Productive and Unproductive Labour

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Historical and Intellectual Origins

The industrialisation of Britain from the middle of the eighteenth century transformed both rural and urban environments. Manufacturing in the cottages of the countryside (the 'putting-out system') was gradually centralised in larger units (the 'factory' system) typically located in the rapidly growing towns. This enabled substantial economies of scale through the use of newly harnessed sources of power, the further development of the division of labour, and the much closer control that could be exercised over the production process. At the same time, agricultural enclosures of common land dispossessed the rural poor of their traditional grazing and foraging rights. The combination of the decline of cottage industry with the enclosures of common land deprived large numbers of rural families of their livelihood. The complex and precarious ways in which a rural family survived, through a combination of agricultural wage labour, cottage industry, family labour on a smallholding and access to common land, was increasingly attenuated, and more and more families were compelled to seek subsistence entirely through the market. Typically, the only commodity they had to sell was their own capacity to work. Only the sale of this capacity (their labour-power) for a wage could provide them with the money required for the purchase of the commodities necessary for subsistence. In this manner, a landless working class was created and industrialisation proceeded, increasingly an urban phenomenon.

In the late eighteenth century, contemporaries were aware of the beginnings of these processes, in terms of both their novelty and their scale, and attempted to theorise the phenomena they were witnessing. Adam Smith's *Inquiry into the Nature and Causes of the*

Wealth of Nations (1776) focused on the benefits from specialisation as the division of labour was extended. He saw these benefits as limited only by the extent of the market. Indeed, he linked the extension of the division of labour with the extension of the market in a mutually reinforcing process: specialisation increases productivity and incomes; this stimulates both investment and demand (and after a lag, population growth), which widens the market; and this in turn enables further specialisation. The role of government was limited to encouraging these processes by guaranteeing internal and external security (for both people and property), and maintaining a legal system and a stable currency.

However, an important question that worried Smith was whether all employment contributed to this virtuous growth cycle. This concern did not originate with Smith. In the 1690s Gregory King attempted a statistical description of English society for the year 1688, in which more than half of the population was categorised as 'Decreasing the Wealth of the Kingdom', meaning dependent to some degree on transfer payments.[1] And within the developing discipline of political economy, the sources of wealth tended to be located in the activity of some particular sector (for the mercantilists, the acquisition of bullion through foreign trade; for the physiocrats, an agricultural surplus), thereby defining economic activity in other sectors as unproductive. So this was an important issue for Smith to confront.

Smith took a broader view than earlier writers, and designated as productive the labour that contributed to a positive feedback between extension of the division of labour and growth of the market. Employment of such labour was effectively an investment, contributing more to

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[1] King's table is reproduced and discussed in Laslett (2000), p.30ff. King's data are revised by Lindert and Williamson and reproduced in Mitchell (1988) Ch.II, p.102.

output than it cost in wages. Otherwise, labour was unproductive, contributing nothing to the growth of output by its activity, and consuming a portion of total output by virtue of the wages it cost. An example of productive labour might be a worker in one of the new cotton mills. She is paid a wage and is part of a division of labour that produces an output that is sold, from the proceeds of which the capitalist recovers his outlay of wages and gains a profit that provides the funds for further investment. An example of unproductive labour might be a worker in domestic service. She is paid a wage (partly in cash, partly in kind) in return for an output (domestic service) that is not sold on the market but is directly consumed by her employer. Payments to such a worker are a net cost to the economy.[2]

But Smith's attempt to draw a clear line of demarcation between productive and unproductive labour in the terms just outlined is seriously confused by a different distinction he draws, in which productive labour produces a physical product, and unproductive labour produces a service. It is easy to see how this second definition arises, because Smith wanted to contrast the growing and productive manufacturing sector, which typically produces a physical output, with the small armies of retainers unproductively employed in service by the landed gentry, which he saw as consuming rather than producing output.[3] In an economy in which marketed services are negligible, the two lines of demarcation are very similar. But as soon as services are marketed to a significant extent, the two definitions are incompatible. And there is a further confusion, to do with the contrast between producing and consuming output. For an

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[2] Smith did not consider how expenditure out of the wages of unproductive workers adds to overall demand and thereby indirectly contributes to the extension of the market.

