

A political arithmetic of capitalism: What counts as the wealth of nations?

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Review article of *Measuring the wealth of nations: the political economy of national accounts*, Anwar Shaikh and Ahmet Tonak, Cambridge University Press, 1994, pp380 hbk £40; pbk due out 31st August 1996, £18.50.

What counts as the creative processes which add to income and wealth of countries? Even to the extent that appropriate concepts are formed, to what extent can they be measured? Obtaining these assessments is of vital importance for understanding what has happened, what is happening and what is likely to happen. All agree that this is at best proximate. There is a particular problem in capitalist societies which comprise of competing units with general and particular interests which results in subversion and manipulation in a systematic way. Orthodox concepts attempt to *present* national accounts as a neutral scientific problem to be addressed as opposed to a system which attempts to give a view of a capitalist reality governed by socio-economic priorities. Yet understanding socio-economic imperatives, associated with the underlying system, requires quite different concepts which would then need to look at how this affects the production of information and its use which reconciles how the conflict between particular and general can be resolved. The problems of concepts their validity and reliability and methodologies themselves are incorporated into the analysis itself rather than an (empiricist) external problem to be judged against the 'true' world.

There has been a large volume of work which has a common starting point to orthodox national accounts and attempted to extend them to include activities which are not picked up in official accounts particularly associated non-monetary activities notably but not exclusively in the household sector. But over recent years there has been a considerable growth in what may be described as 'quantitative Marxism' and a strand within this which instead of using orthodox concepts and data series has attempted to reconstruct national accounts on a new basis which then provide a quite different assessment of what has been happening (Freeman (1991); Cockshott, Cottrell & Michelson (1995, 1996); Moseley (1991)) Indeed, one interesting comparison has been how different the results have between those who have used orthodox concepts in Marxist

empirical studies (Armstrong, Glyn & Harrison; Glyn & Sutcliffe) from those which rework concepts and data series to proximate on the actual concepts consistently applied.

The work of Anwar Shaikh and Ahmet Tonak has been carefully researched over a couple of decades and represents this strand, a seminal work likely to be a primary reference book in the years ahead. While the hardback version has been available a couple of years, the paperback version is due out at the end of August.

The book discusses orthodox accounts and their extensions, the fundamental basis of Marxist concepts, a mapping between orthodox accounts and Marxist illustrating similarities and differences, recalculations in labour values, the provision of empirical estimates and a critical discussion of related work. It also has an extensive set of statistical appendices which take up nearly half of the book. The difficulty of this review is that many of the concepts will be unfamiliar and in an attempt to make sense of it, I will no doubt leave much ambiguous for some and be accused of convolution by others who work within this framework.

I. Two conservative orthodoxies

It is worth starting with what this work is an alternative to. There are two orthodoxies which have developed this century. The first in the west established itself through the rise of neo-classical economics which considered all economic activities, except wholly wasteful processes, transfers or personal consumption as wealth creating processes. The extensions to the official accounts concern not the nature of the productive process, but rather questions of coverage. Coverage while being very important presupposes the production concepts themselves.

The second took place in the soviet-type centrally managed economies where production consisted of goods alone and regarded services as non-productive, not adding to wealth. The result is the Net Material Product (NMP). The authors show very clearly that this approach is rooted in the classical work, not of Marx, but of Adam Smith. However, these accounts are not wholly consistent as distributive processes within production are also added to wealth (contrary to classical assumptions). Nevertheless, the absence of services would considerably underestimate NMP compared to GDP.

Therefore, those in the West who would wish to identify these sets of accounts as embodying the Marxist approach would be mistaken. The authors show that their approach takes a conceptual and methodological position fundamentally different from the starting point of either GDP or NMP. Their argument is that certain goods and services do add to wealth-creation processes, while others which have been counted as adding to wealth in both GDP and its extensions and

NMP should rather be seen as forms of consumption (processes where wealth is used up not created).

