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Unemployment, Crisis and Liquidity
Preference**

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FOUR ENDOGENOUS MARKET FAILURES WHICH (TSS) VALUE EXPLAINS BETTER: INEQUALITY, UNEMPLOYMENT, CRISIS AND LIQUIDITY PREFERENCE

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ABSTRACT

This was presented to the First International Seminar on *Nuevas Direcciones en el Pensamiento Económico Crítico* (New Directions in Critical Economic Thought), organised by the Department of Applied Economics, Faculty of Politics, Universidad Complutense de Madrid, Madrid, 10-12 May 1999

It argues, with reference to empirical data from the US economy, that the theoretical category of value is required to explain four widely-recognised general features of a market economy:

- Permanent mass unemployment, that is, a permanent excess supply of labour, so that the labour market is never in equilibrium.
- The gap between rich and poor countries, which has systematically grown for the last hundred and fifty years, and whose growth has accelerated sharply since 1981, at the very moment when the re-construction of a unified world market started;
- The regular repetition of crisis – a sharp and well-defined interruption in accumulation, accompanied by a sharp rise in unemployment and a sudden fall of asset prices – every 7-12 years;
- The fact that in crisis, capital retreats from the sphere of production into the sphere of circulation and in particular, into the speculative holding of liquid assets.

Keywords: Value; TSSI; temporalism; rate of profit; Marx; MELT; Okishio

JEL Codes: E32, B14, B24, B51

FOUR ENDOGENOUS MARKET FAILURES WHICH (TSS) VALUE EXPLAINS BETTER: INEQUALITY, UNEMPLOYMENT, CRISIS AND LIQUIDITY PREFERENCE

Alan Freeman 09 May 1999

“A rate of profit is a pro-rata return to a quantity of capital. I formulated the following question: is a quantity of capital a specific list of machines, inventories of raw materials and means of subsistence, or is it a sum of money whose power of purchase over investible materials depends on the level of wages and prices?

“To my surprise, this question provoked a wave of indignation: “Everyone except Joan Robinson, knows perfectly well what capital is”. In the profession, this was converted into a widespread joke: “Since Mrs Robinson is not in the room, I suppose that we can speak of the quantity of capital”. But the only response that I got to my question was that if capital goods were ‘malleable’, the question would not exist...

“The argument in reality was nothing to do with the problem of measuring capital. It was much more to do with the reconstruction of a pre-Keynesian equilibrium in which the accumulation of means of production would be regulated by society’s aggregate propensity to save, and in which full employment would be guaranteed by real wages, which would adjust to the level to which the stock of existing putty could grow in order to employ the disposable labour force”

Joan Robinson, “The Second Crisis of Economic Thought”, Editorial Actual, Mexico-España [translated from Spanish by AF]

WHY VALUE?

This paper aims to show, with reference to empirical data from the US economy:

- (1) that the theoretical category of value is needed to understand why the market produces, from within itself, four decisive phenomena that call its own existence into question.
- (2) a specifically non-equilibrium category of value, called TSS (temporal-single-system) value empirically accomplishes this.
- (3) that TSS value is therefore a scientifically superior category.

My approach corresponds to a different concept of science from technicist notions that prevail in economics: for me, science is too important to leave to the experts: it is *par excellence* democratic and collective. My challenge to economic theory is not that its math or its models are wrong: I argue that it cannot explain what everyone can see.

I select four phenomena for which the evidence, from the most simple figures and facts, is overwhelming. I then ask: what theory explain them best? I do not need to prove they happen; anyone can see them, just as in Galileo’s time anyone could see comets and, with the telescope, the moons of Jupiter. The issue is that existing theory cannot say why.

They can be very simply explained, with good correspondence to the observed facts, using the category of *value*, and specifically a value category that does not pre-suppose equilibrium. I will argue that this is a distinct category of analysis, with a distinct empirical measure, leading to empirically distinct measures of the rate of profit, the value of capital stocks, and the value of money, that is not reducible either to money prices or to so-called ‘real’ prices.

