models. Changes in the price level are also intimately connected with real balance wealth and debt burden effects, and they therefore matter for the link between the financial sector and real activity, about which more below.

A third channel is the rate of inflation which affects the pattern of asset demands. This channel has been emphasized by Tobin (1965, 1975) with regard to both long run and short run

effects. Inflation promotes a portfolio shift toward capital which can increase the steady state capital/labor ratio; deflation promotes a shift toward money, and this can give rise to prolonged depression by raising real interest rates and lowering investment spending and aggregate demand.

Turning to the upper loop, there are again three channels. The first channel concerns interest rate and asset price allocation effects, a channel which neo-Keynesian constructions of the macro economy emphasize. Changes in asset demands and supplies cause changes in asset prices and interest rates. Given that aggregate demand is interest sensitive, this causes changes in the level of goods market activity. An emphasis on interest rates is the hallmark of the ISLM model. Tobin's multi-asset approach (1969, 1982) emphasizes the significance of equity prices and the cost of equity capital for investment spending. This is the foundation of q theory of investment (Brainard and Tobin, 1968, 1977), and it has both interest rates and asset prices serving to convey the effects of financial sector developments into goods markets.

The second channel whereby the financial sector affects the goods market is through wealth effects, with changes in the value of household net wealth affecting consumption spending. This is the foundation of the Pigou effect whereby lower prices increase the real value of financial wealth, and this argument has been used to support the claim that Keynesian involuntary equilibrium unemployment rests on downwardly rigid prices. The inclusion of a Pigou wealth effect is common to the ISLM model, though one point of contention has been what constitutes net household financial wealth (Barro, 1974). Wealth effects also figure prominently in neo-Keynesian analyzes of deficit financed fiscal policy (Blinder and Solow, 1973), but there has been relatively little attention paid to the wealth effects of inside debt. By focusing attention on

bank lending, the Post Keynesian theory of endogenous money redirects attention toward this concern.

The third channel whereby the financial sector affects the goods market is through inside debt stocks, flows, and service burdens. As noted above, this channel is under-emphasized in ISLM macroeconomics owing to the ISLM's lack of inside credit markets. The macroeconomic contribution of the theory of endogenous money concerns the recognition of the critical significance of this channel. The impact of inside debt stocks has been acknowledged in discussions of the Fisher (1933) debt effect (Tobin, 1980: Caskey and Fazzari, 1987), and the Fisher debt effect explains why lower prices and nominal wages may actually reduce aggregate demand. This contrasts with the claims of the Pigou wealth effect. Another way in which debt stocks have been examined is through their impact on the composition of firms' balance sheets. Thus, as firms become relatively more indebted, this lowers their credit worthiness and reduces their ability to borrow to finance investment spending (Franke and Semmler, 1989).

Though the macroeconomic effects of "stocks" of inside debt have been examined, less attention has been given to the effects of changing "flows" of inside debt. These flows matter for the determination of AD, and it is here that the theory of endogenous money makes an original contribution to macroeconomics. This "flow" channel for bank lending has been examined in Palley (1997). The key innovation is the recognition that bank lending creates purchasing power, and this impacts the level of aggregate demand when borrowers spend their loans. Thereafter, the newly created money balances circulate as part of the circular flow of money income so that aggregate demand is raised as long as the loans remain in circulation.

The fact that bank lending creates new money balances distinguishes such lending from

lending effected through bond markets. The latter involves a transfer of money balances from lender to borrower, whereas the former involves the creation of new money balances. For this reason, bank lending is more expansionary than bond market lending. However, both forms of lending give rise to debt service burdens which act to transfer income between debtors and creditors. This highlights how financial markets and interest rates affect the distribution of income, and this impact is becoming increasingly significant as the scale of borrowing rises relative to GDP.

When combined with differential propensities to consume on the part of debtors and creditors, the transfer of income between debtors and creditors can serve as the foundation for a credit driven explanation of the business cycle. Borrowing is initially expansionary and raises aggregate demand. However, borrowing leaves behind the deflationary footprint of debt service burdens. Over time, the expansionary effect of new borrowing is swamped by debt service burdens, and this initiates the downturn.

A central bank can be added to this Post Keynesian construction of the financial sector, and it can influence the level of interest rates and the behavior of financial intermediaries. Considerations of central banking (i.e. the state) introduces political conflict since different interests will compete to control central bank policy. These issues have been raised by Epstein (1994) who distinguishes between labor, industrial capital, and financial capital. Recognition of the economic significance of political conflict over the setting of economic policy therefore introduces another source of conflict into the Post Keynesian model.

