Humbug and the Cambridge - Cambridge Controversies in Capital Theory [1]

By *G.C. Harcourt*

Anwar and I have been friends since the publication in *JEL* 1969 of "Some Cambridge controversies in the theory of capital". The survey influenced, I understand, Anwar's 1973 Ph.D dissertation at Columbia, "Theories of value and theories of distribution" and his 1974 Humbug article was based on a chapter in his dissertation. Here I concentrate on his 1974 *Review of Economics and Statistics* paper, Bob Solow's response to it, Solow (1974), and Anwar's development of the original ideas and his response to Solow's criticism in Humbug II, Shaikh (1980).

Apart from the technical elegance and ingenuity of Anwar's analysis, he was one of the first participants in the capital theory controversies to put the technical analysis within their proper conceptual setting. Anwar made explicit that a fundamental issue at stake was the 'vision' of the processes at work in capitalism, of how accumulation and profits arose and were related. Anwar implied immediately (and explicitly in Humbug II) that scarcity and choice in an exchange system transferred to the sphere of production underlie both the theory and empirics of Solow's response and the practice, then and now, of the mainstream generally. J.B. Clark's theory of distribution and Irving Fisher's consumer queen drive the action through her aim to maximise her lifetime expected utility, with all other actors in the economy being but the agents to allow her to achieve this. Whereas Anwar has the alternative vision of the classical political economists and Marx, of ruthless swash-buckling capitalists (all three sub-classes) producing and accumulating, with all the other actors dancing to their tune.

That increases over time in output per person and per hour at the level of the firm, the industry and the economy are the outcome of both "more" and "better" capital per person are technical facts of life which economists of all persuasion accept. Neoclassical

[1] In this note I have drawn on my paper, "The importance of HUMBUG in the Cambridge - Cambridge controversies in capital theory", published in the Global and Local Economic Review in 2013.

economists further argue that the effects of “deepening” and “bettering” are separable, at least in principle (this is of the conceptual basis of Solow’s 1956 and 1957 articles). In contrast, Post-Keynesians ultimately came to argue that they were not, that the factors associated with accumulation bringing about the rise in output per person through embodiment were indissolubly mixed, see Kaldor (1957), Joan Robinson (1971). It is how the above underlying technical structure is married to the processes of accumulation and distribution that creates the impassable cleavage between the two sides.

Solow (1957) had set out an ingenious way in which to precipitate out the deepening function from the overall relationship between output per person and capital per person which contained both it and the impact of technical progress in the neoclassical version of Harrod’s natural rate of growth, Harrod (1939). Solow covered himself by writing that if it were assumed that the time series data used were viewed *as if* they had come from a production function in which, under competitive conditions, factor prices were equal to their respective marginal products and which was subject to the impact of neutral technical progress which raised the whole function over time, he had devised a simple way to fit statistically a function to the points so precipitated out. As we know it was a Cobb-Douglas.

Anwar’s criticism was to show that the function that was fitted was an algebraic identity – a law of algebra – in which regardless of how the values of the various variables were created – what processes were responsible for them – GNI would always be identically equal to the share of wages plus the share of profits. Solow’s methods and results could neither refute nor confirm that a Cobb-Douglas production function was the originator of what was observed in the data.

Anwar’s procedure was to show how a time series spelling out HUMBUG gave the same result – a very good fit of a Cobb-Douglas – as did Solow’s adjusted data. Solow’s answer was that “Mr Shaikh’s article [so much for a Ph.D from Columbia when viewed from MIT] [was] based on misconception pure and simple.” (121).

Anwar joined and was joined by economists from both camps, as it were. For example, Franklin Fisher (1971) carried out a huge simulation exercise in which he showed that if factor shares in the GNI were constant over ‘time’, a Cobb-Douglas function fitted well even though the conditions for aggregation from individual firms’ Cobb-Douglas functions to the economy as a whole were ridiculously restrictive and demanding. The fit occurred because the shares were constant, not because a Cobb-Douglas was producing the observed statistics. Henry Phelps Brown (1957) had already discussed the short-comings of the Cobb-Douglas associated with Paul Douglas’s seminal work but his setting out of the

critique was rather obscure and was neglected in the literature. Herb Simon also made the same critique but again did not have an immediate impact, see Simon and Levy (1963). The person who has stuck most tenaciously to the task of propagating and developing Anwar's insights is John McCombie, more recently in the company of Jesus Felipe see, for example, Felipe and McCombie (2013). (Felipe has also collaborated with Fisher.) Despite all this continued and damning criticism, the mainstream goes merrily on its way, using Cobb-Douglas or its sophisticated cousins, for example, CES, in both modern macroeconomic analysis and in endogenous growth theory.

Anwar (1980), 93, points out that Solow tried to have his cake and eat it too." Having … said that his method … [led] him to conclude that even the Humbug economy is neoclassical, [he] next asserts the very opposite … he runs a [linear] regression … on the Humbug data [that] gives a very poor fit [and] a negative coefficient for his *k*. [Anwar argues] that linearity is … a convenient assumption whose applicability must be … *justified*, not … assumed." (emphasis in original).

Even if Cobb-Douglas described the behaviour of individual firms this does not logically imply that similar processes occur systemically, that is to say, a systemic theory of distribution does not have to match or reflect the processes at work at the level of the individual firm. The best illustration of this proposition comes from Kalecki's remarkable 1936 review article of *The General Theory*, then untranslated from Polish[2]. In it, Kalecki starts with a profit-maximising, cost-minimising firm, the production technique of which could well be Cobb-Douglas, situated in either a purely (freely) competitive or an imperfectly competitive market. He nets out raw material costs and splits the value added implied by the net revenue and net cost curves into wage payments and surplus (=profits); he aggregates the values added of all firms in the economy to the economy as a whole and shows how wage-earners spending what they earn and profit-receivers receiving what they spend, given the level of investment expenditure, results in the overall levels of activity and employment, and the distribution of income between wages and profits, being determined simultaneously.

