POST-WAR PROFITABILITY IN SOUTH AFRICA:

A Critique of Regulation Analysis in South Africa.[1]

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Introduction

In the 1980s, there have been important attempts to develop a radical understanding of South Africa's transition from rapid economic growth to socio-economic crisis. The sustained slump and political instability of the 1980s has posed a challenge to radical political economists to go beyond the early (often crude and functionalist) radical formulations of the apartheid/capitalism relation.

The first attempt applies the Gramscian concept of 'organic crisis' to South Africa (Saul and Gelb, 1981). Here it is argued that apartheid policies were a highly successful response to an organic crisis in the 1940s but that by the mid-1970s, the system had once again degenerated into organic crisis.

The essence of the argument is that although contradictions were present, 'high profit rates were practically guaranteed by the apartheid state's policies' and that it was on the basis of apartheid's driving down of black wages (which meant 'soaring profits') that the economy settled into long-term expansion (1981:70-74). According to Saul and Gelb, by the mid-1970s profit rates were, however, under pressure from rising capital intensity and a restricted internal market. On this basis they argue that 'big capital's intention must now be to have rising labour productivity replace cheap labour as the basis of exploitation' (1981:81). The need to eliminate the skill shortage and expand the domestic market thus becomes paramount and 'explains the salience of the reform initiative both within and without the National Party in South Africa' (1981:85).

A major weakness of Saul and Gelb's pioneering analysis is their failure to explain the dynamic relations between wages, productivity, profitability and capital intensity. More damning is their failure to provide any empirical evidence of trends crucial to their analysis — the most important being the wage share and profitability. They simply assert that profit rates soared because the wage bill was suitably depressed by apartheid policies.

This lack of empirical content contributes to a further weakness, ie their inability to identify with any precision either the onset or the specificity of a crisis (Posel, 1983). Saul himself admits that 'the analyst must ... deal with the specificity of a complex, overdetermined conjuncture and this is inevitably a somewhat imprecise and qualitative exercise in judgement' (1986:12).

The second, related, attempt at reformulating the radical project, centers around Gelb's recent efforts at applying a 'Regulation/Social Structure of Accumulation' (SSA) approach to South Africa. In a logic similar to the organic crisis interpretation, the heyday of apartheid is represented as a distict 'Racial Fordist Regulation' (Gelb, 1988) or a classic apartheid SSA (Morris and Padayachee, 1988). Likewise, this approach conceptualises the current period as one of crisis characterised by attempts to reconstruct and transform the conditions for renewed accumulation.

Given that Regulation/SSA theory abroad has relied heavily on empirical analysis, there is potential for a South African application to rectify the empirical weaknesses in the organic crisis approach. Gelb's recent work is certainly substantially more empirical than his early piece with Saul. However, as I shall argue in this article, his empirical work is inadequate and judging from my own analysis of profitability, there are severe problems with the way Regulation concepts have been applied in South Africa.

Continuities between the organic crisis and Regulation interpretations of South Africa are many. Both recognise that the nature of the post-war boom generated the very contradictions which were to herald its demise. In this way, apartheid is represented as being at some stage (but now no longer) the engine for dynamic capitalist accumulation.

The third attempt at resetting the radical agenda is that of Wolpe (1988). In a clear shift away from his earlier functionalist formulation (Wolpe, 1972) he now conceptualises the relationship between apartheid and capitalism as 'historically contingent' and 'Janus faced, being simultaneously functional and contradictory' (1988:8).

While there is no necessary tension between any of these new theoretical developments, there is an important difference in emphasis regarding the direction the radical project should take. Wolpe appears to be advocating that intellectual energy be directed towards understanding the *contradictory* processes generated under apartheid which have created the specific political terrain facing oppositional forces today. In so doing, he calls for the rejection of any theoretical legacies from the past which may interfere with this process of understanding. In particular, he targets functionalist interpretations of the apartheid/capitalism relation.

For Wolpe, the process of theorising which reads the *fact* of functionality off from theoretical premises, rather than presenting it as a conclusion, is an unacceptable practice. Similar sentiments have been expressed by one of the leading French regulation theorists (Lipietz, 1986a). However, given that Saul

and Gelb (1981) produce no empirical evidence for their claims and that Gelb (1988) produces inadequate evidence, they leave themselves open to the charge of precisely this kind of reasoning. Gelb's statement that the challenge to radical political economists is to develop 'a substantial and consistent analysis of capital accumulation which preserves their views of the earlier relationship between apartheid and capitalism, explains the transformation from long run apartheid boom to economic crisis and then analyses the crisis itself' (1988:33-34) is ambiguous at best in this respect.