Figure 6 represents a fusing together of the neo-Keynesian and Post Keynesian macroeconomic processes. The possibilities for developing such a comprehensive framework are

evident in Shaikh (1989, 1992) and Moudud (1998). These papers add debt effects to the Marxist - Kaleckian synthesis described in figure 5. Shaikh focuses on the implications of business debt for capital accumulation, while Moudud focuses on the impact of public deficits and debt for capital accumulation. Both adopt a Kaleckian process in their descriptions of short run real sector behavior, and to this is added the longer run Marxist capital accumulation process described in figure 3.[15] Other forms of financial interaction other than debt are clearly possible.

Finally, figures 6 and 7 restrict finance to impacting only aggregate demand. Yet, finance may also impact the distribution of economic power. In particular, it may be used as a "worker discipline device" that intimidates workers and shifts the distribution of income away from wages. This disciplining effect is captured in figure 8 in which there is a loop linking the financial sector and the labor market. The logic of this loop is that firms use debt to protect revenues from being claimed by workers as wages (Bronnars and Deere, 1991). Firms can choose to leverage up their balance sheets, and convert residual profit income into pre-committed debt service. Higher debt:equity ratios weaken the financial viability of the firm, and in doing so send a credible threat to workers that the firm may close in the event of labor trouble. Consequently, firms' balance sheet configurations may be chosen with an eye to distributional outcomes, just as are their production technologies. The debt:equity ratio is a means of credibly preempting workers. However, owners of firms also recognize that increasing the debt:equity ratio raises the probability of an encounter with bankruptcy, and if bankruptcy costs are large for owners, this will discourage them from using this instrument of control. Lastly, it should be noted that higher interest rates serve a similar function, since for any given debt:equity ratio, they

[15]. To the extent that these models generate a falling rate of profit, this would remain an important distinction within a general post Keynesian synthesis.

cause a greater share of revenue to be precommitted. Thus, monetary policy can also threaten workers, over and above its aggregate demand - employment effect.

This discipline effect of financial markets operates through the supply side of the economy, and therefore marks a departure from the Keynesian tradition which focuses on the impact of financial markets on aggregate demand and goods market. The above supply side financial market loop links with modern developments in the new classical tradition discussed in footnote 6. These developments emphasize the impact of credit rationing which arises from imperfect information. As a result, firms may be restricted in what they can borrow to fund production, and this lowers output and employment. Financial markets therefore impact both the demand and supply sides of the economy, and this construction is fully consistent with a general post Keynesian model of the macroeconomic process.

V Conclusion

To sum up. Power and conflict are largely absent from conventional macroeconomics, a feature which has generated persistent dissatisfaction with mainstream paradigms, be they new classical or neo-Keynesian. The economic significance of power and conflict depends critically on the underlying construction of the macroeconomic process. This paper has explored the implicit macroeconomic process embedded in the new classical, neo-Keynesian, classical Marxist, and Kaleckian Post Keynesian constructions of the economy. Most importantly, it has shown how the neo-Keynesian and Kaleckian - Post Keynesian models can be fused to provide a powerful synthetic model. The Marxist long run process of capital accumulation also fits well within this synthesis. The proposed general post Keynesian model incorporates both the effects of labor market conflict and financial market activity within a framework in which output is

demand determined. Lastly, it was argued that not only is finance relevant for aggregate demand, but it also serves as a worker discipline device that has distributional implications.

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Figure 1 The classical approach to the macroeconomic process.

Figure 2 The neo-Keynesian approach to the macroeconomic process.

N = employment
y = output
w = real wage
i = nominal interest rate
m = mark up
P = profits
K = capital stock
AD = Aggregate demand
I = investment
C = consumption
D = firms' debt
E = firms' equity