[3] The number of families in the category 'high titles and gentlemen' in England and Wales was 19,626 in 1688, 18,070 in 1759 and 27,203 in 1801/3. See the sources cited in footnote 1.

activity might be profitable for an individual employer, and yet add nothing to social output, so that what is productive from a private perspective might be unproductive from the perspective of society. If for example the profits on some (unproductive) activity were in fact a market transfer out of the profits of some (productive) activity, the unproductive activity would appear productive when considered in isolation, and yet contribute nothing to aggregate profits and hence be unproductive when the economy as a whole is considered.

In the early stages of the industrial revolution, it was perhaps inevitable that these inconsistencies were not so obvious. But by the middle of the nineteenth century, Smith's definitions were an increasingly unreliable guide. Their interest is that they provided the starting point for Marx's analysis of productive and unproductive labour.

Productive and Unproductive Labour

Marx absorbed Smith's vision of a dynamically growing economy and developed further Smith's first distinction between productive and unproductive labour, but within a rather different framework. First of all, and obviously, in any society, labour that produces anything useful is productive. The difficulty is that what is regarded as useful is historically specific, and is conditioned and structured by the framework set by the dominance of some particular relations of production. It is therefore first necessary to consider those class relations directly. What differentiates class societies is the form in which the dominant class is able to extract surplus labour from the subordinate class. In capitalist society, surplus labour takes the form of a sum of money, called surplus value or profit. Accordingly for Marx, any labour in capitalist society is productive if and only if it produces surplus value.

Several points should be noted about this definition. First, the nature of the output (for example, whether a physical good or an intangible service) is irrelevant. Only the social relations under which it is produced count. Hence a necessary condition for labour to be productive is that it is *wage* labour. Secondly, since wage labour must produce surplus value, or profit, to be productive, and profit only derives from the sale of output, a further necessary condition for labour to be productive is that the output it produces is *marketed*. Thirdly, the activity in which productive labour is engaged is a transformative activity of *production*. The activity cannot be one which distributes or redistributes an output which has already been produced elsewhere, and nor can it be one whose function is to collect together inputs so that they are then ready for production. These types of activity earn profit that is a redistribution (through the market via the price mechanism) of profits earned through the consumption of inputs in a production process, and so do not contribute in the aggregate to total profits produced. Hence a further necessary condition for labour to be productive is that *additional* surplus value is produced. In sum, in capitalist society, productive labour *first*, is wage labour, *second*, is employed in a capitalist production process, and *third*, produces surplus value from a social point of view. All other wage labour is unproductive.

The implications of each of these necessary conditions are important. The first condition requires labour to be wage labour if it is to count as productive. Labour that is not wage labour is not productive. That this says nothing about the *necessity* for such non-wage labour can be seen from the fact that in any society an enormous amount of time is spent in informal and unwaged caring activities, looking after the young and the old. No society could reproduce itself without at least the labour time spent in creating and caring for children, but all workers engaged in such unpaid caring activities are unproductive. They produce neither value nor surplus value; for all that their work is essential.

Secondly, not all wage labour is productive. Output has to be sold in order that surplus value be appropriated; hence output produced by wage labour that is not marketed cannot produce any surplus value. In any society, substantial numbers are employed in a wage labour relation by ‘general government’. General government produces output for individual and/or collective consumption that is consumed directly, makes cash transfers, and invests in public assets. Its activities are financed by levying taxes and selling financial instruments.[4] General government activities include general public services (executive, legislative and judicial), internal (police) and external (armed services) security, welfare services (health, education, social security, housing) and economic services (administration of subsidies and other interventions in industry). Hence general government employs a substantial number of people, but none of them produce either value or surplus value, and hence they are all unproductive.

