# National Accounts in Value Terms: The Social Wage and Profit Rate in Britain 1950-1986

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## Abstract

This paper reproduces, for archival purposes, chapter 5, of the same name, which appeared in Dunne (1991). It represents one of the first systematic attempts that I know of, to present complete 'Value National Accounts', that is to say, accounts presenting social reproduction in terms of the value categories of Karl Marx.

The critical requirement is not, as might be thought, the reduction of money categories to labour time categories: though this is desirable particularly when comparing or aggregating the accounts of different countries or in tracing the movement of an economy over time, if the Monetary Equivalent (MELT – see Ramos 2004) has been changing. Rather, it is to 'transform' the accounts in such a way that there is a single source of value added (labour) instead of, as in the standard accounts, the normal three sources of value which are Marx's 'Holy Trinity' of capital, land and labour.

The consequence of bestowing on land and capital the property of creating value means that money sums such as interest and rent, instead of being presented as deductions from the value added or, in national accounts terms 'transfers' from labour to capital, are treated as if they were sources of value in their own right, mystifying not only the production process itself but the distribution of the produced value between social classes.

The paper proposed, and quantified for the UK economy, an alternative presentation in which these mystifications are corrected, and on this basis, established a 'completed scheme of reproduction' showing the role of productive and unproductive labour respectively in the UK economy.

The paper also marked a watershed in the evolution of what was to become the Temporal Single System Interpretation (TSSI) of Marx's theory of value. I had not at that time met Andrew Kliman. However, very shortly after this paper, working with Paolo Giussani, we arrived independently from Andrew Kliman at the formulations of Marx's schemas of reproduction that the key features of TSSI. I entered into correspondence with Andrew Kliman shortly after this, and the IWGVT was established not long after that.

**Keywords**: Value; Quantitative Marxism; MELT; MEL; Money; Labour; Marx; TSSI; Temporalism, National Accounts

**JEL codes**: E01; B14; B12

# NATIONAL ACCOUNTS IN VALUE TERMS: THE SOCIAL WAGE AND PROFIT RATE IN BRITAIN 1950-1986

Alan Freeman

## INTRODUCTION AND AIMS

Over 100 years ago Engels published Marx's celebrated reproduction schemas in Capital, vol. II. They addressed a problem first posed by Adam Smith: how can a commodity economy reproduce regularly without being regulated? How can value, which is produced privately, reproduce socially? To put it at its simplest: how does the market work?

Marx ascribed the highest importance to what he termed the 'circulation process of capital as a whole'. Defending the physiocrats' Tableau Économique, the first attempt to describe economic reproduction as a whole, he wrote: 'this was an extremely brilliant conception, incontestably the most brilliant for which political economy had up to then been responsible.' *(Theories of Surplus Value,* 1969, p. 344). The schemas have proved one of his most influential contributions to non-Marxist economics. Above all this is seen in the NIAs which, through the work of the Keynesians under wartime planning and subsequently the welfare state, have transformed the technology of economics, raising it from academic obscurity to a respected profession. The accounts are an unchallenged data source, not just for economic but also for political argument, because they are the only place to find out what happens to what society produces - the exact subject of Marx's enquiry. Elections have been won and lost on NIA figures, and despite attacks on Keynesian economics they remain the basis of the vast bulk of economic planning and forecasting.

The most contentious debates in Marxist theory have all turned in one way or another on problems posed by social reproduction. It is ironic that these debates rage on the terrain of pure and often exotic theory while the NIAs, descended from Marx's own thinking, have produced the very data against which to test them. It is doubly ironic because marxism is above all empirically valid. Its predictions on crisis, profits and underdevelopment are borne out every day.

In this chapter we shall show that this is as unnecessary as it is unacceptable. We can now measure what Marx only described: annual nationally produced value and surplus value and its distribution among workers, rentiers, merchants and manufacturers. We can lay bare how value circulates. This is not to claim that the task is straightforward. There are numerous problems but, as we shall see, there are also practical solutions. In the next section we discuss the problems involved in using the NIAs, and in section 3 we consider the general problems of using price data. This is followed in section 4 by a brief outline of the adjustments required to create measures of value categories. The next four sections provide more detail on the adjustments, and the adjusted data are presented and analysed in the final section.

## USING THE NATIONAL INCOME ACCOUNTS

There are various problems in attempting to use the NIAs as they stand as an accurate, or at least adequate, record of value quantities (e.g. Glyn and Sutcliffe, 1972; Weisskopf, 1979). While factor income from wages can be read as aggregate variable capital, factor income from profits as surplus value and so on, the raw data embody preconceptions which obscure or distort the results, for example assessing `households' as a single group and so confusing consumption by wage-earners with that by property-owners. Moreover, the accounts fail to distinguish the costs of capitalist production from social costs in general. Prices include many components which have nothing to do with production: taxes, mark-ups, financial charges and so on.[1] To extract variable and constant capital from price data, we must know how much value has been consumed in production itself, eliminating all incidental costs which do not add value to the final product, essential though they may be to the reproduction of capitalist social relations.

Despite the attention which individual enterprises devote to such matters, the NIAs do not give this information. They net out intermediate material costs and measure all transactions in price terms without asking which components of price derive from the cost of private production and which from elsewhere.[2] However, they can be transformed according to a definite procedure grounded in value theory to bring them closer to Marxist categories. This approach is regarded with suspicion by many Marxists who consider that value quantities are abstract and unquantifiable by nature, so that the taint of empiricism surrounds all attempts at quantification (e.g. Althusser and Balibar, 1970; Latouche, 1975; Gill, 1976; Benetti et al. 1979). But 'empirical' work is not 'empiricist' if its techniques of measurement are based on theoretical principles. Sharpe (1982) provides a detailed discussion of these issues and an account of historical attempts to measure value quantities.

We do not want to understate the real technical problems involved in such a project. Not only are there practical difficulties, but also those arising from the social conditions of capitalism cast doubt on the accuracy of the accounts even in their own terms. Companies lie about their assets and conceal their returns. They lie differently to banks and to tax collectors. However, there are limits to falsification because the statistics and the economy bow down to the same reality and at the end of the day the books have to balance. Moreover, value quantities are by definition and nature both objective and measurable

[1] The principal exception is the 'market price adjustment' for indirect prices. The fact that the statisticians have to make these distinctions points to the practical need for a value-price distinction. Input-output statistics also acknowledge the problem: 'transactions in the input-output tables are valued at producers' prices, as distinct from purchasers' prices. The difference between the two represents distribution margins and taxes which are added to the price of goods in getting them from the production unit to the purchaser.' (Input-Output tables for the UK 1984, CSO, p. 10).

