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THE EMPLOYMENT DISTRIBUTION AND THE CREATION OF FINANCIAL DEPENDENCE

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Abstract

A fall in national income has varied consequences for the working population: some carry on working as normal, others become unemployed. Those excluded from work lose their main income source and must usually rely on public welfare, entering a financial dependence created endogenously as the economy adjusts. The current paper examines this induced financial dependence and its implications within a Post Keynesian model. A skewed employment distribution forces higher transfer payments than would occur if employment was distributed more evenly. The additional expenditures help to sustain profitability, so it is in the collective interest of employers and profit recipients to concentrate unemployment in a subset of the working population.

Keywords: unemployment, social security, financial dependence, distribution, Keynesian economics, consumption function

Introduction

Despite its image as an aggregative approach, Keynesian economics in all its versions requires partial disaggregation. The conventional textbook version disaggregates expenditures by type, into consumption, investment, and so forth, but treats income as an aggregate. Post Keynesian versions extend disaggregation to the income side of the model and highlight in particular the factor distribution of income. Following Kalecki (1971), factor shares are assumed to be stable in the face of economic fluctuations; saving occurs chiefly from profit incomes, so the income distribution is a key influence on aggregate expenditure, an influence that is strengthened if investment is financed from past profits. The income distribution is thus central to Post Keynesian theory.

While it is important, the factor distribution of income does not exhaust the distributional content of macroeconomics. Movements in national income are closely tied to a changing distribution of wage incomes among the working population. In a recession, the employed continue to work at the same job for the same pay and experience little hardship; the unemployed, by contrast, often face a complete loss of wage income and become a 'null-income' group (Weintraub, 1985). Incomes are not reduced in equal proportion, and the brunt of the reduction is borne by a minority of the working population. This state of affairs is only too apparent from casual observation, yet it is frequently obscured in macroeconomic discussion.

A null-income group arises from two distributional characteristics of capitalist economies. The first is the skewed employment distribution, which concentrates working hours among full-time employees and leaves part of the working population without work. 'Unemployment' in common usage means 'joblessness', a condition that stems from the employment distribution. The second characteristic is the expenditure from non-income sources necessary for people without formal incomes to subsist. If the unemployed have

access to past savings, borrowing, gifts or charity, then their expenditures can be financed privately. In practice, the expenditures of the unemployed are financed mainly by unemployment or social security benefits, and an unemployed person becomes financially dependent on the state. Neither the skewed employment distribution nor the financial dependence of the unemployed is a purely income-based characteristic: they rely more especially on the expenditure and employment distributions. Mainstream macroeconomics plays down all aspects of distribution and subsumes them under 'behavioural' relations. Even Post Keynesian economics tends to focus on the income distribution, to the detriment of the expenditure and employment dimensions.

The following discussion considers the interrelationship of the employment distribution and the financial dependence of the unemployed in a simple Post Keynesian model. It is argued that a skewed employment distribution assists the realisation and stability of profits by eliciting a higher general level of transfer payments and expenditures from non-income sources. The wedge driven between the income and expenditure distributions benefits profit recipients, but is scant compensation to the jobless for the loss of all employment income. Financial dependence is a symptom of some sectional interests outweighing others. Introducing it into Post Keynesian modelling shows the relevance of sectional interests for macroeconomics, an issue absent from mainstream theory and underemphasised in Post Keynesian economics.

A Post Keynesian model with financial dependence

The model takes a standard Post Keynesian form in which income is disaggregated by factor shares and national income adjustment is related to employment. Interest centres on the incidence of financial dependence, modelled explicitly by depicting transfer payments and hours of work.

The income side of the model is:

$$Y = VHE = \frac{1}{(1-k)} WHE$$

where Y = total income; E = employment; V = average value added per hour of work; H = average working hours per employee per period; k = share of non-wage incomes in total income; and $W = (1-k)V$ = average hourly wage.

V, k, W and h are assumed to be constant in the period considered, as are relative prices. V can change through variable intensity of work, a possibility recognised in non-neoclassical theory (Hodgson, 1982) and compatible with Post Keynesian modelling (Jackson, 1990), but in the present model variation in productivity per employee will be limited to working hours H, so as to single out the distribution of working time. H is initially assumed constant, and Y varies proportionally with E, a requirement dropped in the next section. The constant k can be seen as encapsulating Kalecki's degree of monopoly, or alternatively as an empirical stylised fact. The average hourly wage W stays constant.