Thirdly, whether wage labour produces surplus value can be determined only from an overall social perspective. For capitalist employment of wage labour producing a marketed output and earning profits might nevertheless consume rather than add to total surplus value. Consider for example workers employed by a profitable advertising agency. The agency is contracted by a firm to run a campaign on the firm’s commodity. The only output (if the campaign is successful) is increased sales of the firm’s commodity, and, whether successful or not, the agency is paid out of the revenues accruing from the firm’s sales. The agency therefore produces nothing, and is paid out of a transfer of resource from the contracting firm. No matter that the advertising agency might persuasively create demand and thereby extend the market; what it does is to facilitate the sale of commodities produced elsewhere. Generalising from this example, all labour that is employed one way or another purely to sell

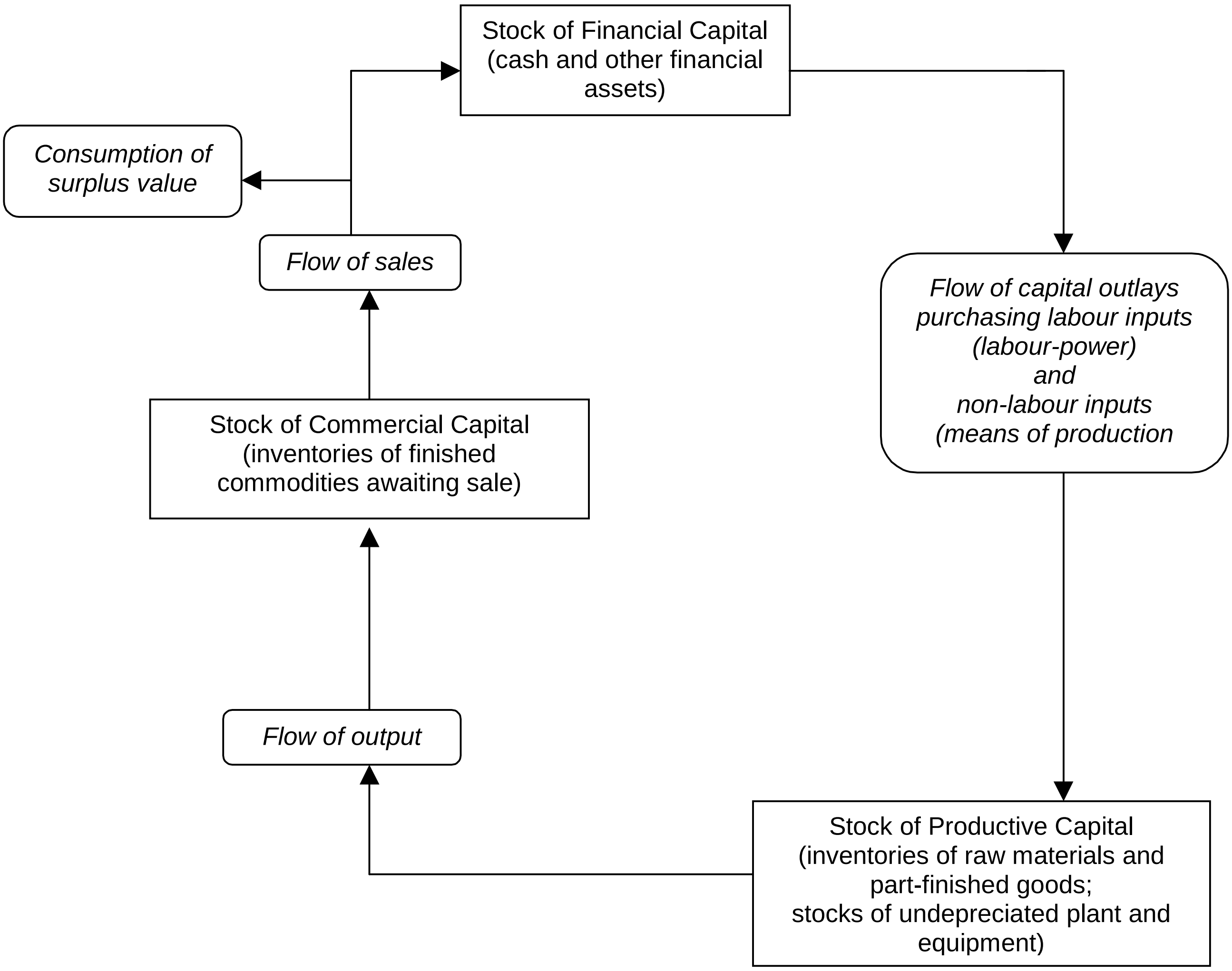
[4] Fees might be charged for some portions of general government output, but they are not economically significant in terms of cost recovery of the activities concerned. General government in some very poor countries might also depend upon the receipt of grant aid from overseas.