Table 1 Definition of variables

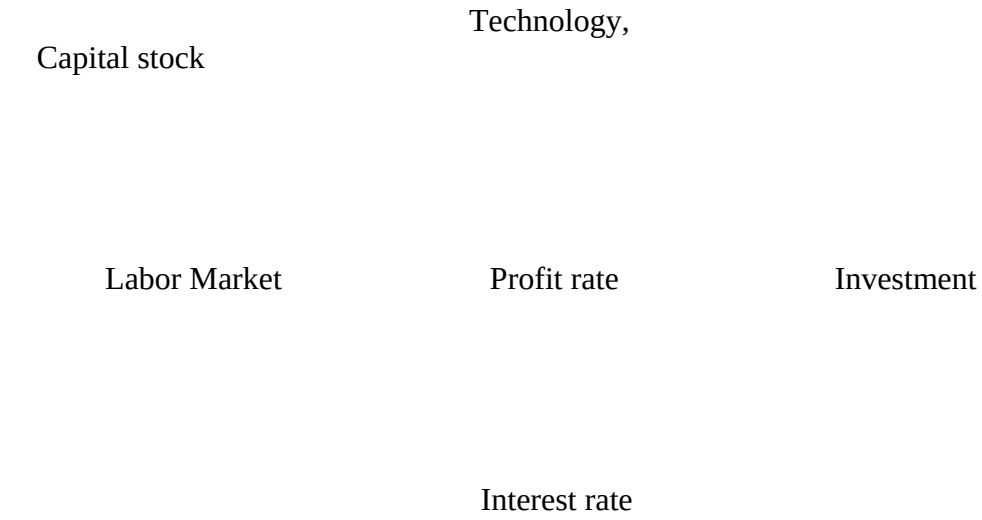

Figure 3 The classical Marxist macroeconomic process.

Figure 4 The Kaleckian approach to the macroeconomic process.

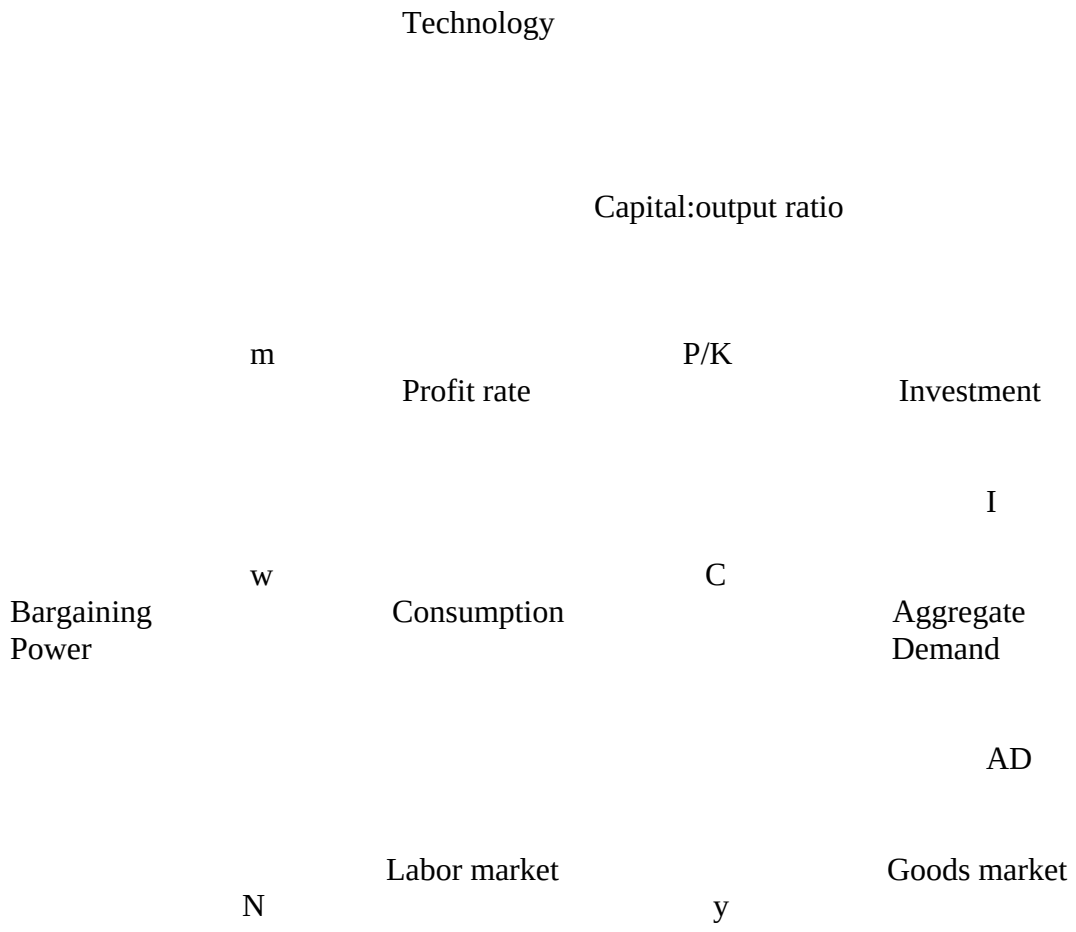

Figure 5 A synthesis of the Kaleckian and classical Marxist models.

