Essay in Circulation Analysis

1 Difference between R. Gordon and A. Lowe

G. begins from exchange economy

1-2: distinctinn between real and nominal magnitudes

L. begins simply from order within productive process

extraction of ore, making of pig iron, making of steel, making of machine tools

use of machine tools

a) to make extractive machinery, blast funnnaces, steel mills,

b) which make ~~x~~ machine tools for making gins, spindles, looms, sewing machines

G. does not reduce any economic problems to instability ~~nf~~ that might be the source from pure productive process to exchange economy's instability

L. wants a permanent stationary state (except for cases when populatin increase demands a larger economy

2 Ouranalysis is intermediate

differences and changes of rates of production are used to classify rates of payment (p. 28 ff.) and so to imply similar changes in the rates of payment; so we differ from G

we suspect that development in an almost permanent stationary state is bound to be only widening and never deepening; and in that respect we differ from Lowe~~x~~

3 Our analysis and that of Marx

Lowe acknowledges Marx among the sources of his analysis of the productive process

It ~~w~~ follow~~xs~~ that our analysis will be more cap~~xx~~able of an understanding of Marx than is G and the mainstream ecoomics of Western thinkers.

It does not follow that we shall reach Marxianconc~~x~~lusions

Marx conceived surplus as robbery

We conceive it as a necessary condition of development

Marx believed an economy can be planned

We conceive it as another ecology - an interdependent set of of a very large number of schemes of recurrence whose emergence and survical is never more than probable. However, an ecology in human affairs survives in proportion to the alertness, intelligence, and freely accepted necessary adaptations.

Understanding economics is never a matter of much goods, so much land, or any other static entity. It is concerned not with wealth in facto esse but in fieri, not a matter of so much but of so much every so often; not a matter of so many dollars but of so many dollars a day or week or month or yeat.

These rates are not isolated occurrences but, it is always hoped, continuously repeated recurrences, the realiaation of ongoing schmemes of recurrence in firms and hourseholds, where the households contribute services to the firms and the firms enable the households to choose.. what they please.

P. 7 Thus the productivie process is a purely dynamic entity.

Why this insistence on the dynamic, this omission of all the wealth that is presupposed and x all the wealth that is produced.

Because it is in the dynamic part that the significant variables are found

A_p planmned autonomous spending
Q real income
Y noxminal income
P deflafor
p rate of inclation
U rate of unemployment
I investment
C consumption

p. 13 "The division is not ased upon proprietary differences."

Problems that arise from this xxxx divsion are disregarded by those that attribute economic ills to private ownership, privat e ownership of the means of production, etc. The division is functional

It is not a division based on the properties of things: raw materials may become consumer or capital goods
capital goods may be in point to line or to surxface etc
general services (light heat power transportation may be in any correspondence and in different correspondences at different times

The division is not proprietary or material or technical but functional: it is the samme division that reaches from primitive spears and nets to the capitalist and the socialist economies.

Circ. Anal., p. 17

Line five: "algegbraic funct9on of the first degree"
Algxebraic function: not trigonometxrical, expondential, hyperbolic, but simply in terms of such variables as x, y, z, t,....
Of the first degreex: theymay have determinate or indeterminate coefficients that are constantsx, but they are not to be raised any power or fraction of a power

Ultimate correspondence but not simultaneous identity of rates in productive process and emergent standard of living.
Not simultaneous identity: there are varying lags between the inception of the production of an item and its ultimate emergence as a finished product ready to enter into SL
Ultixmate correspondecne: apart from mistakes in production (overestimated demand, technical shortcomings) what is in the basic process of production within due time becomes an element in SL

Q_i: final product
Q_{ij}: final product from firm "j", or part of final product from "j"
Q_{ijk}: final product, Q_i, in whooe or part from firm, "j", whose factors are "k"

p. 18: Three qualifications: mistakes, lags, non-mathematical equals until common unit of measurement determined

p. 20: short term and long term acceleration
short term: greater efficiency in use of current equipment
long terms: addition to current equipment or improvement of current equipment
adding is named "widening"!
improving (ie better equipment, better designs) is "deepening.

p. 21: generalized long-term acceleration: two cases

p. 22: long term accelerations are limitedx
rate of replacement and maintenance absorbs more and more of surplus income that feeds the expansion
butx it can be followed by a new type of long term acceleration:
an economy based on agriculture can turn to commerce
to agriculture and commerce can be added impxrovements in canals, barges, ships
for wind and water power can be substituted steam
for steam, oil, combustion engines,
electiricity, electronic amchines, guidance, etc.

Circ. Anal., #7, pp 23 ff.

p. 23: Distinguish pure cycle and trade cycle

Pure cycle: inherent in very nature of long-term acceleration; consists in earlier phase in which surplus is accelerating more rapidly than basic and a later phase in which basic is accelerating more rapidly than surplus; nor a succession booms and slumps; a succession of more and less rapid rates of acceleration with no necessity of any xxxxxxxxxxxx break-down

Trade cycle: pure cycle plus lack of human adaptation; eg effort to run whole process of x basis of thrift and enterprise and obtain more or less constant rate of pure suprpllus income; because x the economy cannot yield this, recourse to favorable balance of foreign trade (XIX th century or to gov't deficit spending

Query: is it not possible to smooth out the pure cycle so that surplus income (dividend of the process as accelerating) is always thesame?

