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**DEGREES OF COMPETITION, THE RATE OF
RETURN AND GROWTH FROM A
CLASSICAL/SRAFFIAN PERSPECTIVE**

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Abstract

The purpose of the paper is a clarification of the concept of competition from a classical/ Sraffian perspective; including an elucidation of how a classical/Sraffian approach might go about defining the degree of competition. This in turn allows for a sharper contrast between the Sraffian view of competition and mainstream views.

The starting point for the analysis is the work of Clifton which interprets the classical/Sraffian view of competition as more general than that of orthodoxy: one which can encompass competition between production units in a given industry as something constrained by more dominant forms of competition such as that between production units across industries for shares of the corporate surplus. Following on from the work of both Clifton and Semmler, and starting from the assumption that multi-divisional corporation is the relevant “firm”, and that the corporate target rate of return is the relevant rate of profit, the question arises as to what determines the latter. And this question has received very little attention outside the more traditional post-Keynesian literature on pricing.

The paper explores what is probably the most serious attempt within this literature - in the work of Eichner - to explain the target rate, in terms the desired growth rate of the corporation. This proposition has some interesting implications for a Sraffian approach, not least because it allows a link running from the expected growth of the economy to the target rate and thus the rate of profit. This in turn requires a discussion of the consistency of such a link with the Sraffian critique of the Cambridge growth equation. As well, a link between the target rate of return and the desired corporate growth rate link also has implications for the mechanics by which sectoral profit rates converge and thus for the classical/Sraffian literature on cross-dual dynamics.

DEGREES OF COMPETITION, THE RATE OF RETURN AND GROWTH FROM A CLASSICAL/SRAFFIAN PERSPECTIVE

1. Introduction

The purpose of the paper is a clarification of the concept of competition from a classical or Sraffian perspective; including an elucidation of how a classical/Sraffian approach might go about defining the degree of competition. In turn, it is intended that this may allow for a sharper contrast between the Sraffian view of competition and mainstream views.

The motivation for this reconsideration has three elements. The first is the general theme within mainstream macroeconomics of the last three decades that key macroeconomic results are inextricably linked to the existence of imperfect competition primarily in (though not limited to) product markets. The second is the critique of orthodox macroeconomic propositions – not the least being the proposition of a long-run tendency to full-employment triggered by wage and price flexibility (Garegnani, 1978; Eatwell and Milgate, 1983; see also White, 2004) - which a classical/Sraffian inspired approach to value and distribution allows. The third element is the relative absence of any consideration within the Sraffian literature of “differing degrees” of competition. In the view of the author, consideration along these lines may in turn provide for an enhanced critical perspective on a centerpiece of modern macroeconomics. In other words, additionally to the Sraffian-based rejection of the orthodox belief in a spontaneous tendency to full-employment, one may be able to provide a Sraffian perspective on the relation between degrees of competition and macroeconomic outcomes; one which can be contrasted with that of orthodox theory.

The present paper is intended as a first step along these lines: firstly, to spell out what alternative a classical/Sraffian perspective on competition could offer to the orthodox juxtaposition of perfect and imperfect competition; secondly, to deduce from this implications about pricing and competition and about “welfare” and competition which would allow comparison with orthodoxy; and, thirdly, to consider what a Sraffian perspective might offer in regard to the relation between the degree of competition and macroeconomic outcomes.

The starting point for the analysis is a discussion of the work of both Clifton and Semmler (Sections 2 and 3) which interprets the classical/Sraffian view of competition as more general than that of orthodoxy: one which can encompass competition between production units in a given industry as something constrained by more dominant forms of competition such as that between production units across industries for shares of the corporate surplus. Following on from the work of both Clifton and Semmler, and starting from the assumption that multi-divisional corporation is the relevant “firm”, and that the corporate target rate of return is the relevant rate of profit, the question arises as to what determines the latter - a question which

appears to have received very little attention outside the more traditional post-Keynesian literature on pricing.

This question is taken up in Section 4 with a consideration of what is probably the most serious attempt within this literature - the work of Eichner - to explain the target rate, in terms the desired growth rate of the corporation. This proposition has some interesting implications for a Sraffian approach, not least because it allows a link running from the expected growth of the economy to the target rate and thus the rate of profit. This in turn requires a discussion of the consistency of such a link with the Sraffian critique of the Cambridge growth equation. This question is addressed in Section 5. Section 6 takes up a further question raised by a link running from the expected growth rate to the target rate of return, namely, what implications such a link has for the mechanics by which sectoral profit rates converge and thus for the classical/Sraffian literature on cross-dual dynamics. Section 7 takes up yet another implication of a link between growth and the target rate, viz., the relation between the degree of competition and macroeconomics. This discussion in turn has some bearing on New Keynesian arguments about the significance of imperfect competition for the relevance of aggregate demand in influencing output. Section 8 provides a brief account of what the preceding discussion suggests by way of a classical/Sraffian perspective on orthodox link between welfare and intra-industry competition. Section 9 provides some brief concluding notes.