They show historically that the transition from classical to neo-classical (including Keynesian) thinking was also a shift from regarding only certain activities as production activities to a situation where all activities (with a few exceptions) were production activities. On the one hand, official accounts overestimate national income, and on the other, they largely miss many non-monetary activities. Overall, a salient feature of all non-official estimates including the book under review is that they are all greater than official accounts, and the range of estimates for the US economy varies from 12% greater to more than 4½ times! This illustrates very clearly the theoretical mire which needs to be addressed as there is little agreement over what should be counted as wealth-creating activities. Whether even the contribution of leisure time should have the same status as the production of cars in adding to total wealth.

In the extensions to official accounts it is interesting to note the various ways in which certain consumptive activities feature in different accounts as investment adding to wealth and depending on what is given this status determines the size of the estimates although the theoretical basis of the differences seem at best pragmatic. Other accounts rather than seeing all activities as adding to wealth see them as intermediate, indirect or preconditions, although as the authors point out, this can lead to a muddle where it becomes hard to know how to distinguish between production and consumption.

It might be argued that the neo-classical thinking itself can lead to of all kinds of speculative and wild estimates precisely because it has little way of distinguishing between production and non-production activities. The dilemmas are evident in the literature itself as most recently there have been questions over whether the growing army of security personnel add anything to national income. The press frequently raises alarm of the growing bureaucracies and layers of management which seem to add little to income but is a drain on resources. The difficulty is that within orthodox theory the conclusion, however absurd, has to be that the greater bureaucracy (or speculation, administration, military..), the greater national income produced. The attempts to deal with this problem are ad hoc with little rationale.

2. Classical and marxist concepts

The basic idea rests on the distinction between production and consumption, one consumes to create more wealth, objects or effects of use, and the other consumes for its own sake. The neo-classical view makes production very wide, and consumption is then just personal consumption. The classical/marxist view sees a large chunk of this 'production' as social consumption. The important

difference can hardly be overemphasised. For one an economy which has its structure shifting in a particular way is as wealth-creating as any other, while for the latter case it is a drain from potential investment which absorbing greater amounts of the national cake.

This view is that the process of social reproduction comprises of the process of production through which inputs are transformed into outputs, objects or effects; from which follows the process of distribution through which objects or effects are not created but transferred from producer to user as in sales or advertising; along side this is the process of maintenance and regulation which comprises of administration, government expenditure, the legal system, various bureaucratic, military or security services; and finally personal consumption through which objects or effects are consumed by individuals. The distinction has nothing to with moral or political judgements, and most activities are necessary for the system to function. In classical terminology, the productive and the non-productive activities correspond to productive and unproductive labour, one creates and the other transfers a portion of the cake.

Thus certain processes are the source through which objects or effects are created. Irrespective of the context, there is a transformation which through the individual or collective activity results in a product, qualitatively different and distinct from particular inputs: a socially useful creation. The productive process may be evident in the traditional 'goods' sector such as manufacturing where various material inputs are transformed by labour power which turns them into qualitatively different objects of use which are clearly adding to wealth. The process of utilising particular inputs through a labour process which turns them into something tangible may be clear. Transportation may be more difficult as part of its activities are distributive such as storage, yet the effect of transforming an object spatially completes its *productive* cycle. Services comprise of a broad range of activities which rather than producing tangible goods nevertheless create, through various activities a tangible effect. A software engineer creates software, a singer a song, a statistician a forecast, which is qualitatively different from a process which having the object or effect then sets about the secondary process of facilitating or effecting its sale. Marketing, advertising, finance, various manipulative processes which presuppose something already exists are quite different from the creative process itself.

The distinction in practice can be difficult as production and distribution, or the conditions of achieving a desirable outcome is often hard to make. This problem is compounded by the fact that national accounts are set up in order to answer a different set of questions—secondary use of sources has well-known pitfalls. Yet given this general problem which is certainly one most researchers will be aware of, an attempt to make alternative assessment is a difficult, proximate but a worthwhile, if limited, task. The gap between concepts and their practical proxies does not mean that the attempt is not worthwhile. We are also

reminded that this is not merely a problem in the use of secondary sources, as is evident in official accounts that it is a difficult task to make assessments even when government agencies take it up with statutory backing. This, as has been pointed out earlier, is a characteristic embedded in the nature of socio-economic systems which is compounded under a system which has no means of regulation other than through a market.