The expenditure side of the model is:

$$\begin{aligned}(1) \qquad X &= C + I + G \\ &= [b_w(1-t_w)(1-k) + b_p(1-t_p)k]VHE + b_w[F+r(1-k)VH(L-E)] + I + G \\ &= b_w(F + rWHL) + [b_w(1-t_w-r)(1-k) + b_p(1-t_p)k]VHE + I + G\end{aligned}$$

where X = total expenditure; L = working population; t_w = taxes on wage income; t_p = taxes on non-wage income; b_w = propensity to consume out of wage and transfer incomes; b_p = propensity to consume out of non-wage income; r = average replacement ratio (proportion of gross wage income replaced by unemployment benefits); F = fixed transfer payments; I = investment; and G = government expenditure.

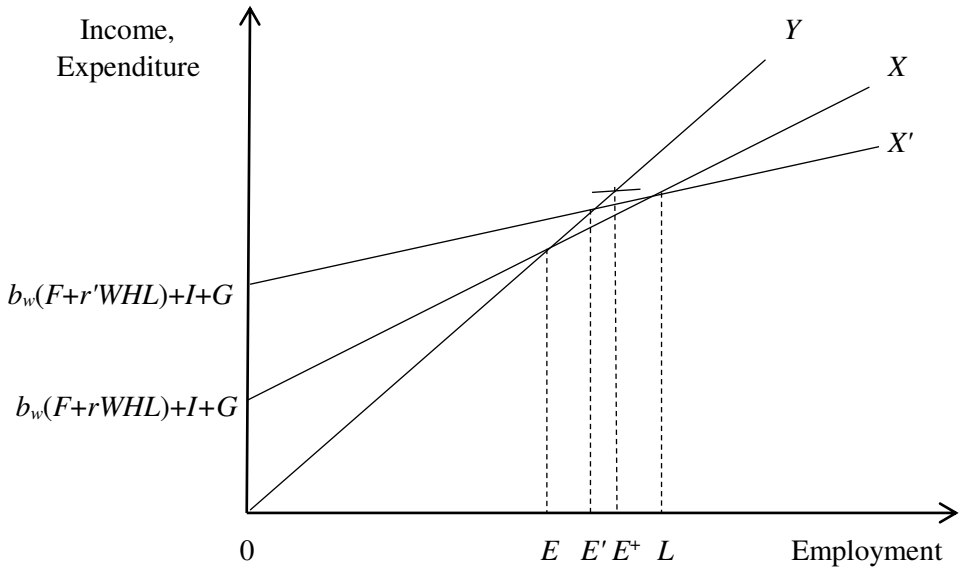
L and F are assumed to be constant in the period considered, and t_w, t_p, b_w, b_p, and r are all constant coefficients between zero and unity. The L-E unemployed receive benefits of rWH, where r is the replacement ratio from gross wage income. Other sources of expenditure by the unemployed are assumed to be negligible. All other transfer payments are incorporated into the fixed component (F), and the propensity to consume out of transfer payments is the same as that out of wage income. Assuming a closed economy, the only other expenditures are investment (I) and government spending on goods and services (G).

In a steady state, Y is equated with X through changes in national income and employment. Setting $Y = X$ and rearranging yields:

$$(2) \qquad Y = \frac{b_w(F + rWHL) + I + G}{1 - b_w(1-t_w-r)(1-k) - b_p(1-t_p)k} \qquad E = \frac{Y}{VH}$$

Figure 1 illustrates the outcome. The income curve has slope VH; the expenditure curve has an intercept $b_w(F + rWHL) + I + G$, and a slope $[b_w(1-t_w-r)(1-k) + b_p(1-t_p)k]VH$. The diagram resembles the aggregate supply and demand analysis of Weintraub (1956, 1957), expressed in a linearised, 'Kaleckian' form; instead of aggregate supply and demand, an income-expenditure terminology has been adopted (as, for example, in Nell, 1988). Autonomous expenditure changes have the usual comparative static properties, the value of the multiplier determined by the denominator of equation (2). Since financial dependence is the consequence of unemployment, the size of the financially dependent population is endogenous to the model, and countercyclical.