2. Degrees of competition: a classical/Sraffian perspective, á la Clifton

As is well known, a classical/Sraffian approach to value and distribution does bring with it a conception of competition: the notion of competition implied by the Sraffian approach is of the old classical idea of ‘free competition’ (Kurz and Salvadori, 1995, Ch. 1), consistent with a uniform rate of profit across sectors. Thus, if one was seeking to derive implications from this standpoint about measuring the degree of competition one might reasonably start by defining competition on the basis of the extent to which capital - however organized - is free to move in seeking its highest rate of return. From this angle, the classical/Sraffian counterpart to the orthodox perfect versus imperfect competition comparison would seem to be a comparison between “free or unrestricted competition” on the one hand, where ultimately mobility of capital will generate a uniform rate of profit across production processes, and, on the other hand, “restricted competition” where restrictions on the mobility of capital allow differentials in profit rate (in the absence of risk and illiquidity) to persist and/or a higher average rate of profit across sectors compared with the absence of such restrictions.

Now it is also well known that the assumption of persistent profit rate differentials poses no fundamental obstacle to the Sraffian analysis of relative prices¹, and thus nor should the notion of restricted competition associated with entry and/or exit barriers permitting

¹ Indeed, in the absence of mobility barriers but with allowances for differences in risk, long-run profit rates would not be uniform across production processes.

persistent differentials in profit rates. The complexity in this case will arise in respect of the implications of such differentials for the price structure and the pattern of mark-ups (*cf.* Semmler, 1984).

It is worthwhile asking however whether we can take things further than this; viz., further than the crude restricted versus unrestricted competition classification suggested above. In particular, what if anything is suggested about market and/or firm structures by the classical/Sraffian approach.² This is not an unimportant question in terms of juxtaposing a Sraffian approach with that of orthodoxy, since competition in the latter approach is inextricably bound up with the theory of the firm; in particular with questions about the size and number of such firms which constitute an “industry”.³

In the view of the present author, an answer to this question best begins from the analysis of Clifton (1977, 1983). In two separate papers Clifton suggests that the notion of competition implicit in Sraffa’s *Production of Commodities* is particularly suited to an analysis of a world of multi-divisional corporations and not less-suited as would be the claims of some post-Keynesian economists and presumably also marginalist theory. He suggests moreover, following Marx, that competition, in terms of the pressure faced by any production unit from other units for shares in aggregate profit is likely to be strengthened with the maturity of capitalism. Significantly, the implication is that competition, as it is implied by a classical-Sraffian standpoint, intensifies with the development of capitalism and this intensification occurs alongside a trend towards increasing concentration. In fact as others (e.g. Eichner, 1983) have suggested, the increasing size associated with concentration is in fact part of the means of strengthening those very forces which would allocate capital across production activities.⁴

To be clear, Clifton’s analysis entails a view of the firm not merely as a competitor with other firms producing substitute products but more importantly as a production unit subservient to forces of competition for shares in aggregate profit flows across different industries; and that strength of these latter forces were tied in direct proportion to the development of the modern corporation. In his 1983 paper, Clifton provides a telling example (by way of a case study of General Motors) of the significance of corporate development with respect to financial control for pricing. The picture that emerges from this particular case study is the dominating

² An interesting comment in this regard comes from Petri to the effect that, “Sraffa’s analysis does have implications for the theory of the firm, ... but these implications are indirect It is in [the] much greater compatibility of the classical approach with realistic analyses of firm behaviour that [these] implications ... appear to lie” (1990, p. 177). As is argued below, to the extent that the “firm” can be thought of as the modern multi-divisional corporation, Clifton’s analysis would suggest that this “greater compatibility” lies in the parallel between the forces which drive the allocation of resources within the corporation and which thereby govern its broad pricing policy on the one hand and the forces which regulate differentials in profit rates and relative prices in the classical conception of competition, on the other hand.

³ Interestingly, the classical/Sraffian approach does provide for some connection with the structure-conduct-performance paradigm of industrial organisation theory; and not only in terms of the latter making use of classical ideas (*cf.* Glick and Ochoa, 1988).

⁴ In fact, the consistency of increasing concentration and increasing competition has not gone unnoticed by those working in more orthodox directions (e.g. Marris, 1983, p. 674).

concern by ‘capital’ in the form of the corporate head office to allocate the corporate surplus – and thus the relative expansion and contraction of different constituent production units - in line with performance judged against the corporate target rate of return. Not surprisingly, Clifton interpreted “this administered price system [as] ... the modern institutional means by which ‘market prices are regulated by price of production’ in the corporate economy. Such administered [price systems] ... may exist under either competitive conditions or monopoly, but their distinctive feature is their role as a centre of gravity around which market conditions fluctuate” (1983, p. 25).

This certainly seemed to provide at the least the beginnings of an answer to the question posed by Levine in 1991: “[d]oes the Sraffa model have implications for decision-making behavior and process at the level of the firm” (p. 168). Clifton’s answer in a sense turns this question on its head: the multi-product, multi-divisional corporation as a decision making body reinforces the tendencies which are implied in the assumption of a uniform rate of profit in the Sraffa system. Put another way, the multi-product, multi-divisional corporation provides the main conduit by which the tendencies implicit in Sraffa’s assumption of a uniform rate of profit are expressed in modern capitalism.