This article presents an empirical critique of Regulation analysis in South Africa. Firstly, it is argued that according to Regulation/SSA theory, the rate of profit is a key economic indicator in any such analysis. Secondly, it is shown that Gelb's preliminary analysis of profitabilty is incorrect and that the downward trend in South Africa's manufacturing profit rate indicates that analysing South Africa in terms of a stable Regulation is inappropriate. The article draws on a longer, more technical study of profitability (Nattrass, 1989).

Regulation/SSA theory and the rate of profit

The Regulation/SSA approach represents an important adaptation of certain of Marx's formulations concerning the nature of capitalist reproduction and crisis. Theorists in this new school stress that capitalism develops within, and should not be analysed in isolation from, the particular historical, social and institutional structures which facilitate and shape it. This is important given that the socio-institutional framework can act in such a way so as to alleviate the development of contradictory tendencies within the economic system. Secondly, they part company with Marx over the idea that contradictions in capitalism eventuate in the demise of the system. Instead, they argue, through the transformation of the institutional-economic environment, capitalism re-emerges, phoenix like, from crises.

In essence, the Regulation/SSA school is applying the methodology of Marx's theory of history to the history of the changing form of capitalism. According to Marx:

> At a certain stage of their development, the material productive forces come into conflict with the existing relations of production... From forms of development of the productive forces, these relations turn to their fetters. Then begins an epoch of social revolution. With the change in the economic foundations, the entire immense superstructure is more or less rapidly transformed (1979:509).

In an interesting parallel, Bowles, Gordon and Weisskopf write:

> Capitalist economies experience periods of relatively rapid and stable growth once a set of socio-economic institutions comprising a SSA have been established. But any such SSA is subject both to external shocks and exogenously generated stresses. These frictions eventually begin to erode the SSA... and consequently undermine its effectivity in promoting profitability, investment and growth. The social order then enters a period of crisis during which political struggles develop over the institutional restructuring necessary to re-establish conditions for succesful accumulation'. (1983:133).

As with Marx, the SSA/Regulation theorists place a great deal of emphasis on the rate of profit as an indicator of the health of the SSA or Regulation[2] (see, for example, the special issue of *Review of Radical Political Economy*, vol 18, 1986). According to Bowles, Gordon and Weisskopf:

> If indeed long wave booms in a capitalist economy result from the establishment of new and viable capitalist SSAs, we would expect the boom periods to be characterised by relatively high and/or rising profitability, similarly, we would anticipate low and/or falling profitabilty during periods of crisis brought on by the demise of the SSA (1985:3; see also Aglietta, 1979; Lipietz, 1986b; Glyn, 1988).

The immediate difficulty with the above hypothesis is the vagueness of the formulation. What after all does relatively high or low profitability actually mean? The only definite condition which can be gleaned from the quote is that a viable capitalist SSA must not be characterised by falling profitability.

However, when we move away from general formulations to more specific analyses of the post war boom, the Regulation/SSA arguments become a lot more rigorous. The Regulation or SSA underlying the post war boom in the Advanced Capitalist Countries (ACCs) has been characterised in terms of a 'Fordist' regime of accumulation.

A regime of accumulation, according to Aglietta (the founding father of Regulation analysis), is 'a form of social transformation that increases relative surplus value under stable constraints of the most general norms that define absolute surplus value' (1979:68). As that definition is enough to baffle all but the most intrepid and masochistic marxist theorist, Lipietz's interpretation is worth quoting. He defines it as the:

> systematic mode of dividing and re-allocating the social product, which achieves over a long period, a certain match between the transformation of the conditions of production

> ...and... final consumption... (such that) as accumulation expands, the growth of output of production goods and consumption goods must match the growth of capital commitments and the growth of purchasing power of wage earners (1986b:15).

In other words, what is being described here, is a stable growth path free from over-accumulation and under-consumptionist tendencies and hence showing a constant rate of profit.