Or is it necessary that a long-term acceleration,if the basic phase is not short to maintain a large section of the population in permanent poverty, is bound to be cyclical, cannot be smooth ed out.

Two issues:

a) What is involved in long-term acceleration?

What is involved in a pure cycle.

a') There are three reasons for expecting a long-term acceleration to be a massive affair.

1. A long-term acceleration is a matter of x long-term planning

The utility of capital formation emerges only over long periods; hwnce one is settling one's fate for years to come; and so it is worth while to do so in the best possible manner.

The supply of a single prodict depends on the distinct activity of many units, so, when it x is worth while for one to devenlop, it is worth while for all in a series of units to develop.

Similarly the demand does not concentrate on a single new product but divides over several products; so an increased demand for one xxxx leads to an increased demand for many; and the increased demand for many justifies development in a series of series of units.

A long-term acceleration supposes the emergence both of new ideas and of the concrete conditions for their implementation.

The combination of both new ideas and of the conditions for their implementation form a large and fertile matrix for many developments:

Commerce: markets; barges and canals; ports and shipping; discount houxses

The textile industry: plantations, cotton, cotton gins; xxx spindles; looms, sewing machines

Heavy industry: extractive machinery; blast furnaces; steel mills; machine tools

Factories powered by water, by steam, by electricity, by oil, by nuclear generating stations, by solar energy.

Steam boats, trains, diesel engines, motor cars and trucks, electric trains, electronic devices (radio, TV, calculators, computers, radar, lasers....

Economic history is a succession of discoveries and inventions and applications; each has its period of build up and late a period x of maturity; in the suild up the surplus phase is growingx and the basic has not yet begung to change; in maturity the surplus has reached its peak and the basic is beginning its expansion

Moreover the succession of discoveries, inventions, applications is of its nature a succession: the later suppose the earlier; and people are prepared for the later by the success of the earlier.

Anal of Circ. #7bis, p. 25, A Technical Restatement.

F(t) means any function of the variable, T, time.
f'(t) the first derivative of f(t): it denotes the slope of the tangent to the curve, f(t); when the independent variable is "t", then f'(t) denotes a velocity, and in the present instance, the rate change in the basic circuit.
f"(t) the second derivxiative of f(t); it denotes the rate of change of the slope of the tangent to the curve; when t is thex independent varikable, f"(t) denotes an acceleation, and in the present instance the xxxx velocity of the surplus phase

A_i denotes any A such as A_1, A_2, A_3,....

B_i denotes any B such as B_2, B_3,....

A_n denotes the short term acceleration on the nth level hence on this level the long-term acceleration will be $f"_n(t) - A_n$

B_n denotes the rate of production that is effecting mere replacemens andmaintenance on the next lower stage, so the rate of accelerati on the next lower stage will be $f'_n(t) - B_n$

Now let us compare the operation on each lower level by the expansion in the next higher level. The subscripts, 1, 2, 3,.. indicate lower/successive levels of operation, and the multipliers, k_1, k_2, k_3,.. relate the effect on the lower level to the acceleration going on in the higher level. Time lags are denoted by a, b-a, c-b, etc.

$$f"_1(t) = k_2 f'_2 (t - a) - B_2$$
$$f"(t - a) = k_3 f'_3 (t - b) - B3$$
$$f"_3(t - b) = k_4 f'_4 (t - c) - B_4$$

The advantage of such symbolical expression is that its brevity makes its implications more obvious while its succinctness hides an enormous underlying complexity that would be very discouraging.

First any level can accelerate in short term fashion by increasing its xx efficiency, adding overtime, taking up the slack

Second any level can accelerate in short term fashion the next lower level by grxeater efficiency, taking up the slack, etc

Third the highest level can accelerate only in short term fashion; there is no higher to enable it to do a long-term accelerat

Fourthly, a full-scale long-term expansion begins from the lowest level attempting a short term acceleration which howver is not sufficient to meet demand. It calls upon the next higher level and the call for a time can be met by a short-term expansion on the next higher. But if demand keeps pressing it will have to go into a long-term expansion. This process can be reated until all levels except the highest are in long-term expansion

Alternatively, a full-scale long-term expansion can begin fromx above. New ideas, new inventions, new techniques can bring forth superior products at lower prices. A series of related new products are gradually put on the successive markets to displace older products, attract more buyers, until the expansion moves from the top to the lowest level of activity.

Fifthly, the acceleration of the economy as a whole is not a matter of pressing a bit on a single pedal as in a motor car. Rather it is not a pedal but a motor that is set in motion by another higher motor and so on up to the top of the process.

Sixthly, the longer the lags between successive levels, the greater will be thte distinction between surplus and basic phases, the longer will last the surplus expansion, and the greater will be the temption to cut short the basic expansion. The greater this temptxxxxation, the less the resistance to it, then the greater and the more permanent will be the pocket of permanent poverty in the members of the economy. Finally, it is an expansive pocket; it can keep growing.

Finally, if there were to develop a group of New Political Economists that did as much to stimulate and direct the basic or consumer phase of the economy as the Old Political Economists did for the surplus or capitalist phase, then the trade cycle would tend tobe eleiminated and tobe replaced by a pure cycle.

