

**Productive and Unproductive Capital:  
A Mapping of the NZ System of National Accounts  
to Classical Economic Categories, 1972-1995**

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## ABSTRACT

New Zealand has gained considerable international attention for the extent of the neo-liberal economic reform programme enacted from the mid-1980s, acting as a model for such reform elsewhere. Within the neo-classical framework of the reformers, the programme has produced many improvements to the economy, evidenced by “fundamental” indicators such as lower inflation, lower budget deficits and higher economic growth. There is a wide expectation that other economic indicators will also improve, after a lag. Yet these other indicators have not merely lagged, but are persistent; unemployment remains high, real interest rates are among the highest in the world, nominal interest rates and business confidence fluctuate considerably, and the balance of payments is deteriorating.

This paper re-examines the reform of the New Zealand economy from another viewpoint, using a classical framework, to see if there are alternative explanations for the persistence of this “anomalous” phenomena. Methodology developed by Shaikh and Tonak is used to map official national accounts data to classical economic categories for the 1972 to 1995 period. This approach is compared to earlier New Zealand attempts at estimating classical economic categories. Lastly, this classical view of the economic reforms is compared to the conventional view.

It is found that there was a large increase in unproductive economic activity associated with the economic reforms in New Zealand; that the improvement in “economic fundamentals” emphasised by the reformers reflects this growth of unproductive activity; and that the persistence of other economic indicators is related to the ongoing weakness of productive activity.

## **Productive and Unproductive Capital: A Mapping of the NZ System of National Accounts to Classical Economic Categories, 1972-1995**

As the mainstream response to the recent Asian currency crisis suggests, the neo-liberal programme of structural adjustment is now widely established as a ready formula to be deployed at seemingly any opportunity. Few today would be unfamiliar with the neo-liberals' simple, yet powerful prescription; remove as many impediments as possible to the operation of markets so as to reap the productivity gains of vigorous competition<sup>1</sup>.

In neo-liberal circles, New Zealand has been an example of structural reform par excellence. "New Zealand now probably boasts the best framework for monetary and fiscal policies of anywhere in the world" (*The Economist*, 1/4/95). As elsewhere, the New Zealand reforms were accompanied by a legitimating appeal that long-term gains would be the reward for short-term pain<sup>2</sup>. As elsewhere, the pain proved to be longer than predicted and the gains more distant than promised. But despite widespread economic distress and unprecedented political upheaval; four Prime Ministers and three Finance Ministers in three years; by 1992 plaudits were claiming that, perhaps while nirvana could not yet be seen, "the economic fundamentals were right". The persistence of less favourable indicators, such as unemployment, high real interest rates and volatile business confidence, was dismissed as a sequencing issue; these would come right with further application of the neo-liberal prescription (Douglas 1993, Richardson 1995).

The neo-liberal theoretical framework is particularly immune to dissenting empirical evidence. Reder (1982, cited by Easton, 1997a, p. 91) attributes the resilience of the framework to its construction from a "tight prior"; that the world is near Pareto optimality and that thus any empirical inconsistency appears as an inconsequential anomaly. These basic assumptions and

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<sup>1</sup> See Williamson's (1994) summary of the "Washington consensus" on structural adjustment programmes.

<sup>2</sup> As Kelsey (1995) explores in detail the legitimization of the neo-liberal programme in New Zealand actually consisted of an ever-shifting series of political appeals, crafted to maintain consent. Underlying it all, however, was the simple Protestant homily that restraint was needed now if the future was to be better.

the emphasis on theoretical consistency, “can make one extraordinarily neglectful of relevant experience” (Easton, 1997a, p. 93).

In this paper, the neo-liberal experiment in New Zealand is examined from another perspective. Using methodology developed by Shaikh and Tonak (1994), the New Zealand System of National Accounts (NZSNA) are mapped into classical economic categories for the 1972-95 period. First, the legitimacy of attempting to measure labour-conceived categories of value in monetary terms and from official systems of national accounts is considered. Next, a conceptual mapping between official national accounts categories and classical economic categories in general is outlined and the specific categorisation of farming is examined. Then, on the basis of this mapping, empirical estimates of classical economic categories are derived from the official national accounts. Lastly, these estimates are compared to other estimates of surplus value flows and to conventional commentaries on the New Zealand economy.

### **Quantitative Measurement of Classical Economic Categories**

Techniques for deriving quantitative measures of classical, particularly Marxist, economic categories from neo-classically conceived national accounts data have been developed by a range of authors<sup>3</sup> (Varga 1928; Mandel 1975; Glyn & Sutcliffe 1972; Wolff 1975, 1987; Aglietta 1979; Moseley 1985, 1991; Freeman 1991; Cockshott, Cottrel & Michaelson 1995), but most comprehensively by Shaikh and Tonak (1994). In New Zealand there has been only one previous systematic attempt at deriving quantitative measures of the economy in Marxist categories, that of Pearce (1986), based on factory production data and drawing principally from the work of Mandel (1975).

All these techniques are based on the proposition that classical labour-based concepts of value can be represented as quantities of money. Moseley (1991, pp. 27- 28) for example,

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<sup>3</sup> See Shaikh and Tonak (1994) for an extensive review of this literature.

argues that Marx defined surplus value as the monetary difference between the sale price of a good and its purchase or production price (see Marx, 1976, pp. 251-2). Constant capital is similarly defined as the money used to purchase means of production and raw materials and variable capital is the money used to purchase labour-power<sup>4</sup>. On this basis then it is therefore possible to use price-based data, collected by government statisticians for national accounting purposes, for the analysis of classical value flows.

While official national accounts provide a starting point for the derivation of classical economic categories, they are not free from difficulties. Conventional systems of national accounts systematically distort major economic aggregates because, due to neo-classical assumptions, they classify most social consumption as production activity (Shaikh & Tonak, 1994, pp. 2-3). Conventional national accounting has many other weaknesses; measurement of production flows is not integrated with balance-sheet stocks; and non-market activities, particularly household production, illegal activities, and natural resource depletion are not measured (Shaikh & Tonak, 1994, p. 9. See also Eisner, 1988; and Waring, 1988). This discussion, however, concentrates on the distinction between production and consumption.