[2] Input-output tables, which for the British accounts are produced only every few years or so, give intermediate output and consumption. A halfway house appears as the 'commodity flow accounts' which used to be published along with the national income statistics as 'production accounts'. These show intermediate outputs but not intermediate inputs.

unlike neoclassical quantities such as 'marginal utility' - and so in principle it should actually be easier to produce meaningful value accounts.

We could indeed argue that value transformation is the only way to make sense of the accounts. It is strange for Marxists of all people to take issue with statisticians on the grounds that the 'true' data of the economy are not measurable. On the contrary, the real issue is: 'what do the national accounts actually measure?' As they stand, the accounts measure only the surface appearance of economic activity. Our task is to measure what is going on underneath. The end result should be superior to the national accounts because it is grounded in a better understanding of the process of reproduction.

## USING PRICE DATA

Many Marxists, such as the *Monthly Review* School, would accept that value is measurable but regard national income statistics as inherently unusable because prices deviate systematically from values. In our view it is possible to work backward from price to value data precisely because prices are determined by values.

We can start from a principle of value analysis, which is that price is ultimately a form of value: one commodity measured in terms of another. This is above all true for aggregate price data. The total price of all commodities in circulation expresses the total number of hours of abstract labour which went into their production.[3] This is invariant with respect to relative price changes. If one price falls and another rises, ultimately it can only transfer value from the owners of one commodity to the owners of another. If we normalize the price of aggregate annual production by dividing by the number of hours worked each year, then the price of, say, the commodities consumed by wage-earners will contain two components: the 'true' untransformed value of these commodities plus or minus some value appropriated in circulation. The deviation of price from value represents a transfer of value from commodities appropriated by some other class. The aggregate price of any group of commodities is, as it stands, a measure of the social labour appropriated by its ultimate consumers.

Moreover, although there are many different sources of deviation of price from value, attention has concentrated on only one - the process of profit rate equalization. Because this is particularly difficult to correct for, many Marxists shy away from price data. But research by Shaikh (1984), and Petrovich (1987), and particularly by Ochoa (1984), suggests that this distortion is far smaller than is often believed.[4] More serious distortions are introduced by other factors which are in fact easier to correct for. In particular, taxes, interest, rent and the commercial sector distort the accounts because they modify prices but make no contribution to value. Whenever the accounts record a payment we cannot

[3] Throughout this chapter we make no attempt to correct for skilled or complex labour. In any complete analysis, above all in inter country comparisons, this would have to be done. Also, the total price of final demand may diverge from total annual new value because final demand is only a portion of total circulation, but only in so far as value is transferred by price movements from one period's production to another

[4] An even greater potential problem arises from unequal exchange in foreign trade, which we have not treated in this chapter.

just assume that the value received is accurately measured by the payment: where it is not, we must apply a correction.

State intervention is the most significant. Value is transferred in one direction as taxes and in the other as benefits, without the form of exchange at all. Taxes are an arbitrary and forced deduction from money income for which no direct equivalent in value is received, while benefits are allocated on political criteria. But both are recorded in the accounts. Interest is another case. When you pay interest you receive nothing in return. There is no exchange of equivalents. It is a one-way transfer of value. Again, this as we shall see is recognized and quantified in the accounts. Our main aim is to use this recorded information to address and correct for the distortions to which they relate. In the rest of this paper we concern ourselves with the details of the adjustments.

## OUTLINE OF THE TRANSFORMATION PROCEDURE

Our aim is to bring into the open four subsidiary circuits of value: state taxes and revenue, interest payments, rent payments and the nonvalue-producing activities of circulation. Because we make corrections for productive and unproductive labour with which some Marxists may disagree, these corrections are carried out last.

We start from gross national product (GNP) at market prices. This is divided into 'gross' (unadjusted) profits and gross wages. Gross labour income is the gross wage bill of society (factor income from wages) plus employers' national insurance contributions. Gross property income is gross trading profits of both private and state companies plus net foreign property income plus gross rent receipts plus the income of the self-employed.[5] In outline, the procedure is then as follows:

1. correct for the treatment of rentier income and rent, and convert gross to net profit by deducting the depreciation of productive equipment (section 5);
2. correct for the state and taxation (section 6);
3. adjust the wage bill for unproductive labour costs (section 7);
4. correct for the national accounts' treatment of the banking and retail sectors (section 8);

This gives us a measure of the true wage bill of those capitalists engaged in producing commodities, which corresponds to variable capital V. Adjusted gross property income now corresponds to surplus value S. V + S represents the total capitalistically produced new value, and S/ V represents the (corrected) rate of exploitation.

The calculation method allows us to do more. In effect we can chart the reproductive cycle of the economy as a whole, including unproductive labour and consumption, and including value accounts for the distribution of income. Profits can be disaggregated to show their distribution amongst various fractions of the capitalist class: finance capital, profit of

[5] If space permitted we would have tried to divide the income of the self-employed between wages and profits. The present interim solution follows Tonak's method.

enterprise, merchant capital and rentier capital. Gross profits are adjusted to take account of consumed fixed capital, using the CSO estimates of capital consumption in the absence of any better data. Unproductive workers' wages can be divided into state labour consumed by workers (sometimes referred to as the 'social wage' and sometimes as the 'collective consumption' of the working class), state labour consumed by capitalists and the unproductive labour of circulation. Owing to data limitations we were unable to adjust for supervisory workers, as Moseley (1985) did for the United States.

Finally, we can make an attempt at measuring the rate of profit itself. This is a controversial area because of the difficulties of measuring capital stock. In the time available, we simply used the national income statistics figures for net capital stock without any adjustments. However, we did attempt to account for the circulating constant capital deployed in production, which should be included in the capitalists' outlay as it enters the equalization of the rate of profit. The next four sections deal with the issues and practical problems that arise in trying to use the procedure outlined above.

## NONEXCHANGE TRANSFERS OF VALUE

Beginning from Marx's fundamental definitions of variable capital and constant capital, we consider the annual wage to be the total exchange value appropriated by wage-labourers during the year. Constant capital is the total exchange value directly consumed in •capitalist production during the year; variable capital, by analogy, is that part of the annual wage consumed by workers engaged in capitalist production. To measure the annual wage in value terms we must correct for all forms of what we shall term 'pseudo-exchange' in which money (i.e. value in its money form) changes hands without an exchange of equivalents. These are interest, rent, taxes and benefits.