It is worthwhile noting here that this role of the corporate head office is viewed by Clifton as consistent with different degrees of intra-industry competition. The regulation of market prices “by price of production” is present regardless of the nature of the competitive struggle within markets. If the former process is to be seen as part of the general competitive process in capitalist economies, then (again, following Marx) competition is not co-extensive with the theory of the firm (as a production unit defined by product type). It is difficult not to interpret Clifton’s view as one which finds the classical/Sraffian approach more general than orthodox analyses of competition; in being able encompass the competition between production units in a given industry as something constrained by more dominant forms of competition.

One might take this reasoning a step further: if it can be argued that the activities of the “firm” as a production unit are subject to competition not merely from within the “market” but from outside the “market” (e.g. by competing divisions within the same corporation) then one might also define/measure the degree of competition in terms of a hierarchy in three components or levels of competition: (i) competition between production units producing substitute commodities; (ii) competitive influences on price and output decisions of the production unit dictated by competition for corporate profit (or a corresponding “centre” of capital which transcends the “industry”); (iii) the forces determining the pattern of differentials between corporate rates of return; with (iii), (ii) and (i) in order of dominance

3. Prices and the rate of profit

In a formal multi-commodity framework, the implications of the above view for relative prices were clarified, both for the single-product and joint-product cases, a number of years ago most notably by Semmler (1984). This analysis provides a fairly clear connection between the Sraffian price system and the arguments of Clifton and others as to the significance of the corporation: the rate of profit in the Sraffian system can be interpreted as

the corporate target rate of return, so that with a given technique, including normal rates of capacity utilization, once the pattern of corporate target rates is fixed, relative prices and hence the pattern of mark-ups is fully-determined.

However, the formal clarity of this result masks a number of questions, not least concerning the forces which govern the corporate target rate of return; and how the answer to that question would stand in relation to other research in the broader Sraffian research program about what governs the rate of profit, assuming that the latter is the appropriate exogenous distributive variable in the Sraffian price system.

Further, supposing that for a mature capitalist economy, the rate of profit is to be interpreted as a corporate target rate of return, what are the forces responsible for regulating the size of differentials in target rates of return and thus the degree of movement in relative prices in relation to their “long-period” vector? The question of what forces dictate profit rate differentials and relative prices movements from a classical standpoint has of course also been addressed extensively in the last thirty years formally in terms of the literature on gravitation or “cross-dual dynamics”. It is nonetheless worth considering the implications of a target return approach in relation to this literature: the latter typically has causation running from changes in relative prices (sparked by movements in demand relative to supply) to changes in the pattern of profit rate differentials. Interpreting profit rates as target rates of return however means that prices are set so as to generate a predetermined rate of return (usually at a normal rate of capacity utilization). Thus the waxing and waning of different sectors must react directly on those target rates, but the precise mechanics of this remain to be clarified.⁵

A separate set of questions arises in relation to trends in economic thinking (referred to earlier) of a more orthodox flavor; specifically, the economic significance of “less” rather than “more” competition, not only in terms of welfare (however this might be defined from a classical/Sraffian standpoint) but also in terms of the macro phenomena. On this point, the hierarchy of levels of competition referred to above might suggest that the interesting question is not the orthodox one concerning the precise relation between imperfect competition and macroeconomic phenomena, such as the ability of aggregate demand shocks to influence aggregate output and employment. This question seems much less clear cut not least because of the complexity in defining “imperfect competition” when thinking in terms of the different levels of competition referred to above. Rather it would suggest as the more interesting question the significance for example of the dominance of pricing and output decisions by corporate concerns about growth and diversification for macro outcomes; or, as is discussed below, the significance of macro phenomena in the determination of prices.

In attempting to provide some answer these questions we start by reflecting further on the rate of profit as a target rate of return.

⁵ Though one attempt in this direction is Boggio, 1992.

4. The target rate of return

The focus of our discussion of the target rate of return is not so much on the role of the target rate of return and thus the rate of profit in the formal determination of relative prices. As noted above issues to do with the latter have already been considerably explored and the analysis is comparatively straightforward. The focus here instead is on the much less explored question of what determines the target rate of return itself.

On this question, Clifton himself provides some insight from his case study of the pricing practices at General Motors, though it takes us only so far. Reproducing the Clifton's quotation from Donaldson Brown (a key architect of those pricing practices), "an acceptable theory of pricing must be to gain over a protracted period of time a margin of profit which represents the highest attainable return commensurate with capital turnover and the enjoyment of wholesome expansion, with adequate regard to the economic consequences of fluctuating volume" (Clifton, 1983, p.28).

As has been suggested elsewhere (White, 1996a), the words "with adequate regard to the economic consequences of fluctuating volume" imply that the economic return attainable is a rate calculated on an average or "normal" or "standard" rate of capacity utilization over a number of cycles. And this point is fairly uncontroversial now within the Sraffian-inspired literature.

Less clear is the phrase "highest attainable return commensurate with capital turnover and the enjoyment of wholesome expansion". Some hint on this is provided by another quote from Brown: "[t]he supply of capital whether from retention of earnings or from a sale of securities, is dependent upon the promise of a satisfactory rate of return..." (*ibid.*, p. 31). These words suggest a link between the growth of the corporation and the rate of return; a link which is bound up with the financing of the corporation's growth rate. Indeed, in the discussion which immediately precedes this quote Clifton refers to the dominance of General Motors price policy by "the investment behavior of the corporation" (*ibid.*, p. 30).