Like in official accounts, making the distinction operational involves interventions, assumptions and guesses which are difficult to make. But is it still by quite a distance an advance on the purely descriptive assessments of political economy—political arithmetic for all its limitations is still necessary. Despite the universal criticism of the shortcomings of statistical systems and the various econometric models utilising them, they remain as necessary as ever.

From this perspective other distinctions need to be made. In a concrete economy, a social formation, there are both capitalist and non-capitalist forms of production. In the latter case are households, petty commodity, commodity and barter producers which create wealth (value) all of which need to be included in total national wealth, but these merely create objects aimed at creating a revenue for the direct producers concerned or are unpaid activities which require imputations. Capitalist enterprises create both values and surplus values, the latter being the unpaid value transferred from workers to capitalists. The ratio of surplus value to productive wage costs, surplus to necessary labour time or its corresponding monetary measure, is the rate of surplus value which is identical to the rate of exploitation of productive workers. While surplus to necessary labour time in the unproductive sector is the rate of exploitation of unproductive workers. Capitalist enterprises can take many forms—private enterprises, corporates and state capitalist enterprises (nationalised companies) which generate commodities embodying surplus value or its transfer. These exist in the productive sector which create the wealth and the unproductive sector which require a portion of the wealth to be transferred to pay for necessary tasks undertaken (advertising, sales, finance, state expenditures etc.). There is also a smaller amount of surplus value generated through transfers between non-capitalist and capitalist sectors of the economy which has to be estimated and added to total value.

One interesting contrast with the orthodox treatment is how to approach environmental problems and externalities. If companies deal with their waste, then it does not add anything to national income; if the government deals with it, it adds to national income. If little is done and people need to make a range of expenditures (clean-up, medical) then it increases again. By contrast, the alternative approach means that as these activities are not productive in any case and they add nothing to national income and the extent to which environmental degradation occurs the stock of wealth diminishes. Even in the extended accounts little attention is paid to these problems with some reducing their estimates owing

to 'regrettables and disamenities', although without a consistent basis as the problem is that once discussion of this begins there is a feeling of a slippery slope which leads to the questioning of much else.

3. Mapping input-output concepts and labour value calculations

As input-output tables enable a detailed view of production flows from producer to user this is the starting point to re-conceptualise orthodox categories and generate the modified data series. A chapter is devoted to showing in clear detail, the mapping between input-output categories and the derived concepts some of which have no correspondent. These are very well illustrated using simple algebra, diagrams and arithmetic examples. Indeed, much to its merit this is not a textbook as it aims to explain, clarify and demystify. The concepts are illustrated first as monetary aggregates and later re-calculated in terms of labour hours whose scheme has a chapter devoted to it.

In order to clarify mappings activities are divided into *primary* flows comprising of creative and realisation processes, production and trade, and *secondary* flows comprising of non-production activities the transfers from the primary sector in the form of rent, finance, fees, royalties and taxes. Each can then be split into revenue and use and a full comparison made to input-output categories in order to see precisely how data concepts are defined. A brief discussion is given of how various wage concepts are adjusted and the adjustment for foreign trade. Then some of the difficulties of treating non-capitalist activities (such as the self-employed) and illegal activities—which are not separated from capitalist activities in official accounts. This involves considerable detail which is supplemented by large appendices which is beyond the scope of this discussion. Nevertheless, a full set of consistent alternative accounts can be derived from these mappings. While one would have to agree that these are derived and as such a distance from the full detail orthodox accounts provide for assessments with orthodox assumptions, the achievement of this work for all these difficulties is formidable.