The Fordist regime of accumulation acquired its name from the dominant Fordist model of production where mechanisation and Taylorist work principles combined in the mass production of commodities. The balance between the growth in output and purchasing power of wage earners was obtained via the operation of a 'monopolistic mode of regulation' which, inter alia, implied that wages were no longer determined competitively, but by escalator clauses in trade union contracts (Boyer, 1979). The combination of the Welfare state (which ensured a certain minimum level of income for the unemployed), Keynesian expansionist macro-economic full employment strategies, and incomes policies negotiated between governments and trade union federations, ensured that wage increases were in line with those of productivity and prices, thus resulting in a constant profit rate. This allowed the dynamics which underlay the underconsumptionist crisis of the 1930s to be overcome.[3]

The SSA analysis places greater emphasis than the Regulation school on the social side of the Fordist Regulatory framework. Three buttresses of capitalist power are identified: the 'capital labour accord' (whereby workers acquiesce to management control in return for a share in capitalist prosperity), the 'pax Americana' (the post war structure of international institutions which assured US hegemony in the world economy), and the 'capital-citizen accord' (the 'set of political arrangements which regulated the inherent conflict between capitalists' quest for profits and the social acceptance of business') (Bowles, Gordon, et al, 1983b:17-22).

In underlying economic terms, both the SSA and Regulation interpretations agree that the Fordist Regulation allowed for the rapid and parallel growth of productivity, real wages and capital stock per worker. The significance of this pattern was that it 'guaranteed both a roughly constant profit rate and roughly equal growth rates of consumption and production thus perpetuating the rapid rate of accumulation' (Glyn, Hughes, Lipietz and Singh, 1987:10). In more marxian terminology this reads as: 'since neither the organic composition of capital nor the rate of exploitation tended to change, the general rate of profit remained stable. Accumulation could therefore follow a regular rhythm' (Lipietz, 1986:17).

Gelb's analysis of 'racial fordism'

Gelb (1988) applies the concept of Fordism to South Africa, adapting it as 'Racial Fordism' (echoing his earlier analysis of 'Racial Capitalism' (Saul and Gelb, 1981)). In accordance with the theoretical positions discussed above, he accepts that within a stable Regulation, 'changes in the rate of exploitation and the organic composition of capital are such as to keep the rate of profit from falling over the long run' (1988:37). As he claims that there existed a stable Racial Fordist Regulation in South Africa during the 1960s boom, he also maintains that the above conditions were met during this period.

In addition, Gelb argues that in a stable Regulation, business cycles are 'reproductive' in so far as downswings play a stabilising rather than a destructive role. The onset of the first 'non-reproductive' cycle distinguishes the onset of a crisis. According to Gelb, the first non-reproductive cycle (associated with the rise in real African wages which, he claims, reflected the breakdown of the Racial Fordist SSA) started in mid-1974 (1988:42). An appropriate periodisation across business cycles is thus 1960-1970[4] (the high point of the Racial Fordist Regulation), 1970-1975 (the period of escalating contradictions), and 1975 to the present (the period of crisis and attempts by the state to renew the conditions of accumulation by reforming social and productive relations).

Gelb argues that as with Fordism in the advanced countries, accumulation in South Africa during the 1960s boom involved 'the linking of the extension of mass production with the extension of mass consumption, but in a manner that was restricted on both sides of the equation, as is very familiar' (1988:39). He goes on to examine some indicators of the rate of exploitation and the organic composition of capital in order to provide some backing to his argument. A major difficulty with this attempt is that it draws on data from dubious and inconsistent sources[5]

The following section provides an alternative analysis of trends in the manufacturing net rate of profit in South Africa. I have produced an indication of data sources and transformations, and outlined the reasons behind my chosen measure of profitability in some detail. These are included as footnotes in order to aviod unnecessary tedium in the main text.

The rate of profit in South African manufacturing

The (net)[6] rate of profit (measured in conventional National Accounts price categories[7] can be expressed as the product of the profit share (ie the rate of exploitation) and the output capital ratio (ie the inverse of the organic composition of capital)[8]