output is involved in facilitating a transfer of title of ownership. Since nothing additional is produced by that labour, then that labour is not productive. The surplus value deriving from such commercial activities arise not from the exploitation of workers employed in those activities, but from a transfer through the price mechanism of profit produced by productive workers elsewhere. Whereas the capital that employs workers who produce surplus value is called ‘industrial capital’, the capital that employs workers to buy and sell the products of industrial capital is called ‘commercial capital’. Commercial capital appropriates a portion of the surplus value produced by industrial capital via an unequal exchange. The more sophisticated is the knowledge required about the market, the more commercial capital can carve a specialised niche for itself.

Symmetrically, the same point can be made about all of those activities that facilitate the purchase of inputs. Large numbers of people are employed in these activities, typically involved in recording and accounting for financial flows, and transferring title to sums of money and to increasingly complicated financial instruments representing sums of money. The capital that employs workers in these sorts of activities is called ‘financial capital’. The functions of financial capital are in general to organise and operate in financial markets, to spread risk, to consolidate smaller sums of money into larger ones, and to provide credit. In this manner, large sums of capital are made available for the purchase of inputs by industrial capital. The typical payment is a rate of interest, which determines a transfer of value between the two contracting parties. But despite the commodity form of a financial service, there is no commodity produced, hence no commodity equivalent to match the payments of interest. Consequently, interest payments must be understood in terms of exploitation and unequal exchange. Like the net earnings of commercial capital, interest payments are in general a claim on the surplus value produced by industrial capital. The only difference is that the activities of commercial capital realise surplus value that has already been produced, whereas the activities of financial capital are paid for out of a pre-commitment by industrial capital of surplus value yet to be produced. Hence in this latter case, a speculative element is involved.

Figure 1 summarises this vision of the capitalist production process.

Figure 1. The Circuit of Capital



Source: Adapted from Foley (1986), p.66-9.

As soon as financial capital is used to purchase inputs for production, that capital, as an amount of value, changes its form from financial to productive capital. Despite the change in form, the quantity of value does not change. Once inputs have been consumed in the production process to produce output, the capital becomes commercial capital (called 'commodity capital' by Marx). Now its quantitative value *has* increased, by virtue of the difference between what labour-power cost and what labour can produce. When the output is sold, the sum of gross value produced takes a financial form, to be recommitted to the production process in due course. Again, in this change of form, the quantity of value does not change. The only quantitative change in value (an expansion) takes place in production, following the advance of capital to purchase inputs and prior to the appearance of commodity outputs and their sale. Selling the output, operating in money markets and purchasing inputs all transfer the form in which value exists, but they do not alter its quantitative amount.