The mappings between orthodox and marxist categories are further supplemented by a methodology to re-calculate the whole of the accounts in terms of labour values and their corresponding monetary values. In this approach labour values attain a primacy which explain the regulation processes. Thus for a particular commodity or commodity-bundle, the (socially-necessary) labour time measured in hours is its 'value', not its 'price'. (The two would correspond in a pure capitalist economy at the aggregate level). The calculations then provide a means of defining a whole range of alternative concepts which then enable empirical estimates to be made which are consistent with these concepts and

theoretical definitions. In the past, many comparisons have been made using inappropriate, inconsistent, measures based on adjusted orthodox concepts which were assumed to approximate these measures. (The study itself shows that these are not proxies at all.) This then more appropriately enables the whole range of Marxist hypotheses to be tested empirically as will be considered below.

The labour values are calculated using the input-output tables. Recognising that the purchaser price is the producer price plus the trading margin, this is generalised as the total value product is then the value of the producer plus trading sector. If input-output tables were given in quantity flows, labour values could be calculated by adding kinds of productive labour hours. These need to be adjusted to accommodate monetary flows. For sector i and production input j , the labour value per unit output, λ_j , is then the sum of hours of productive labour, hp_j , plus the sum of the i th inputs, q_{ij} , times corresponding labour unit values, λ_i , namely $\lambda_j^* = hp_j^* + \sum_i \lambda_i^* q_{ij}^*$ which are the adjusted values given by $q_{ij}^* = p_i q_{ij} / p_j$, $hp_j^* = hp_j / p_j$ and $\lambda_j^* = \lambda_j / p_j$ where p_i and p_j are price indices.

4. Empirical estimates and conclusions

Two sets of questions may be asked of the empirical estimates. First, how different are they from the orthodox concepts embodied in official accounts? Whether or not one accepts the Marxist approach, it is quite a different way of looking at what is 'really' going on. It is a point of comparison which gives quite a different perspective which has a value in its own right.

The authors conclude that "by and large, we have found them to be very different in size and trend, and to produce a very different picture of capitalist reality" (p146). For example, in 1967 the total value product was 47% greater than GDP but has a relative declining trend of 1% per annum between 1948-89, surplus value is 234% of profits and is increasing relatively at a rate of 1% per annum, 'productivity' has a level of 306% and an increasing relative annual trend of 1.2%. Thus the most important aggregates are at a different level and may be pulling in a different direction suggesting that quite different processes are at work.

Second, as this methodology provides the foundation through which a full set of empirical estimates have been made, it is now possible to test the various Marxist hypotheses utilising the actual rather than the convoluted concepts inconsistent with its theoretical definitions. Moreover, on this basis what is happening in the US economy and does this point to problems which the orthodox accounts have missed?

The 'immiseration' hypothesis suggests that the development of capitalism results in a greater relative share shifting from workers to capitalists over time.

This may be considered by looking at the rates of exploitation in the productive and unproductive sectors. The first rose from 170% to 245% and the second from 140% to 225%. It is also worthy of note that 'benefits-against-taxes' in national income also fell particularly sharply in the 1980s.

The 'tendency for the rate of profit to fall' hypothesis suggests that the competitive system results in a growth in capital investment relative to the surplus generated and profitability falls.¹ There are some qualifying factors which can offset this tendency for a period of time after which a new surge of growth reasserts the trend. This leads to a long term decline in profitability and given that profitability underlies both future investment and profit this leads to ever deepening crises. The evidence for 1948-80 is that there was a continuous annual decline which is evident in both marxist and orthodox measures, of -1% and -2.2% respectively, and this is clearly a product of C/V which increased 1.6% compared to S/V which only increased by 1% annually. However, in the Reagan-Bush era the trend was reversed. Here profitability of the relative measures increased annually by 1.1% and 2.6% respectively as C/V only increased by 0.7% signalling malaise as S/V increased 1.8% following the 'right wing offensive' as this has been a product not of improvements fed through from the productive system but from intensification of work practices. Thus the evidence is largely conclusive, showing the connection between the numerator and denominator, and as there are physical limits to S/V, the only means of sustained changes would result in C/V increasing relative to S/V.