$$\frac{P}{K} = \frac{P}{Y} \cdot \frac{Y}{K}$$

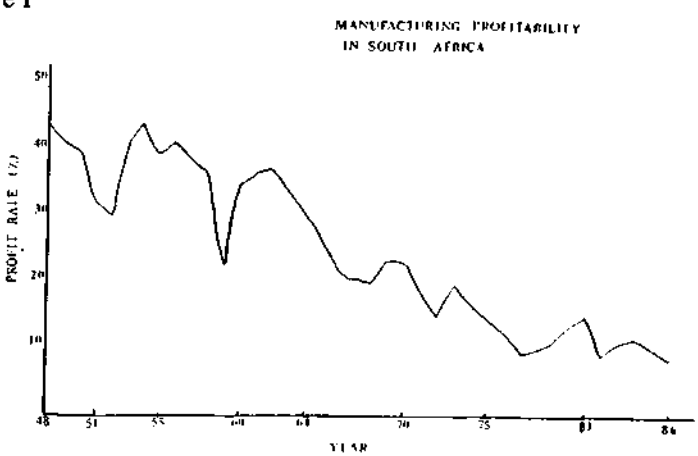
P = Profits (ie Net Operating Surplus[9])
K = Net Capital Stock at Replacement Value[10]
Y = Net Value Added[11]

When deconstructing trends in the rate of profit, it is useful for mathematical reasons, to examine changes in the rate of growth of the various components. Thus, the growth rate of profitability can be approximated as the sum of the growth rates of the profit share and the output capital ratio.[12] The deconstruction of the rate of profit in manufacturing in South Africa and the ACCs from 1960 to 1986 is given below.[13]

$$\dot{\frac{P}{K}} = \dot{\frac{P}{Y}} + \dot{\frac{Y}{K}}$$

	South Africa	ACCs
1960-1970:	-3,9 = -2,4 + (-1,5)	2,6 = 0,7 + 2,0
1970-1975:	-8,3 = -3,0 + (-5,8)	-9,7 = -5,6 + (-4,5)
1973-1975:	-12,1 = -5,4 + (-6,9)	-23,6 = -16,4 + (-8,2)
1975-1981:	0,2 = 3,5 + (-3,3)	-3,4 = -2,5 + (-1,2)
1981-1986:	-9,7 = -4,3 + (-6,0)	3,7 = 4,2 + (-0,3)

Figure 1



Except for the period 1975-81, the rate of profit *fell* across every post war economic cycle. Figure one provides a graphic picture of the plummet in the South African manufacturing net rate of profit from 44% in 1948 to 9% in 1986. As shown by the above deconstruction, the underlying dynamics behind the fall were a declining output capital ratio (ie a rising OCC) and a *falling* rate of exploitation (in every period except 1975-1981).

In sharp contrast to Gelb's argument that the 1960s exhibited a constant profit share and rate, the above analysis indicates that the major impetus behind the sharply falling rate of profit was the decline in the profit share (ie the rate of exploitation).

The rate of exploitation fell as the result of developments in the labour market. Theoretically, the profit share will fall if the rate of increase in product wages exceeds the growth of the surplus available for distribution between wages and profits (see Nattrass, 1989, for a detailed, mathematical exposition). Product wages are current wages deflated by the price index of gross output so as to obtain a measure of the real cost to capitalists of employing labour. The growth in the surplus available for distribution is approximated as the growth in productivity[14] adjusted downwards for adverse movements in the price of inputs relative to output prices. This deconstruction follows the method of Regulation theorists Glyn, Hughes, Lipietz and Singh, (1987) and Glyn, (1988).

Between 1960 and 1970, the surplus available for distribution rose at 2,2% pa while African and white product wages increased at 3,9% pa and 4,3% pa respectively (Nattrass, 1989:13). Despite the faster growth in white product wages, African employment growth was such that it pushed the African share of the wage bill from 23% to 24% between 1960 and 1970.

As the increase in both white and African product wages was faster than the growth of the surplus available for distribution, the decline in the profit share (ie the rate of exploitation) must be attributed to developments in black and white labour markets. In terms of Gelb's analysis, this implies that the development of the wage relation on the basis of rigid apartheid differentiation did *not* prevent a substantial squeeze on profitability.

The second contributing factor to the fall in profitability, was the sharp decline in the output capital ratio (ie the rise in the OCC). The OCC rose because of extremely adverse movements in relative capital and input costs which more than outweighed the small rise in capital productivity over the period (Nattrass, 1989, Table 2). Gelb, by contrast, thought this was unlikely to have happened on the grounds that the price level of intermediate goods and imported capital equipment 'rose slowly' (1988:40). However, Gelb should have been looking at the *relative* price of capital goods (to gross output) and of input prices to value added (see Nattrass, 1989:7). In these terms, the relative cost of capital and input prices was sufficiently large to generate a 1.5% pa decline in the OCC!