Figure 1 is a highly stylised and abstract representation. The activities of both commercial capital and financial capital can in practice be very complex, but analytically the surplus value that they earn remains a transfer from the surplus value deriving from production. The labour-power hired by commercial and financial capital is exploited, like any other labour-power, if workers are compelled to work for longer than is required to produce their consumption needs. But this unpaid labour time is not monetised; the surplus value accruing to commercial and financial capital derives from a transfer through the market of surplus value produced by industrial capital. This occurs through interest payments and fees charged by financial capital, and through fees charged by commercial capital combined with unequal exchange (for processes of pure sale, such as commodity broking). In sum, transformations of form, from commodity output into money, from money into other financial assets and back into money, and from money into commodity inputs, do not change the quantitative amount of value that exists.

That ‘productive’ tightly means ‘productive of surplus value’ means that the theoretical term has no transhistorical meaning. It is only concerned with what is productive, what is to count as social productivity, under specifically capitalist relations of production. One might be morally offended that the surgeons, nurses and technicians engaged in vital organ transplants in a state hospital are unproductive labour, whereas private sector workers producing weapons designed to destroy such organs are productive labour. But that is to be offended at the prevailing relations of production, in which production is organised by considerations of private profit rather than considerations of social need. For as long as production is so organised, the class criterion is paramount: labour is productive if it produces surplus value.

Controversies

Like other Marxian categories, the categories of productive and unproductive labour have no counterpart in the different theoretical framework of neoclassical economics. For the latter, anything whose consumption contributes to someone’s utility can command a price in the market and return a revenue stream to its owner, and so corresponds to the production of a good or service.[5] Categories of productive and unproductive labour are therefore meaningless: in general *any* good or service supplied is the outcome of a production process, and its price (whether real, potential or shadow) is a return to its owner. Echoes of the distinction between

[5] Some qualification is necessary. Sometimes, the market transaction is only a potential one. Thus home-owners are deemed to pay a rent to themselves, which is counted as a return for the production of housing services, for otherwise national income would fall whenever a renter purchases a house. And sometimes markets cannot exist for technical reasons. If consumption of a good by one person does not diminish the amount available to another person, and if nobody can be excluded from consuming the good, then the good is a pure ‘public good’ and must financed out of taxation.

productive and unproductive labour sometimes surface in concerns about the size of the state sector and its effects on growth. But it is not that the state sector is 'unproductive' in neoclassical economics. It is rather that since the state sector is financed by compulsory taxation, too large a state sector requires levels of taxation which will generate disincentive effects at the margin in the private sector on both labour-leisure tradeoffs and the investment decision. In sum, for the neoclassical tradition, notions of productive and unproductive labour simply make no sense.

Matters are different for a labour theory of value. But even within this tradition, there is considerable controversy about whether the distinction between productive and unproductive labour is tenable.[6] These controversies can be summarised in terms of each of the three points emphasised above, first, that productive labour has to be wage labour, second, that it has to produce a marketed output, and third, that it is engaged in production.

One line of questioning has been to refocus the meaning of 'productive' as necessary or essential. To define some activity as unproductive carries the connotation that it is unnecessary, and this slights or denigrates the people engaged in such activity. Consider unpaid housework and childcare. These are activities that are predominantly undertaken by women, and to call such activities unproductive has been interpreted as an example of the way in which a patriarchal theory systematically ignores the activity of women. A response might be that this confuses the reproduction of capitalist relations of production with the reproduction of the wider society. There are all sorts of complex inter-relations between the two, structured by the evident truth that children (and thus future workers) are not produced

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[6] See Mohun (1996, 2002) and Laibman (1999), and the references therein.

under capitalist relations of production. Therefore the reproduction of those relations requires a permanent flow of inputs of labour-power produced (at least in part) elsewhere, in the family and the school. But the reproduction of capitalist relations and the reproduction of wider society are not identical, and the theoretical categories used to analyse the one are inappropriate for the other.

