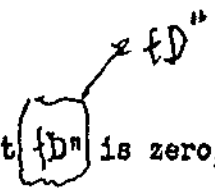


14. The Cycle of Pure Surplus Income. A condition of circuit acceleration was seen in section 9 to include the keeping step of basic outlay, basic income, and basic expenditure, and on the other hand the keeping *in* step of surplus outlay, surplus income, and surplus expenditure. Any of these rates may begin to vary independently of the others and adjustment of the others may lag. But any systematic divergence brings automatic correctives to work. The concomitance of outlay and expenditure follows from the inter-action of supply and demand. The concomitance of income with outlay and expenditure is identical with the adjustment of the rate of saving with the requirements of the productive process. It follows that one may legitimately project a division of expenditure into a division of income, and it is in this manner that we arrive at the concept of a pure surplus income.

Pure surplus income may be defined, for present purposes, as a fraction of total surplus income. This fraction will be denoted by the symbol, H , where H is the fraction of surplus expenditure that goes to new fixed investment. All surplus final expenditure may be termed a "fixed investment" to distinguish it from the outlay of units of enterprise and their transitional payments which may be called "liquid investment." Further, fixed investment may be divided into the purchase at the surplus final markets of replacements and of maintenance and, on the other hand, new fixed investment. Thus, in each interval the rate of surplus expenditure, $\{E^n$, consists of two parts: one part, $(1 - H)\{E^n$, goes to the replacement and maintenance of old fixed investment; the other part, $H.\{E^n$, goes to new fixed investment.



Now, when fI'' is keeping pace with fE'' , so that fD'' is zero, one may make a parallel distinction in surplus income, naming $(1 - H)fI''$ as ordinary surplus income and $H \cdot fI''$ as pure surplus income. This pure surplus income is quite an interesting object. When H is greater than zero, it is a rate of income over and above all current requirements for standard of living, since that is provided by fI' , and as well over and above all real maintenance and replacement expenditure, since that is provided by $(1 - H)fI''$. Thus, one may identify pure surplus income as the aggregate rate of return upon capital investment: entrepreneurs consider that they are having tolerable success when they are not merely "making a living", no matter how high their standard of living, and not merely obtaining sufficient receipts to purchase all the equipment necessary to overcome obsolescence, but also receiving an additional sum of income which is profit in their strong sense of the term. An aggregate profit in that sense is precisely what we have found pure surplus income to be. Further, ~~unlike other incomes, pure surplus income need not be spent currently without effecting a reduction of total income;~~ it is possible to divert pure surplus from the circuits to the redistributational function without causing a negative fD'' because in the redistributational function there is an organization of promoters, underwriters, brokers, and investors who there mobilize sums of money and move them along fD'' from the redistributational function to the surplus demand function where they are spent as new fixed investment. Thus, it is pure surplus income, as a concrete fact, which has given rise to and has sustained the ideal of the "successful man" in our culture. For the "successful man" is a man who, of course, enjoys a very high standard of living but who measures his success in quite other terms, namely, in

the industrial power of ownership which he wields, in the financial power of possession of large blocks of readily negotiable securities, and in the social prestige that may be buttressed by the purchase of the most conspicuous products of human art and ingenuity in the past history of man. For there to be successful men of this type and for them to attain their success through industry and commerce, it must be possible to derive from the circuits a rate of income that can be moved, without conflicting with circuit requirements, from the circuits to the redistributational function where alone industrial stocks, negotiable securities, and the products of the process in the remote past are now on sale.

Enough, perhaps, has been said to show that pure surplus income is at the nerve centre of free economies. We have now to advert to the fact that it is subject to cyclic variation in the long-term acceleration of the productive process. The symbol, H , in the product, $H \cdot fI''$, has already been met. It is the measure of the long-term acceleration potential of the surplus stage of the productive process. The higher the rate of new fixed investment, the greater the rate at which long-term acceleration of the process is proceeding and, as well, the greater the rate of pure surplus income. But the long-term acceleration of the process involves a cycle and this cycle cannot but effect the rate of pure surplus income. To this we direct attention.