These facts cast doubts on Gelb's argument concerning the 'reproductive' character of the business cycle over the period. According to Gelb, reproductive cycles occur when the business cycle pushes the economy into a cyclical decline whenever pressures develop which threaten to increase capital intensity and thus undermine profitability. The 1960s, by contrast, manifested a rising OCC and a falling rate of profit.

Comparing trends in South African manufacturing profitability with those in the ACCs, the difference between accumulation in South Africa and the Fordist growth path in the ACCs, is pronounced. As can be seen above, profitability was *rising* in the ACCs due to *increases* in the rate of exploitation and *declines* in the OCC at a time when South African manufacturing was manifesting precisely the opposite tendencies! In sharp contrast to the Fordist pattern of accumulation in the ACCs, South Africa showed no signs of there being any *stable* form of co-ordination between wages and productivity such that consumption and production were regulated, and the profit rate stabilised. In other words, *none of the key indicators of a Fordist (limited or otherwise) Regulation/SSA were apparent in South Africa during the 1960s boom.*

Gelb goes on to argue that from 1970, crisis tendencies began to emerge in the South African economy such that 'the new pattern in South Africa was similar to that found in the advanced countries' (1988:44). On this point, too, Gelb is incorrect. The rate of profit fell by 8.3 % pa in South Africa and by 9.7% pa in the ACCs between 1970 and 1975. However, between 1973 and 1975 (when the first effects of the oil shock were felt), profitability in South Africa declined by only 12.1% pa compared with a massive plummet in the ACCs of 23.6 % pa! The cushioning effect of the rise in the gold price (37% pa on average between 1970 and 1975) probably had a lot to do with South Africa's relatively softened process of structural adjustment. As Williams observed in 1975, 'thanks to its virtual monopoly of the money commodity (ie gold) the economy of South Africa stands revealed as the growing fingernail on the moribund corpse of capitalism (1975:16).

Then, as if to make the point more strongly, between 1975 an 1981, South Africa's profit rate actually *rose* slightly, while that of the ACCs continued to fall (albeit at a slower pace). It is ironic that the only post-war period in South Africa which showed a stable or rising rate of profit was the late-1970s, ie the period which Gelb (1988) and Morris and Padayachee (1988) associate with the definite *collapse* of the apartheid Regulation/SSA!!

Interestingly enough, the profit share (ie the rate of exploitation) increased in South Africa between 1970 and 1975 despite the fact that African product wages continued to rise faster than the surplus available for distribution. It was only because white product wages actually *fell* and 'coloured/Indian' product wages rose slower than the surplus, that the average rate of exploitation rose in South Africa during this period.[15]

Between 1981 and 1986, however, South African profitability was looking distinctly unhealthy in comparison with the ACCs. The ACCs manufacturing profit rate rose by 3.7% pa while in South Africa it fell by 9.7% pa. The decline in the gold price, the investor confidence-shaking effects of political turmoil, economic sanctions and disinvestment along with disastrous government economic policies, no doubt all had a role to play.

Conclusion

Given the above trends in manufacturing profitability, it is of no value to theorise the post-war South African economy in terms of the rise and decline of an apartheid (or Racial Fordist) Regulation/SSA. While it is clearly true that high white wages boosted consumption, the central economic trends *crucial* to the existence of a Regulation/SSA did *not* occur in post-war South Africa. In terms of the Regulation school's own analysis, the plummeting profit rate in South African manufacturing indicates a profound *lack* of any stable Regulation.

It is important to stress that declining profitability does *not* imply that apartheid was dysfunctional to capitalism! This point cannot be over-emphasised as I am concerned by how many people misunderstand my argument in this respect. Rapid rates of accumulation can co-exist very easily with high but declining profitability, as shown by the experience of Japan and Germany in the 1960s (Carlin, 1987; Glyn, 1988). Declining profitability points to the *unsustainable* nature of the path of accumulation and is far from sufficient evidence to 'resolve' the race-class debate. What it does imply, is that one should not portray South Africa during the 1960s boom as a (Racial) Fordist Regulation, because such characterisation implies macro-economic *balance* between production and consumption such that *profit rates do not fall.*

This does not mean that the main insights of the Regulation/SSA approach are of no value. Rather, I would argue that as a theoretical framework which stresses the inter-relationship between economic and socio-political processes, it has some potential. It is after all, important that analysts of South Africa locate economic developments firmly within the parameters of apartheid institutions and structures.