Classical economics distinguished the production of new wealth from its consumption, whether in personal or social form<sup>5</sup>. New wealth created in production was to be consumed in the form of personal consumption or in social consumption activities such as trade and government administration. The activity of lawyers, civil servants and speculators, for example, was classed as social consumption. With the rise of neo-classical economics, however, the

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<sup>4</sup> Moseley is critical of Sraffa-derived approaches which see these categories solely as quantities of labour (for example Wolff, 1987). He argues that while the values and ultimately prices of commodities are determined by the quantity of labour, this is average, homogenous labour, an abstract concept rather than observable concrete phenomena. Any particular commodity will be produced by particular quantities of variously skilled labour, not simply measurable in terms of hours of average work. In any case Marx argued money was the “necessary form of appearance” of quantities of abstract labour (Marx 1963, Chapter 1, cited by Moseley, 1991, p. 31).

<sup>5</sup> The distinction between economically productive and unproductive endeavour can be found in the pre-classical emphasis on agriculture as the source of wealth in the work of the physiocrats, such as Quesnay and Turgot, as well as in production/consumption distinctions in early classical theorists such as North and Cantillon (See Oser & Brue

distinction between production and social consumption was replaced by a conception whereby all social necessary activities, other than personal consumption, were seen as resulting in a product. From this viewpoint, lawyers, civil servants and speculators were seen as adding to national product. Further, socially necessary productive activities were deemed to be potentially marketable (Shaikh & Tonak, 1994, p. 3; Oser & Brue, 1988).

Distinguishing production and consumption activity in the classical manner has the advantage of allowing the identification of unproductive activities, a category that remains important in popular discourse. Government spending in general, military expenditure, policing, and legal and financial services are variously declared in political debate to be unproductive activity (Shaikh & Tonak, 1994, pp. 4-5).

Widening the conception of national accounting from one of market production and personal consumption, to social consumption as well, also opens the perspective to other forms of production and consumption. Household labour, for example, could be more usefully analysed as a form of non-market production and non-market consumption (Fraad, Resnick & Wolff, 1989; Folbre & Hartmann, 1989; Shaikh & Tonak, 1994, p. 71), rather than attempting to impute it into a market accounting framework (as for example Waring, 1988) <sup>6</sup>.

### **Deriving Classical Economic Categories**

Classical economic categories can be derived from neo-classically framed official national accounts by systematically distinguishing social consumption activity from capitalist production activity. The detailed procedures for this mapping are described well by Shaikh and Tonak (1994) and so discussion is limited to the general principles and specific variations for the case

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1988). Adam Smith's treatment is in Book II, Chapter III of the *Wealth of Nations* (Smith 1952, pp. 142-51), and this is echoed in the work of Malthus, Ricardo, Mill, Sismondi, and Marx (Oser & Brue 1988).

<sup>6</sup> Waring argues forcefully for the necessity of imputing a market value to women's unpaid work to make it visible to policy-makers, but she is uncomfortable with the logical implications of this approach; of putting a market price on women's reproductive capacity and on human life (Waring, 1988, pp. 232-33).

of New Zealand. In particular, while Shaikh and Tonak derive a classical categorisation for both output and use of production, this study is concerned only with output categories<sup>7</sup>.

If all the activity of firms was productive, as assumed in neo-classical analysis, then there would be a simple equality between the categories of official national accounts and the classical economic categories of constant capital, variable capital, surplus value and total value, as demonstrated in Figure 1 (Shaikh & Tonak 1994: 42).

However, much of the activity classified as productive in neo-classical analysis must be isolated to derive the classical economic categories of value; production and trade. Production of goods or services only becomes of value when it is sold. Trade, while unproductive, is a necessary part of the creation of value. The total value produced within an economy then in classical terms represents the *sale* of produced goods and services, summarised in Figure 2 (Shaikh & Tonak, 1994, p. 72).

In classical economic terms, production is limited to the physical production of goods and services, represented by the goods produced in industries such as agriculture, forestry, mining, manufacturing, energy and water, and construction, as well as services provided in hotels, repairs, entertainment, health and education. The category also includes consumption-related passenger transport, part of the production of vacation services, and the transport of goods to consumers (Shaikh & Tonak, 1994, pp. 23, 72). These components can be drawn directly from the equivalent components of the official national accounts.

Distinct from the production of goods and services in classical analysis is trade or distribution. Trade is the exchange of previously produced goods or services for money. This

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<sup>7</sup> National accounts are constructed on the basis of transactions between buyers and sellers of commodities. Thus at the core are actually two sets of accounts reflecting these transactions from the point of view of the seller or output side, as well as the transactions from the point of view of the purchaser, or use side. The two sets of accounts balance each other (Shaikh & Tonak, 1994, pp. 6-7).

encompasses wholesale and retail trade, and building and equipment rentals (the sale of goods over a prolonged period)<sup>8</sup> (Shaikh & Tonak, 1994, p. 72).

Outside the process of value production and realisation, but included within the neo-classical definition of production are payments for ground rent, interest, patents and taxes. These are not part of the process of value creation in the classical framework but rather a later redistribution of already produced value. Shaikh and Tonak classify these payments as “royalties”; ground rent a royalty paid for access to land, interest a royalty paid for access to credit, a patent a royalty for access to a technical process, and taxes royalties paid to the state. Sale of land, debts or patent rights transfers ownership of the claims to these payments. These secondary monetary flows are part of the total transactions in the economy, and thus included in official national accounting, but they are not part of total value in classical terms (Shaikh & Tonak, 1994, pp. 52-3). This is outlined in Figure 3.

Much government expenditure is also outside the production and realisation of value. Government enterprises appear in official national accounts as part of the production, trade or royalties divisions, according to their activity. Government agencies responsible for the maintenance of social order such as police, courts, defence and general administration, which are counted as part of total production in official national accounts, are actually outside the production and realisation of value, although they are funded by a later redistribution from this process (Shaikh & Tonak, 1994, pp. 59-62).