Secondly, consider wage labour that does not produce a marketed output, typically employed by general government. General government in 2000 accounted for about 13.4% of all employment in the UK, and for about 12.9% in the USA.[7] So the numbers involved in developed capitalist economies are substantial. The questioning of the productive-unproductive distinction here also focuses on a denial of the distinction between 'necessary' and 'productive'. If society cannot function without general government, then it makes little analytical sense to call general government employees unproductive, and indeed concedes too much to pro-market ideology. But the response is the same as that already given: it is important not to confuse the reproduction of capitalist relations of production with the reproduction of the wider society. A more specific but related line of questioning concerns the activities involved in the maintenance and training of the working class. If extra skills are acquired by a worker through consuming some state sector output of education and training, then that worker will produce more value in a given time period than an untrained but otherwise identical worker. Similarly, a healthier worker will have lower maintenance and reproduction costs than a less healthy one. In this manner, state provision of education,

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[7] The figures are on a 'full-time equivalent' basis, and for the UK include those employed by National Health Service Trusts. The UK figures are from the Office for National Statistics (2001a) and (2001b), and the US figures are from the Bureau of Economic Affairs *National Income and Product Accounts*.

training and health contribute to the production of surplus value, not directly, but indirectly through transformations of the quality of the living labour input into the capitalist production process. Then it is argued that there is no reason to separate those activities that are directly productive of surplus value from those that are indirectly productive. The difficulty with this argument is its very breadth. If all activities that indirectly contribute to surplus value are considered productive, the term loses any focus and precision, for it is hard to conceive of any activity that cannot be so interpreted.

A third line of questioning, perhaps the most influential, has been to focus on what 'production' means. [8] In particular, it is argued that it is not possible to make a hard distinction between production activities, in which inputs are combined in a production process organised by industrial capital to produce an output, and circulation activities, in which outputs are transformed into money that is then reinvested in inputs by the activities of commercial and financial capital. There are only two ways in which critics have argued that such a separation can be conceived. One way is by reverting to Smith's second definition, in which labour is productive if it produces a physical good, for only a resort to 'physicalism' can adequately determine what is produced from what is circulated. The other way is to define as unproductive what is specific to capitalism, by reference to an evaluative standpoint based on communism. For example, if communist distribution is direct rather than through the market, then the labour involved in marketing activities will not exist under communism, and is therefore unproductive in capitalist society. Since communist production is for need rather than for profit, there will be no advertising, and so advertising labour is unproductive, and so on. To identify unproductive labour on this evaluative criterion is to locate sources of waste in

[8] See Laibman (1992, ch. 4, and 1999)

contemporary capitalist society, and to identify resources that a more progressive society can employ to increase the production of use-values for the benefit of all.

The ‘physicalist’ criterion bears no relation to capitalist social relations, and is not therefore a helpful one for the analysis of contemporary capitalism. The ‘evaluative’ criterion, while perhaps determining a useful project in the identification of waste, also bears no relation to the analytical categories of the labour theory of value, and so again is not helpful in the present context. But it is argued that, unless they resort to one or other of these criteria, all other attempts to found a distinction between productive and unproductive labour fail. The distinction is empty, and should be abandoned. The circuit of capital should be understood as a metaphorical rather than a literal description of how surplus value is produced and realised. To separate production from circulation, with productive labour confined to the former and unproductive labour to the latter, is to separate in an artificial and mechanistic way what are distinct yet simultaneous components of the same social process.

The response to this line of questioning has been to deny that the distinction is analytically empty, and to assert on the contrary that it is fruitful at both theoretical and empirical levels. The distinctions between industrial capital, on the one hand, and commercial and financial capital, on the other, enable a grasp of the changing organisation of capitalism as their autonomy from each other develops alongside their dependence on each other, a continually fluctuating balance of power now favouring the one, now the other. A focus on the development of unequal exchange and the dependence of commercial and financial profits on the surplus value produced by industrial capital is to focus on both the possibilities and the limits of specialisation by capital in particular historical periods. A labour theory of value which includes the categories of productive and unproductive labour yields a richer picture of capitalist development, and one that is more consonant with what one would expect to be shown by Marxian theory, than a labour theory of value that abolishes the distinction.