WHAT NEEDS TO BE EXPLAINED?

Only the most obscurantist orthodoxy can deny that

- mass unemployment is permanent, and endemic. There is a *permanent excess supply* of labour, so that the labour market is *never* in equilibrium. The principal supposition of almost all orthodoxy – the equalisation of supply to demand – is simply false;
- the gap between rich and poor countries has systematically grown for the last hundred and fifty years, and that its growth has accelerated sharply since 1981, at the very moment when the re-construction of a unified world market started;
- crisis – a sharp and well-defined interruption in accumulation, accompanied by a sharp rise in unemployment and a sudden fall of asset prices – occurs regularly every 7-12 years;
- in crisis, contrary to all orthodoxy, capital retreats from the sphere of production into the sphere of circulation and in particular, into the speculative holding of liquid assets.

WHAT IS NEEDED TO EXPLAIN THEM?

Three empirical categories need to be distinguished, instead of the usual two:

- Value, which measures the conscious productive effort of human beings in the creation of commodities – use-values that are offered for sale in the market.
- Use-value, called ‘real price’ or ‘constant price’ when measured empirically, and sometimes ‘physical quantity’.
- Price, the monetary measure of use-value

Not only is each category empirically distinct; the profit rate depends on which category is used to measure it. The value rate of profit is therefore not the same as the price rate of profit, and neither of these is equal to the physical rate of profit.¹

Value is not reducible to price, nor is it reducible to use-value or ‘physical quantity’. All three categories are scientifically required to explain what happens in a market society.

EQUILIBRIUM CANNOT EXPLAIN WHAT EVERYONE CAN SEE

The remarkable feature of the phenomena I list above is that no existing body of theory can explain them. This is my principal reason for arguing that existing theory is unscientific.

I do not deny that individual theories explain individual phenomena. Endogenous growth theory can offer an explanation for inequality, real business cycle theory can suggest why crises happen, and all manner of sophisticated psychological theories try to explain the desire to hold liquid assets. However no single, integrated account exists; the central weakness of such theories is the very fact that they are needed. Galileo and Copernicus did away with the entire, extremely sophisticated mathematical apparatus of Ptolemaic astronomy by knocking away one single, false prop: the idea that the sun went around the earth. The same is required for economics.

We begin with the most obvious phenomenon of all: unemployment. This does not actually need to be ‘explained’ unless one has a theory that says it shouldn’t happen. It is an enormous fact about the

¹ In parenthesis, the Okishio theorem (Okishio 1961) is therefore false, as are all ‘refutations’ of Marx’s account of the tendency of the rate of profit to fall, because against all empirical evidence they speak as if the so-called physical rate of profit were the only possible rate of profit and, against all textual evidence, identify this rate of profit with Marx’s rate of profit.

market, a failure not of the market, but of market *theory*. Unemployment *means* permanent excess supply. Any theory which derives its categories by supposing that the market equates demand to supply, is simply wrong. Markets do not 'do' equilibrium.

This points to what I consider the principal false prop of existing theory, shared by neoclassical theory and the bulk of Marxist theory: the idea that the movement of a market economy which is never in equilibrium, can be explained using theoretical categories, which suppose that it is.

The question is ontological: the *categories themselves* are in error. Of course, these equilibrium categories are then used to study 'dis-equilibrium' But one cannot use categories derived from equilibrium, to study something that is not in equilibrium, any more than one can, for example, study the movement of the planets by speaking of their weight. One needs a category – mass – defined without reference to balance – in order to study moving bodies. We need a category – *temporal value* – that does not presuppose stasis, in order to study permanent non-stasis. We need to reconstruct, radically, the foundations of our subject, before that subject can exist.

It is not just that markets fail: the point is that this is how they work. Only when supply differs from demand do the mechanisms which equate them come into play; moreover the very process of equalisation in one sphere disequilibriates all others, whereon eternally restless capital disrupts all balance as it scrambles for gains and stampedes from losses in its thirst for surplus profit, the life force of the market.