A not unreasonable interpretation of Clifton's discussion would emphasise the inextricable connection between the "economic return attainable" and the growth rate of the corporate entity. And this has two elements in Clifton's discussion: first, the allocation of finance for expansion between divisions of the corporation on the basis of a comparison of divisional rates of return and the corporation's "economic return attainable"; and, second (as has been suggested above), the growth plans of the corporation being the key determinant of the economic return attainable.

However, this is as far as Clifton's analysis takes us in terms of an explanation of the target rate: a more precise relation between the corporate target rate of return and the corporate growth rate needs to be sought elsewhere. Interestingly it is on this question that what have hitherto been seen alternative approaches (at least on the subject of pricing) – Sraffian and post-Keynesian – may find common ground. Specifically, the link between corporate growth and the corporate target rate of return has been pursued most in the post-Keynesian literature

by Alfred Eichner. It is worth reflecting at least briefly on Eichner's position as it offers some interesting implications pertinent to the broader Sraffian research program.

For Eichner, the evolution of the corporation has allowed capital to take a form which provides for its continuous expansion; and this is the purpose of the corporate target rate. Thus, "[i]f competitive forces, such as those usually assumed in orthodox theory preclude an industry from achieving that size mark-up [consistent with the target rates of return for the megacorp], then one of the necessary conditions for continuous expansion over time will not be met. This point goes far toward explaining why the type of economic system represented by the orthodox theory has evolved into the corporate economy" (1983, p.146).⁶ As such, "the [megacorp's] desired growth rate, adjusted to take into account any corporate profits tax, *is* the target rate of return" (*ibid.*, p. 139, author's emphasis).

There is a clear parallel here in relation to the views of Clifton canvassed above. Eichner's use of the words "one of the necessary conditions for continuous expansion" is similar to the sentiment in Donaldson Brown's words above (p.7) to the effect that pricing must serve the corporation's goals relating to expansion.

Perhaps more interesting though for the purposes of the present paper is Eichner's discussion of what this view of the target rate and its relation to the growth of the corporation implies about the investment decisions of the corporation. Here also we find a concurrence with the propositions put forward by Clifton; in particular, the view that the "firm" has evolved in such a manner so as to allow the competition at the industry level to serve the interests of the corporation and in particular the corporation's desired growth rate. In Eichner's words

"the megacorp's goal is to expand at the highest rate possible ... To expand at the highest rate possible, the megacorp follows two rules: (a) it attempts to retain its present share of the market in the industries to which it already belongs – as long as those industries are expanding at the same rate as the economy or better, and (b) it periodically expands into newer, more rapidly growing industries while withdrawing from those in which the growth of sales has come to a halt and/or the profit margin has been squeezed below the firm's target rate of return" (*ibid.*, p. 137).

The picture that emerges from Eichner's analysis is one in which the multi-divisional corporation expands and contracts its constituent parts (the production divisions which represent its incumbency in different industries) as well as periodically adding/creating new parts so as to maximize its growth. The role of the target rate of return in this picture appears

⁶ White (1998) makes use of a simple three-commodity model to consider the different possibilities with respect to pricing: specifically, whether "firms" set mark-ups or target rates of return. One argument which may be advanced against the idea of an "exogenous" rates of profit in the form of a pre-determined target rate of return, it that these target rates may be inconsistent with prices/mark-ups allowed by forces of competition within certain industries – and that under certain conditions the rate of profit has to fall into line with the mark-ups or prices allowed for by competition. Viewed from this angle, another way of looking at Eichner's point above is that the development of the modern corporation in some sense circumvents this tendency with its ability to contract and expand its operations in different sectors, as a means of generating an actual corporate rate of return consistent with the target.

to be as a standard with which the prospective rate of return across different divisions of the corporation could be compared and by which the required degree of expansion (or contraction) is assessed.⁷ In turn, this role reflects the fact (in Eichner's view) that the target rate is a measure of the long-run⁸ financial requirement for growth at the corporation's desired rate.

The obvious question then is what determines the desired rate of growth of the corporation. Conceivably, this rate could not be greater than the anticipated long-run growth rates for the fastest growing or newly emerging sectors in the economy.⁹ Arguably the latter would set the upper limit on the maximum attainable growth rate for the corporation. Accepting this proposition one could then argue that the corporation's perceived attainable growth rate of the corporation comes close to the anticipated growth of fastest growing or newly emerging sectors in the economy depending on two factors:

- (i) the extent to which the divisions which constitute the corporation's production activities correspond to the anticipated growth rates of the fastest growing sectors; and,
- (ii) the scope for restructuring the production activities of the corporation in line with the anticipated average growth rates for the economy; in particular, by either increasing market share in industries which are expected to decline relative to the rest of the economy or shunting resources (profit) away from investment in these sectors.

Interpreting the desired rate of growth as the perceived maximum attainable long-run rate of growth, the desired rate might then be seen as falling within a range set at the maximum by the anticipated growth rates for newly emerging sectors reflecting perceived long-term structural changes within the economy; and a minimum set by the anticipated long-run average for the economy. The attainable rate of growth will be higher to the extent that some or all of the industries in which the corporation is an incumbent are expected to be the fastest growing sectors in the economy. Thus one might also suppose that the desired rate of growth will take on a spectrum of values across different corporations; and by implication so would the range of corporate target rates of return.