Figure 1 Steady states with different replacement ratios



A rise in the replacement ratio – other things being equal – decreases the slope of the expenditure function and increases expenditures at low national income levels. On Figure 1, a rise in r to r' rotates the expenditure curve clockwise about its intersection with the full employment vertical. As one would expect, a higher replacement ratio is expansionary, increasing employment from E to E' if other expenditures are constant. The effect of r on employment is circumscribed by the deflationary gap at L, such that even if r rises to unity (making the X curve horizontal), employment can reach only an upper limit of E^+. A high replacement ratio is also an automatic stabiliser, which dampens economic fluctuations by reducing the slope of the X curve and, thus, the multiplier.

A further property of a high replacement ratio is that it can ease the realisation of profit incomes. For a constant k, the expansionary effect of higher unemployment benefits helps

to sustain national income and aggregate profits. If k varies, then higher unemployment benefits relax the tension between the share of non-wage incomes (k), and the realisation of profit. Suppose that k changes, with V constant, implying shifts in W (= $(1-k)V$) and r, if unemployment benefits are fixed at $B = r(1-k)VH$. Under these assumptions, $\partial Y/\partial k = - Y[b_w(1-t_w)-b_p(1-t_p)]/D$, where D is the denominator of equation (2), and a higher k is deflationary if $b_w(1-t_w) > b_p(1-t_p)$, as should generally hold true. Any rise in k is offset by downward pressure on national income, a 'contradictory' feature of the capitalist economy (Steindl, 1952; Baran and Sweezy, 1966; Cowling, 1982). The interaction between B and $\partial Y/\partial k$ is given by:

$$\frac{\partial Y}{\partial k \partial B} = \frac{b_w}{D^2}[b_w(1-t_w)-b_p(1-t_p)](2E-L) \geq 0 \quad \text{as} \quad E \geq L-E$$

assuming $b_w(1-t_w) > b_p(1-t_p)$. A higher value of B alleviates the deflationary effect of a higher k, provided that employment exceeds unemployment, as usually applies. In this respect, high unemployment benefits are to the advantage of profit recipients, facilitating the realisation of profits through the uncoordinated attempts by individual employers to raise k. Contrary to microeconomic, incentive-based arguments, from a macroeconomic perspective a high replacement ratio is conducive to the operation of capitalist economies – a view that is confirmed by consideration of the employment distribution.

The employment distribution

Reductions in aggregate employment are accomplished largely by redundancies, which bring the loss of all working time for some employees but leave others unaffected. The difference in experience underlies the income distribution of the working population and is the major short-run cause of distributional changes. Employment patterns create an

inequality that would be difficult to defend if employment were to be a legitimate target for redistribution. In neoclassical terms, for example, a utilitarian allocation of employment would be very unlikely, under standard assumptions, to give a corner solution where part of the labour force is jobless. Whether desirable or not, however, a skewed employment distribution predominates in capitalist economies.