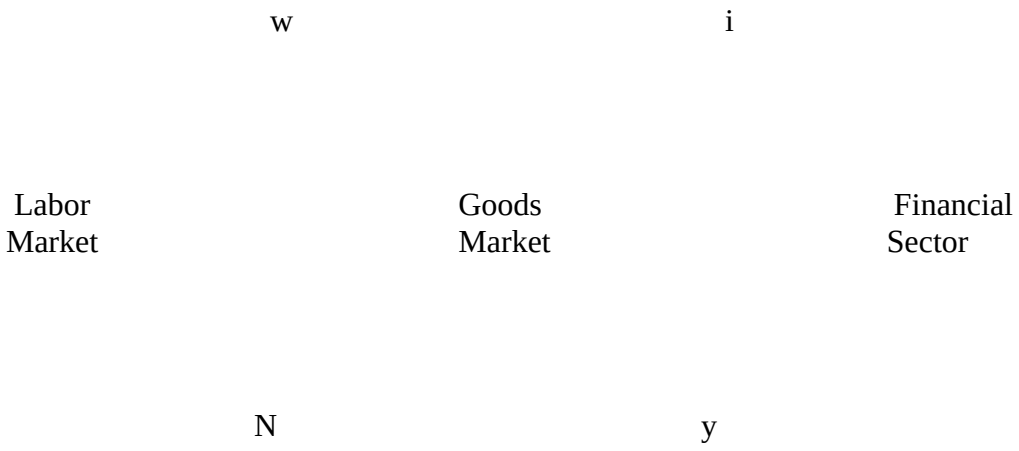

Figure 6 A general Post Keynesian approach to the macroeconomic process.