However, if Regulation theory is to be applied at all, it must be applied in an empirically sound and non-functionalist manner. Jessop argues that although the Regulation/SSA framework carries with it the ever present temptation to lapse into functionalist argument, there is no necessary reason why Regulation theory should be functionalist. Echoing Wolpe, he argues that functionalism can be avoided if we 'treat the genesis of specific modes of regulation as historically contingent rather than as capitalistically preordained' (1988:29).

There is no necessary reason why a Regulation (in the stable, rapid accumulation, constant profit rate terms described above) should exist at all. The ever present demands of capitalism have not always managed to call forth (or were lucky enough to have dropped in their lap) a socio-institutional environment which facilitated a rapid, stable, crisis-free period of accumulation. During the first thirty years of this century, for example, the ACCs were characterised by an unstable combination of an 'intensive regime of accumulation' (which resulted in mass production) and a 'competitive mode of regulation' (which depressed wage levels). It took a major depression, socio-economic crisis and a World War before the Fordist-based Golden Age boom of the 1950s and 1960s could come into its own.

The *fact* of the existence of an apartheid Regulation/SSA is highly questionable. One should avoid starting out from the belief that a stable Regulation exists simply because it preserves certain earlier views about apartheid being the basis for rapid accumulation with a constant or rising profit rate. Rather, radical political economists should investigate (empirically and theoretically) how South Africa's rapid, but highly unstable, contradiction-ridden process of economic and social development is best analysed.

This process involves a careful re-assesment of our received wisdom about the nature and functions of racially segmented labour markets and the Apartheid State. Rather than concentrating only on the functional aspects of these institutions for South African capitalism, we need to examine the dynamics of economic growth which allowed workers to erode the rate of exploitation, and the ways in which State policy undermined the conditions for stable accumulation. There is a great need for further *empirical* research and for the development of theoretical innovations free from the functionalist legacies of the past (Wolpe, 1988).

Notes

1. I would like to thank Steve Gelb, Andrew Glyn, Charles Meth and Jeremy Seekings for comments on an earlier draft.

2. Boyer defines the umbrella concept of 'Regulation' as 'the balance of social, institutional and economic forces which characterise at a particular time, the economic system' (1979:99).

3. The 1930s crisis is analysed as being 'the first crisis of intensive accumulation and the last crisis of the competitive regulation' (Lipietz, 1986b:17). The roots of the crisis are seen as lying in the contradiction between the mass production of goods resulting from intensive accumulation and the low level of consumption resulting from the competitive regulation of wages (which kept them low). Thus the 'Fordist' solution was to ensure that consumption was adequate enough to enable the realisation of profits in the market, but not too high to squeeze profits.

4. Gelb actually cites 1961 as his first year. However as 1961 was a major slump year, and 1970 was a peak year, the periodisation for the purposes of trend analysis is invalid. Beginning and end years must occupy the same point on the business cycle if a long run trend (free from short term fluctuations) is to be meaningfully analysed.

5. Gelb relies on data from the manufacturing census which is an unsuitable source for profit rate analysis. In the manufacturing census, the value of machinery is measured at historic cost rather

than replacement value. When capital is valued at historic cost, it 'is written off long before its operating life... is complete' (De Lange, 1982:8). Rates of profit on capital measured at historic cost rather than at replacement value, contain two elements: an operating surplus (which measures profit generated in production), and a revaluation surplus (ie the profit received by holding a good which remains physically unchanged over the period when its price rises). This measure of profit is biassed upwards and falls uneasily between the nominal and real rate of return (Carlin, 1987:118-119). In order to measure the rate of return on capital in production (which for most marxists is the crucial indicator), one needs to measure it at current costs in order to avoid the revaluation surplus which originates from the redistribution of real wealth rather than the production process (Hill, 1979:11-12).

An additional problem with the manufacturing census, is that the reported profit data are highly suspect. When one is focussing on macro-economic profitability (as does the Regulation school), a far better indication of the economic surplus accruing to capital is obtained from the operating surplus in the National Accounts (see footnote 9).