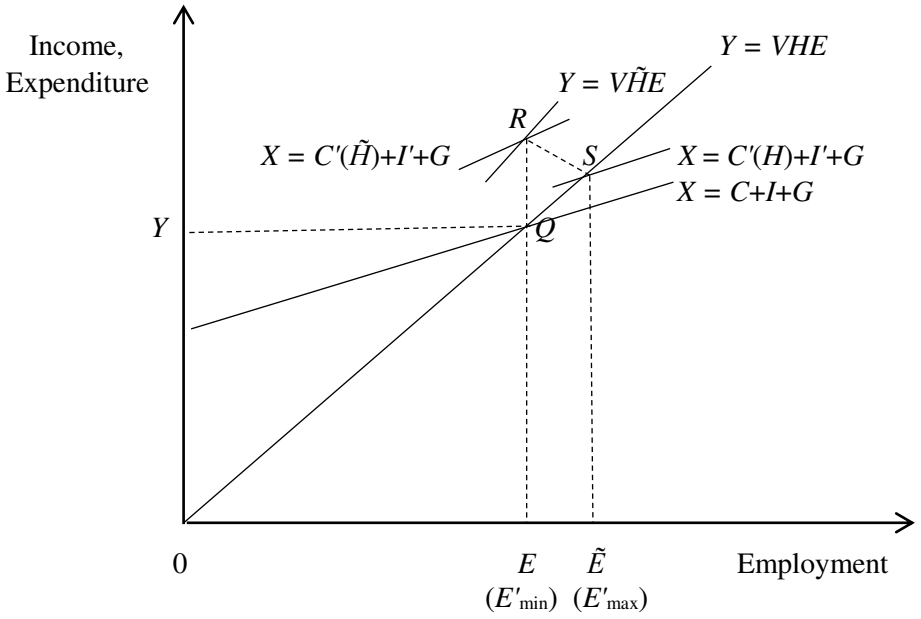
Different kinds of employment adjustment can be included straightforwardly in the model in the previous section. Average wage income per worker per period is WH, which may be expressed $(1-k)VH$. In the previous section, V, k and H were constant, and income changes occurred through variations in E. Suppose now that while V and k are still approximately constant in the short run, some variation in H is permitted, and firms no longer rely solely on recruitment and layoffs in their employment adjustments. Unemployment benefits are fixed at B, so that $r = B/(1-k)VH$ varies inversely with H. Taken in isolation, a reduction in H rotates both the income and the expenditure curves of Figure 1 downward about the vertical axis, producing a new intersection with lower Y but higher E. The effect is to reduce national income, but to increase the number of workers employed (as opposed to total hours worked). In practice, if H varies at all, the changes are probably associated with movements in autonomous expenditures. Let investment rise from I to I'; with E and H both variable, the expansion can be accommodated either by higher E, higher H, or some combination of the two. The possible income and employment outcomes are obtained by solving the equations of (2) (at $I = I'$) for Y' and E', such that:

$$(3) \qquad Y' = \frac{b_w(F + BL) + I' + G - b_w BE'}{1 - b_w(1-t_w)(1-k) - b_p(1-t_p)k}$$

where $E' \geq E$, $H' \geq H$ are assumed to apply. There is a negative linear relation between the possible Y' and E' values, bounded by the extremes of holding E or H constant. The income-expenditure diagram is presented in Figure 2. In this diagram, the line segment RS is the set of possible outcomes. Adjustment by longer working hours alone, raising H to $\tilde{H}$, causes a vertical movement from Q to R, with no change in E and the largest possible

increase in Y. Conversely, adjustment by recruitment alone, raising E to $\tilde{E}$, causes a shift along the income curve from Q to S, with a lower increase in Y, and the largest possible increase in E. Between these extremes, any point on RS can emerge, depending on how the higher total working hours are attained: the more adjustment that takes place through recruitment, the closer is the end point to S.

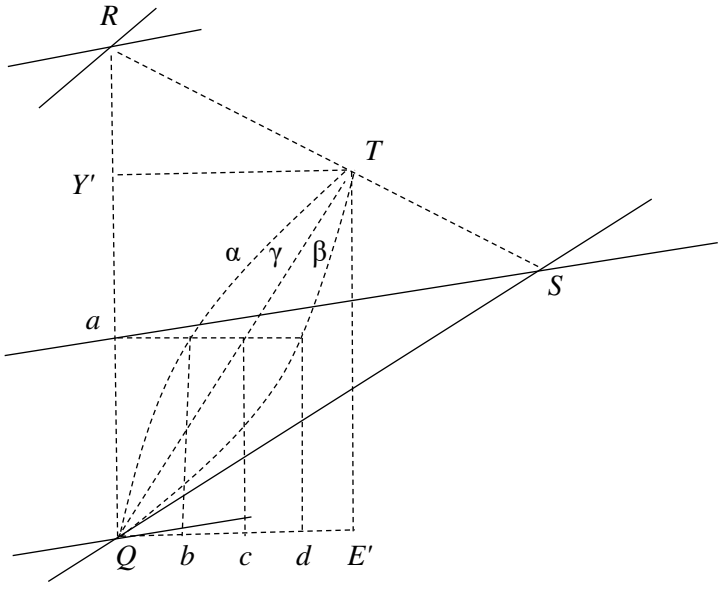
Figure 2 Steady states with different kinds of employment adjustment