Similarly, official national accounts include an entry for transactions with the “rest of the world”, representing the earnings of nationals abroad, which is again outside the domestic process of value creation. However, foreign trade does create a discrepancy between domestically produced value and domestically realised value, which needs to be accounted for

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<sup>8</sup> Transport internal to the trading system, such as the transport of salespeople would also be included, but in practice it is difficult to separate this from other categories of transport (Shaikh & Tonak 1994: 51).

in national accounts. Because commodities are sold at their value, a foreign trader's margin on exports sold in another country is a deduction from the total value produced locally. Similarly, imports transfer value into a country. Surplus value must therefore be adjusted by the net transfer of value (Shaikh & Tonak, 1994, pp. 65-67).

### **The Categorisation of Farming**

In the construction of official national accounts non-capitalist activities are treated inconsistently; either included in official national accounts, as in the case of self-employed tradespeople and non-profit institutions; or ignored, as in the case of household domestic labour. As non-capitalist activities are outside the production and realisation of value they must be excluded from an analysis of capitalist value processes (Shaikh & Tonak, 1994, pp. 71-72; Moseley, 1991, p. 32).

Pearce (1986) argues that non-capitalist production prevails in significant sections of the New Zealand economy, principally agriculture and in particular dairy factory production, because of the cooperative ownership structure of such enterprises. Such a view stems from a property-distribution analysis of classes, rather than a production-based approach. The cooperative ownership of dairy factories by capitalist farmers and the particular form of dividend payment from these does not remove the capitalist nature of the enterprise, any more than joint shareholding in manufacturing does. Surplus value is extracted as wage labourers as they transform untreated milk into dairy commodities. That some of these wage labourers also occupy the class position of share-milkers and thus have some ownership in the enterprise does not alter the production and extraction of surplus value<sup>9</sup>.

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<sup>9</sup> See Resnick & Wolff (1987) for a discussion of over-determined class positions.

If any aspect of agricultural production in New Zealand shares similarities with non-capitalist forms of production, it is sharecropping, particularly share-milking. However, Richards (1986) argues that sharecropping cannot be seen as a survival of a peasantry, but rather a response by capitalist farmers to the high costs of supervision in

Similarly, despite New Zealand's small farming agrarian identity, even family farms cannot readily be classified as non-capitalist. Lenin points out that the employment of wage labour is not the defining characteristic of small capitalist production, but rather independent production for the market is the departure from the last vestiges of feudal social relations, and such producers swim amidst all the contradictions inherent in capitalism, making them capitalism's "deepest and most durable foundation" (Lenin 1908: 175-6, 179). Similarly, Meillasoux (1981) is skeptical of the ability of any "distinct modes of production" to survive independently of modern capitalism (see also Friedman, 1980).

Even a brief glance at New Zealand agriculture shows capitalist relations of production thoroughly dominate the sector. Farming in New Zealand is carried out predominately by owner-producers with relatively large and highly mechanised holdings. Small farms produce little in terms of the economy as a whole. Farming itself accounts for less than 6 percent of GDP (SNZ, 1992, p. 456) and large farms account for the bulk of agricultural production. 80 percent of agricultural output in 1988 was produced by the one third largest farms<sup>10</sup>. Most agricultural production undergoes further processing in large capitalist enterprises and is marketed by transnational corporations (both individually and cooperatively owned).

Nor is there some simple division between capitalist and household production in agriculture, as non-marketed agricultural production is a byproduct of capitalist land-ownership, a form of money capital. Farm-ownership involves a considerable degree of financial speculation; properties are bought, capital invested improving the value of the land, and then are sold, normally realising a capital gain. Between 1973 and 1982 the capital value of New Zealand farms rose from five to eight times the average annual farm income, and real farm land

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agriculture, as evidenced by the re-emergence of sharecropping in the harvesting of strawberries in contemporary California, surely the pinnacle of agrarian capitalism.

<sup>10</sup> Calculated from Fairweather (1992, p. 27) and Pomeroy & Reynolds (1991, p.7).

values doubled<sup>11</sup> (New Zealand Meat and Wool Boards' Economic Service, 1993; Johnston & Sandrey, 1990).

Thus non-capitalist production in New Zealand is insignificant and there is insufficient data to separate it from capitalist production as a whole. In this study all marketed production is therefore assumed to be capitalist.

### **Empirical Estimates of Classical Economic Categories**

The classical economic categories of total value, constant capital, variable capital and surplus value are derived from national accounts data for 25 neo-classical production groups, for the period 1972 to 1995.

After Shaikh and Tonak (1994), the derivation of classical economic categories is based on Inter-Industry Studies, interpolating data for the years not covered by these studies with annual data from the NZSNA<sup>12</sup>. Unlike Shaikh and Tonak however, as only the output side of the

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<sup>11</sup> Capital values fell to four times annual income during the mid-1980s recession, then increased from 1988 to seven times in 1993 (New Zealand Meat and Wool Boards' Economic Service, 1993).

<sup>12</sup> The main official national accounting in New Zealand is the "System of National Accounts" (NZSNA), which measures the aggregate production of goods and services each year. These accounts deal only with Gross Domestic Product (GDP), that is the final use of national production net of intermediate inputs used up in production, or the 'value added' in production, rather than production as a whole. National Accounts for New Zealand, based on United Nations guidelines and therefore allowing comparison with the accounts of other countries, are available from 1972 onwards (Department of Statistics [DOS], 1983, p. 14).

More complete measurement of production is provided by "Inter-Industry Studies", or input-output accounts. These studies measure the total product, both those parts of production used as inputs as well as the final outputs. This allows inter-industry relations to be studied and puts net product, GDP, in the context of the economy as a whole. Inter-Industry studies have been carried out approximately every five years since 1953, and have been supplemented by updates for 1984 and 1991 (DOS, 1989a, p. 8; Statistics New Zealand [SNZ], 1996). All New Zealand inter-industry studies since 1972 have been based on the United Nations System of National Accounts and have therefore been compiled on the same basis as the National Accounts (DOS, 1991, p. 11).