This proposition raises two interesting questions in relation to a Sraffian approach to prices and distribution. First, if the target rate of return and thus the rate of profit is governed by anticipated growth rates, how does this fit with the Sraffian critique of the neo-Keynesian view that the rate of profit is influenced by the growth rate? Second, how does the view

⁷ This again runs parallel to Clifton's interpretation of the strategy developed by Donaldson Brown at General Motors (Clifton, 1983, pp. 28-29).

⁸ The use of the term "long-run" is important here, as illustrated in the following comment by Clifton in relation to the system developed at General Motors: "[i]t was the average, long-run return on a long-lived asset that was measured by the economic return attainable, not the temporary highs and lows in profits associated with fluctuation in volume over the business cycle" (1983, p. 28).

⁹ The discussion at this point is obviously ignoring the multi-national dimension, viz., that the maximum desired growth could not be faster than the maximum rate of growth allowed for by the growth of related industries in other economies.

suggested above, including a spectrum of target rates, fit with the research on the dynamics of classical competition, specifically research on so-called “cross-dual dynamics”? We take up each of these questions in turn.

5. The target rate of return and the Sraffian criticism of post-Keynesian growth theory

As is well known, the Sraffian position on the relationship between accumulation and the rate of profit (Garegnani (1992) and Kurz (1990)) - at least with respect to the Cambridge growth equation - is that this equation could not be seen as a way of determining the normal rate of profit consistent with the acceptance of the Keynesian principle of effective demand in the long-run. If the rate of profit in that equation is to be understood as the normal rate of profit, and thus reckoned on the basis of a utilization rate equal to normal, the rate of accumulation could not refer to the actual level. If it did, this would imply an actual rate of utilization equal to normal and thus presuppose that investment was governed by the flow of saving at normal utilization. This criticism also involves a rejection of the notion that changes in the rate of capital accumulation necessarily require changes in income distribution; and that the rate of accumulation cannot be defined independently of relative prices and therefore of the rate of profit.

At first sight it may appear that the proposition that the rate of profit, albeit in the form of the target rate of return, is governed by the expected growth rate runs counter to this Sraffian criticism. On closer reflection however, this is less clear. A couple of points are worth making in this regard. First, the notion that it is the perceived attainable long-run rate of growth which determines the target rate of return would appear – at least, viewed through the work of Clifton and Eichner – to be a rate of growth which is intended to entail an appropriate rate of growth of productive capacity. In other words, it would be the rate of growth which on average would yield a utilization rate consistent with that which was desired; viz., a normal rate of capacity utilization. It is this rate of growth which would, in our interpretation of Eichner’s view, be financed by the target rate, itself intended to be achieved at a “standard” operating rate. In this sense there is no necessary suggestion of the *actual* rate of growth at any point in time determining *the* rate of profit which would act as a regulator of relative prices.

What role there is for the actual rate of growth to influence the target rate is via the former’s influence over perceptions about future rates of growth. To the extent that the target rate of return is calculated on the basis of normal utilization – and in turn allows for fluctuations in volumes – then it is difficult to see why the attainable growth rate would not similarly be calculated with full allowance for fluctuations in the actual growth rate from period to period.¹⁰

¹⁰ By implication, there is no support in this view for the argument that changes in the growth rate bring about changes in the rate of profit by means of long-run changes in capacity utilization. The role for changes in the latter is only via changes in the normal utilization rate; and as others (Garegnani, 1992, Ciccone, 1985, 1986,

Second, the view of the target rate of return above does however quite obviously allow a determining role for the perceived long-run growth of the economy in the distribution of income. This certainly appears to place it at odds with Gargnani's argument that distributional changes are not necessary for changes in the long-run rate of accumulation. But nothing in the view of previous sections is inconsistent with Garegnani's argument that the system has within it sufficient elasticity to adapt saving to a changes in the growth rate of investment without necessitating a change in the rate of profit. To the extent that margins of desired spare capacity provide this elasticity is not ruled out by those earlier arguments.

The discussion of previous sections does however suggest that a faster rate of accumulation, to the extent that it raises the anticipated long-run growth rate of the economy, and with it desired corporate growth rates, will also bring with it a rise in the target rate of return.

6. The target rate, growth and classical cross-dual dynamics

It was suggested above that, depending on the perceptions of growth among different corporations, desired corporate growth rates and thus target rates of return could differ; though these differences themselves are conceivably limited by the extent of divergent views about future growth rates of the economy. This suggests a difference in profit rates independently of restrictions on the ability of capital to exploit differential profit rates.¹¹

The view of earlier sections is also suggestive of another obstacle to the exploitation of profit rate differentials between different spheres of production and one which is probably best described as a type of mobility barrier and reflects limitations on what have been called "economies of scope". The economies in question are associated with diversification by the corporation into related product areas and reflect "competitive advantages created by the coordinated learned routines in production, distribution and marketing" (Chandler, 1992, pp. 92-93).