The very word 'dis-equilibrium' itself proves what it seeks to deny, that equilibrium is already pre-supposed and real markets depart from this pre-supposition. The categories used – price, value, natural rate of unemployment, natural rate of inflation, profit, and so on – are all derived and calculated before this modification is introduced.

We need ways of talking about price, value, profit, and all other categories of economics which *do not depend* on the relation between supply and demand. We need to enquire qualitatively what the value of a commodity consists of, external to and independent of any subsequent exchange relations it enters into, *before* and *in order* to study the quantitative phenomenon of real market prices.

Finally there are two fundamental defects in the specific version of equilibrium theory which has passed for Marx's theory of value for some fifty years. This defines value as the set of prices which will reproduce an ideal economy with a fixed technology, under a constant value of money, with workers appropriating the entire net product and with proportions of production which equate supply to demand in all sectors; it defines price of production as the set of prices which will reproduce the same ideal economy under the same conditions except that capitalist appropriate profit in proportion to their advanced capital; and it argues that observed, empirical prices can be explained as an oscillating approximation to these prices of production.

The defects – and here we must refer to a result which has been established elsewhere (see Freeman 1997) – are that

- the values and prices so defined are *indistinguishable from neoclassical 'real prices'* – that is, they measure, not the quantity of labour embodied in the product but the quantity of *use-value* that the product yields in consumption.
- value so defined is not *conserved* in circulation. Value appears, and disappears, outside the sphere of circulation. This definition of value does not conform to a fundamental requirement, described as follows by Duménil and Lévy: "(1) Circulation does not *per se* create or destroy value, but redistributes it within the economy; (2) Value is increased in production by the

amount of socially-necessary labour time incorporated. The value of inputs is transferred to that of outputs.”

The reason for these failures is that in the ‘standard’ definition of value, *history is absent*. Value and price of production at any given moment depend *only* on the circumstances of that moment, and hence only on the ‘physical structure’ of the economy. If, therefore, a movement in either prices or technology provides the capitalists with constant capital that is cheaper, or more expensive, than that prescribed by the equilibrium definition, this cannot modify the magnitude of value, so defined. In consequence

- value so defined cannot be conceived of as a substance that *represents human productive effort*; which circulation merely distributes to agents in proportions depending on the functioning of the price system. It contains an admixture of magnitudes that rise and fall with the circumstances of circulation;
- value so defined does not obey the basic Harrodian law of accumulation:

$$K' = I$$

where K' is the rate of growth of capital stocks, measured in value terms, and I is that part of the surplus that is invested by the capitalists.

TSS values do satisfy these two requirements. They rigorously partition, as Marx intended, the measurable activities of the economy into two completely distinct parts:

- Production, in which value is created, defined uniquely by the application of conscious human labour to the creation of new commodities; and also in which society itself reproduces itself, by reproducing all classes that receive income in the form of commodities and meet their material and mental requirements thereby
- Circulation, in which this value, after appropriation by the owners of the means of production from the immediate producers, passes to the consumers or back into the stock of means of production.

WHY THE ORGANIC COMPOSITION OF CAPITAL RISES

Once value is defined in this way, it is perfectly obvious why the organic composition of capital rises even when there is technical change. Suppose the capitalists possess a certain sum of value K , and suppose during the year they produce, by the application of labour L , goods to the value X . This X is equal to $C + L$, where C is *identical* to the value consumed during production; L is equal to the living labour expended on it.

Note that for the simultaneous calculation this is not so; C is measured at two different times. Its consumption is measured at the beginning of the period and its production is measured at the end. The difference, a discrepancy that will always be negative if productivity is rising, is allegedly deducted from the value of stocks, so the capitalists are always ‘losing’ value. In consequence, the organic composition of capital cannot rise (according to this definition) unless the capitalists engage in some peculiar and specific behaviour.

For the TSS calculation, *no matter how the capitalists behave*, the increment to the value of stocks arising from the immediate process of production is always exactly equal to the living labour applied.