The National Accounts and Inter-Industry Studies are restricted to production-related flows. Separate "Capital Finance Accounts", integrated with the national accounts, measure the sources and uses of capital funds, but these are not used for the compilation of any official series of capital stocks (see Philpott 1992 for unofficial estimates). Since 1975 a number of "Integrated Economic Censuses" have been undertaken, based on National Accounts categories, measuring, among other data, the aggregate capital of each industry (DOS, 1980a). In 1987 the first "Economy Wide Census" was carried out, surveying all industries in the same year (DOS, 1989b, p. 12). While the Economy Wide Census is carried out only once every five years, it is supplemented by an "Annual Enterprise Survey" based on a random sample from the Census (DOS 1989b, p. 14; SNZ, 1995, pp. 25-26). The data is limited, however, because a number of industries, in particular agriculture, are not surveyed.

accounts is considered NZSNA annual data on intermediate production and total output at an industry level forms the core of the analysis. This eliminates the need for extensive “massaging” of data, consequently providing less room for error or bias. The detail, rather than the substance, of the data series can be constructed from the data in the Inter-Industry Studies, in the manner described by Shaikh and Tonak. Primary reliance on the NZSNA annual series is also more appropriate because the series are adjusted to be consistent from year to year, whereas the Inter-Industry studies are explicitly discontinuous (DOS, 1989a, p. 7). Further, this approach also has the advantage of being based on widely used and understood data, and the procedure is therefore easily duplicable by other researchers<sup>13</sup>.

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In general terms the three methods of national accounting are equivalent. Gross Domestic Product, as reported in the NZSNA, is a subset of the Total Product, as measured in the Inter-Industry studies, while Total Product is the equivalent of Total Sales, as measured in the Economy Wide Census and the Annual Enterprise Survey. However there are conceptual and methodological differences which lead to variations in detail and prevent a simple reconciliation of the different methods.

The scope of each series is the major difference between the three systems. In particular the Annual Enterprise Survey, while providing annual data on intermediate production and output and capital stocks to the two, three or five digit NZSIC level, omits a number of production sectors such as agriculture, local and central government. The Inter-Industry Studies and NZSNA data are more comprehensive than the Annual Enterprise Surveys because they are constructed through a procedure of balancing inputs and outputs. The Inter-Industry Studies, broken down into at least 62 industries, provide much more detail than NZSNA data, which is divided into 25 groups, but these studies are not available annually. The annual nature of the NZSNA data allows the regular revision of earlier estimates in the light of subsequent information. There are also some minor differences in the valuation of gross output, the handling of bank charges and the definition of trade (detailed in DOS, 1980b, pp. 16-18).

<sup>13</sup> The classical economic category of total value is derived from the NZSNA data by separating the elements of production and trade from those of money flows and non-capitalist activity. This is a simple mapping process, with the exception of the NZSNA categories trade, finance, and owner-occupied dwellings, which are adjusted along the lines described by Shaikh and Tonak (1994, pp. 253-54, 269-70).

The classical category of constant capital consists of the material inputs into production, that is the portion of intermediate consumption used in the productive industries. This can be derived simply from the official accounts item “intermediate production” by deducting the intermediate production not attributable to productive industries and the “trading sector”. It is also necessary to add the depreciation of fixed capital, representing the wear and tear or use over time of machinery in the course of production, which is recorded in the official accounts as part of value added (see Shaikh & Tonak, 1994, pp. 47-48).

The classical economic category of variable capital consists of the payments made to productive workers. The starting point is the national accounts item “employee compensation” of the productive industries, which records wage and salary payments to employees. But as outlined by Shaikh and Tonak (1994, pp. 108-112) this needs considerable disaggregation to remove the payments to unproductive workers within these industries included in the national accounts category and various adjustments to include other productive workers.

Lastly, surplus value is the remainder of value-added after variable capital payments to productive workers are made. It thus consists of the national accounts category “operating surplus”, less depreciation, together with the unproductive activity of trade and finance inputs into intermediate production. Surplus value can be calculated simply from the classical categories derived earlier, being the remainder of total value after the deduction of constant capital and variable capital.

The results of the mapping are presented in Table 1. The categories are of a similar magnitude to those found by Shaikh and Tonak for the United States in the 1972-90 period (see Figures 4 and 5) and are a significant improvement on earlier New Zealand estimates of classical economic categories.

The most systematic earlier New Zealand estimates of classical economic categories, those of Pearce (1986), err by inadequately distinguishing productive and unproductive labour. Pearce sees productive labour as the labour of wage earners, as opposed to supervisory or managerial labour. By including unproductive sales and monetary transaction work in his definition of productive labour (1986, p. 243), Pearce overstates variable capital and understates surplus value, leading to an estimate of the rate of surplus value a third the size of that estimated in this study and that estimated in the case of the United States by Shaikh and Tonak (see Figure 6). Pearce also overestimates the classical category constant capital by including the wages and salaries of non-productive workers as well as the *stock* of fixed capital (Pearce 1986, pp. 308, 341), whereas on an annual basis, only the depreciation of fixed capital should be included. Pearce's estimates of the value composition of capital are thus six to eight times those of Shaikh and Tonak for the United States and thus those in this study (see Figure 7). The inclusion of (annually accumulating) fixed capital stocks in the definition of constant capital also leads Pearce to erroneously identify a rise in the value composition of capital in the 1950s and 60s.

Figure eight also adds further weight to Shaikh and Tonak's finding that the official accounts-based ratio of operating surplus to employee compensation is not a proxy for the rate of surplus value, an assumption implicit, for example, in the work of Glyn and Sutcliffe (1972), Armstrong, Glyn and Harrison (1984) and Bowles, Gordon and Weisskopf (1984, 1990), and, in the case of New Zealand, Cronin (1989). The ratio of operating surplus to gross domestic product is a fifth to a third that of the rate of surplus value and is subject to only small changes from 1972 to 1995, whereas the rate of surplus value increases by a third in the late 1980s.

## Comparison With Conventional Categorisation

The use of key classical economic categories produces a strikingly different picture to the conventional account of economic developments during the 1972 to 1995 period. In the conventional account, falling profitability and slowing growth in the 1970s and early 80s prompted a programme of deregulation, which after a long recession, paved the way for renewed growth in the 1990s, marred only by some residual problems. Hall (1996) presents a typical assessment: "... during the overall period since mid 1984, sound progress has been made on reducing macroeconomic imbalances, thereby setting up the required macroeconomic platform for microeconomic efficiency gains and sustained economic growth rates to emerge more strongly" (p. 67). Of the residual problems, the most enigmatic in conventional terms is the failure of the restructuring to result in productivity improvements, despite the supposedly more favourable microeconomic environment and the significantly improved flexibility allowed employers under the 1991 Employment Contracts Act. (For discussion see Easton, 1997b; Hall, 1996; Rankin, 1995; Färe, Grosskopf & Margaritis, 1996).