Interest and rent are critical to any serious study of the United Kingdom accounts. In 1986 dividend and interest receipts in the United Kingdom totalled £131,711 million - equal to nearly half the GDP - and personal sector interest receipts alone were £30,058 million. United Kingdom interest income from foreign property, as a percentage of corporate profits, is the largest in the world. However, all such payments are transfers of profit generated in production, which appear fetishized as payments for a 'service' provided by owners of property, interest and rent. On the same basis they are seen as a cost to the purchaser, an expense or a trading income. Therefore we have to disentangle these transfers from the mystified treatment they obtain in both company and national accounts.

First we have to deal with interest and rate payments and receipts by private individuals. The personal sector accounts, we recall, treat all consumers as equivalent. But in fact most consumers live off wages, and a smaller number off property income. The property-owners receive either rent or interest on debt. In short, they receive distributed profits. Everyone else pays interest and rent, a fact which vanishes from the accounts. The commercial banks and above all the building societies (mortgage companies) borrow from people with money and lend to people with debts. They charge interest - a financial tax - on debtors, take a cut and pass the rest on to the lenders. Payments of interest by the personal sector, the vast bulk of it mortgage interest payments, are therefore a missing element of gross profit. This is an extra element of surplus value which derives solely from usury. Although received by

wage-earners in money form, they never receive a value equivalent for it. We use the term secondary exploitation for this.[6]

The personal sector accounts record net interest receipts, which means that the interest paid by the debt-ridden members of the public is written off against the interest received by the rest. This income should be deducted from the gross income of the wage-earners. It is not a payment in return for value. Rent, the third of Marx's 'Holy Trinity', is more complex. In the United Kingdom it is now almost exclusively a charge on building land. Rent on farming land in 1980 amounted to £122 million, around 0.02 per cent of total rent.

Most of the remainder (around 70 per cent) consists of rent on housing land, and in 1980 over 50 per cent of this was owned by municipal authorities. This is in sharp decline, however, because of the Conservative Government policy of forcing authorities to sell their houses. Rent represents around 10 per cent of average household expenditure according to the national accounts and, like interest, it is in reality derived from surplus value, but is presented in the accounts as an income deriving from the ownership of land. Rent figures directly as a factor share of income in the United Kingdom accounts, and so we treat it as a component of profit. This leads to two problems: how to deal with imputed rents, and what interpretation to give to the rent payments of wage-earners.

First, the accounts record a fictitious or imputed rent for house-owners. This is supposed to represent the value that they receive from owning a house.[7] The argument behind this is not wholly specious. As tenants buy their homes, there will be an apparent fall in national income because rental income will drop whereas ownership as such does not generate income. However, there has been no decline in actual economic activity, and so it is argued that the figures have to be corrected.

The problem in our view is that rent payments should not be treated as payment for an economic activity in the first place. Rent is transferred property income, not a payment for value received. When people buy a home they used to rent they do not just became richer by one home: they also become poorer by one mortgage. Interest payments, a form of transferred property income, replace rent payments, another transferred property income.

A second argument is that durable goods, such as houses, are not consumed with purchase; they transfer value to a consumer over time. But a 'market rent' bears no relation to the cost of housing; imputing confuses the genuine cost of house construction and maintenance with ground rent. Moreover, with imputed rent a new owner is awarded the same value

[6] We are indebted to P. Bartelsheimer for the term `secondary exploitation'. The term may seem to contradict Marx's insistence that exploitation is confined to the sphere of production. Strictly speaking the problem is that the accounts do not correctly record the real value received by workers through the process of circulation: the process of circulation does not itself produce the exploitation.

[7] They are considered to pay this rent as to themselves, although their rent receipts are not treated as business income as in the United States, but figure directly in the accounts aggregates in the figure for income from rent. See S&M Appendix, p. 247.

once for buying the house and once for living in it.[8] If we did include imputed rent in income, we should also exclude any capital formation by wage-earners.

We therefore treat imputed rent as a wholly fictitious element of GDP and discard it from gross profits and hence from annually produced new value. However, we must also deal with real money (i.e. non-imputed) rent payments. The ground rent component is redistributed profit which figures nowhere else in the accounts and should be deducted from wages and added into profits. But part of the rent receipts in the national accounts does represent a payment for real value - the value of housing consumed by tenants. Hence, ideally, we should estimate the true cost of wage-earners' housing and add it back onto their gross income.

This can be done for municipal housing because the accounts record separately the rent payments of tenants and the council's housing expenditure, which can be taken as an accurate measure of the value of housing services received by tenants. For the private sector this procedure was beyond our means. Therefore no adjustment was made to gross labour income for the ground rent element of rent on dwellings.

## THE STATE

We now come to the most substantive part of our calculation, namely the net tax calculation. Our aim is to estimate the transfer of value between wage-earners and property-owners resulting from the activity of the state. This is equal to the difference between what each class pays to the state in taxes and the value it receives in services and revenues. Following Shaikh (1984) and Tonak (1987), we term this difference, which is a measure of the effect of the state on exploitation, `net tax'. All state expenditure on final demand is allocated to one or other of these classes. In particular, this means making a distinction between that part of state expenditure which contributes to the reproduction of the labour force, wage-earners, and that part which contributes to the reproduction of capital and capitalists, property-owners. These adjustments give an estimate of income of wage-earners and income of capital which takes into account the redistributive effect of the state and which separates the specifically wage-earning component of household income.

The capitalist state engages in transfers of value in its relations to the outside world. It is therefore different from domestic labour, the unpaid production of use-values for direct consumption. It collects taxes in money form and buys commodities including labour power. Those who are educated by the state, nursed by the state, or defended by the state therefore receive exchange value. The state receives no rent in kind, does not requisition or

[8] Underlying this is a fundamental choice in the treatment of wage-earners' income. The national accounts record a capital account for the entire personal sector, in line with the view that all property is capital and all `citizens' participate without meaningful distinction in property ownership and wage income. We do not consider wage-earners as capital owners, because for us capital is not simply long-lived property, but property which is used to acquire new value - to exploit labour. Therefore we allocate income to wage-earners at the time of purchase, because their consumption of durable goods lies outside the sphere of the circulation of capital - unlike the consumption of productive goods. The only consistent alternative would be to use disposable personal income as the starting point for income calculations, instead of factor shares of wages.

commandeer and makes no calls on labour service except in wartime. This makes it profoundly different from, say, a feudal state. It is not just used or owned by capital, but regulated by it. Its function is regulated by value. It is not external to the market but a distinct circuit of exchange value within it.