Let the symbol, F , denote the ratio of pure surplus income to total income, so that

$$F = \frac{H \cdot fI''}{(fI' + fI'')} \tag{41}$$

For "G" read "W"; for "d" read Δ .

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whence taking G as the ratio of surplus to total income

$$F = \frac{N \cdot dG}{G \cdot dH} HW \quad (42)$$

On assuming a smooth trend and differentiating, one finds as a condition for a maximum of F that

$$0 = N \cdot dG + G \cdot dH = H \cdot \Delta W + W \cdot \Delta H \quad (43)$$

As long as the right-hand side of this equation is positive, the ratio, F, is increasing; when it becomes negative, F begins to decrease.

Now the ratio, $\frac{W}{G}$, is at its maximum ($dG = 0$), when the process turns over from a surplus to a basic expansion: throughout the surplus expansion, $\frac{W}{G}$ increases; throughout the basic expansion, $\frac{W}{G}$ decreases.

On the other hand, the maximum of F depends upon two somewhat independent factors. $\frac{W}{G}$ increases as long as Q'' increases; $\frac{W}{G}$ begins to decrease either because Q'' begins to decrease or because the rate of replacement requirements begins to rise. On the assumption of the pure cycle, Q'' does not decrease but reaches a maximum and then levels off into a straight line parallel to the time axis; in that case, the maximum of $\frac{W}{G}$ arises subsequently to the maximum of $\frac{W}{G}$ when, during the basic expansion, the rate of replacements begins to rise or, if Q'' ^{were} still increasing, when the rate of replacements begins to increase more rapidly than Q'' . If, however, the surplus expansion was over-ambitious and expanded the surplus stage of the process excessively, then Q'' is bound to fall sharply at some time or other. This will occur prior to the ordinary maximum of $\frac{W}{G}$ to bring about a premature maximum of that ratio. It may occur after the maximum of $\frac{W}{G}$ to make the maximum of F not a smooth turning point but a sharp break and fall. It may occur earlier, bringing $\frac{W}{G}$ to a premature maximum and suddenly changing F from a rate of rapid increase to a rate of still more rapid decrease. Thus, in general, there are three types

of maxima for F. There is the ideal maximum when the turn is due to replacements absorbing the capacity of the surplus stage for effecting an acceleration of the process. There is the slightly premature maximum when the turn is due to an over-expansion of the surplus stage but occurs after the maximum of $\overset{w}{F}$ when the rate of increase of F is already small. There is the extremely premature maximum of F when the turn is due to a great over-expansion and occurs when the rate of increase of F is still great; in this case the maxima of F, $\overset{w}{F}$, and H coincide. By over-expansion is meant simply the fact that the surplus rate of production, Q", falls.

To visualize this cycle, let us say that f_i is the pure surplus income per interval received by the unit of enterprise, i, and that o_i is the outlay per interval of the same unit of enterprise. Then

$$F = \overset{w}{F} = \frac{\sum f_i}{\sum o_i} = f/o \quad \text{XXX (44.2)}$$

Here, $\sum f_i$ is identical with $H \cdot fI''$ and $\sum o_i$ is identical with $(fO' + fO'')$. On the other hand, f/o may be taken as simply a representative ratio of pure surplus to total outlay among units of enterprise. In any given unit of enterprise, according to its advantages or disadvantages, the particular ratio, f_j/o_j , will be greater or less than the average, f/o .

Now in the proportionate expansion at the beginning of the pure cycle, the ratio, $\overset{w}{F}$, is constant: proportionately, the surplus stage is increasing as rapidly as the basic. However, the fraction, H, will be increasing, for the surplus stage is then increasing its potential for long-term acceleration. It follows that the ratio, F, and the average, f/o , are increasing as H increases. Further, since both basic and surplus stages are accelerating, $\sum o_i$ is increasing; and so the absolute quantity of pure surplus, $\sum f_i$, is increasing more rapidly than $\sum o_i$. For a fraction, say N/D, to keep increasing when D is increasing, then N must be increasing more rapidly than D.

surplus, $\sum f_i$, is increasing as the product of two increasing factors, namely, H and $\sum o_i$. In so far as prosperity is measured in terms of pure surplus income, prosperity has begun.