From a classical perspective, however, the conditions for renewed economic growth are not so apparent. Examining the relationship of surplus value to total value reveals a declining surplus in the period 1972 to 1983, a rise to 1989, then a leveling out thereafter (see Table 2 and Figure 9). The 1972-83 decline is related to a 20 percent rise in value composition of capital ( $c/v$ ), alongside a fairly constant rate of surplus value ( $s/v$ ) (see Table 2 and Figure 10), that is classic conditions for a falling rate of profit (Marx 1959, Pt. 3). The 1984-89 rise in surplus is associated with the 37 percent rise in the rate of surplus value over the same period and a 12 percent fall in the value composition of capital between 1985 and 1989 as recession devalued and wrote-off constant capital. From 1991 a further rise in surplus value, presumably related to the deregulation of the labour market from that year, could not offset the impact of a renewed rise in the value composition of capital, again reducing the surplus.

The differing conventional and classical views arise from the differing conceptions of productive activity. The conventional categories of gross output increases faster than the classical concept of total value, particularly during the late 1980s and early 1990s, because of the growth of classically unproductive activity in the economy in this period (Figure 11). The growth of unproductive activity can be seen in the relationship of total wages to variable capital, the latter growing more quickly, reflecting the growth of unproductive employment<sup>14</sup>.

The growth of gross domestic product is similarly greater than the growth of classical value added, *at times* (see Figure 12). The relationship is more complicated than that between conventional gross output and classical total value because of the differing conceptions of surplus. Conventional GDP grows faster than classical value added as operating surplus grows faster than surplus value, that is as gross profits grow relative to other unproductive activity<sup>15</sup>. Conversely, as other unproductive activity, such as the financial sector, grow faster than gross profits, surplus value will grow faster than GDP, the situation in the late 1980s. Thus the faster growth of GDP than classical value added from 1988 reflects rising gross profits relative to other unproductive activity. Total unproductive activity continues to rise, as seen in the gross output to total value ratio. This growth of unproductive activity goes some way to explaining the productivity enigma, as unproductive sectors such as finance exhibited low productivity during the period (Färe, Grosskopf & Margaritis, 1996).

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<sup>14</sup>  $r = .91$

<sup>15</sup>  $r = .84$

## Conclusion

It has been possible to derive and quantify classical economic categories from official New Zealand National Accounts data on the basis of Shaikh and Tonak's pioneering methodology.

It has been demonstrated that, without such re-categorisation, national accounts data tends to under-emphasise changes to productive activity and overstate the impact of growth of trade and monetary transactions. From this conventional perspective there was only a modest decline in growth of value-added from the mid-1980s, seemingly attributable to the squeeze on profits from wage rises from the mid-1970s until the late-1980s. The derived classical economic categories, by contrast, reveal growing unproductive activity throughout the period and a more significant decline in growth of value-added from the late 1980s.

Within the classical framework profitability difficulties in the 1972-83 period appear associated with a rise in the value composition of capital rather than any decline in the rate of surplus value. The growth in unproductive activity appears to have been drawn from a rising surplus generated by a significant increase in the rate of surplus value from 1984. By the early 1990s however even the renewed rise in the rate of surplus value associated with the 1991 Employment Contracts Act did not counteract the impact of a renewed rise in the value composition of capital on surplus accumulation.

Thus, in classical terms, the improvement in "economic fundamentals" emphasised by the neo-liberal reformers in New Zealand appears to arise at best from a short-term rise in the rate of surplus value. The growth in unproductive activity throughout the 1980s and 90s gives an appearance of sustainable growth but productive activity capable of generating surplus value, and thus "lagging indicators" such as productivity and employment, remain weak.

## References

- Aglietta, M. (1979). *A theory of capitalist regulation: The U.S. experience* (D. Fernbach, Trans.). London: New Left Books.
- Armstrong, P., Glyn, A., & Harrison, J. (1984). *Capitalism since World War II: The making and breakup of the great boom*. London: Fontana.
- Bowles, S., Gordon, D., & Weisskopf, T. E. (1984). *Beyond the wasteland: A democratic alternative to economic decline*. London: Verso.
- Bowles, S., Gordon, D., & Weisskopf, T. E. (1990). *After the wasteland: A democratic economics for the year 2000*. Armonk: M. E. Sharpe.
- Cockshott, P., Cottrell, A., & Michaelson, G. (1995). Testing Marx: Some new results from UK data. *Capital and Class*, 55, 103-29.
- Cronin, B. (1989). *The new economy: The birth of New Zealand's transnationals*. Auckland: Social Issues.
- Department of Statistics. (1980a). *Census of manufacturing, 1974-75*. Wellington: Author.
- Department of Statistics. (1980b). *Inter-industry study of the New Zealand economy, 1971-72*. Wellington: Author.
- Department of Statistics. (1983). *New Zealand system of national accounts, 1971-72 to 1980-81*. Wellington: Author.
- Department of Statistics. (1989a). *Inter-industry study of the New Zealand economy, 1981-82*. Wellington: Author.
- Department of Statistics. (1989b). *Economy wide census: Manufacturing, 1987*. Wellington: Author.
- Department of Statistics. (1991). *Inter-industry study of the New Zealand economy, 1986-87*. Wellington: Author.
- Douglas, R. (1993). *Unfinished business*. Auckland: Random House.
- Easton, B. (1997a). *The commercialisation of New Zealand*. Auckland: Auckland University Press.
- Easton, B. (1997b). *In stormy seas: The post-war New Zealand economy*. Dunedin: Otago University Press.
- Eisner, R. (1988). Extended accounts for national income and product. *Journal of Economic Literature*, 26, 1611-84.
- Fairweather, J. R. (1992). *Agrarian restructuring in New Zealand* (Research Report No. 213). Canterbury: Lincoln University, Agribusiness and Economics Research Unit.
- Färe, R., Grosskopf, S., & Magaritis, D. (1996). Productivity growth. In B. Silverstone, A. Bollard, & R. Lattimore (Eds.), *A study of economic reform: The case of New Zealand* (pp. 73-100). Amsterdam: Elsevier.