The literature on the history of the modern corporation has however made clear the flipside to these advantages in the form of competitive disadvantages associated with too rapid a diversification into unrelated product areas. In particular, Scheifer and Vishny (1991) mount the argument that diversification into unrelated product areas may not be an efficient strategy under some circumstances. A related point is made by Scott (1973) regarding evidence which suggests that for the 1950's and 1960's "unrelated diversification [was] also a low-performance strategy" (p.144). Scott's analysis suggests that the highest return strategy and structure for this period was diversification into related product areas with a divisional structure in place (*ibid.*, pp. 143-44). In turn, this analysis of takeovers during the 1960's and 1980's has led Chandler to conclude that "[t]oday the product lines of large multi-product industrial firms have become far more focused on their core capabilities" (Chandler, 1992, p.98).

White, 1996a) have argued, the nature of any such change would be complex and dependent on the effect of changes in the long-run rate accumulation on the perceived amplitude and frequency of fluctuations in demand.

¹¹ Arguably, not unlike those differences in risk and illiquidity associated with investment in different spheres of production.

The significance of this aspect of corporate development for the present paper is to identify a particular type of restriction on mobility which would limit the extent to which corporate capital could eliminate profit rate differentials. More precisely, while the development of the corporation strengthens the forces which regulate the relative profitability of different spheres of production (in the manner described by Clifton) in which the corporation is an incumbent, the limitations on economies of scope presumably act as a limit on the extent of competition between corporations within product lines. In this way, the limitations on economies of scope may limit the pressure for corporate target rates of return to converge.

However, while limitations on economies of scope act as an obstacle to the elimination of differentials in target rates, the earlier suggestion that the target rate is dictated by desired growth rate itself suggests a limit on the divergence of target rates. The explanation of the rate of profit in terms of the target rate of return also implies that the spread of target rates of return would reflect the spread of desired growth rates amongst corporations. If one accepts the earlier proposition (p.9) that the corporate desired growth rate will generally lie between the average anticipated rate for the economy and the anticipated growth rates for newly emerging sectors, the spread of corporate target rates is then limited by the disparity in growth rates between the fastest growing sectors and the average for the economy as a whole.¹²

This conception is also pertinent to the issue of classical competition and the convergence of profit rates, examined formally over the last twenty five years in models of cross-dual dynamics (*cf.*, Caminati, 1990, White, 1996b). In the “standard” view of cross-dual dynamics, growth of each sector depends on the relative profit rate and the profit rate responds to changes in the growth rate of each sector. Hence, growth increases in the high profit rate sector thus increasing supply relative to demand, in turn depressing relative price and the rate of profit.

In the analysis of Eichner and others however the rate of profit – in the form of a target rate of return - is set by the desired corporate rate of growth, itself governed by expectations of the attainable long-run growth rate for the corporation. The objective in this view is to expand into areas which allow one to maintain the corporate target rate of return and in doing so attain that desired corporate rate of growth.

Thus, as noted earlier, the picture is one of a world of large corporations each centered around a particular product grouping or traditional area which is the “historical core” of its business activity. Following the suggestions of Eichner, within the core traditional sectors which are not declining relative to the economy as a whole and in which the corporation has a significant, major and strong market share, capacity is expanded in line with expected growth in demand to maintain that market share. For corporations to realise their desired growth rate they must contract their activities in areas which are expanding slower than the economy on average assuming the corporation wants to grow at a rate at least as fast as the average rate

¹² Indeed, one would expect there to be some correspondence between the spread of growth rates of demand and capacity and the spread of profit rates in models of cross-dual dynamics.

for the economy as a whole. And this contraction can only be avoided to the extent that the corporation extends sufficiently into sectors which are growing faster than the economy's average. Put another way, the latter allows for a faster growth of the corporation consistent with internal financing; while not contracting operations in sectors in which growth is slowing relative to the average would be consistent with the maintenance of the existing corporate rate of growth or higher only with increased reliance on external finance or a higher corporate target rate of return.¹³

In the cross-dual dynamics literature this faster growth in capacity in response to faster growth in demand in some sectors would be driven by a higher than average rate of profit; the latter generated by a relative price signal itself triggered by the preceding expansion of demand relative to capacity in that industry. In the picture sketched in this paper however relative price movements become less of a signal determining relative profit rates and driving inter-industry capital mobility. They are instead more of an outcome of the process of intersectoral capital mobility and dictated by pre-determined target rates of return. In turn this may suggest less "interference" in the gravitation process from seemingly perverse effects of relative prices on profit rate differentials.¹⁴

7. Competition and macroeconomics: a classical/Sraffian perspective

So what implications if any flow from the discussion so far concerning the relation between competition and macroeconomic outcomes? As suggested in the introductory section, this question is not without interest for the Sraffian research program - as the basis of an alternative to orthodoxy - given the prominence of this issue in orthodox macro analysis of the last thirty years.

There are two key respects in which the preceding discussion has a bearing on this issue. Both relate to the claim within the so-called New Keynesian literature that imperfect competition when combined with rigidities in prices provides scope for aggregate demand shocks to impact on output and employment (e.g. Mankiw, 1988; Blanchard and Kiyotaki 1987, Dixon and Rankin, 1994). This has been heralded (e.g. Mankiw, 1990) by the so-called 'New Keynesians' as the definitive modern theoretical foundation for the Keynesian premise that output and employment can be constrained by aggregate demand and in turn that there is

¹³ The latter may well be inconsistent with increasing or even maintaining market share in declining markets.