This two-sided relationship between accumulation and distribution was extended by Joan Robinson to the long period (in a Harrodian sense) in 1962 in her banana diagram (Joan Robinson (1962), 48), and even further by Donald Harris (1975, 1978), who takes in the sphere of production in which the potential surplus is created as a result of the impact of

[2] The first full English translation was published in the December 1982 issue of *Australian Economic Papers,* see Targetti and Kinda Hass (1982).

the current state of the class war and the existing technical conditions of production. The realisation problem is analysed in the accompanying sphere of distribution and exchange in which the Keynesian “animal spirits” function and the Cambridge saving function interact to determine the rate of accumulation and the distribution of income and so how much of the potential surplus is realised.

An essential part of setting up this alternative approach is Anwar’s critique of Solow’s methodology, of his theory and its application, and Anwar’s recognition of the link between ‘vision’ and the specifics of theory, analysis and applied work. Mainstream analysis of firms’ behaviour by no means implies that the system need mirror it. Anwar’s contribution also puts paid to the late Charles Ferguson’s, Ferguson (1969), and the late Mark Blaug’s claims, Blaug (1974), that econometrics would decide how serious for neoclassical theory would be the results of the Cambridge – Cambridge capital theory controversies. Joan Robinson further refuted the claim that econometrics could ride to the rescue by her repeated demonstration that comparisons of equilibrium positions (differences) cannot throw light on processes (changes), see, for example, Shaikh (1980), 115, n2. The hegemony and ignorance of the mainstream keeps these findings at bay but surely truth will ultimately prevail. If, when, it does Anwar’s contributions will be a reason why.

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Who's The Humbug After All These Years?

By L. Randall Wray

Cambridge economists destroyed Neoclassical capital and distribution theory sixty years ago.[1] Unfazed, proponents argued that even if there is no theoretical basis for aggregate production functions, they are useful if they "work" empirically. Using a Cobb-Douglas production function, regressions found a fairly good fit to the data and appeared to confirm the marginal productivity theory of distribution. While some were puzzled by the seemingly too-good-to-be-true empirical confirmation of a theory with shaky foundations, Anwar Shaikh demonstrated forty years ago that "so long as aggregate shares are constant, an aggregate Cobb-Douglas function having apparently 'constant returns to scale' will always provide an exact fit, for any data whatsoever" and "will seem to also possess 'marginal products equal to respective factor rewards'". Any data! From any kind of economy, including a Humbug economy! The results are guaranteed not due to laws of economics but rather due to laws of algebra.

In a true Humbug[2] response, Robert Solow replied to Anwar as follows:

> The factor-share device of my 1957 article is in no sense a *test* of aggregate production functions or marginal productivity or anything else. It merely shows how one goes about interpreting given time series if one starts by *assuming* that they were generated from a production function and that the competitive marginal-product relations apply.
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> [Solow 1974: 121, emphasis in original]

To paraphrase, he is saying about his famous 1957 article: Well, I was not testing anything, I was just showing how to interpret empirical evidence if one starts by assuming the data

[1] For a good recap, see: P. Garegnani, 1970 "Heterogeneous capital, the production function and the theory of distribution, *Review of Economic Studies,* 37 (July), 407-436.
[2] Here, the use of the term Humbug is consistent with Anwar's use and with the Definition of Humbug from Merriam-Webster: 1 a: something designed to deceive and mislead; b: a willfully false, deceptive, or insincere person; 2: an attitude or spirit of pretense and deception; and 3: nonsense, drivel.

were generated from a good Neoclassical production function. This is in response to Anwar's proof that any production function would fit!

It is hard to know what to make of such an evasive response. Neoclassical theory is a Humbug. Neoclassical empirical work is a Humbug. And Solow is a Humbug for trying to interpret empirical evidence using a theory known to be Humbug. And so are all the other Neoclassical macro theorists who still use Cobb-Douglas as the basis for virtually all modeling and estimation. They are fraudsters, hucksters, snake-oil salesmen. And the funny thing is that most of them do not even know it. As Scott Carter hilariously points out, Greg Mankiw defends Solow by arguing: "I have always found the high R2 reassuring when I teach the Solow growth model. Surely, a low R2 in this regression would have shaken my faith…"(Mankiw in Felipe and Holz 2001: 281). What can you say about someone who's been Humbugged by faith?

What we do know is that Anwar is not a Humbug. Over the past quarter century I've drawn inspiration from his work and from his character. Hyman Minsky (who, by the way, estimated Cobb-Douglas production functions for Douglas as a New Deal jobs program worker!) handed me an early version of Anwar's paper on effective demand in Marx, Keynes and Kalecki, which helped to synthesize in my own head the approaches of Keynes and Marx. I was always impressed by Anwar's dogged determination to demonstrate the usefulness of the labor theory of value—not only theoretically but also empirically. And I was even more impressed by his courage when he took the stage at a conference after a series of remarks by heterodox brethren who were trying to demonstrate their distaste for all things communistic. Anwar chided them by saying that they wouldn't dare say such things if Marx and Engels were present! But, as always, Anwar delivered that assessment in the most polite and respectful manner possible.

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