What then happens to L ? One part, V , is consumed by workers. Another part, B , is consumed unproductively by capitalists to reproduce their class. The remainder, which we will call I , adds to the

stock of capital – whether or not it is used in production is immaterial, since it forms part of the capital advanced and must therefore count in the calculation of the profit rate.²

The growth in the value of stocks is then given straightforwardly by the relation

$$K + \Delta K = K + I$$

Or

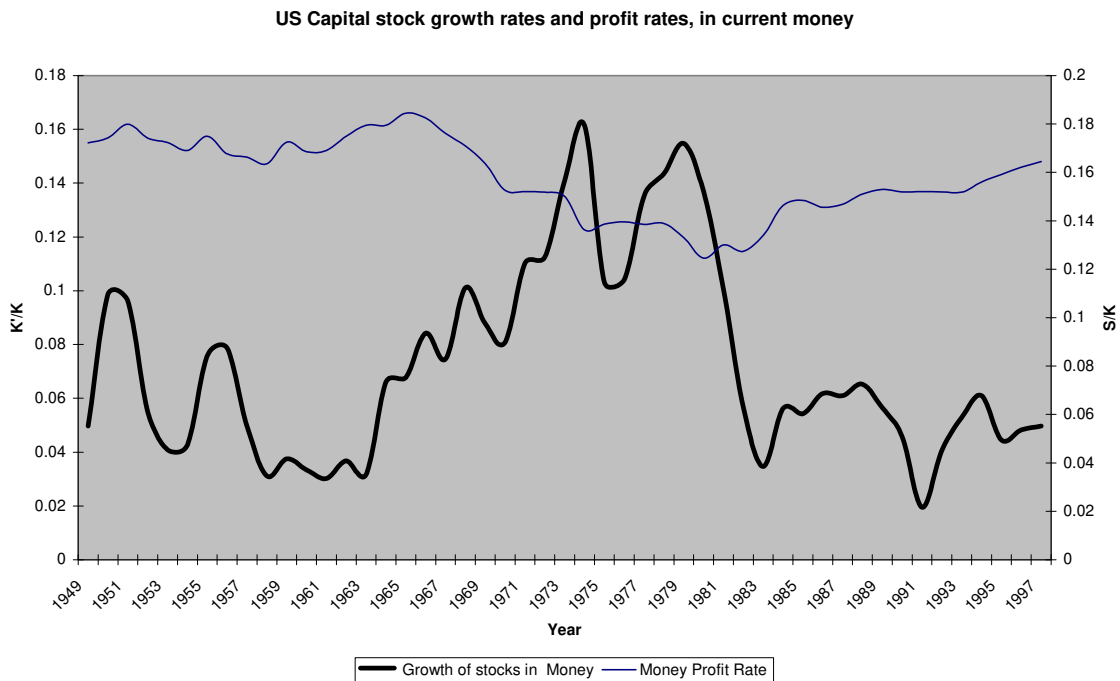
$$K' = I$$

This continues as long as accumulation proceeds. The ‘cheapening’ of constant capital cannot offset it. Value cannot be destroyed in this way.

WHAT IS CRISIS?

The following two graphs shows, initially in price terms alone, first of all the systematic rise and fall of the value of capital stocks over the last twenty years (for which figures are available) and second, the systematic rise and fall of the profit rate over the last fifty years, both for the US economy.

CHART 1



The data are crude and aggregate but the empirical relation is overwhelming and leaps to the eye. First, there is a regular cyclic fluctuation of the profit rate, and an even *stronger* regular cyclic variation in the growth of capital stocks, that is, accumulation. Second, there is a long-term movement that divides the second half of the century into three great periods:

- (i) a period of steady growth and high profit rates until 1963

² Thus the capitalists cannot escape from the requirement to get a return on their capital, merely by making it idle. Only if they actually consume the value in it, either wastefully by converting it into revenue as in crisis, or productively as in normal circumstances, can they recover the money (and hence value) they have invested and hence register their profits.