Circ. Anal., #7, pp. 28 ff.

Classes of Payments

Foregoing analysis of productive process
primitive fruit-gatherers have no productive process
from nets of fisrhsmen and spears of hunters there begins and
continues x to x develop a productive process
with a mounting differentiation of final products, and an
increasing differentiation of basic and surplus stages
where each higher stage is for the long term xiff acceleration
and maintenance of next lower stage, and the lowest stage
for the standard of living which, within economics, is for its own
sake.

These differences (stages) and correlations (long-term accexleration)
have now to be correlated with classes of payments
i. e the productive process is now located within an exchange
economy, of increasing size, complexity, development, and with
proxperty, exchange, prices, money, supply and demand.
for the moment it will be conveneint to suppose that there
is no foreign trade carried on with other economies
(to investigate relations between economies, it is necessary
first of all to determine dynamic structure of single economies)

The supposition of an exchange economy is the supposition of
a relation of the productivvpp process to salesx and indeeed
to sales within that economy.
This is not necessarily a geographical areaa
in any axrea individauls may set up their own Rhobinson Crusoe
economy by doing things for himselfx; one may go to a barber
or one may shave oneself; one may live in maximum dependence
on the goods and xservices of the exchange economy, or one
may reduce that dependence to a minimum by living off one's
own farm, d storing one's own 'presxerves instead of buying
canned goods; sixty to seventy years ago, when I was a boy,
the purchase of canned goods was a rarity; during the summer
there were put up successively xx in Mason Jars strawberries,
raspberries, blueberries, peakches, pears, currents, d jellies
were made from crabapples, etc., and the supply lasted until
the following spring.
The greater the autarky of individuals and small groups, the
less the domination of the exchange economy; the less such
autarky, the greater the dependence on the exchange economy.

Now within the exchange conomy there is to be drawn a further distinction between operative and redistributive payments.

Operative payments are payments intrinsic to the productive process: that process once inserted into an exchange economy changes production into production-for-sale in the sense that what is produced and not sold is just a drug on the market; there may a lot of Ricardo and Marx's labor-value in it but there is no exchange value because it is not exchanged.

For example consider the production of shoes. In an exchange economy it involves payments by consumers to retailers, by retaioers to whosesalers, by wholesalers to manufacturers, by manufacturers to tanners, spinners, to makers of amils, and by each of these to their sources of supply.

Such payments occur a tproprietary frontiers; they are repeated at regular intervals as long as the process lasts, they increase and decrease with the volume of the shoe trade; they are the index of its prosperity or its misery; they provide a common measure of all its elements, a measure that is intrinsic to the element as completed; finally, they are correlated with one another along lines of interconnection that are congruent with the relations from the process involved in a process from leather, cotton, thread, iron, into the shoes being produced.

Redistributive payments form a remainder class. They are non-operative exchanges. Liek operative exchanges they change ownereship. Unlike operative exchanges they are not constitutivv elements in the current productive process. They are with respect to the natural resources presupposed by current production; or with respect tothe finished and sold goods that are the product of past production; finally, they are with respect o to money, that is, they include exchanges in which money not only is what is paid but also what is paid for (loans, bonds, stocks).

Border-line cases exist, but they will be treated more expeditiously if we wait until we have explored more fully what lies tihint the respective borders.

Operative exchanges are intrinsic to the productive process; but that process divides into basic and surplus stages; hence operative payments divide into basic and surplus.

For every element under process stands in a point-to-point or point to line or highner correlation with the emergent standard of living.

Circ. Anal. #7, p. 31 ff.

There are then operative payments completing basic elements, and operative elements completing surplus elements. The former are named basic operative payments, the latter surplus operative payments. The distinction follows from the division of the productive process into basic and surplus x stages.

p 32 It has been argued that the procuts, whether goods or services, of any stage of the process stand as a double ummation to the activities of that stage.

From this there follows a distinction of initial, transitional, and final payments.

Initial operative payments are to the factors of production within a given entrepreneurial unit; they reward each contribution to the process anxd are with respect to that contribution; they are wages and salaries, overtime and bonuses, fringe-benefits and perhaps other categories discovered by the zeal of trade-union leaders; they also are rents and ro alties, xx interest and dividends allowments to depreciation, to sinking funds, to undistributed profits. Alxl such initial payments are payments of the first summation to the original contributors.

Transitional operative payments mark x the transition of goods or services from one entrepreneurial unit to another, and commonly they emerge not all at once but successively. The xx owners of sources of raw materials are paid by dealers; dealers are paid my manufacturers; manufacturers are paid by wholesalers; wholesalers are paid by retailers; and retailers are paid by consumers. And any of these may alsox pay for the services of transpotation companies, of public utilities, of advertisers.

When mergers xxkx link the whole process from sources to final products, trasnsitional payments become a zero class; they become book-keeping within a single giaxnt organization; and this business of xxxx xxx selling products within the the process of a single firm facilitates the adjustment of prices of the same piece of goods or the same service to the maximum advantage of the single firm. It has been alleged that multinational corporations may be tempted to take espxecial advantage of this. Of ole economists persuade the English and the Portuguence that it would to be the advange of both if Porxtuxgal concentrated on wines and England on wool; the multinational corporation can x combine both advantages in single trasnactions.