The proportionate expansion is based on the capacity of the process for short-term acceleration. If a great long-term acceleration develops, that is, a transformation of the capital equipment of the surplus stage, then dQ'/Q' will lag behind dQ''/Q'' and a surplus expansion will result. Then both ϕ and H are increasing. The ratio, F , and the average, f_i/o_i , will be increasing as the product of two increasing factors, namely, both ϕ and H . The absolute quantity of pure surplus income, $\sum f_i$, will be increasing as the product of three increasing factors, namely, ϕ , H , and $\sum o_i$. The rewards of entrepreneurial initiative are munificent.

It is to be observed that this phase has no necessary implication (*) of an inflationary rise in prices. That occurrence is conditioned by the failure of the rate of saving to keep increasing rapidly enough. If the pure surplus is captured by the higher income brackets alone, the anti-egalitarian shift in the distribution of income is being achieved. If not, saving is insufficient; prices rise; total income increases; and this increment, at least in the first instance when it appears as a broader price spread, will go to the higher income brackets to combine an anti-egalitarian shift with a reduced purchasing power which pinches the lower income groups.

However, the surplus expansion is only an acceleration lag. The greater it is and the longer it lasts, the greater the potential for basic expansion that is created. Obviously, it is not created and then left unused. It is put to work as rapidly as possible, and so the basic

stage accelerates at an ever greater pace while the surplus stage begins
 (*) When prices do rise, this is due to the increased cost of labor when industrialists are competing for the more skilled workers and the natural rate of employment is being approached. Again, it is due to competition that raises prices of materials.

to realize that it has acquired as great a potential as possibly can be used. There results the basic expansion with the basic stage accelerating, proportionately, more rapidly than the surplus. ϕ has passed its maximum.

In the early part of the basic expansion, F is still increasing though at a reduced rate; for the rate of decrease of ϕ is cutting against the rate of increase of H which now may be less rapid. It follows that the average, f_i/o_i , is also increasing still. On the other hand, the absolute sum of pure surplus, $\sum f_i$, is increasing as the product of two increasing factors, namely, F and $\sum o_i$. On the supposition of a pure cycle, in which Q'' does not decrease, the maximum of F is intermediate between the maximum of ϕ and the maximum of H . It is a smooth turn that decreases pure surplus not by diminishing receipts but by changing the function of surplus income from being the "money to invest" of pure surplus to the mere replacement income that has to be spent on overcoming mounting obsolescence. However, while the ratio, F , and the average, f_i/o_i , decrease after the smooth maximum of F , the absolute quantity of pure surplus income continues to increase up to the maximum of H , which, ex hypothesi, is later. Thus, two periods are to be distinguished subsequent to the maximum of F . A first period in which average pure surplus is decreasing though aggregate pure surplus continues to increase; and a second period in which both average and aggregate pure surplus income are decreasing. In the second of these periods the ratio, F , and the average, f_i/o_i , are decreasing as the product of two decreasing factors, namely, ϕ and H ; if $\sum o_i$ is still increasing, $\sum f_i$ will be decreasing at a slower rate; but in any case F , H , and $\sum f_i$ are reverting to zero which they reach as dQ' , following dQ'' , reaches zero.

Schumpeter, Hist Econ. Theor., pt 1125 ff *Common growth / new plant & equip* *worry, theories / not profitable, interrelation, June 87*

The foregoing is an outline of perfect adaptation to the pure cycle of the expanding productive process. However, the actual course of events is governed by the actual lack of adaptation to the pure cycle. This lack of adaptation is multiple and so we treat successively and as distinct though conjoined phenomena the long, drawn-out depression and the short, violent crisis.