Uses of the Distinction

The productive-unproductive labour distinction is important in analysing the development and relative strengths of fractions of capital (and indeed alliances cutting across those fractions). It focuses attention upon the dependence of other fractions upon industrial capital, and hence enables investigation of why that dependence might be tighter or looser in particular periods. It also differentiates the determinants of sectoral profitability and the ways in which different capitals participate in the competition which tendentially results in all capitals earning the same rate of profit.

Whereas for industrial capital, profitability is determined by the productivity of labour, the organisation of the labour process, and the level of wages, for commercial capital, given some cost structure, profitability is determined by its ability to charge fees for its services and to increase unequal exchange. These both depend upon its position in the market, its degree of specialised commercial knowledge, and its ability to organise networks of distribution. Competition between commercial capitals will tend to reduce unequal exchange to the level at which revenues are sufficient for each commercial capital to earn the average rate of profit. For financial capital, given some cost structure, profitability is determined by the difference between borrowing and lending rates and its ability to charge fees for money market operations. In a world of certainty, arbitrage between capitals should ensure equality between the interest rate and the average rate of profit, with the difference between borrowing and lending rates just sufficient to cover the costs of making loans. But real uncertainties in the production and realization of surplus value by industrial capitals can serve to differentiate the interest rate from the profit rate, which throws the focus on to the ways in which levels of future profitability of industrial capitals affect the determination of the current rate of interest.

Secondly, the productive-unproductive labour distinction has some importance in analysing the changing historical determinants of general government expenditure. In general terms, Marx saw the state as representing the interests of capital as a whole. At the same time the state has in some sense to manage class conflict. On the one hand, one consequence of working class struggle is that some activities are taken out of private production and into state collective provision financed by taxation. On the other hand, the state attempts to organise the provision of its activities in ways most beneficial to capital. The changing balance of class forces at any time shapes how these factors historically combine. Compare for example the decade after 1945 in Western Europe with its nationalisations and other forms of state regulation together with the development of state education, health and social insurance, with the 1980s and 1990s and their privatisations together with tight restrictions on expenditure on state education, health and social insurance.

The third way in which the distinction is of some use is in empirical investigations of capitalist development. Given the nature of the concepts and the data available, too much precision should not be expected. In particular, data are generally organised by an industrial classification, and assumptions must always be made about how to divide productive from unproductive both across industrial classifications and within them. Because there are always borderline cases, and because of data limitations, occasionally arbitrary and sometimes heroic assumptions must be made. But while exact precision is impossible, some reasonable estimates of time trends are possible.

Consider for example the UK in the census years 1861 to 1911 as shown in Table 1.

[Table 1 about here]

An example of arbitrariness is the allocation of all services except domestic service to productive labour, whereas some will certainly be unproductive. An example of approximation is the determination of productive labour in each productive sector by the proportion of wages to salaries in that sector, roughly measuring a ‘blue collar’ (factory operative) ‘white collar’ (office worker) distinction, which is not exactly what is required. This notwithstanding, the upward drift in unproductive labour is striking. Comparing 1861 with 1911, the main movements are the fall in productive labour in agriculture from 23.1% to 12.1% of total employment; the rise in distributive trades employment from 6.5% to 12.1% of total employment, and the rise in unproductive labour in productive sectors from 12.9% to 17.6% of total employment. These years of the ‘second industrial revolution’ see a growth in specialised marketing activities, but with scope for much further specialisation by productive firms in outsourcing their growing unproductive activities.