¹⁴ For example, an increase in the rate of profit relative to the average for the higher profit rate sector as it expands and pushes down the relative price of its output. This may arise because of the nature of the use of the commodity in question relative to its use in other sectors, being such that as its relative price falls this impacts sufficiently on its costs of production so that it does not adversely affect its profit rate relative to the average.

Ruling out these type of effects does not however guarantee stability of the long-period price vector (associated with a uniform rate of profit) (*cf.* White, 1996b).

With regard to relative price changes taking on less of a role the cross-dual dynamic process, it is interesting to note the comment from Clifton that, "[w]ether corporations maintain prices at their normal (equilibrium) levels over time or enable prices to fluctuate around their normal level at frequent intervals is really a very secondary question to which no general answer is possible over the long-run" (1983, p. 37).

scope for demand management policy to impact on output and employment, *at least in the short-run*.

One of the more well known examples of this position is that of Mankiw (1988). Mankiw derives a positive relation between the degree of product market imperfection and the income-expenditure multiplier: a higher degree of imperfect competition is identified with a larger price-cost margin, viz., a larger excess of price over cost as a proportion of price.

This orthodox view is open to attack on a number of fronts. First, and most well known is the Sraffian critique of the underlying premise in this orthodox literature that price flexibility would allow market forces to push a capitalist economy to full-employment (Garegnani, 1978; Eatwell and Milgate, 1983). Once that premise is removed, explaining why demand shocks have an impact on output by reference to a combination of product market imperfections and price rigidities becomes highly questionable. Second, as noted in Vera (2006) and White (2008), once the impacts of a change in income distribution on aggregate demand are accounted for, a systematic positive relation between the multiplier and the degree of product market imperfection need not hold. Third, and of particular relevance to Mankiw's argument, identifying the degree of competition with price-cost margins (price less cost as a percentage of unit price) rather than profit rates is problematic. The movement of price-cost margins (or mark-ups defined as price less cost as a percentage of cost) need not correspond exactly with the movement of profit rates.¹⁵ Yet it is *profit rates* rather than price-cost margins which are arguably the critical variable in terms of analyzing the dominant and persistent forces at work in the economic system. Certainly, as argued in section 2 above, for the task of defining degrees of competition, one could well start in by reference to the degree to which the tendency for profit rates to come to uniformity is dominant

This last criticism however raises a more fundamental question that is closer to the arguments advanced in this paper and has to do with measuring the degree of competition and how this bears on attempts to link the degree of competition with macro outcomes. The earlier discussion refers to three levels of competition: (i) competition between production units producing substitute commodities; (ii) competition between production units across industries for shares in the corporate surplus; and (iii) competition between corporate centres of capital. When one seeks to define the degree of competition one is confronted with the question as to which of these three levels one should use. Looking at intra-industry competition, concentration and the prevalence of so-called "administered pricing" practices may highlight the significance of the concept of imperfect competition defined in orthodox terms. However looked at from Clifton's perspective for example as well as Eichner's, the mature development of capitalism goes hand in hand with an increasing dominance of (ii) over (i); i.e. the features of individual industries which seemingly correspond to orthodox definitions of imperfect competition - product differentiation, concentration, administered pricing - are dominated or controlled by forces of competition across divisions/industries for shares in the corporate surplus. More to the point, if indeed (ii) above does increasingly come to dominate

¹⁵ Cf. White, 2008.

(i) the exercise of measuring competition or the degree of “product market imperfection” by reference to (i) above (e.g. in terms of demand elasticities) looks wholly inadequate.

By implication, analyses of the ‘welfare’ implications of competition even where they are restricted to an orthodox welfare criterion (e.g. consumption per head) would also appear inadequate to the extent that those implications are derived exclusively with regard to different levels of intra-industry competition; notwithstanding the difficulties with those welfare arguments in their own right.¹⁶

An alternative perspective referred to above – in terms of the dominance of competition for shares in the corporate surplus over intra-industry competition – does suggest a link between competition and macro outcomes, but running in the reverse direction from that of the New Keynesian literature. To the extent that this increasing dominance means more widespread use of target return pricing based on perceived attainable long-run rates of return, then arguably the greater the influence of the anticipated long-run growth rate of the economy over the rate of profit and thus on relative prices and income distribution. This link runs in other words from the macro level to relative prices and distribution. And the strength of that link would reflect at least in part the significance of corporate target rates as a determinant of sectoral rates of profit.

8. Intra-industry competition and a Sraffian view

But does a classical/Sraffian based approach have insights to offer about intra-industry competition (i.e. competition on level (i) above), apart from the suggestion that it is likely to be dominated by the competition at the inter-industry (for want of a better term) level? In the author’s view the answer to this question is yes, in two respects.

The first is the flexibility a Sraffian model allows in respect of the pricing decision. As demonstrated in White, 1998, the very nature of the Sraffian model provides for different degrees of competitive pressure, within an industry (or product group), on the individual production unit’s pricing decision. If one considers the normal utilization rate - on which the rate of profit should be reckoned - to be determined on a cost-minimizing basis and thus on the basis of relative prices (Ciccone, 1986), then one can arrive formally at a system of equations which, given technology, a basic money wage rate and the anticipated cyclical characteristics of demand, allows one to determine mark-ups or target rates of return exogenously, but not both.