Besides initial and transitional payments, there also are finxal payments. They occur at frontiers. When surplus products are sold to basic producers, the payments are final. When basic products are sold to conumers, the payments are final.

Suoh payments are final not in a material but in a functional sense. A factory owned by Jones & Co may be sold to Brown &x Co and then sold by Brown & Co to Smith & Co. The final payment was made by Jones when he bought the factory from the builders and outfitters. The subsequent payemtns are not operative, they are not intrincio to the production of the factory; they are redistributive, not changing the factory but simply changing the ownership.

What is true of xxx factories, also is true of homes or private motor-cars. Jones may have a home buiit and xx paid for. That payment is the final payment on the home. If Jones later se¢ls his home to Brown, and later Brown seils it to Smith, those further payments change the ownership of the xhxx home but are not constitutive of the operatixons that initially produced and sold the home. The y are rexsistributive payments.

35 A difficulty may be felt about the purchase of a factory by Jones from the construction company and their outfitters. For if there is a technical sense in which such a paymant may be said to be final, still the obvious fact is that Jones has every intention of getting his money back and veryx often he succeeds not only in getting his initial outlay back but also a very handsome income to boot.

Not it is quite truxe that Jones intends and hopes to get his money back. But it is not the simple-minded intention of getting his money back by reselling xx the factory. His intion is to get his money back and more, not by reselling the factory, but by remaining owner of the factory. As long as he remains owner of the factory, thxere is no question of a redistributixxve transation. What Jones intends is to get his money back, not by seeling his factory, but by selling the products of his factory.

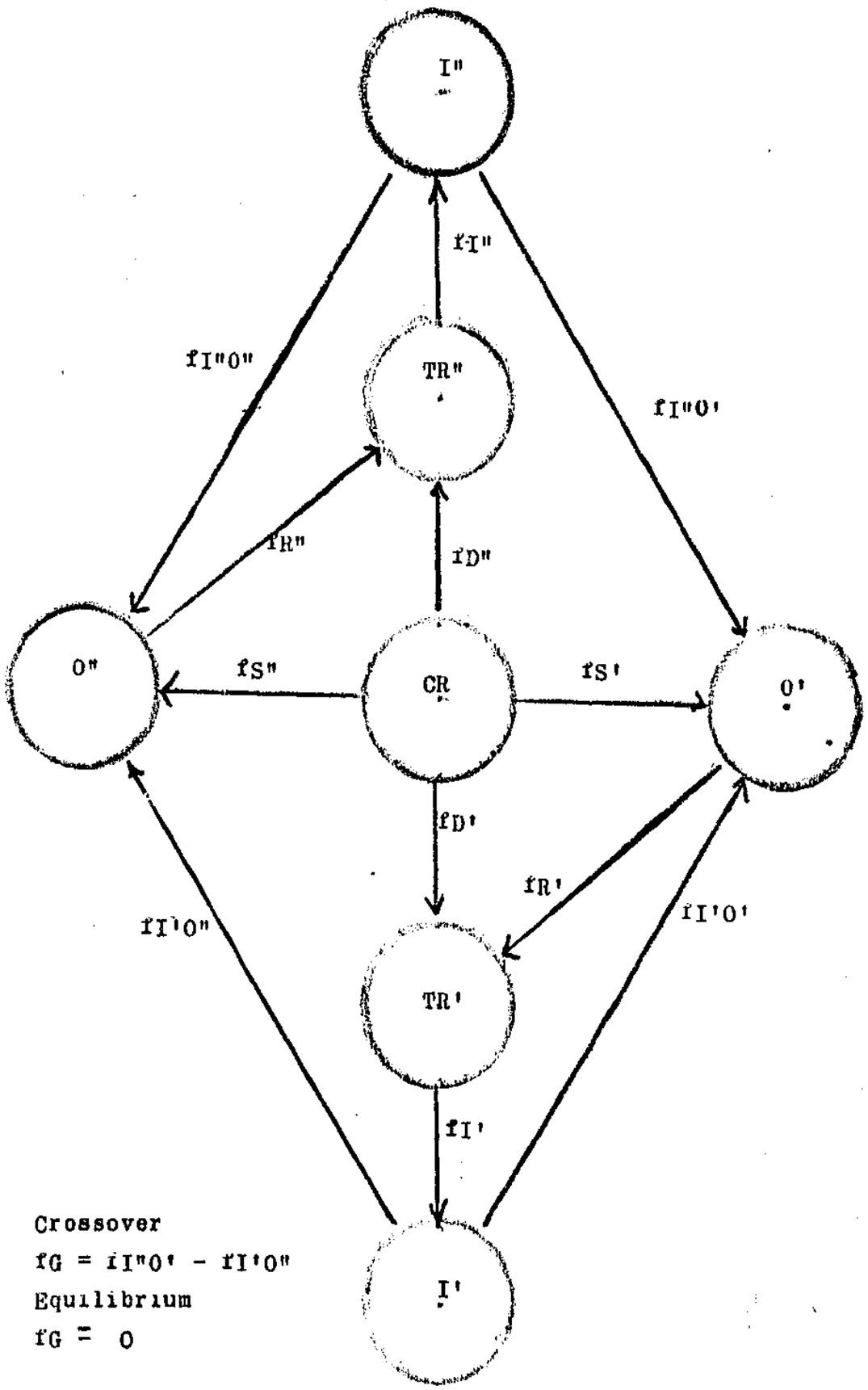
A furthxer difficulty arises from redistributivie exchanges of money, that is, whenever a sum of money is transferred in expectation of a sumx of money to be received. Now either the two sums are equal or not. If they are equal, then the transaction is purely redistributive. But if they are not,