At the root of the depression lies a misinterpretation of the significance of pure surplus income. In fact, it is the monetary equivalent of the new fixed investment of an expansion: just as the production of new fixed investment is over-and-above all current consumption and replacement products, so pure surplus income is over and above all current consumption and replacement income; just as the products of new fixed investment emerge in cyclic fashion, so also does pure surplus income emerge in cyclic fashion. It is mounting from zero at a moderate pace in the proportionate expansion; it is mounting at an enormous pace in the surplus expansion; but in the basic expansion first, average, and then, aggregate pure surplus begin to decline and eventually they have reverted to zero. Now it is true that our culture cannot be accused of mistaken ideas on pure surplus income as it has been defined in this essay; for on that precise topic it has no ideas whatever. However, the phenomena here referred to by the term, pure surplus income, are not, as is the term, a creation of our own. The phenomena are well known. Entrepreneurs are quite aware that there are times of prosperity in which even a fool can make a profit and other mysterious times in which the brilliant and the prudent may be driven to the wall. Entrepreneurs are quite aware of the ideal of the successful man, a man whose success is measured not by a high emergent

standard of living nor by the up-to-date efficiency of some industrial or commercial unit but by increasing industrial, financial, and social power and prestige. In the old days when the entrepreneur was also owner and manager, pure surplus income roughly coincided with what was termed profit. Today, with increasing specialization of function, pure surplus income is distributed in a variety of ways: it enters into very high salaries of general managers and top-flight executives, into the combined fees of directors when together these reach a high figure, into the undistributed profits of industry, into the secret reserves of banks, into the accumulated royalties, rents, interest receipts, fees, or dividends of anyone who receives a higher income than he intends to spend at the basic final market. For pure surplus income, as distributed, is the remainder of income that is not spent at the basic final market either directly by its recipient or equivalently through the action of others spending more than they earn. Thus, pure surplus income may be identified best of all by calling it net aggregate savings and viewing them as functionally related to the rate of new fixed investment.

The consequence is that net aggregate savings vary with new fixed investment, and the complaint is that there exists, in the mentality of our culture, no ideas, and in the procedures of our economies, no mechanisms, directed to smoothly and equitably bringing about the reversal of net aggregate savings to zero as the basic expansion proceeds. Just as there is an anti-egalitarian shift to the surplus expansion, so also there is an egalitarian shift in the distribution of income in the basic expansion. But while we can effect the anti-egalitarian shift with some measure of success, in fact the egalitarian shift is achieved only through the contractions, the liquidations, the blind stresses and strains

of a prolonged depression. Once F has passed its maximum, the average ratio of pure surplus to the outlay of an entrepreneurial unit, f_i/o_i , has to decrease. Once H has passed its maximum the aggregate of pure surplus, $\sum f_i$, has to decrease. There is operative a general "squeeze". There is no mechanism for providing adaptation to this "squeeze". There follows chaos.

In the first place there are a number of sources of pure surplus income, as distributed, that are relatively invulnerable. Individuals may hold fixed claims of income against industrial or commercial units. In any particular case these fixed claims, whether against one or against a number of units, may amount to a claim to surplus income. The obvious instance is had in interest-bearing bonds. But there exists a series of more or less analogous instances of pure surplus income in the form of fees or of salaries and the less these instances are directly derived from industry, commerce, or financial services, the less they can be controlled by their real though remote sources. The significance of such relative invulnerability is that such instances of pure surplus income are the last to feel the "squeeze", and, what is more important, that the pressure of the "squeeze" is all the stronger and more relentless on other instances.

Beside this first degree of invulnerability there is a second. The same reasons that enabled some units of enterprise to recapture more than an average share of pure surplus income during the surplus expansion, now will enable them to resist a proportionately more than average reduction of their share of pure surplus. Thus the "squeeze" is operative most of all upon the firms that have a less than average share of pure surplus. As it proceeds, it will eliminate not merely any pure surplus

they receive but as well their replacement income and part of their basic income. Such relative invulnerability brings the circuits to a distorted quasi-equilibrium in which an artificial rate of pure surplus income is sustained by a rate of losses. Individuals continue to receive more income than they spend at the basic or at the surplus final markets. There is no compensating rate of new fixed investment to offset this drain. There results a negative value of fD , but the "squeeze" gives positive values of fS and particularly fS' as embarrassed entrepreneurs undergo a continuous and equal stream of losses. In this fashion, the required reduction of the rate of savings is effected by creating losses to supply the invulnerable rate of savings. From a different view-point one may say that the outlay of some firms exceeds their receipts to enable the outlay of other firms to contain an artificial pure surplus income. But however the matter is expressed, the rate of losses has to equal the emergence of more pure surplus income than the process in the given interval is generating; and, if at any time, the rate of losses proves insufficient, the familiar mechanism of falling prices, decreased total income, and increased purchasing power comes into play either to decrease the rate of savings or to increase the rate of losses.