But though the state lies on a circuit of value, it is clearly different in some sense from a capitalist enterprise. Its most distinctive economic feature is that it makes no profit - it does not sell its services on the market as a commodity. Though it can change the form of the value at its command, it cannot expand it. This makes it a fundamentally different organism from any profit-making body, and the difference is recognized in the accounts.

Civil servants' wages appear as an item of consumption in the national accounts, as part of expenditure on final demand. The population as a whole is considered to consume the labour of the state employee. No other labour power is treated this way. State workers are also unique in the income-based accounts. Theirs is the only labour income which generates no corresponding profit income. The state's raw material purchases are also unique, being considered part of final demand without being netted out as an intermediate part of the consumption of any other sector.

In our view this corresponds very closely to Marx's concept of unproductive labour, i.e. all labour that does not produce value. Paid unproductive labourers transfer value without creating it. According to Marx (Theories of Surplus Value, 1969, vol. 1, pp. 159, 170), they provide those they serve with value equal to their wages. They produce no surplus value, and in fact no new value, but they conserve the value of their wages in the same way as a beast of burden would. Government spending on final demand is therefore a real measure of value received by the targets of this spending.

Moving on to consider state deductions from income, we can classify state revenues under five main headings

1. taxes on income;
2. taxes on expenditure;
3. national insurance contributions;
4. rent receipts of the state;
5. interest receipts of the state.

There is a small additional trading surplus or loss from trading activities not included in the public corporations, which we include in gross profits.

Our approach was to divide all receipts into two portions:

1. taxes paid out of wage income;
2. taxes paid out of property income.

To do this we concentrate on deciding which taxes are deducted from wage-earners. The residual is then the state's receipts from property income. We have already deducted

interest payments from workers' income, and state rent income is treated as a levy on wages. The only tax component of government income which falls on labour is income tax, which has to be separated out into taxes on earned income (including taxes on social security benefits) and taxes on property income. The published accounts make this separation and so the allocation of this part of state revenues is relatively simple.

Indirect taxes, which are a large and growing component of state income, present a much more complex problem. Over the period of study, the ratio of direct to indirect taxation on wage-earners has varied by a factor of 500 per cent; any results will therefore be very sensitive to the method chosen to allocate these taxes. The difficulty is that indirect taxes are added onto the price of retail goods, so that the expenditure measure of GDP differs from the income measure by an amount equal to the total of indirect taxes. We deal with these issues by treating market price as the price of production plus an arbitrary monetary increment which the state can impose as a result of its special position.[9]

Consumers who purchase goods at these prices receive less than the value embodied in them. This means that we have to determine the deviation of price from value resulting from this government intervention, and from this determine the deviation of money income from the value income of each class. There is a voluminous literature on tax incidence. We chose to use the NIA figures on tax incidence, which allocate indirect taxes between final consumption and intermediate demand.[10] The taxes on inter mediate demand are treated as a hidden component of profit appropriated by the state before redistribution. Taxes on final consumption are further divided between taxes on the consumption of workers and taxes on the consumption of property-owners. This means that our final 'market price' correction is in general smaller than that applied by the national accounts. We therefore end up with a figure for total output which lies between the 'factor income' and `market price' estimates of the national accounts.

As regards state spending, there is no set of ledgers in which we can find the amount of service that each group of consumers has had from the state in the same way that we can ascertain how much tax they have paid. To allocate state spending to one or another class we begin from the specific character of state unproductive labour, accurately described by Rubin (1972, p. 264):

> *This labour . . . is organized on the principles of public law, and not in the form of private capitalist enterprises. A postal employee is not a productive worker, but if the post were organized in the form of a private capitalist enterprise which charges money for the delivery of letters and parcels, wage labourers in these enterprises would be productive labourers. (p. 264)*

[9] We are indebted to Ernest Mandel for this suggestion.

[10] This choice was influenced by the fact that the raw sources of the NIA statistics are tax returns in which taxes on intermediate consumption are correctly recorded separately. From 1976 these are published separately.

The benefits received from the state are not determined by what taxes have been paid but by the political decisions of the state. They take the form of value, but their method of allocation is a matter of politics, not of the market. We have to determine, by political criteria, which class is the main beneficiaries of each category of spending.

To do this we divide state expenditure and its separation into three broad categories:

1. spending exclusively benefiting property, such as state grants, military spending and also, we argue, spending on the police etc. whose function is the protection of property;
2. spending exclusively benefiting wage-earners, such as unemployment benefit;
3. state spending on the 'public as a whole'; such as health, education and transport; this transfers value to both classes, and we have to establish what proportion goes to which class.

Since this measure is absolutely critical to the estimation of net tax, there is a strong case for trying to estimate it as accurately as possible in future research. One method, suggested by Andrew Glyn, would be to make direct estimates of the proportions of the population living from waged and from property income.

The NIA data on property income is virtually meaningless. We therefore began from the wage figure after adjustments for imputed rent and interest, and deducted this from a similarly corrected figure for total personal income to derive personal property income.[11] Our calculations are, in fact, less sensitive to changes in labour share than might be imagined. This is because the share is used to derive two quantities which tend to balance out: the labour share of expenditure taxes, and the labour share of benefits to consumers in general. Nevertheless, we feel that it is unwise to draw strong conclusions about the absolute levels of net tax and tax ratio; more important are the conclusions that can be drawn concerning trend and comparison between countries.

Using our allocation of benefits we calculate benefits accruing to labour and benefits accruing to property. The latter, it should be noted, is simply state spending less labour benefits. However, it has to be divided into two components: unproductive consumption and productive consumption. A portion of state expenditure - for example, on research or

[11] Strictly speaking it is a proxy for the share of private personal consumption generated by income from wages. Most people have some income deriving from property, even if only a few pence interest on a post office savings book. Conversely a substantial amount of profit income is distributed on a 'wage' basis - for example, director's salaries, which are really just a disbursement from profits and are even treated differently by the tax authorities. However, it is a myth to portray this situation as if there were an even distribution of wage and property income throughout the population. There is a very clear division between a large majority of people who have to work in order to live, and a small minority whose only work involves control of assets whose management they could, if they so desired, happily delegate to someone else, and which generate at least sufficient income to support them.

on roads - represents productive expenses collectively shared by the capitalists and therefore cannot be considered part of surplus value.[12]

When wage and property income have been corrected, this completes the adjustment for the role of the state. This leaves the further corrections for productive and unproductive labour in the sphere of circulation.