then one has to distinguish between redistributive and operative elements in the transaction. For in financial operations payments are partly for the restoration of the sum initiallly transferred to the debtor and partly for the services rendered by the creditor; and when credit involves a very large firm, the payment for services divides into wages, salaries, rents, dividends, reserve funds, etc. What holds for loans, also holds for insurance; the premiums paid on policies are partly redistributive and partly operative; they are resistributive insofar as they make possible the payment of insurance as specified by the policy; they are operative insofar as they enable the insurance company to pay their employees, their overhead, etc.

There remains the second-hand trade. What is traded is due to past production, and so its value grounds a redistributive component in the transaction. But there also is the service of the second-hand dealer, who buys second hand objects, runs a shop in which they are sold, has overhead, etc., and these elements ground an operative component. This is particularly the case when certain materials are recycled and the product enters the ordinary channels of commerce: so Insight was reprinted on totally recycled paper to come out as a paper back edition.

The analysis applies of course not only to old watches and jewelry, to books and motor-cars, but equally to real estate and, except in the first instance of investment, to the resale of stocks and bonds. Such transactions are redistributional in so far as ownership h changes hands; they are operative in so far as businesses are set to facilitate such exchanges.

Circulation Analysis: Revised Diagram



Crossover
fG = fI"O' - fI'O"
Equilibrium
fG = 0

The Revised Diagram

The basic circuit starts from outlay (O') on the far right, moves along basic receipts (fR') to the basic transitional division of receipts (TR'), where it is cushioned by additions or subtractions from the central redistributional area (CR) whence it moves along (fI') to basic income (I'), and thence along fI'O' to basic outlay, where it may be increased by a positive contribution from CR along fS' or, on the other hand, decreased by the payment of a loan.

The surplus circuit starts from outlay (O") of the far right, moves along surplus receipts (fR") to the surplus redistributional area (TR") where it may be augmented by contributions from the central redistributional area (CR) or diminished by payments to it; thence it moves along fI" to I" and thence, in part, along fI"O" to surplus outlay (O") where it may be increased, or on the other hand diminished along fS".

Over and above these circular movemnts there are the crossovers: fI'O" from basic to surplus for the maintenance, widening, and deepening of basic producers goods and services; and fI"O' for the standard of living of entremeurs and workers in the surplus circuit.

When there occurs a crossover difference, then one circuit is accelerating by decelerating the other. The result is a very serious disequilibrium, and the longer it lasts the more deleterious are its consequences. Let us represent the crossover difference by fG (= fI'O" - fI"O'). Then, once crossover equilibrium is attained, the condition of continued equilibrium will be fG = 0.

Again, let the basic propensity to consume, to invest, and to be respectively: c', i', s'. Now s'R' will be a component moving to CR along fD', so on the supposition that fD' still remains a positive total, then

$$fI' = (c' + i')(fR' + fD')$$
$$fI'O' = c'(fR' + fD')$$
$$fI'O" = i'(fR' + fD')$$

Similarly, in the surplus circuit

$$fI" = (c" + i")(fR" + fD")$$
$$fI"O' = c"(fR" + fD")$$
$$fI"O" = i"(fR" + fD")$$

Should it happen the fD" or fD' happen to be a negative quanity, the sign in these equations changes.

We have outlined two circuits from outlay, to receipts, to income, back to outlay; a crossover, fG; and interchanges positive and negative from the central redistributional area tooo' (fS'), O" (fS"), TR' (fD'), TR" (fD").

We now ask about circuit accelerations and distinguish three cases:

(1) fG = fS' = fS" = fD' = fD" = 0

(2) fS' and fS" are positive but fG = fD' = fD" = 0

(3) fG, fD', fD" are not zero

In the first case the quantities of money in the circuits are constant: the crossover is zero, contributions to supply or demand from the central redxistributional area are zero. The only possible chanfe in the rates of the basic circuit or the rates of the surplus circuit is an increase of velocity. For

$$PQ = MV$$

But the quantity of money in the circuits, M, is fixed, and so the only possible change in PQ is through a cange in V.

Moreover, not any change in velocity is relevant. What is needed is a change in the circuit velocity of money, a change in the rate from O to TR to I to C; the mere fact that money frequently changes hands does not change PQ; what counts xf is the change of hands that also moves goods and services along the courxse of the productive process.

Now the fact that the velocity of money is the velocity of a circuit of production implies a correlation between monetary velocity and production velocity. Here the unit is the turnover frequency. On any productive process with respect to each batch of goods or services there is a lag between the inception of production and its sale; and there is the same lag between the inception of expenditures on the batch and the recovery of the expenditures when the sale is completed; such a lag is named a turnover, and a turnover frequency is so many turnovers every so often.