- (ii) a prolonged collapse of the profit rate *accompanied* by feverish accumulation
- (iii) a collapse of accumulation accompanied by a partial recovery of the profit rate

In a nutshell, crisis occurs when accumulation becomes negative: when $I < 0$, or *disaccumulation* takes place. The problem is that the *price* figures do not demonstrate this effect.

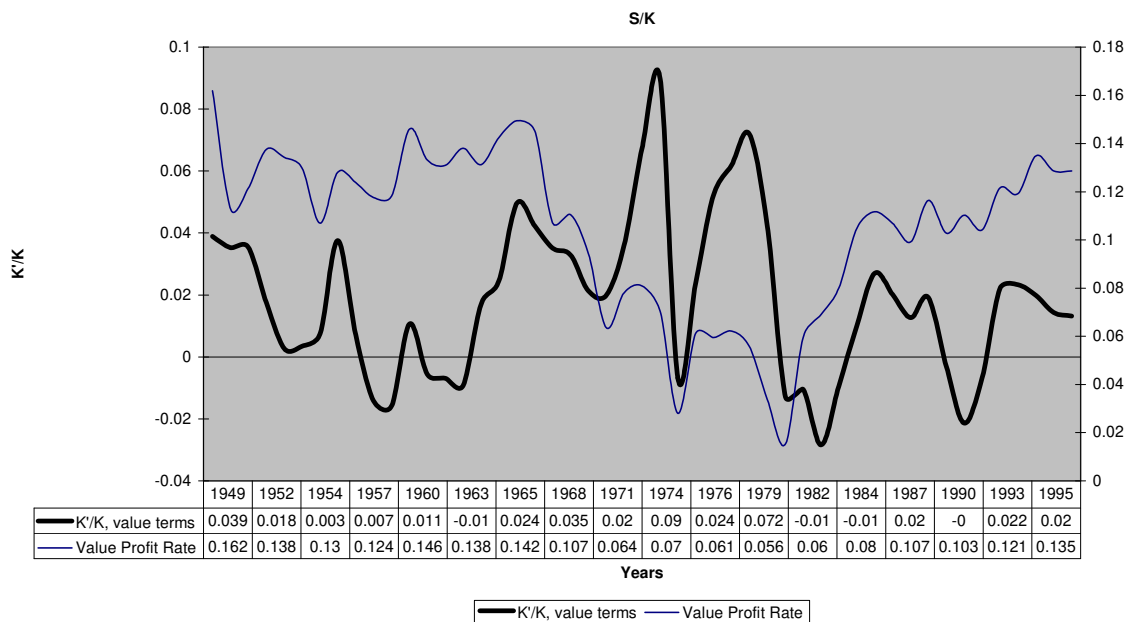
The reason is straightforward; the price figures include two create secular effects which systematically overstate accumulation;

- (a) they include the steady inflation of all prices, that is, a fall in the value of money
- (b) they *also* include the rise of *physical* productivity. 'Real' output rises even when the amount of labour output is constant, because, if the same labour produces more, this is accounted as an increase in output. By the same token it is accounted an increase in physical stocks

Chart 2 shows the same figures in terms of TSS values

CHART 2

Capital growth and profit rates, value terms



The first and most important point that this recalculation demonstrates, apart from accentuating the obvious relation between the two sets of fluctuations, is that during all the great crisis, *accumulation in value terms is negative*.

The great mistake which most modern theory makes, in attempting to understand this phenomenon, is to identify it with the *physical destruction* of use-value, or scrapping. Scrapping takes place, but this is an outcome of crisis and is not identical to it. Disaccumulation in *value* terms is a specific phenomenon which requires the category of value to be explained. It is described by Marx as the *conversion of capital into revenue*; it means that though the means of production continue (at least in part) to function as means of production, nevertheless this happens at such a diminished rate that overall, more value passes from these means of production into the product, than is replaced by means of investment.