The multiplier process occurs within the triangle QRS and permits many alternative ways of reaching the same end point on RS. Consider the enlarged area QRS shown in Figure 3. α, β and γ are three alternative paths from a common starting point, Q, to a common end point, T. For all three paths, the income multiplier is the same, equal to the change in income divided by the change in investment, that is, QY'/Qa. The income

multiplier depends only on the position of *T* on *RS*; it has a higher value if *T* is closer to *R*. To identify the employment multiplier requires knowledge of the adjustment path within *QRS*. On path α, the initial investment expansion *Qa* (= *I'-I*) results mainly in longer working hours, with recruitment of only *Qb* and an employment multiplier *QE'/Qb* > *QY'/Qa*, such that later expenditure rounds have a relatively greater employment impact. Path β is the opposite of α: the initial expansion goes mainly into higher employment of *Qd* and later expenditures into longer hours, yielding an employment multiplier *QE'/Qd* < *QY'/Qa*. On the linear path γ, income and employment increase in the same proportion, and the multipliers coincide at *QE'/Qc* = *QY'/Qa*. Generally, the employment multiplier is larger when the adjustment path is concave, the income multiplier when the adjustment path is convex, and the multipliers are identical along a linear path.

Figure 3 Alternative adjustment paths



Movements in H and E have differing distributional consequences. Movements in H reduce the variability of E, but increase the variability of Y and aggregate non-wage incomes kY (for constant k). It is in the collective interests of profit recipients for working time to vary through layoffs and recruitment, as a means of stabilising profits. For the working population, the position is more ambiguous and divisive: those who remain employed are better off with recruitment and layoffs; those who become unemployed are the losers and bear the costs of joblessness. The crux is the financial dependence of the unemployed. If unemployment benefits, B, are set to zero, then Y' in equation (3) is independent of E', and the line segment RS in Figure 2 is horizontal. In that case, the change in aggregate profits is the same, regardless of the method of adjusting working time. In reality, the expenditures of the unemployed cannot be zero if they are to subsist, and without state benefits they would have to find alternative non-income sources of expenditure (borrowing, gifts, charity, etc.). By denying all employment income to some individuals and forcing their spending to be financed from other sources, the imposition of recruitment and layoffs ensures greater stability of national income and aggregate profits.

Along with stability, the level of profits is also of concern to employers. In the present model, a higher H – other things being equal – raises national income and aggregate profits so that employers stand to gain directly from long working hours coupled with joblessness. Employers can best protect profits by behaving asymmetrically, preferring longer hours when demand is rising, but layoffs when demand is falling. In Figure 2, demand is then slanted toward higher working hours, near to line segment RQ, and contraction is slanted toward redundancies, near to line segment OQ. The economy is pushed in a north-westerly direction, toward an upper limit to working hours, governed by the physical capacity to work or by social norms or legislation specifying an acceptable working week. Once an upper limit has been reached, the pressures for firms to concentrate employment will not be manifested in asymmetric employment adjustment, but in the skewness of the employment distribution, with normal, full-time working hours and unemployment. These macroeconomic considerations supplement the traditional Marxian view that chronic unemployment and surplus labour divide the working population, enhancing the bargaining

power of employers and their control over the conditions of production. On both macroeconomic and bargaining grounds, employers have good reason to preserve joblessness as the main employment regulator.

The above observations broach the question of structurally determined behaviour. The structure of a capitalist economy is such that private employers can influence the employment distribution and the extent of financial dependence; they also benefit from financial dependence, through its consequences for profit realisation and control of production. It is a short step to argue further that structure causes the behaviour of employers. The outcome is, in sociological parlance, a structural-functional interpretation of the economy, although the economic system is here functioning to promote sectional interests (employers/profit recipients and the job-secure) at the expense of those who are vulnerable to unemployment. One would not wish to press functionalism too far, however, given that employers are not in general conscious of the macroeconomic effects of their actions. It suffices to note that the normal functioning of capitalist economies favours some sectional interests before others – an observation missing from mainstream theory because of its individualistic basis. The place of individualism in macroeconomics merits further consideration.