The classic illustration is the fact that there are two mays of doubling one's production. One may double the quantity of goods or services in each turnover, eg, produce twice as many ships in each turnover, or one may double the number of turnovers in the same interval. Such approximately was the achievement of Mr Kaiser during the second world war. Its possibility was guaranteedd by the almost unlimited demand for more ships during the wartime period. (After the war, mothballs)

It is to be noted that the notion of turnover does not depend on the interval betweeen the beginning and ending of a batch in a product. The exchange economy is a matter not just of production but also of sales. The production of electricity and its use are almost simultaneous. But a power company cannot collect payments due as rapidly as it can supply electical impulses. Though conditions of production may not seriously limit the frequency of turnovers, the possibility of collecting bills payable does. Were a power company to decide to receive smaller payments more frequently, it would have to increase the number of its meter readers and the staff of secretaries typing bills and the post office's demand for more frequncy purchases of stamps; and unless people responded by paying bills immediately, all this extra expense would be of no avail.

Furthr to be noted is the fact that a productive unit begins by estimating demand, for there is no use producing what will not be sold. Second, it estimates turnover frequency, for the sameller it can be, the greater the advantage: one needs a smaller balance in the bank. Third, the quantity of goods and services in the turnover is a conclusion to be drawn from estimated demand and estimated rapidity of turnover: that can be as big or as small as one chooses, but one has no choice about the size of demand or the turnover that will be as small as you please.

So far we have been exploring the meaning of a change in the circuit velocity of money. We have now to consider its possibility.

First, then one may expect an increase in turnover frequency and so in monetary velocity in the brisk selling of a boom and, on the other hand, a decrease in the lagging sales ushering in a slump. But one may well wonder whether a boom or a slump occurs without an increase or decrease in the available quantity of money in the circuits. Commonly a boom inolves a large and oncreasing FS" and FS'; again a slump means a paying off of bank loans (which is an evaporation of bank balances) not to mention bankruptcies.

Second, there are changes in turnover frequency due to reduced or increased production periods for, at times, it may

modify the production period than the used capacity; still such variations to some extent cancel out; and in general they provide more a means of adaptation in particular firms than a principle of general circuit acceleration or deceleration.

Third, there are changes in turnover frequency due to new ideas introducing more efficient machinery, more efficient organization, more efficient labor, more efficient selling. But such changes are notable and widespread mainly in a long term acceleration of the economy as a whole; short-term accelerations leave them a random incidence, and a random incidence decreases the likelihood of circuit acceleration.

In general, all units of enterprise contributing to a sinlge product have to keep in step. Unless all units in the series concomitantly increase frequency from reduced turnover periods, there cannot be a general acceleration due exclusively to increased velocity of money, unless units that can increase turnover frequency are balanced by other units in the same series that cannot increase frequency but make up by increasing magnitude of turnovers; and even that solution seems to involve an increase of money in the circuits.

In brief, the case for circuit acceleration through increased velocity of money is possible, but the possibility becomes probable only when new ideas bring about a renovation of the whole or of large parts of the economy.

Our second topic was the possibility of circuit acceleration through increased quentities of money in the circuits introduced from the central redistributional area to the sources of increased outlay.

This proposal may be thought to run counter to the common view that investment equals savings. Now this is true ex post: for if investment falls short of aggregate savings, then on the next round savings are bound to be that much smaller, unless compensated by decreased spending at the basic final market. But the existence of banks loans, and their basis in the legal ratio of "deposits to cash as 15 to one," reveal that the banks can loan up to fifteen times the cash in the bank; and under normal circumstances the banks have every reason to go the limit since they collect a higher percentage of interest on their loans than they pay on their cash.

The effect of net transfers from the central redistributional area to surplus and basic outlay (fS" and fS') is teofold. Primarily it is an increase of monetary circulating capital; secondarily it is a matter of absorbing windfall losses or, when negative, stowing away windfall profits.

As to the primary effect, the function of monetary circulating capital is to bridge the gap between payments made and payments received: payments made start with the beginning of the turnover; materials have to be bought; then wages and salaries and other costs of production have to b met; finally, paymens received begin only when the goods or services are delivered and paid for. Now this gap increases with increases in trunover magnifitudes; the greater the number of items the enterprise handles in a turnover and the higher the cost of each item, the greater the need of a large circulating capital; and vice versa. Accordingly, the more turnover magnitudes increase, the greater the need for a positive fS" and fS'. Inversely, the more that turnover magnifitudes decrease, the the greater the possibility of a correspnding negattive fS" and fS'.

With regard to the secpndary function of fS' and fS", namely windfall profits and losses, it may happen that the entrepreneur may prefer, not to attribute them to increased or decreased sales, but rather them to average out over a series on intervals. In that case windfall losses are met by an equal positive fS' or fS", while windfall profits yield a negative fS' or fS" that brings the fund in the central redistributive area back something more normal. It is to be expected that such profits and losses should average out over a series of intervals, unless the economy is undergoing a boom or a slump when windfall effects are generalized, the boom consisting mostly of profits, and the slump mostly of losses.