Secondly, Gelb obtains his capital labour ratios (via the Kleu Study Group) from the Central Statistical Services (CSS), and his productivity figures from the National Productivity Institute (NPI). As the measures of capital, value added, and salaries and wages differ between the manufacturing census and the CSS, and given the unconventional and highly suspect measures of productivity produced by the NPI (see Meth, 1987), Gelb's data sources are unsuitable for the purposes of a consistent deconstruction of the rate of profit.

6. The rate of profit is best measured net because 'gross profits are seldom constant throughout the life of an asset' (Armstrong, Glyn and Harrison, 1984:459). When the capital stock is measured gross, ie net of depreciation, the assumption is that returns remain constant until the asset is scrapped. As output declines over the life of an asset, linear depreciation of asset values allows for a better approximation of the true rate of return on capital.

7. The fact that price rather than (labour) value categories are used in this deconstruction, is worthy of comment. The many Regulation theorists who use labour value categories and stress the importance of empirical trends, immediately come up against the problem of suitable data sources. Published data is in price rather than labour value categories — thus raising the spectre of the 'transformation debate' in marxian theory.

One answer is to do as Aglietta does, ie just assume that the pre-tax rate of profit (measured in conventional price terms) 'may be taken as a reasonable estimate of the general rate of profit' (conceptualised in marxian value terms) (1979:287). Gelb (1988) falls into the category of those who use labour value concepts, but back them up with conventional price data.

The other answer is to follow Glyn, et al (1987) and Glyn (1988) who implicitly assume that a labour value framework is strictly unnecessary to the Regulation approach. The SSA theorists (eg Bowles, Gordon, et al, 1983) adopt a similar strategy and argue in terms of conventional price categories drawn from the National Accounts. This of course raises the issue of what makes an approach 'marxist'. Theorists such as Glyn, Bowles, Weisskopf, Boyer, etc, would argue that what makes an approach 'marxist' is its focus on class struggle, the labour process and the contradictions inherent in the process of accumulation, rather than adherence to the labour theory of value per se. Recent developments in marxian theory outside of Regulation/SSA analysis (such as the work of Roemer and Elster) broadly concur with this line of reasoning.

There is of course a third option. Alberra-Semerena and Nieto-Ituarte (1986) for instance, build a model for the Mexican economy based on Morishima (1973) and Wolff (1979) which attempts to quantify labour value categories. They derive indicators of the rate of exploitation, the organic composition of capital, and the rate of profit in value terms from information such as vectors of direct labour coefficients, annual workers compensation, gross output, capital coefficients, total employment and total hours worked per year. However, even they cannot escape using price categories (such as gross output) or information derived from price categories (such as capital coefficients). Furthermore, there is the additional difficulty concerning the use of vectors of direct labour coeficients — which is an extremely crude adaptation of Marx's labour theory of value.

In any event, whatever the position on the labour theory of value, one thing is clear — conventional price categories are necessary at some point in the analysis. In this article, the use of National Accounts data and the methodology for deconstructing the rate of profit follows the work of Glyn, Hughes, Lipietz and Singh (1987) and Glyn (1988). The discussion is phrased in terms of price and labour categories (such as the rate of exploitation and the OCC) to facilitate direct comparison with Gelb (1988).

8. The idea that the organic composition of capital (OCC) can be approximated by the capital output ratio may seem counter intuitive given that Marx defined the OCC as c/v, ie the ratio of constant to variable capital. However, Marx distinguishes between the 'value composition of capital' and the OCC which is the 'value composition of capital in so far as it is determined by its technical composition and mirrors the changes in the latter' (Marx, quoted in Reati, 1986:62-3). Thus, in response to the need to use capital as a stock concept (which is more appropriate for profit rate deconstructions than the flow concept (ie depreciation) implied by Marx's definition of the value of capital) and to measure the OCC in such a way that it reflects technology rather than income distributional changes, the ratio of the capital stock to value added is often used by marxian economists (see van Parijs, 1980; Lipietz, 1986a; Glyn, 1988).

Likewise, given the above logic, it follows that the rate of exploitation is consistently defined as the share of wages in value added.

9. Net profits are approximated by net operating surplus (provided by the South African Reserve Bank). The National Accounts concept of 'operating surplus' corresponds to that of operating profit or trading profit in business accounts. In other words, it measures the surplus accruing in respect of real processes of production. The operating surplus of a producer unit is equal to its value added minus the sum of compensation of employees (which includes cash and in kind wages, employers' contributions to social security schemes, private pension schemes, etc), indirect taxes paid by the producer less subsidies received and consumption of fixed capital (Hill, 1979:89).