Financial dependence and individualism

Although macroeconomics is often said to lack microeconomic foundations, the usual textbook version of macroeconomics is based squarely on individual behaviour. Invoking Keynes's 'psychological law', the aggregate consumption function is constructed as an enlarged version of what is thought to be reasonable behaviour for consumers experiencing income variation. The macroeconomic relation is no different in essence from the individual relations, a macrocosm to their microcosm. Such a view may diverge from

neoclassical theory in its adoption of an ad-hoc behavioural rule, but it remains microeconomic in its appeal to individual behaviour. To attempt to base macroeconomics on individual choice detracts from the importance of distribution and employment in national income determination, as well as encouraging the addition of further neoclassical elements.

Part of the responsibility for an individualistic method lies with Keynes. In the earliest Keynesian writings, the expansionary effects of public expenditure are described in terms of new recruitment and movement of people from the dole into employment (Keynes and Henderson, 1929; Keynes, 1933). The same link between employment and expenditures is also evident in the original formulation of the multiplier (Kahn, 1931). Translated into an income-expenditure analysis, this implies what would now be called a Post Keynesian framework, on the lines of the second section of this paper, where the consumption function is built upon movements of people from unemployment into employment. Unfortunately, when Keynes formalises the theory (Keynes, 1936), he draws the analogy with individual behaviour in deriving the aggregate consumption function and masks the contribution of employment changes. Under Keynes's assumptions, the consumption function would have its usual shape even if there were an equiproportional change in incomes during macroeconomic adjustments, so there is no need to refer to the highly unequal changes that actually take place. Keynes was aware of the connection between macroeconomics and distribution and alludes to it several times in the *General Theory*. At one point (p. 90), he comments that the consumption function should really be based on employment, but he does not pursue this further, on the supposition that the distribution of employment is related systematically to national income. With a stable relation between income and employment, Keynes uses income as a proxy for employment in the consumption function, directing attention away from the non-income expenditures of the unemployed. In Keynes's formulation, distributional changes are implicit, and macroeconomics never openly addresses the subject of distribution.

When Keynesian economics was developed into the neoclassical synthesis, the individualistic bias was retained and consolidated. The emphasis on individual behaviour is exemplified by the standard theoretical treatments of the long-run consumption function, believed empirically to have a smaller intercept and greater slope than short-run or cross-section versions. Two main explanations are put forward: the 'life-cycle hypothesis' (Modigliani and Brumberg, 1954), and the 'permanent income hypothesis' (Friedman, 1957). Both are individualistic, personal consumption depending on a long-run income concept that varies little in the short run. The marginal propensity to consume (MPC) is therefore lower for short-run or cross-section data. This may well be true, but behavioural differences are not strictly necessary to explain the apparent empirical discrepancy. More recent empirical evidence has cast doubt on the presence of behavioural differences. Bunting (1989), for instance, has shown that much of the discrepancy between long-run and cross-section estimates can be ascribed to different units of comparison. Long-run estimates have been calculated from aggregate data, without allowing for changes in the size and number of households. When the data are converted to a common household unit, the long-run and cross-section estimates turn out to be similar, and the consumption function 'paradox' disappears.

For aggregate consumption functions, a difference between long run and short run may ensue from the greater significance of structural change in the long run. As an illustration, consider equation (1). In the short run, income variation occurs through employment, E, and relating C to Y, this gives a consumption function, $C = \rho + \sigma Y$, where $\rho = b_w(F+rWHL)$ and $\sigma = b_w(1-t_w-r)(1-k)+b_p(1-t_p)k$. Suppose now that long-run economic change is dominated by movements in productivity (V), working hours (H) and the working population (L), representing technical, social and demographic change. Let unemployment remain at a long-run average level, with $E = \lambda L$ (λ constant $0 < \lambda < 1$), while fixed transfer payments rise in proportion to national income, with $F = \mu Y$ (μ constant). All other parameters (b_w, b_p, k, r, t_w, t_p) are assumed to be approximately constant, and there are no behavioural differences between time periods. Noting that $Y = \lambda VHL$, the long-run consumption function can be written as $C = (\sigma + \tau)Y$, where $\tau = b_w[\mu + r(1-k)/\lambda]$. Since

$\sigma + \tau > \sigma$, the long-run function has a greater slope than the short-run function, and passes through the origin. The zero intercept derives from transfer payments and financial dependence, which vary positively with income in the long run, but negatively in the short run. Without appealing to differences in the individual MPC, the model can yield the conventional empirical findings merely by distinguishing long-run from short-run economic change. The role of individual behaviour has been exaggerated in the mainstream economic literature (Green, 1984). An aggregate consumption function is more than just a magnification of individual behaviour: it also reflects the sources and distribution of expenditures during the period considered.