Another question to consider is how unproductive labour has affected the general rate of profit, although this is not a simple question. Define the pre-tax rate of profit (r) as the ratio of aggregate profits to the aggregate net capital stock (K), and define profits as the difference between adjusted net national product (*adj.NNP*) and total private sector wages.[9] These latter are the wages paid to productive labour (W_P) and the wages paid to unproductive labour (W_U). Hence

[9] Net national product should be adjusted downwards for three reasons. Imputations should be subtracted, because they correspond to a flow of services which is not marketed; general government wage costs should be excluded, because general government workers are financed out of taxation rather than the market; and household worker wage costs should be subtracted, because no output is sold.

$$r = \frac{Adj.NNP - W_P - W_U}{K}$$

$$= \frac{\left(Adj.NNP - W_P\right)\big/ W_P - W_U \big/ W_P}{K \big/ W_P}$$

The first term in the numerator is the money form of the rate of surplus value (*e*), so that

$$r = \frac{e - W_U \big/ W_P}{K \big/ W_P} \qquad (4)$$

The ratio of unproductive to productive labour in wage terms is a direct negative influence on the rate of profit, but might indirectly positively affect the rate of profit if the specialisation of function enabled by the contracting out of unproductive activities by productive capital increases the rate of surplus value. Thus the ratio of productive to unproductive labour in wage terms is an important one, and one measure of its trend in the USA in the second half of the twentieth century is shown in Table 2.

[Table 2 about here]

The data divide into four distinct periods. There is a sustained increase during the golden years of the long boom, followed by a fluctuating but fairly flat overall period marked by the Vietnam war, the collapse of Bretton Woods, and the stagflation of the 1970s. The Reagan-Bush years see another sustained increase, followed by another fluctuating but essentially flat period during the first Clinton Presidency. And the twentieth century concludes with what looks like another sustained increase (although this may be subject to data revisions). Periods of higher growth appear to allow significant relative increases in unproductive labour, whereas periods of lower growth do not (although it remains to be seen whether the increases of the second half of the 1990s will be maintained into the twenty first century). Combined with an analysis of profitability, and some assessment of the effects of the relative increase of unproductive labour on that profitability, these figures provide a basis for an empirical analysis of structural change in the US economy in the second half of the twentieth century.

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Table 1. Productive and Unproductive Labour by Industry (thousands), UK, Census Years						
	1861	**1871**	**1881**	**1891**	**1901**	**1911**
Agriculture and fishing	3017	2663	2369	2181	1924	1820
Mining and quarrying	420	486	563	697	811	978
Manufacturing	3686	4011	4075	4578	4762	4967
Building and contracting	471	563	687	697	867	781
Gas, electricity, water	21	26	33	50	79	91
Transport and communication	506	649	712	921	1153	1198
Health, education and other professional services	287	333	439	498	572	629
Catering, hotels and other services	386	444	555	680	708	804
Total productive	**8794**	**9174**	**9433**	**10300**	**10875**	**11268**
Productive as % of total	**67.2**	**65.3**	**62.6**	**61.8**	**58.2**	**55.3**
Distributive trades	850	1050	1300	1640	1990	2460
Insurance, banking, finance	20	40	70	110	150	230
Public administration and defence	450	420	460	550	880	840
Private domestic service	1294	1790	1850	1940	1980	2000
Unproductive labour in productive sectors	1681	1576	1957	2120	2805	3592
Total unproductive	**4296**	**4876**	**5637**	**6360**	**7805**	**9122**
Unproductive as % of total	**32.8**	**34.7**	**37.4**	**38.2**	**41.8**	**44.7**
Ratio of Unproductive to Productive Labour	0.49	0.53	0.60	0.62	0.72	0.81
Source:Derived from Feinstein (1976) Tables 60 and 21						

Table 2.
Growth in the Wage Ratio of Unproductive to Productive Labour, USA

	1948-64	1964-79	1979-92	1992-97	1997-00
Total growth	45.7%	12.5%	37.6%	0.9%	9.9%
Average p.a.	2.7%	0.8%	2.5%	0.2%	2.5%

Sources:
Shaikh and Tonak (1994) for 1948-64;
author's own calculations for 1964-2000 using data from the BEA and BLS websites

(5620 words)