To the extent that the individual production units concerns about meeting the target rate of return are minimal, this may imply that the appropriate exogenous variable is the mark-up within an industry; a mark-up consistent with the maintenance of market share within that industry. In this case, the rate of return becomes endogenous. On the other hand, increasing competitive pressure on a production unit from other divisions within the corporation may

¹⁶ In other words, even ignoring the inadequacy of welfare analysis solely in terms of intra-industry competition, these implications are not easily reproduced in a classical/Sraffian model. This point is taken up briefly in the following section.

require that the mark-up conform with the long-term corporate target rate of return. This may only be consistent with the limits on pricing imposed by intra-industry competition to the extent that the production unit is able to lower unit costs of production. To the extent that this is not a viable option and the mark-up dictated by intra-industry competition and the maintenance of market share is incompatible with a corporate target rate of return, then, as Clifton notes, quoting Brown, “the result may be a deliberate restriction upon further expansion [by the corporation in that industry], or even curtailment of volume with release of capital for employment in more profitable channels” (1983, p. 27).

The more general point is that, as suggested in White (1998) and also by Semmler (1983), a Sraffian approach is able to accommodate different pricing practices; and in particular, different degrees to which pricing is dictated by the requirement of a corporate target rate of return and thus different degrees to which competition from within the corporation may come to dominate intra-industry competition.

The second type of insight which a Sraffian based approach might bring to the analysis of intra-industry competition is with respect to a key defining feature (for orthodoxy) of imperfect competition – product differentiation. As demonstrated in White, 2009, there are two dimensions to an analysis of product differentiation in a Sraffian model: the first concerns the relation between product differentiation on the one hand and the basic, non-basic distinction on the other hand. The second involves the possibility of insights into the so-called ‘welfare’ implications associated with imperfect competition derived in an orthodox framework.

With respect to the first of these dimensions, one can start from the assumption that product differentiation entails the appearance of additional production processes corresponding to the differentiated products and as a consequence additional price; and that demand for what in the absence of such differentiation would have been one commodity is now split between a number of commodities. In other words, a Sraffian approach to the analysis of product differentiation would conceivably start from the premise that the production of differentiated commodities involves the use of different combinations of inputs, even if only to generate the perception in consumers’ minds of difference (e.g. via resources devoted to marketing).

With respect to non-basics – e.g. pure consumption goods – the analysis is straightforward and whether or not product differentiation entails “higher prices” compared with its absence depends on the differences in the combinations of inputs in the production of the differentiated commodities.

With respect to basic commodities, the analysis of product differentiation is more complex. This is examined in White, 2009, by means of a simplified two-sector circulating capital model. The conclusion there is that in order for there to exist one price system, there must be at least one “undifferentiated basic” commodity: in this case, differentiated circulating capital goods being used in the production of differentiated consumer goods for example would be associated with different non-basic sub-systems within the overall price system (pp. 10-13).

So what of the welfare implications of product differentiation? This question goes to the traditional orthodox argument which attributes higher prices and lower output to imperfectly competitive markets; a key characteristic of the imperfectly competitive firm's ability to affect price being the presence of product differentiation. One way of answering this question is to consider the implications of product differentiation for net product per worker; and one can do this in terms of what is a fairly standard choice of technique analysis. White (2009) shows in this regard that with product differentiation involving different methods in the production of both circulating capital and the consumer good, there is similarly nothing definite to be said *a priori* regarding the direction of change in net product per worker and (to the extent that this can be taken as a proxy for consumption per head) 'welfare' as a result of the appearance of differentiated products. Moreover, this result appears also to hold even where the product differentiation is accompanied by a rise in the rate of profit.

The upshot of such an analysis combined with the discussion of earlier sections may be put as follows: not only is the competition across industries or product groups more general basis for defining the degree of competition; the significance of a key defining characteristic of intra-industry competition from an orthodox perspective is much less clear from a Sraffian perspective.

9. Concluding notes

The preceding discussion is an attempt to clarify the basis for a classical/Sraffian perspective on competition: how it should be defined or measured and its connection with the determination of the prices of the Sraffian system. Starting from the work of both Clifton and Semmler it was suggested that competition should be defined in terms of a hierarchy of levels with the intensity of competition best measured in terms of the degree of dominance of competition for shares in the corporate surplus over intra-industry competition. It was also suggested that this view inevitably points to the rate of profit as reflecting the target rate of return; and, following Eichner's analysis, this in turn reflecting the desired corporate growth rate.

As discussed, the implied link between growth and target rates poses a question of consistency in relation to the Sraffian critique of the neo-Keynesian explanation of the rate of profit by reference to the growth rate. It was argued however that there is no necessary problem of consistency between the target rate and hence rate of profit determined via the desired growth rate on the one hand and this Sraffian critique on the other. As well, this determination of the rate of profit and its link with the growth rate may provide for some clarification of the nature of classical cross-dual dynamics.

Moreover, the link between the target rate and anticipated growth provides a link running from the macro level to relative prices and is a counterpoint to the New Keynesian arguments of recent decades regarding the role of imperfect competition in accounting for the effects of aggregate demand shocks. Further, it was argued that these orthodox arguments are also thrown into question by an alternative classical/Sraffian perspective on defining competition.

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