Positive values of fS" and fS' may be sustained over a notable series of intervals. Similarly, negative values may be sustained over another notable series of intervals. In the former case outlay is increasing constantly, to give constantly increased receipts and income, and to return this to outlay, where there occurs a furthxer increase from a sustained positive fS" and fS'. Such is the long-term expansion.

But there also occur sustained contractions and then fS' and fS" are withdrawing from the circuits, interval by interval, the money no longer needed to bridge the gap between accounts payable and accounts receivable. When this happens slowly and so in an orderly fashion, it is largely a matter of entrepreneurs cutting down their indebtedness to the financial a frternity and, by the same stroke, effecting the evaporation of the money that fratxernity to its great profit had created. But when it happens rapidly, still worse when it happens suddenly, the economy is apt to collapse, as it did from 1929-33 and did not recover until the war in 1942.

Our third topic had to do with thex situation when there is added to the first two cases the free movement and variation of fD' and fD" and fG. Our immediate answer aims at no more than distinguishing cases and postponing discussion.

First, therex is the case of superposed circuits. In addition to the already discussed basic and surplus circuits, there may added a third circuit involving the redistributive function as a go-betwxeen. In this case fD' and fD" will be opposite in sign. It will be discussed when we come to the makeshifts, the favorable balxance of foreign trade and deficit government spending, both of which can last for a while but neither can last indefinitely. While they last they can be very successful, but they give rise to the hybris that is too self-assured to read the signs of the times until it is too late.

Second, with fG at zero, positive or negative values of fD' amd fD" belong to the theory of booms and x slumps. Were they slight and very gradual, they would reinforce tendencies to expansion. But when they result from class conflict, they add little to productinn rates and a great deal to the price level. [redacted]

At this point it may be well to quote Robert Gordon, Macro-economics, p. 193:

Keynsian fiscal-induced money-accomodatixxed inflation and "pure" money-initiated inflation have in almost all historical cases amounted to one and the same thing.

And he proceeds to add in an indented passage in italics:

Thus, a more general view is that inflation results from the passivity of the monetary authority in the face of pressures emanating from all groups in society -- workers, firms, and government.

And he attributes the origxin of this view to an article in the Canadian Journal of Economics and Political Science (Fefruary 1948), pp. 46-61

Again (p. 239) he contends: "Thus government deficits are no more inflationary than an equal number of dollars spent on a private investment project financied by borrowing."

But in a footnote he adds that this holds only in the short run. When the private investment project has been completed and is in operation, it will raise the economy's aggregate supply of output, particularly offsetting the initial inflatoinary effect.

Might one also add that if the private investment proves a flop, the private investor takes the loss. But when government deficit spending is just a waste, either the economy pays for it by inflation or the taxpayers with more vigorous action by the IRS.

Thirdly and finally, when fG is not zero, then one circuit is being drained to augment the quantity of money in the other. The first suffers deflation, the second inflation. The only remedy is counter-procedures by fD' and fD" to restore the balance of the two main circuits. But once more we are dealing with cyclic phenomena and not circuit acceleration.

Thus, the general theory of circuit acceleration is that it takes place in a very constrained and limited way when quantities of money in the circuits are constant (hence the doctrine of mercantilism, later superseded by the series of developments in banking). On the other hand, when quantities are variable, change occurs without let or hindrance. The normal entry of money into the circuits is through fS" and fS'.

Provided fD" and fD' vary only slightly from zero, so that their action ~~is~~ met by inventories in the suppliers' possession, they exercise a stimulating effect in favor of a positive or negative circuit acceleration. Otherwise their action pertains either to the superimposed circuits of ~~it~~ the favorable balance of foreign trade or of deficit government spending, or else to the cyclic phenomena of booms or slumps.

Circ. Anal., #10, pp. 58 f.

Gordon has a very simple way of deriving P amd Q: viz., GNP = PQ = Y; Q = Y/P.

We, on the other hand, have to distinguish basic and surplus, P' and P", Q' and Q". For unless surplus is conceived as a distinct circuit with its own final market, the Marxists object that the basic final market is demanding payment not only for basic goods and services but also for surplus as well; hence the accusation profit is robbing workers of part of the labor value of their contribution. Again, the proponents of social credit argue that the wages paid workers in the basic process are unequal to purchase the products of the basic process, and so should be supplemented by monthly gifts of bank credit to raise purchasing power to the level of prices which charge not only for basic products but also for the services of the surplus circuit.

The solution, in its most comprehensible form, is to distinguish basic and surplus GNP, Y' and Y". Then, as before,

$Y' = P'Q'$; $Y'/P' = Q'$

$Y'' = P''Q''$; $Y''/P'' = Q''$

And now with the circuits distinguished, the crossover makes it manifest that it supplements the wages paid in the basic circuit, so that profits are not robbery and there is no need for the gifts of bank credit to supplement workers' basic wages.

Now Y', Y", P', P" are numerical, but Q' and Q" are just lists of products and services. These lists become numerical only if they are so weighted that 100 Cadillacs and 100 chocolate bars are given proportionately greater and lesser weights, so that Q' can become a numerical sum, say Z_1 and Q" can be replaced by Z_2. Now let us define ΔZ_1 and ΔZ_2 by the equations:

$\Delta Z_1 = \Delta(Y'/P')$ and $\Delta Z_2 = \Delta(Y''/P'')$

and since a unit percentage change in P' or P" involves a proportionate change in Y' and Y" respectively, the defining equations imply an equal change in the values of Z_1 and Z_2 respectively. Hence on page 60 for dQ'/Q' read $\Delta Z_1/Z_1$ and for dQ''/Q'' read $\Delta Z_2/Z_2$.