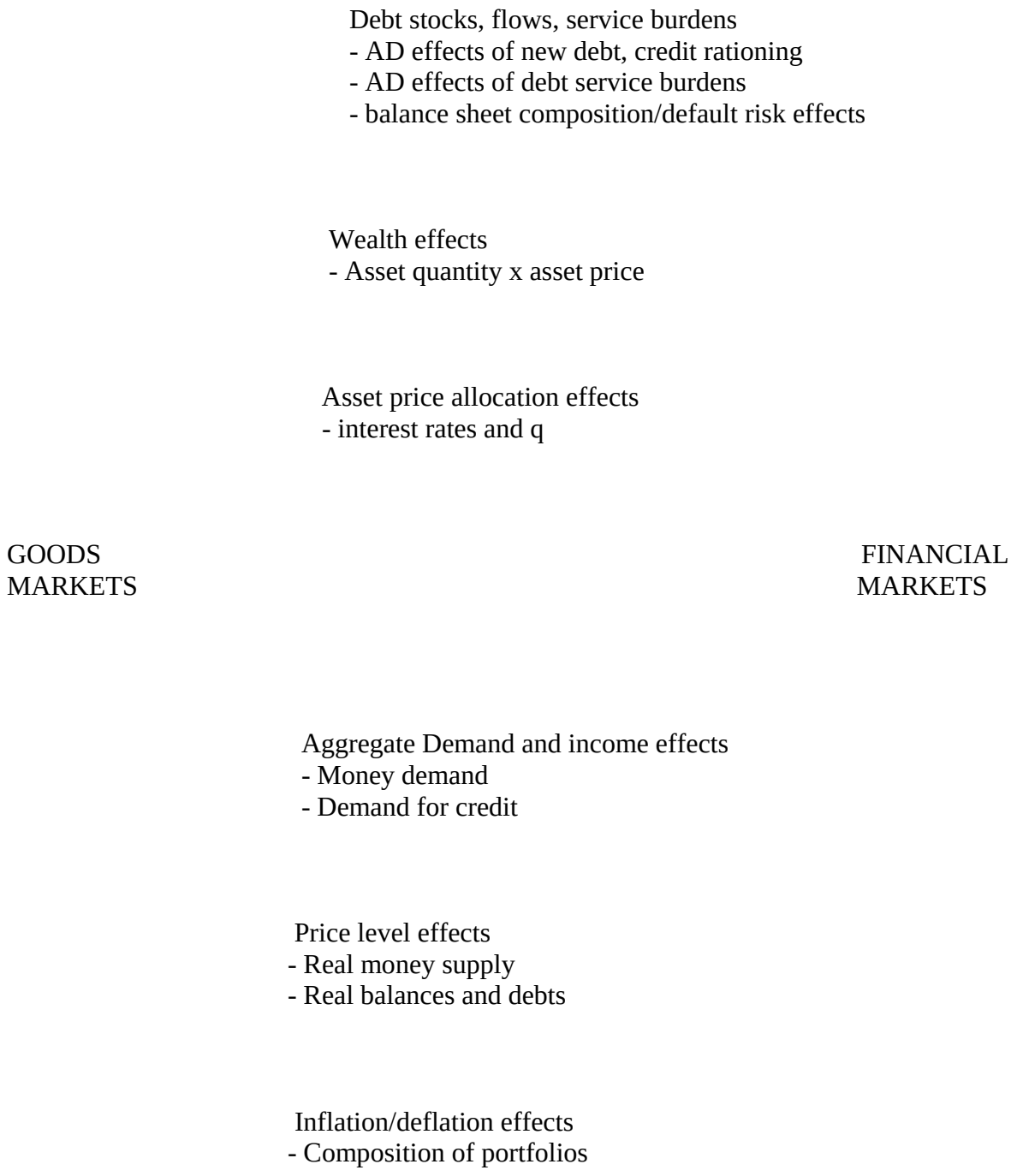

Figure 7 Linkages between goods markets and the financial sector.

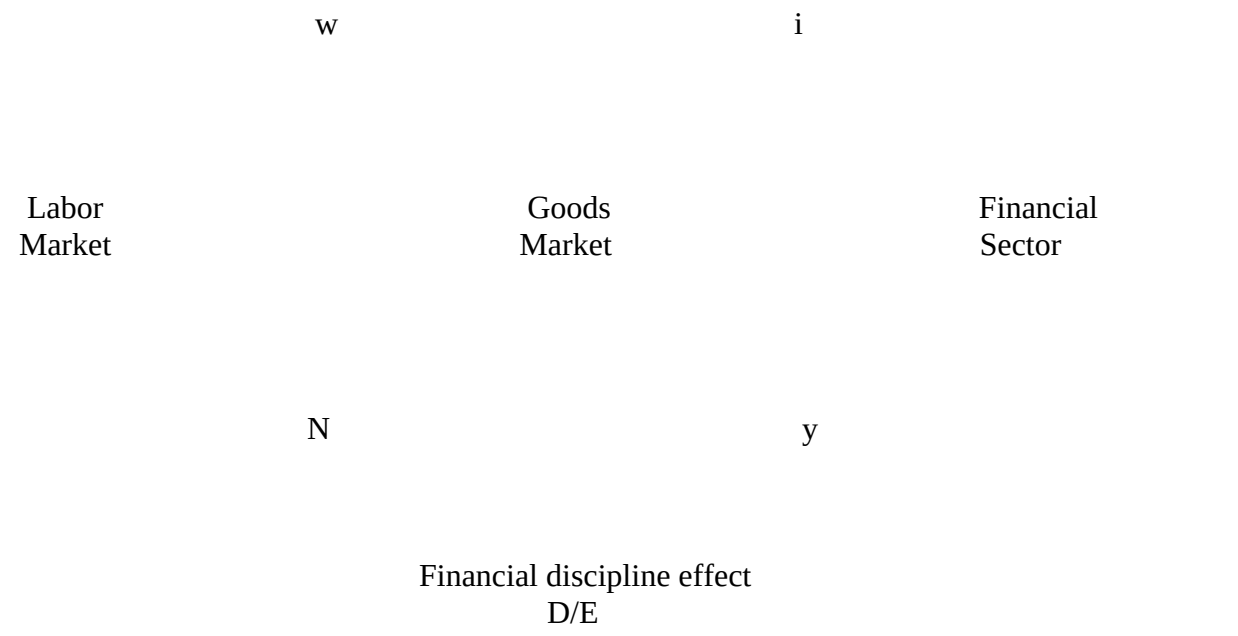

Figure 8 The general Post Keynesian approach to the macroeconomic process with finance as a worker discipline device.