This happens because the individual value of the goods embodied in historically-acquired stocks is lower than the individual value of newly-produced goods, and the social value of any good is formed as an average over all sources of that good including all the existing stocks of it. When stocks are partly replaced by newly-produced goods, even though they are physically identical, the goods that are destroyed have a higher value than the goods that replace them and there is a net destruction of value even though the used-up capital is *physically* exactly replaced – a phenomenon Marx termed the ‘release of capital’ the physical use-value is replaced but its value is *not* replaced. If the value is to be replaced or expanded, and technical progress is going on, then physical accumulation is required. An economy which merely reproduces itself is actually, as Marx notes, an economy in crisis. Accumulation is actually the real underlying imperative of the market, as Marx also notes, with some force, calling it ‘Moses and the prophets’.

A decisive advance of the TSS definition of value is that it explains how this can happen independently of the physical liquidation of goods. This has been extensively documented (see Maldonado-Filho, Freeman, Kliman in Freeman and Carchedi 1996) but is almost universally treated as a defect or paradox in the theory. Far from a defect, it is the decisive scientific feature of the theory that is required to explain what really happens in a crisis. The function of crisis is to reduce the value of stocks, and thereby create the conditions for a recovery of the profit rate.

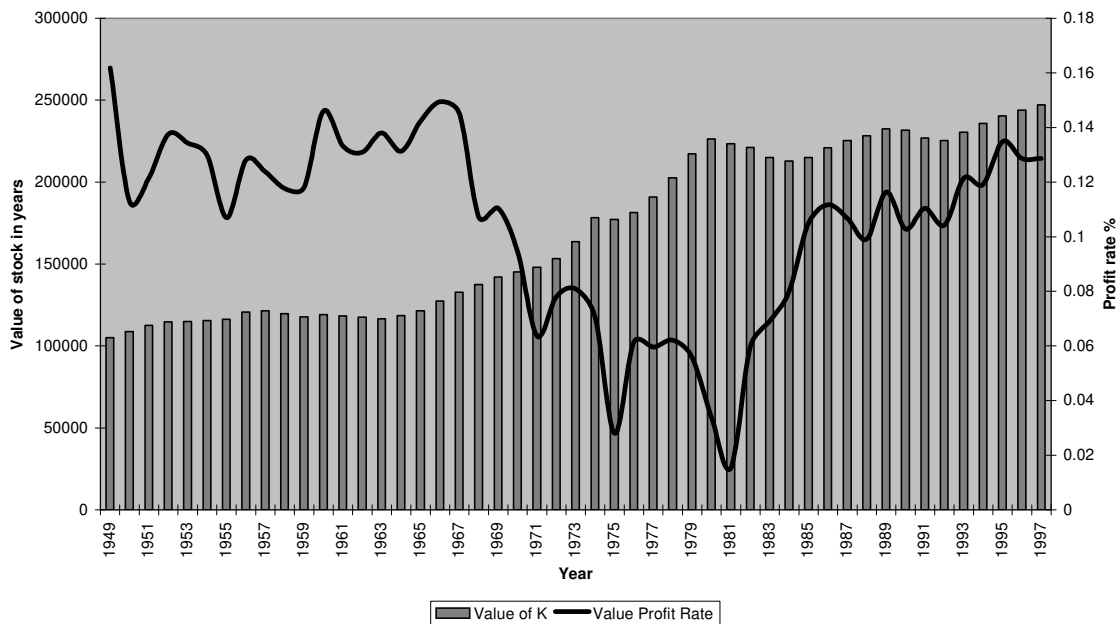
We can theorise this in two extremely general equations:

$$K' = I$$

$$I' = f(K)$$

CHART 3

Capital stock and profit rate in value terms; simple MELT, US 1949-1997



It can be shown (see Freeman 1997) that these two equations, for an appropriate monotonic function f , can reproduce *any* cyclic pattern of variation of stocks and investment. Since investment

behaviour is clearly directly affected by the rate of profit, and since the rate of profit is a function of capital stocks, *no further explanation* is required to explain the mechanism of crisis. This does not mean that crisis is not accompanied by other Goodwin-type phenomena (rise and fall in employment, variation in wage rates) or financial phenomena (sharp rise in the value of money, collapse of asset prices, etc). It just means that we do not *require* these epiphenomenal events to explain crisis. It also means that no amount of regulation of these phenomena, particularly of the Keynesian type, can eliminate crisis. It is a product of accumulation itself.