- Folbre, N., & Hartmann, H. (1989). The persistence of patriarchal capitalism. *Rethinking Marxism*, 2 (4), 90-96.
- Fraad, H., Resnick, S., & Wolff, R. (1989). For every knight in shining armor, there's a castle waiting to be cleaned: A Marxist-feminist analysis of the household. *Rethinking Marxism*, 2(4), 10-69.
- Freeman, A. (1991). National accounts in value terms: The social wage and profit rate in Britain 1950-86. In P. Dunne (Ed.), *Quantitative Marxism* (pp. 84-106). Cambridge: Polity, in association with Blackwell.
- Friedman, H. (1980). Household production and the national economy: Concepts for the analysis of agrarian formations. *Journal of Peasant Studies*, 7 (2), 158-84.
- Glyn, A., & Sutcliffe, R. (1972). *British capitalism, workers and the profits squeeze*. Harmondsworth: Penguin.
- Hall, V. B. (1996). Economic growth. In B. Silverstone, A. Bollard, & R. Lattimore (Eds.), *A study of economic reform: The case of New Zealand* (pp. 31-72). Amsterdam: Elsevier.
- Johnston, W., & Sandrey, R. (1990). Land markets and rural debt. In R. Sandrey & R. Reynolds (Eds.), *Farming without subsidies: New Zealand's recent experience* (pp. 182-209). Wellington: Ministry of Agriculture and Fisheries and Government Printing Office.
- Kelsey, J. (1995). *The New Zealand experiment: A world model for structural adjustment?* Auckland: Auckland University Press and Bridget Williams Books.
- Lenin, V. I., (1977). *The development of capitalism in Russia* (2nd ed.). Moscow: Progress Publishers.
- Mandel, E. (1975). *Late capitalism*. London: New Left Books.
- Marx, K. (1976). *Capital: A critique of political economy* (Vol. 1, B. Fowkes, Trans.). Harmondsworth: Penguin.
- Marx, K. (1959). *Capital: A critique of political economy* (Vol. 3, F. Engels, Ed.). Moscow: Progress Publishers.
- Meillasoux, C. (1981). *Maidens, meals and money*. Cambridge: Cambridge University Press.
- Moseley, F. B. (1985). The rate of surplus value in the postwar U.S. economy: A critique of Weisskopf's estimates. *Cambridge Journal of Economics*, 9, 57-79.
- Moseley, F. B. (1991). *The falling rate of profit in the postwar United States economy*. Houndmills: Macmillan.
- New Zealand Meat and Wool Boards' Economic Service. (1993). *Sheep and beef farm survey*. Wellington: Author.
- Oser, J., & Brue, S. L. (1988). *The evolution of economic thought* (4<sup>th</sup> ed.). San Diego: Harcourt Brace Jovanovich.
- Pearce, G. (1986). *Where is New Zealand going?* Unpublished doctoral dissertation, University of Canterbury, Christchurch.

- Philpott, B. (1992). *New Zealand real capital stock in SNA production groups 1950-1990* (Research Project on Economic Planning, Occasional Paper 105). Wellington: Victoria University of Wellington, Economics Group.
- Pomeroy, A., & Reynolds, R. (1991). *Study of farm liabilities in New Zealand* (MAF Policy Paper No. 109). Wellington: Ministry of Agriculture and Fisheries.
- Rankin, K. (1995, May 5). Economic recovery: Driven by productivity growth or labour supply? *The Independent*, p. 9.
- Reder, M. W. (1982). Chicago economics: permanence and change. *Journal of Economic Literature*, 20, 1-38.
- Resnick, S. A., & Wolff, R. D. (1987). *Knowledge and class: A Marxian critique of political economy*. Chicago: University of Chicago Press.
- Richardson, R. (1995). *Making a difference*. Christchurch: Shoal Bay Press.
- Shaikh, A. M. & Tonak, E. A. (1994). *Measuring the wealth of nations: The political economy of national accounts*. Cambridge: Cambridge University Press.
- Smith, A. (1952). *An inquiry into the nature and causes of the wealth of nations*. Chicago: Encyclopaedia Britannica.
- Statistics New Zealand (1982). INFOS [Electronic Database]. Wellington: Author [Producer and Distributor].
- Statistics New Zealand. (1992). *New Zealand official yearbook, 1992*. Wellington: Author.
- Statistics New Zealand. (1995). *Business activity, 1994*. Wellington: Author.
- Statistics New Zealand. (1996). *New Zealand System of National Accounts, 1995*. Wellington: Author.
- Varga, E. (1928). *The decline of capitalism: The economics of the decline of capitalism after stabilization*. London: Communist Party of Great Britain.
- Waring, M. (1988). *Counting for nothing: What men value and what women are worth*. Wellington: Allen and Unwin in association with Port Nicholson Press.
- Williamson, J. (Ed.). (1994). *The political economy of policy reform*. Washington: Institute for International Economics.
- Wolff, E. N. (1975). The rate of surplus value in Puerto Rico. *Journal of Political Economy*, 83, 935-49.
- Wolff, E. N. (1987). *Growth accumulation and unproductive activity: An analysis of the postwar U.S. economy*. New York: Cambridge University Press.