## PRODUCTIVE AND UNPRODUCTIVE LABOUR

We have already argued that the national accounts treatment of non- profit-making economic activity is identical with the Marxist concept of unproductive labour and consumption, in so far as it concerns the state. We must now assess which other sectors of the economy the concept applies to, and how it affects the system of accounts.

The term 'unproductive labour', inherited by Marx from Smith, has led to much confusion because it seems to imply a judgement on the social worth of the labour. This vulgar conception has been reinforced by Soviet economic theorists who have incorporated it into the material balance accounting system, where a distinction is made between 'material' production and services which are considered unproductive. This is not a Marxist but a Smithian conception. In Theories of Surplus Value Marx criticizes Smith, who argues that labour is productive when it produces a 'vendible object', replying that the decisive issue is whether a capitalist comes between labourer and the purchaser. Productive labour is labour which produces surplus value for a capitalist. The distinction between productive and unproductive labour draws a line between capitalist production proper and all other forms of economic activity.

In our view this confusion has persisted because unproductive labour occurs in two different situations: on the one hand, from state and direct services which are additional to and even outside the normal circulation of commodities; and on the other hand at the heart of circulation itself in commercial and financial capital. Therefore a teacher in a private school or a nurse in a private hospital are productive in Marx's sense, just as surely as a building worker employed by the municipal council is not.

But if one rests with the notion 'productive labour = labour hired by a capitalist; unproductive labour = labour hired by the user', then the discussion of the unproductive functions of circulation in Capital, vol. II, appears to make no sense. Here, Marx singles out what he terms the 'false costs' of circulation such as retailing. He argues that workers who perform these functions contribute no new value, but only circulate it. He then makes a well-known but puzzling comment:

> *If by a division of labour a function, unproductive in itself although a necessary element of production, is transformed from an incidental occupation of many into the exclusive occupation of a few, into their special*

[12] There has been considerable discussion on this among German statisticians: See Hake (1972), Grüske (1978) and Hanusch et at (1982).

*business, the nature of this function itself is not changed. (Capital, vol. II, p. 134)*

Hence merchants, who concern themselves exclusively with circulation, an unproductive function according to Marx, play an unproductive role - even though they are capitalists who hire labour. Marx appears to be saying that this labour is unproductive by virtue of its function, and not the social relations in which it is employed.

The difficulty goes deeper. What happens when a firm replaces its manual bookkeeping system with an automated one? The manual system was classically unproductive: pure labour of circulation. But the automatic system is sold on the market for a profit. Using the criterion of function, the labour of computer-makers is unproductive. Using the criterion of form, it is productive. The only consistent resolution of this contradiction is to say that the values of the materials consumed in circulation are not transferred to the products they circulate. An accounts computer is pseudo-constant capital, a deduction from surplus value, and not a cost. It is productively produced but unproductively consumed. Marx's distinction between productive and unproductive function then retains its full force, but so does the definition of productive labour as that which produces a commodity for sale by a capitalist. The same applies to 'business services' such as management consultancy and marketing.

We have arrived at a category of social reproduction which has received little attention: the unproductive consumption of constant capital. Armed with this category we can complete our picture of the circulation of capital by including in it a circuit of unproductive consumption in circulation. This consists of all the expenses of circulation, both material and labour, and should be treated as a portion of surplus value diverted to meet the costs of finance and retailing activities. Consequently, these expenses are equal to the costs of the finance and retail sectors. We now set about estimating this.

## INTEREST RECEIPTS OF THE BANKING SECTOR

Interest results from a secondary claim on a real exchange value. As already pointed out, no value is received in return for an interest payment. It is a tax imposed by bank capital on social capital as a whole, a levy on the use of money capital. In company accounts dividends are always paid out of profits: other interest payments, such as commercial credit, are nearly always treated as a cost. The UK national accounts treat all interest payments, correctly, as an appropriation from profits, and the CSO adjusts company returns when it thinks that interest has been wrongly allocated.

This has a peculiar effect on banking sector profits, however, as the interest receipts of the banking sector are not treated as the sale of a product and do not figure in its trading profit. The accounts therefore distinguish the banks' trading profits, which are negative, from their non-trading income, which is the difference between their interest receipts and payments. The CSO (S&M 7.62) argues that interest payments should not be considered part of GDP, i.e. they are not considered as adding value to any product. This is commendably scientific but is inconsistent with the treatment of the state. While the accounts correctly recognize the costs of the banking sector as unproductive, they fail to recognize them as a component of final demand. Gross trading profits are reduced by the trading losses of the banks. In

1986, for example, the financial sector accounts record gross non-trading income from all sources of £46,473 billion. Yet the sector's contribution to the 'gross profits of the company sector' was a loss of £6,687 billion. This endearingly self-effacing gesture understates gross profits by 10-15 per cent.

The only consistent solution is to place the entire costs of the banking system into expenditure on final demand. We have to go further, however, as we wish to correct not just for the interest receipts of the banking system but also for its trading receipts which, as labour of circulation, are unproductive even if they are appropriated through genuine trade.

This implies two adjustments. First, we have to correct for the underestimation of gross profits by adding the unproductive costs of the banking sector. Second, since factor incomes must equal expenditure on final demand, we must create an extra item of expenditure on final demand, the unproductive financial expenditure of the corporate sector. These costs are difficult to estimate, however, because the accounts, which do not record intermediate inputs, cannot tell us the capital consumption of the banks. Because of the importance of this figure, we estimated it using input-output tables to derive a capital-labour consumption ratio for the banking sector, interpolating figures for years when tables were not published.

This brings us to our final and not uncontroversial correction for the activities of the commercial sector: retailing or selling, which we treat as unproductive, following Marx's argument that all activities which merely exchange titles to goods - 'pure' circulation - cannot add to their value. Retailers' or merchants' profit is a deduction from industrial profit which takes place through the equalization of the rate of profit.

This is difficult to establish, however, because in the circulation of commodities we do not find pseudo-exchange; goods are bought and goods are sold, money passes one way and value passes the other, setting aside straight fraud. It is even more difficult to estimate because the activities of circulation are always tied up with activities which add real value.

We spent some time trying to codify the Standard Industrial Classification activity groups as productive or unproductive or requiring a ratio to be applied estimating the proportion of productive and unproductive labourers. These ratios are difficult to calculate using the detailed occupational breakdowns of the labour force, however, and so in the time available we simply made a broad correction for the retail sector as such. Regular annual surveys of the retail sector produce figures for gross margin, i.e. the difference between sales and goods not consumed by the retailers. This gross margin represents costs plus profits, and so we can derive the unproductive costs of the retail sector by deducting the factor income from the profits given in the value-added accounts for this sector. This will overestimate the quantity of unproductive labour in the retail sector and underestimate it everywhere else. Like the financial sector correction, therefore, this correction should be treated with caution.