The second point that must be emphasised is that an explanation of the underlying cause of long period of profit rate collapse (1963-1981) leaps to the eye. Bear in mind that the graph above shows the rate of accumulation, not the size of stocks. Therefore, at any point when the K'/K graph is above zero, accumulation is taking place. This is the precise period of the prolonged fall in the profit rate noted by virtually all observers. To emphasise this it is worth reproducing the profit rate, and the actual magnitude of capital stocks (in value terms) on the same axes. This is shown in chart 3.

PROFIT SQUEEZE OR ENDOGENOUS ACCUMULATION?

Throughout the eighties, a debate raged which still continues, between 'profit-squeeze' explanations of the falling rate of profit, and various opposed theories. The point of view to which this paper adheres – that movements in the profit rate are by and large generated by the process of accumulation itself – was generally dismissed, and continues to be dismissed, on extremely unscientific grounds: even though all the empirical evidence for it is almost overwhelming, it was argued and continues to be argued that the argument was *logically* unsound. The 'extirpation' of this endogenous-accumulation hypothesis was conducted in extremely brutal verbal terms: to this day its supporters are termed 'fundamentalists' with all the connotations that this term implies in modern discourse, with the collusion of editors who should know better.

The brunt of this attack has the function of suppressing science; it denies the validity of consulting the evidence on the grounds of pure logic. This is a religious, not a scientific, response. The error in it is that deductive logic, as its founder Aristotle understood when he divided his logic into prior and posterior analytics, requires agreement on and clear definition of the terms that are used. The profit-rate we exhibit is not the same as the profit rate exhibited either by the surface appearance of prices, nor is it the same as the rate which the surplus approach claims to be the only rate possible.

It therefore permits us to re-examine this old debate. We can re-write the formula for the rate of profit

$$r = \frac{S}{K} = \frac{Le}{K} = \frac{e}{K/L}$$

where $e = S/L$, the share of profits in net output. The term K/L then represents capital stock *per worker* and thus takes into account the general expansion of the economy due to population growth. The term above then shows the effect of the profit squeeze and the term below, the endogenous-accumulation effect.

We can examine the relative impact of these two effects most simply by taking logarithms:

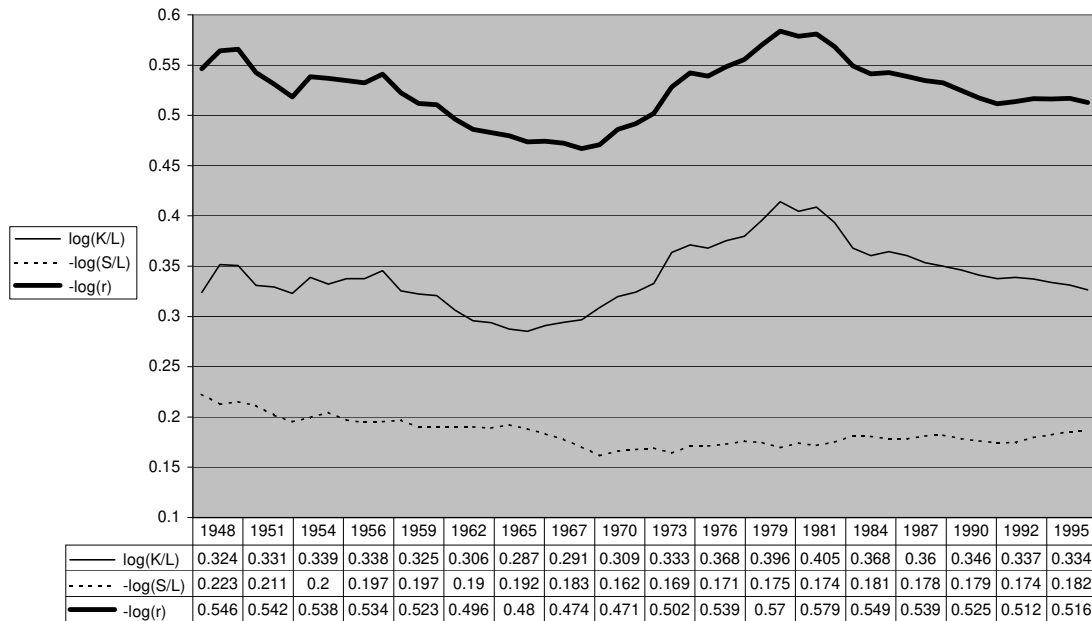
$$\log r = \log e - \log (K/L)$$

The graph above exhibits the result in such a way that we can visually examine the relative effects of the two movements. The profit rate curve at the top is inverted, as is the curve shown the share of profits in output. A rise in the top curve represents a fall in the profit rate. A rise in the next curve

represents a rise in the organic composition of capital. A rise in the bottom curve represents a rise in the value of labour power.

CHART 4

Contributions to the profit rate



We leave the reader to draw her or his own conclusions.

WHAT IS LIQUIDITY PREFERENCE?

Cycles are characterised, not only by slow variations in the value profit rate but by sharp and sudden falls in the profit rate in *price* terms.

At this point it is convenient to demonstrate why the price and the value profit rate differ. We can approach this using the concept of the *MELT* or the monetary expression of labour time (Foley, Ramos/Rodriguez, etc). I treat this coefficient as representing the ratio between the value of any part of the stock of goods in society and their price. Thus, if goods whose value is 10 hours exchange on the market for \$20, then the MELT is \$2/hour.

The recent theoretical advances shared by approaches which we term *single-system* approaches lie in treating this ratio as a universal parameter of the economy, so that it is the same for any collection of goods at any point in time. It nevertheless, of course, varies in time.

We can thus write the ratio between the value of stocks in society, and their price, as

$$\$K = mK$$

where *m* is the MELT

Now let us consider the meaning of the term 'profit rate'. It is nothing other than the rate at which a capital expands, in proportion to the size of that capital, under the supposition that all profit is invested. Thus

$$\$r = \frac{\$K'}{\$K} = \frac{(mK)'}{mK}$$

where the ' sign represents differentiation. Applying the simple rules of differentiation gives

$$\frac{m'K + mK'}{mK} = r + \frac{m'}{m}$$

That is, the rate of profit in *price* terms is equal to the *value* rate of profit, plus a term equal to the proportionate rate of expansion of the MELT.

Over the period of the cycle there is a periodic fluctuation of *all* prices (as Marx frequently notes) because in the early phase of the cycle, when investment demand is growing, aggregate demand exceeds aggregate supply. The price profit rate at this point is in excess of the value profit rate and speculative profits are to be had. In simple terms, people can make a profit *simply* because goods are rising in price, relative to their value.

But at the point in the cycle when investment demand tails off due to the falling profit rate, the sign of this modification is reversed. m'/m switches from positive to negative and there is a sharp and sometimes catastrophic fall of the price profit rate, as the speculative mechanism moves into reverse.

It is at this point that the liquidity preference mechanism comes into effect. The *value* of money, defined as modern theory does it as the purchasing power of money *in value terms*, undergoes a sudden sharp *rise*, because the price of goods is falling. We may illustrate this by reversing the above equation:

$$r = \$r - \frac{m'}{m}$$

If m is falling, the value rate of profit is higher than the price rate of profit and it is perfectly rational to hold liquidity, since the value rate of profit that can be obtained on it, becomes positive.

This switch into liquidity further accentuates the fall in demand, and creates a positive feedback effect, which is what gives rise to the characteristically asymmetric shape of the business cycle.

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