The distributional change entailed in macroeconomic adjustments prevents the construction of macroeconomic models from 'typical' individual behaviour. Mainstream macroeconomics nevertheless eschews distribution and expresses itself in income terms, scarcely mentioning the financial dependence of null-income groups. An extreme is reached in the reversion to neoclassical macroeconomics, where individual behaviour mediated by markets is paramount and involuntary unemployment ceases to exist. Such a view lacks any notion of financial dependence as a socially created state. The same attitude is apparent in economic discussions of other examples of financial dependence, notably retired state pensioners. A choice-theoretic approach to the elderly concentrates on the retirement and saving decisions of individuals, modelled as rational life-cycle planning blown up to an economy-wide scale (a literature reviewed in Clark and Spengler, 1980). Empirically, the status of life-cycle planning is open to question (Danziger *et al.*, 1982; Wiseman, 1989), but it persists as the core vision of long-run economic behaviour in mainstream theory. The representation of retirement as a socially created state has been due largely to authors in social policy and sociology who are more willing to take a non-individualistic stance (examples are Townsend, 1981; Walker, 1981; Hendricks and McAllister, 1983). As with unemployment, retirement then becomes a form of redistribution, which has little to do with individual career planning and is difficult to regard solely in this light even if one were so inclined. Although of lesser short-run impact

than employment practices, retirement policies are highly pertinent to macroeconomic discussion, a further case of the creation of financial dependence.

Macroeconomics is not inherently a matter of aggregation, but of depicting the economy as a whole. While society is composed of individuals, it has its own structure contingent on time and place. Individuals can influence social structure, but social structure also influences the individual. An insistence on individualistic, choice-theoretic foundations for macroeconomics means that social structure appears, if at all, only as exogenous constraints on individual decisions that should, in principle, be reduced to individual behaviour. The addition of constraints to neoclassical theory is termed 'imperfectionism' by Milgate and Eatwell (1982), because of its implication that removing the constraints would restore the neoclassical ideal of perfect competition. Imperfectionism at least concedes a possible place for institutions, albeit begrudgingly and apologetically, with an air of failure that they are not 'explained' by rational individual behaviour. The shift away from strict neoclassicism is in the right direction, but does not go far enough. Instead of grafting institutional constraints on to a neoclassical model, it is better to start out immediately by rejecting an individualistic method (Hodgson, 1986) and basing macroeconomic modelling candidly on a specific social and economic structure. Any truly macroeconomic theory has to be institutional, a fact barely acknowledged by mainstream macroeconomics, yet fundamental.

Conclusion

A skewed employment distribution and financial dependence on the state are twin, interrelated distributional characteristics of capitalist economies. The regulation of employment by joblessness creates a null-income group whose expenditures must come from sources other than private incomes: the state now provides transfer payments to the

unemployed which would not necessarily be forthcoming if employment were distributed more equally. From a Post Keynesian perspective, full-time employment and a high incidence of financial dependence on the state are beneficial to employers: they stabilise aggregate income, ease the realisation of profits, and weaken the bargaining position of workers. The resulting institutionalised pattern of full-time employment is to the collective advantage of employers, profit recipients and the job-secure.

The importance of distribution is well appreciated in Post Keynesian economics, but the stress is often on the income distribution, rather than on the distributions of expenditure and employment. The stress on incomes, a vestigial neoclassical trait, prompts a neglect of financially dependent groups excluded from the national income accounts. A macroeconomics without financial dependence is in tune with neoclassicism, which aspires to individualistic explanations, and keeps quiet about social power and sectional interests. It is out of tune with Post Keynesian and non-neoclassical economics, which have no such commitment to individualistic foundations. Financial dependence is a prime example of a socially induced state, and its prevalence is a reminder of the social and institutional nature of macroeconomics.

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