Having discussed the adjustments made to the national accounts we now turn to the outcome of the procedure and analyse the estimates of the value categories.

## RESULTS OF THE ADJUSTMENTS

Our results have been computed, for completeness, from 1946 through to 1987. The pre-1950 results, however, should be treated with caution, firstly because the statistics for state expenditure are sparse, and secondly because a systematic evaluation of capital stock and depreciation was undertaken only in 1955 (see Redfern, 1955) and published regularly only from 1956 onwards.

Figure 1 shows the values between 1946 and 1987 of the rate of exploitation before and after the corrections discussed in the text. For completeness a semi-corrected value is included, where the corrections for rent and interest payments and the state have been made but not those for banks and retailing. Figures 2 and 3 show the corrected and uncorrected values of the organic composition of capital (OCC) and the rate of profit over the same time period.

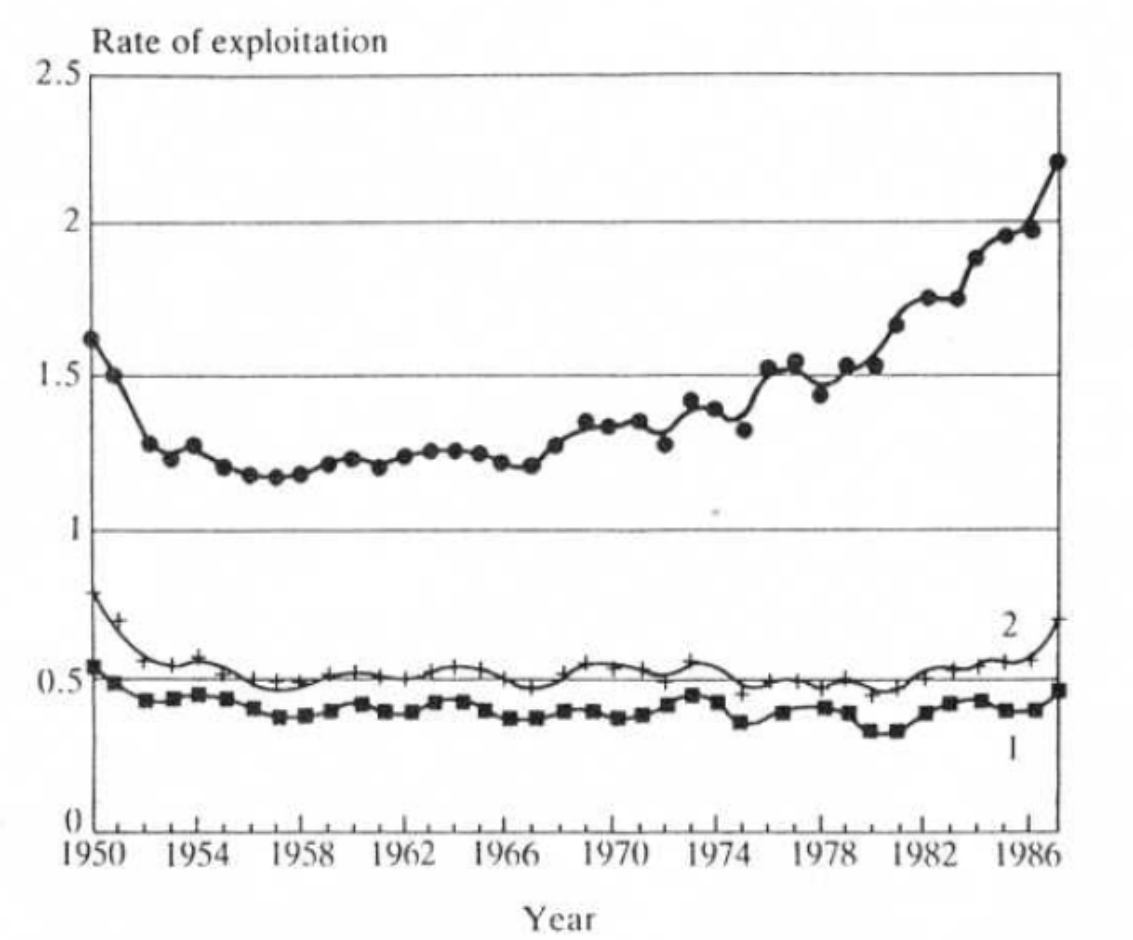


Figure 1 Rate of exploitation (corrected and uncorrected estimates)
curve 1: NIA Profits/wages
curve 2: corrected for taxes and benefits
curve 3: corrected for unproductive labour

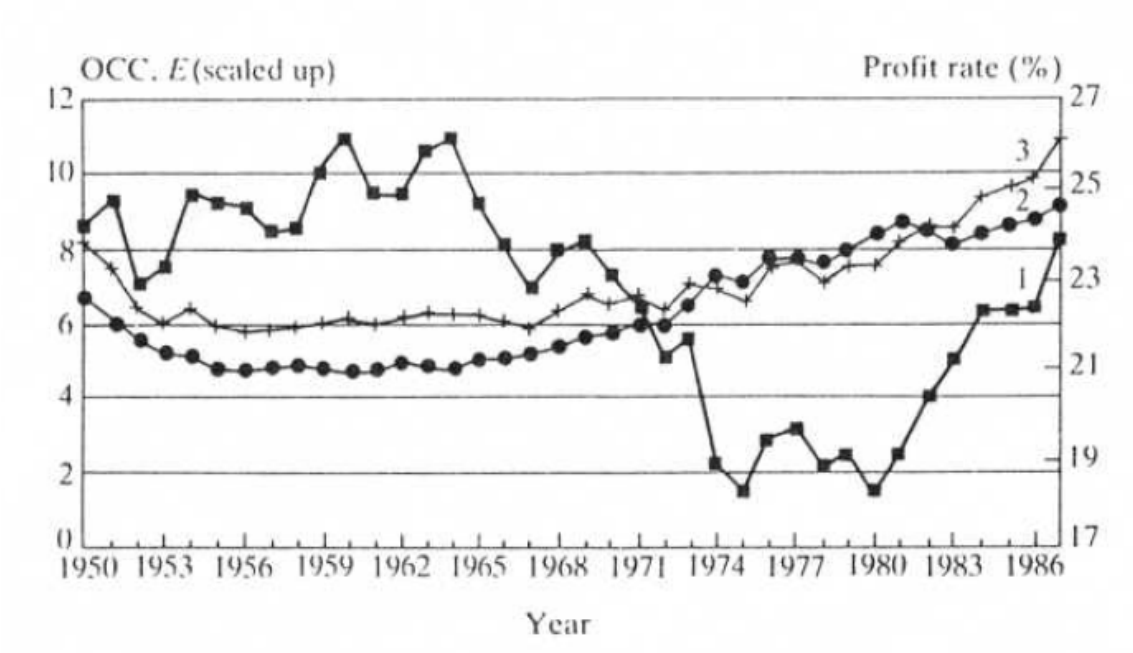


Figure 2 Corrected profit rate (curve 1), Organic Composition of Capital—OCC (curve 2) and Exploitation (E = S/V)(curve 3). The rate of exploitation E is scaled up by a factor of 5.