There are several specific differences between orthodox and marxist accounts which point to quite a different interpretation of 'reality' rooted in the distinction between production and consumption. Productive labour hours fell by 37% between 1948-89, while the relative fall in productive wages in total is 33% which indicates the fall is largely due to a fall in productive employment. For example, more people work for MacDonaldis than make steel. The American productive base is declining at an alarming rate, unproductive expenditures becoming a progressively larger burden. This is far more serious than the deindustrialisation as it points to a decline in productive services as well.

5. Final thoughts

The work under review provides an alternative framework through which national accounts may be reworked utilising qualitatively different concepts and methodologies. This remains in its infancy and it remains for an attempt to be made to consider inferential models which utilise the reconstructed data series.

¹ The formula is $r = s/(v+c) = (s/v)/(1+c/v)$ where s is the surplus value, v variable capital productive wages and related expenditure, c capital expenditure. Clearly unless $c/v > s/v$, profitability declines.

The research has as its main focus the possibility of alternative concepts which can be operationalised which contrast with the orthodox estimates and provide quite a different view of what is going on. It does focus on general trends and the general ideas and estimates. It is a broad sweep. It leaves many gaps to be developed. It does not consider non-monetary transactions as work of certain extended accounts are incorporated to provide proxies for, for example, the household sector. It does not consider the processes of globalisation and considers without distinction the 'nation' (Philpott Morgan, 1996,1997).

It leaves from its locus the actual concrete analysis of relatively short-term development of capitalist economies in their intricate details. One aspect which stands out is the functioning of business cycles and positive and negative feed back processes which result in dislocations between various aspects of activity in the system at different levels. These both ride on the back of historical trends and are contributing factors being the primary focus in concrete analysis. Indeed, in considering such problems whether one takes an orthodox or marxist view we are confronted with a multiple of sequential processes through which the 'output processes' are part of a reproductive loop which generates a process of regulation and renewal which of necessity is a qualitative process as each cycle involves changes. The recognition that to model dynamic processes requires quite a different modelling approach has generated a small yet significant work over a long period of time in an orthodox framework (Forrester, 1961; Weiner, 1961) and although great interest has been shown in chaos/complexity over recent years models used are static and deterministic. The 'dynamics' being viewed as an inherent aspect of a process rather than as a product of their time series reproductive cycles (Philpott Morgan, 1990).

To model such processes requires a similar reconceptualisation and methodological paradigm which sees processes in continuous evolution, discontinuities in which some processes vanish and new ones emerge. This dynamic/dialectic approach looks at the time dimension through which the focus is not the whole data time series to provide the unrealistic 'static' estimates as though reality identically replicates itself (standard regression analysis and Box-Jenkins techniques for example make these assumptions). Regarding a model of a datum as a signal which then requires sequential updating between signals we have a sequence of models M_{t-k}, M_t, M_{t+1} . The simplest case of a linear estimator normally distributed was solved by Kalman and has been extended since (Kalman, 1962). This was also derived independently by a Bayesian approach (Harrison & Stevens, 1976) which with its emphasis on agency provided a more general framework enabling a range of interventions to be incorporated particularly important in the case of major qualitative change (Philpott Morgan, 1997). The typical static model such as $Y_t = aX_t + \beta Y_{t-1}$ which while fruition effects are fed-through the processes a and β are fixed, then replaced by a model of the time evolution of a , and β , which also incorporates the

response of agency. Then we would have a dynamic formulation such as $Y_t = a_t X_t + \beta_t Y_{t-1}$ where $a_t = a_{t-1} + \Delta a_t + \delta a_t$, and $\beta_t = \beta_{t-1} + \Delta \beta_t + \delta \beta_t$, Δa_t , and $\Delta \beta_t$ being agency interventions which may be subjective interventions or expectations from an underlying agency-decision model of behaviour centres.

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