For the purposes of the profit rate analysis, the net operating surplus series was inflated by an estimate of the income of working proprietors. In order to obtain the above estimate, the proportion of those employed who were working proprietors was obtained from various manufacturing censi and, following Carlin (1987), the income of working proprietors was assumed to be equal to the average wage. The net profit series is thus a measure of the surplus in value added as defined above, including the earnings of the self employed. As such, it is a pre-(direct)-tax measure of profitability.

This raises the issue of whether a post-tax rate would have been better. The answer depends on the question being asked. If one is attempting to find out how individual capitalists do in a given economy, then the post-tax rate of profit (with all the data complications that it implies) is the better measure. If on the other hand, one is interested in how well the economy itself is doing, then the important issue concerns macro-economic rates of return on capital employed. In this context, the pre-tax measure of profitability is superior. As this article critiques Regulation theory which focusses explicitly on economy-wide processes of accumulation, the pre-tax macro-economic profit rate is more appropriate for the analysis (see Aglietta, 1979:287).

Similarly, it has been suggested that one should distinguish between the profitability of small and large firms and between private capitalist enterprises and government enterprises (such as ISCOR) which effectively subsidise the private sector. Again, the appropriateness of such an endeavour depends on the question being asked. If one is concerned with the fortunes of private capitalists, then clearly the above distinctions are important. If on the other hand one is concerned with the overall productive and expansionary capability of the manufacturing sector, including how effectively the existing capital stock is employed, then the overall undifferentiated rate of profit is the important measure. Given the focus of the Regulation school, the sectoral wide rate of profit is once again the appropriate measure.

10. The capital stock series (which was provided by the South African Reserve Bank) is estimated according to the internationally accepted Perpetual Inventory Method.

11. This series is derived from the Gross Value Added series in the National Accounts and the same series for depreciation (provided by the South African Reserve Bank) used in the calculation of the net capital stock and the net operating surplus.
12. Expressing the growth in the rate of profit as an addition of the growth rate of the profit share and the growth of the output capital ratio is an approximation which is adequate for small rate of change.
13. International comparisons of profitability are fraught with difficulty as variations exist in the measurement of the capital stock between nations. However, comparing trends in profitability is a great deal more acceptable than comparing absolute levels.
The above warning notwithstanding, a quick and dirty examination of relative levels of profitability indicates that South African profit rates have been substantially higher than those in the ACCs (with the exception of Japan) throughout the post-war period. However, from the early 1980s, the difference has become marginal.
14. In order to obtain a consistent series for productivity and wages suitable for the deconstruction analysis, the following adjustments were made. Firstly, the consistent employment series estimated by De Lange and van Eeghen (1984) at the Unit for Futures Research at the University of Stellenbosch was used in preference to the existing (inconsistent) published series. This work was commissioned by the Department of Manpower and has subsequently been used as a basis for employment estimates in the latest *South African Labour Statistics*. The working proprietors (which De Lange and van Eeghen had added to the series in accordance with a set of dubious assumptions) were subtracted. Instead, a series was estimated using the manufacturing census and added to employment. Productivity was calculated as value added divided by this reconstructed employment series.
Secondly, as De Lange and Van Eeghen did not provide a corresponding series for average wages by racial group, such wages were calculated from the employment and salaries and wages data in *South African Statistics*. However, in order to make the average wage estimates consistent with the De Lange and Van Eeghen employment series and the remuneration data in the National Accounts, the estimated average wages were multiplied by the relevant racial employment figures (minus working proprietors) for each racial category in order to obtain an estimate of the wage bill accruing to each racial group. These were added together to get an estimate of the total wage bill.
To get a series of average wages consistent with the National Accounts, the original average wage series were multiplied by the ratio of the National Accounts remuneration series to the estimated total wage bill for each racial group. The second average wage series thus obtained, resulted in average wages which were slightly higher than those calculated originally.
15. These trends are the exact reverse of those in the only other post-war period which showed an increasing rate of exploitation, ie 1948-55. Between 1949 and 1945, the profit share was able to rise because the decline in African product wages was sufficient to offset the increase in white product wages (Nattrass, 1989:9-10).

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