Evidently, the systematic requirement of a rate of losses will result in a series of contractions and liquidations. Any particular firm may succeed in strengthening its position. But that only transfers the incidence of the squeeze elsewhere. Any number of firms may go bankrupt and be liquidated. But until the position of the strong

is undermined by the general and prolonged contracting, the requirement for the rate of losses continues and with it the depression.

It is quite true that, were a long-term acceleration to get under way, the situation would be remedied, for sooner or later the weaker firms would begin to obtain sufficient receipts to make ends meet. But the difficulty is that a long-term acceleration has been under way quite recently, that it was approaching completion in the surplus stage of the process, and that it was at least partially completed in the basic stage. Further acceleration of the process, from the nature of the development attained, would be a basic expansion, and it would have to be a short-term basic expansion before it could develop into a long-term basic expansion; things have to be going fairly well before a general movement to transform capital equipment can be initiated. Now, whenever the basic stage accelerates more rapidly than the surplus stage, the rate of savings has to decrease continuously. But in the depression there is already an excessive rate of savings, and only a distorted equilibrium is had through the simultaneous existence of a rate of losses. Further decrease in the required rate of savings only intensifies the problem; spontaneously it will work out through the mechanism of falling prices and contracting total income; that under current inadaptation an expansion could be expected against such difficulties is evidently preposterous. On the other hand, increasing contraction and liquidation tends to reduce the requirement for a rate of losses: with the surplus stage already operating at a minimum, any further reduction of the basic stage means that a zero dQ''/Q'' is greater than a negative dQ'/Q' ; this postulates an in-

creasing rate of savings and, under the circumstances, this increase of required savings (since actual savings already are too great) is a reduction of losses. Thus, the greater the contraction, the less the rate of losses required; again, the greater the contraction, the weaker the position of the initially invulnerable; in the limit the rate of losses will disappear and a distorted equilibrium give place to a true equilibrium. Meanwhile, obsolescence will have mounted and so as orders for replacements begin to increase, they will be accompanied by surplus purchases that are new fixed investment; H begins to increase, and the proportionate expansion of the revival is under way.

Later we shall consider the effect of a favourable balance of foreign trade or of deficit government spending in mitigating the depression's requirement for a rate of losses. The present point, however, should be repeated. It is that in the later stages of a long-term acceleration, even if there is no crisis or general break-down, there is required a continuously decreasing rate of net aggregate savings so that, at the end of the expansion and until a new expansion gets under way, net aggregate savings or pure surplus income have to be zero. The phenomena of our depressions can be explained by our lack of any mechanism that will reduce net aggregate savings smoothly and equitably. There results a distorted equilibrium conditioned by a rate of losses. This rate of losses forces the series of contractions and liquidations that characterize the depression. Further, under such circumstances, it is vain to expect a solution or remedy by the emergence of a new cycle of expansion; that might be expected if an extremely premature

crisis arose but not if the process gets into difficulties after the surplus expansion has largely been completed; in the latter case, supposing current adaptation, it is only the prolonged contraction undermining the position of the strong and reducing the requirement for an impossibly low rate of net aggregate savings that end the depression. Even after the distorted equilibrium through a rate of losses has been eliminated, it is impossible for the expansion to begin if the real situation is such as to favour a basic expansion; for that would only renew the old difficulties. But with the passage of time obsolescence will become great enough to make the situation favour a surplus expansion, a great long-term acceleration; then the trade cycle recommences.

It will be convenient to reserve to the next section an account of the more violent phenomena of the crisis.