**Table 1. NZSNA in Classical Categories**

\$m	<i>Gross Output</i>	<i>Total Value</i>	<i>Constant Capital</i>	<i>Variable Capital</i>	<i>Surplus Value</i>
1972	12469	10423	5094	1739	3589
1973	14633	12267	5957	1936	4374
1974	17168	14233	7153	2243	4837
1975	19336	15553	8284	2703	4565
1976	23027	18847	10057	3086	5705
1977	28500	23454	12242	3469	7743
1978	30745	25195	13413	3874	7908
1979	34190	28131	14635	4376	9120
1980	40781	33317	17582	5097	10638
1981	46954	38400	20357	5919	12125
1982	57460	46691	24982	7264	14445
1983	64974	52322	28233	7946	16144
1984	71968	57628	31113	8075	18440
1985	84376	67193	36451	8965	21778
1986	96955	77232	40856	10301	26075
1987	110313	87537	43522	11657	32357
1988	119113	93389	46054	12719	34615
1989	125455	96845	46857	13160	36828
1990	131699	100038	48679	13634	37724
1991	131538	100112	48569	13648	37895
1992	131967	100125	48899	13476	37751
1993	138622	105252	52527	13672	39053
1994	150844	115853	57198	14358	44297
1995	161646	123284	60887	15347	47049

**Table 2. Rate of Surplus Value and Value Composition of Capital**

	$s/TV$	$s/v$	$c/v$
1972	34%	206%	293%
1973	36%	226%	308%
1974	34%	216%	319%
1975	29%	169%	306%
1976	30%	185%	326%
1977	33%	223%	353%
1978	31%	204%	346%
1979	32%	208%	334%
1980	32%	209%	345%
1981	32%	205%	344%
1982	31%	199%	344%
1983	31%	203%	355%
1984	32%	228%	385%
1985	32%	243%	407%
1986	34%	253%	397%
1987	37%	278%	373%
1988	37%	272%	362%
1989	38%	280%	356%
1990	38%	277%	357%
1991	38%	278%	356%
1992	38%	280%	363%
1993	37%	286%	384%
1994	38%	309%	398%
1995	38%	307%	397%

s Surplus Value

v Variable Capital

c Constant Capital

TV Total Value

$s/v$  Rate of Surplus Value

$c/v$  Value Composition of Capital

**Figure 1. Abstract Relationship Between Conventional National Accounts**

**National Accounts**

**Classical Categories**

Intermediate Production	Constant Capital
<b>Value Added</b> i. Salaries and Wages	Variable Capital
ii. Operating Surplus	Surplus Value
iii. Indirect Taxes	
iv. Subsidies	
v. Depreciation	
Imports	

**Total Sales**

**Total Value**

**Figure 2. Derivation of Classical Production and Trade Categories**

	Production							Trade				
	a	b	c	d	e	f	g	h	i	j	k	
Intermediate Production Intermediate Trade												
Salaries and Wages												
Operating Surplus Indirect Taxes, Subsidies and Depreciation												
	<-							<b>Total Value</b>				->

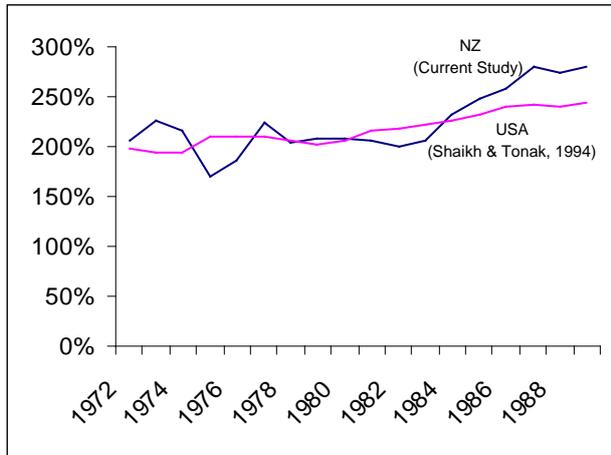
a - g = productive sectors: agricultural production, manufacturing, productive services, transportation  
h - k = trade sectors: wholesale trade, retail trade, building and equipment rental

**Figure 3. Value and Secondary/Fictitious Categories**

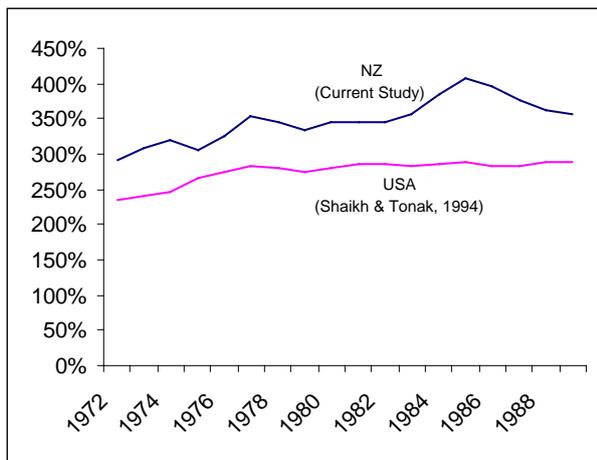
	Production							Trade				Royalties	Govt	ROW	Non Cap
	a	b	c	d	e	f	g	h	i	j	k				
Intermediate Production															
Intermediate Trade															
Salaries and Wages															
Operating Surplus Indirect Taxes, Subsidies and Depreciation															
	<- Total Value							->							
	<- Sales							->							
	Total							->							

a - g = productive sectors: agricultural production, manufacturing, productive services, transportation  
 h - k = trade sectors: wholesale trade, retail trade, building and equipment rental

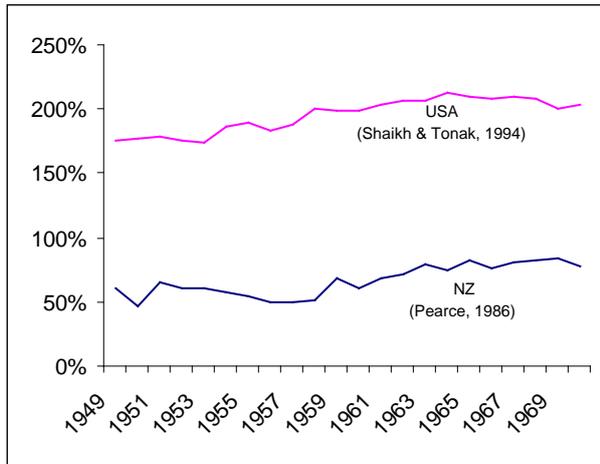
**Figure 4. Estimates of Rate of Surplus Value Post-1970**