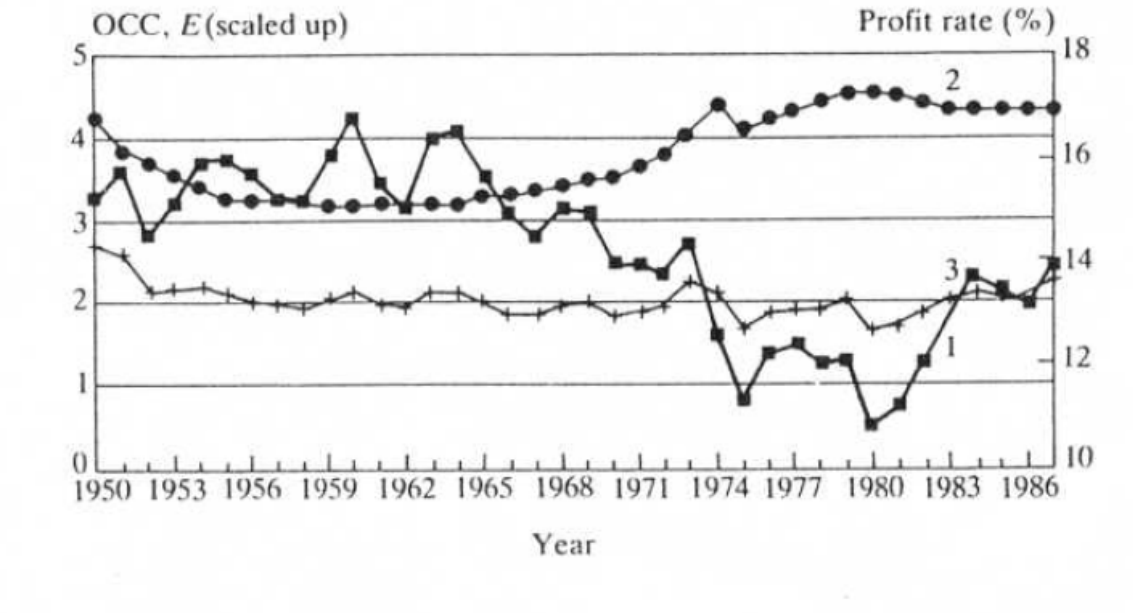


Figure 3 Uncorrected profit (curve 1),
Organic Composition of Capital—OCC (curve 2),
Exploitation (E = S/V) (curve 3).
The rate of exploitation E is scaled up by a factor of 5.


Figure 5.4 Tax ratio (curve I)
labour share of taxes (curve 2)
labour share of benefits (curve 3).

The most notable feature is that the corrected and uncorrected figures cast a different light on an important disputed issue in both Marxist and non-Marxist economics: what is the underlying cause of the long-term fall in the observed profit rate since the early 1960s? It is widely held that the rising share of wages in output is the chief cause. However, as figures 1 and 3 show, while this may be consistent with the uncorrected statistics, the corrected ones show a secular rising trend in the rate of surplus value from 1952 onwards, in particular for two long periods: 1955-73, and again from 1980 till the present. A rising rate of surplus value is therefore associated with a falling rate of profit (figure 3) for most of the period under study, with the reason being the rise in the organic composition of capital (figure 2). Comparing the late 1950s, when profits peaked, with the late 1970s, their lowest point, we find that a 25 per cent rise in the rate of exploitation has accompanied a 25 per cent fall in the rate of profit.

Figures 4 and 5 show the effect of the state on waged income from 1951 to 1987. Figure 4 shows the proportion of the tax burden which wage-earners have to bear, the proportion of

benefits they receive and the ratio between the two, a quantity Tonak (1987) terms the 'tax ratio' and which illustrates whether there is a net transfer of income away from or towards wage-earners as a result of the state's activity. The figure also shows the share of taxes in total output, and figure 5 shows the ratio of direct to indirect taxation.

There are three notable points. First, with one exception the tax ratio has always been below unity, implying that there has always been a net transfer of income away from wage-earners as a result of the state's activity. The high tax ratios of recent times are due to the high social security payments resulting from high unemployment. Second, the figures shed light on the economic impact of the Labour Government of 1974-9, under which the 'social contract' would, it was argued, provide wage-earners with social benefits in exchange for wage restraint.

The figures do in fact suggest that some gains were made in benefits after 1976, although most of this is accounted for by rising social security payments. However, as figure 4 shows, rises in the tax burden in that period fell almost exclusively on wage-earners, raising the proportion of taxes met from wages to its highest post-war level. In addition, as figure 5 shows, the bulk of this was raised by taxes on income. The ratio of income tax to expenditure tax rose by nearly 50 per cent between 1973 and 1976, an extraordinarily sharp increase.