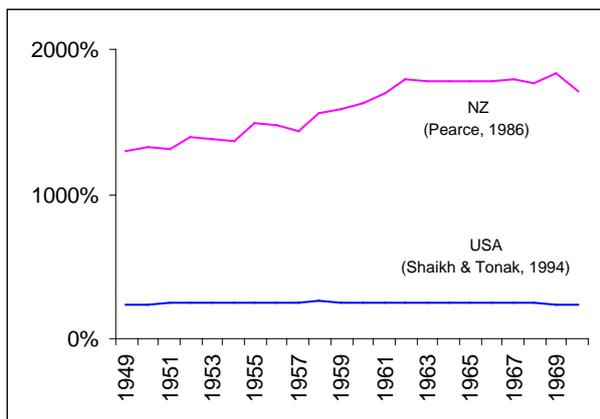
**Figure 5. Estimates of Value Composition of Capital Post-1970**



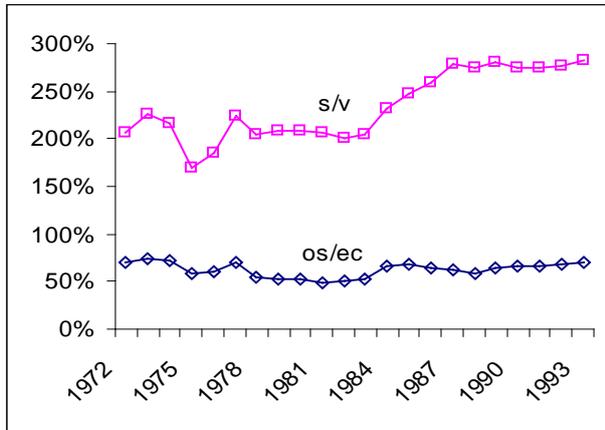
**Figure 6. Estimates of Rate of Surplus Value Pre-1970**



**Figure 7. Estimates of Value Composition of Capital Pre-1970**

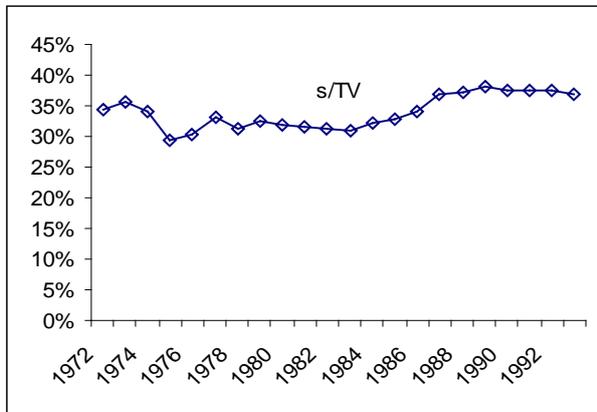


**Figure 8. Rate of Surplus Value and Profit/Wage Ratio**



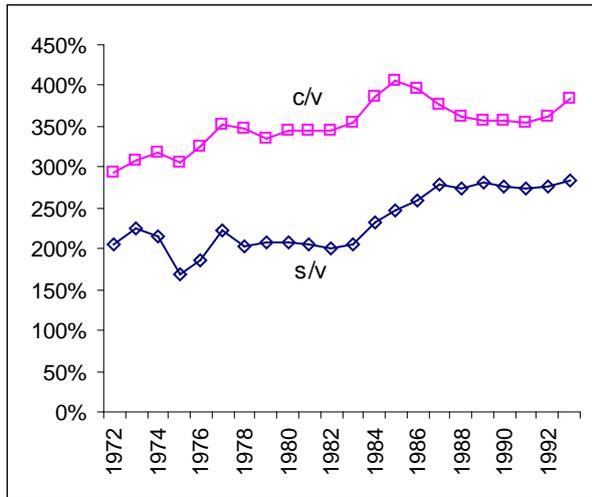
s/v - rate of surplus value  
 os - operating surplus  
 ec - employment compensation

**Figure 9. Accumulation of Surplus Value**



s - Surplus Value  
 TV - Total Value

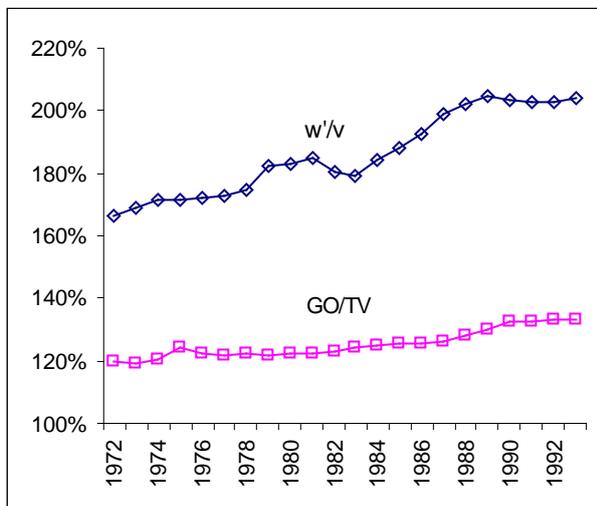
**Figure 10. Rate of Surplus Value and Value Composition of Capital**



c/v - Value Composition of Capital

s/v - Rate of Surplus Value

**Figure 11. Classical and Conventional Measures of Output and Wages**



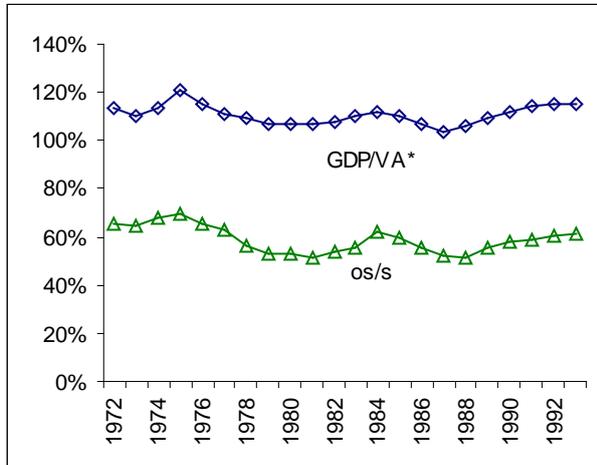
GO - Gross Output

TV - Total Value

v - Variable Capital

w' - Near-total Wages (Employee Compensation plus Wage & Salary Equivalent for Productive Self-Employed)

**Figure 12. Classical and Conventional Measures of Value Added and Surplus**



GDP - Gross Domestic Product

VA\* - Classical Value Added (Total Value less Constant Capital)

os - Operating Surplus

s - Surplus Value