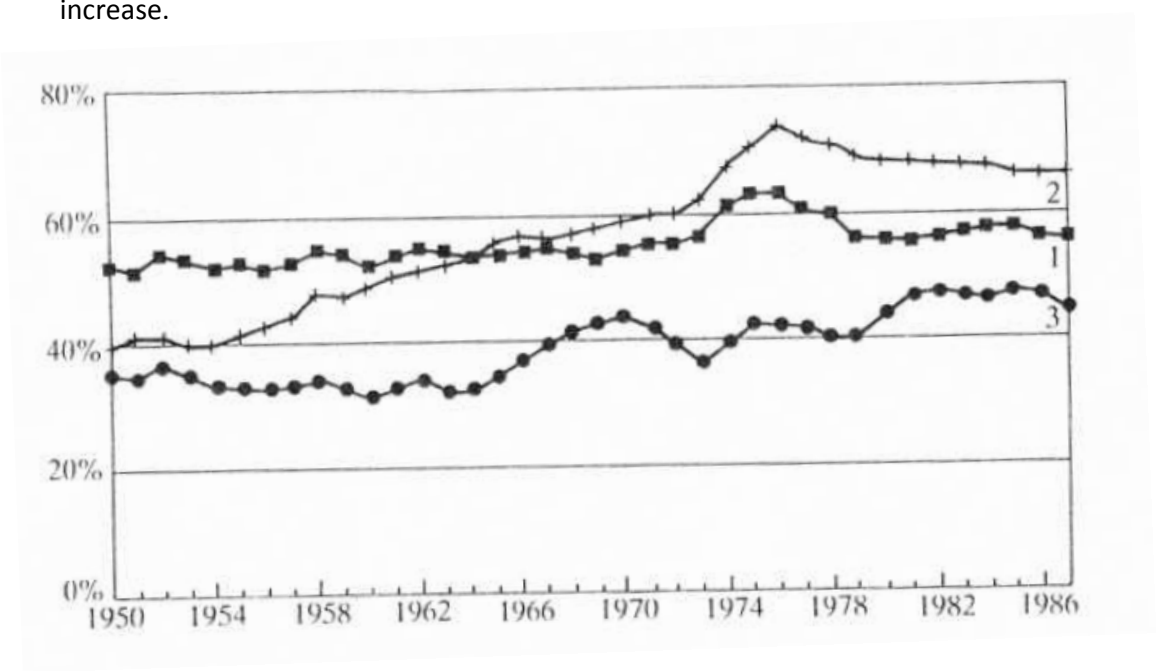


Figure 5 Direct and indirect tax. Income/expenditure tax.
whole population (curve I).
Income/expenditure tax, wage-earners only (curve 2).
Tax as a proportion of net output (curve 3).

The two great peaks of income taxation were the two periods of Labour government. The Conservative Government, contrary to its claims, has not reduced the general burden of taxation but has begun to shift it back from direct to indirect taxation, interestingly enough reducing the share of taxation borne by wage-earners, mainly by reducing the burden on

high wage-earners. Thus Labour Governments financed a moderate social programme primarily by taxing wage incomes, a fact which explains both the winter of discontent and the broad perception of Labour as a 'high tax' party. The figures show very clearly that they effected no substantial transfer of income from property-owners to wage-earners.

As a final illustration of what can be achieved by this approach, table 1 presents an augmented schema of reproduction for the UK economy for the year 1984, the last year for which input-output data are available. This demonstrates the reproduction and circulation of value in the UK economy. The schema supplements Marx's as follows.

1. An extra department, department 3, has been added to represent the costs of circulation. This is subdivided into retailing and finance. No surplus value is produced in this department and its output is entirely consumed in circulation.

2. Departments 2a (wage goods) and 2b (luxury goods) have both been subdivided to show state production which, like that of department 3, generates no surplus. Thus the output of 2a, state services to wage labourers, is consumed by workers in the form of state services such as education and health.

3. Four extra columns show the distribution of surplus between the main class fractions of capital: manufacturing, commerce, finance and landlords. The landlords' costs have not been shown separately because of lack of data. Reading down any column shows the form in which the class fraction consumes its share of surplus. Reading across shows the form in which the produce of any department is allocated to the class fractions. This allocation includes both personal and corporate consumption.

For simplicity imports and exports have been subsumed into the table by treating the 'rest of the world' as if it were part of department 1.

| | Production | | | | | | | | Consumption | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Constant capital | | | Variable capital | | | | | Surplus | | | | | |
| Means of production | Total $V_p$ $C$ | Fixed $C_f$ State $V_s$ $(=C_f+C_c)$ | Circ $C_c$ | $V$ | Private $(=V_p+V_s)$ | | | Output $C+V+S$ | D1,2 $(S_m)$ | D3c $(S_c)$ | D3f $(S_f)$ | Rent $(S_r)$ | Total | Replacement $(C+V)$ |
| D1 | 423,218 | 19,458 | 403,760 | 75,819 | 59,923 | 15,896 | 139,629 | 638,665 | 9,119 | 2,036 | 5,184 | | 16,339 | 622,326 |
| Wage goods | | | | | | | | | | | | | | |
| D2ap | 96,744 | 4,448 | 92,296 | 12,721 | 10,054 | 2,667 | 23,427 | 132,891 | | | | | | 132,891 |
| D2as | 14,766 | 3,869 | 10,897 | 20,486 | 16,191 | 4,395 | | 35,251 | | | | | | 35,251 |
| Luxury goods | | | | | | | | | | | | | | |
| D2bp | 26,809 | 1,233 | 25,577 | 3,525 | 2,786 | 739 | 6,492 | 36,827 | 17,192 | 9,106 | 6,370 | 4,158 | 36,827 | 0 |
| D2bs | 14,506 | 3,801 | 10,705 | 20,126 | 15,907 | 4,219 | | 34,633 | 16,168 | 8,563 | 5,991 | 3,911 | 34,633 | 0 |
| Labour of circulation | | | | | | | | | | | | | | |
| D3c | 29,371 | 2,478 | 26,893 | 24,905 | 19,684 | 5,221 | | 54,276 | 40,010 | 7,256 | 5,178 | 1,832 | 54,276 | 0 |
| D3f | 16,911 | 3,400 | 13,511 | 10,561 | 8,347 | 2,214 | | 27,472 | 20,252 | 3,673 | 2,621 | 927 | 27,472 | 0 |
| Total | 622,326 | 38,686 | 583,640 | 168,143 | 132,891 | 35,251 | 169,547 | 960,016 | 102,741 | 30,633 | 25,344 | 10,828 | 169,547 | 790,469 |

**Table 1 Reproduction scheme**

Overall, we have shown that with care it is possible to provide measures of Marx's value categories by adjusting the national accounts data. When estimates are made we have to be careful not to introduce bias or idiosyncrasies, or at least to understand how they are likely to affect the results. It is clear that using such an approach produces data which can tell a very different story from the unadjusted price data. Future work will be able to refine procedure to create a Marxist set of value accounts with which to develop quantitative

Marxism. It is also possible, using common procedures, to produce accounts for different countries which will allow comparative analyses to be made.

## ACKNOWLEDGEMENTS

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Throughout this text the UK National Income Accounts (HMSO, London) are called the NIAs or 'the accounts'. The Central Statistical Office which collates the statistics is called the CSO; and the main sourcebook describing the way that the UK National Accounts are prepared (United Kingdom National Accounts: Sources and Methods, London, 1985) is abbreviated to S&M.

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