PS On the meaning of "Δ" see the terms beginning with "marginal" in Gordon's list of terms, and study the passages to which he refers.

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PS On the meaning of Δ^* see the terms beginning with "marginal" in Gordon's list of terms, and study the passages to which he refers.

Circ. Anal., #11, p. 60

Corrections:
- 2: delete underlined sentence
- 5: " " "
AT III read "Both negative.
Table: replace "d" by capital delta, Q' by Z_1; Q" by Z_2

Makes possible a distinction between different types of cycle:
a) the trade cycle that actually has existed and still exists:
it exaggerates the surplus phase into booms
it reduces the basic expansion to a slump leaving a notable proportion of the population in the remserve army of the unemployed
the exaggerat9ion into booms follows from the one precept of classical economics: thrift and enterprise; then almost any enterprise will make a profit for a while, and everyone does his best to get into the act
the trasnformation of the surplus expansion into a slump is due to the fact that the ~~m~~ one precept works less and less well, as the above notmal profit, the social dividend, has to shift from anti-egalitarian tendency of the surplus phase to the egalitarian tenejdency of the basic phase

Schumpeter, History.... pg. 894
"Clark's contribution was the most significant of all: he was the first to strike novel note by connecting entrepreneurial profits, considered as a surplus over interest and rent, with the successful introduction into the economic process of technological, commercial, or organizational improvements."

Replace "G" by "W" (G already in "fG"
Replace rate of saving by the Social Dividend
income over and above "standard of living," "rent", interest, maintenance and replacement of capital equipment
giving to entrepreneurs, investers, because they are the most likely to be able to interpret what it is for, namely, the successful introduction into the economic process of technological, commercial, or organization improvements into the economic process
who else would know which are the possible improvements that would succeed?

P. 70: increase the income of the rich; while they may be too distant from the current operations of the economic process to judge, at least they can put their money into the bank or bonds or stocks, and perhaps others there will see how it can best be used.

p. 70-71: "incrementa go to low income" which supposes that they have not already been handed over to high incomes.

Automatic redistributional effects (p 71)

Whaen savings are insufficient, too much money is moving to the basic market; prices there are forced up; the rise in price gives a bigger price spread to entrepreneurs and so they can invest to restore the surplus market, or increase their stanard of living to increase their own windfall profits until they have high enough a standard of living and then can invest or leave the money in the bank to make 15 times as big an investment possible.

When savings are too great, basic s LES DROP; eventually prices are forced down to reduce the price spread and correct the excessive saving.

Again a rise in prices lowers the purchasing power of money to favor the rich and deprive the poor; it cuts down on basic expenditure and excourages surplus investment.

On the other hand a lowering prices increases purchasing power of money, to favor the poor, encourage basic expenditure, leave less for the social dividend.

It remains that unless a rise in prices is accompanied by an increase in the quantity of money, the rise is blocked of its effect, and the rate of saving cannot adjust

Inversely, when prices fall, unless the quantity of money available decreases; prices will be encouraged to rises again.

73 Banks tend to increase the quanitity of money as long as there is no appearance of uncontrolled inflation; but as soon as that menace emerges, they curtail loans.

Further when prices rise, organized labor can point to the increased cost of living and the increased profits that prove industry's ability to pay higher wages. If industry yields, prices rise still higher, and the complaints recur with the same results. Such is cost-push inclation.

When the economy is adjusting to the shift to the basic expansion, prices should fall; the social dividend should decrease; the purchising power of money should decrease; and the process will adjust to the basic phase when prices have fallen sufficeintly.

But when the only precept that is understood is "thrift and enterprise" all these signs that the basic expansion is underway are interpreted as the signs of an impending slump; so investment drops precipitously; the available quantity of money is evaporatd as banks call in loans whenever possible; prices are forced down again; consternation and panic begin, spread, justify the mistaken intxerpretatuo of the signs of the times.

75 The misinterpretation of the signs of the times is a failure to distinguish between relative prices and absolute or general prices.

When some prices decrease relatively t o others, then production of the less wanted should be curtailed, and production of what is wanted more may well be increased.

But when prices fall generally, it does not mean that all production should be curtailed. It means that the entrepreneurs are failing to understand the shift from a surplus to a basix expansion.

Similarly, when prices rise not merely relatively but generally, it does not mean that more and more of everyxthing is wanted; its basic meaning is the shift from a basic expansion or a slump to a surplus expansion. Such a misxinterpretation encourages the boom.

76 Rates of interest, when increasing, incourage saving (but discourage borrowing). This double edge is not the <u>per se</u>

means of effecting the enormous shift in saving to bring about the transition from a slump or a basic expansion to a surplus expansion. What is needed is a contraction of purchasing power that will direct spending from the basic market of the poor to the surplus market of the rich. The surplus phase is anti-egalitarian; as much in Russia and socialist countries as elsewhere; there was more suffering and more deliberating inflicted suffering in Siberia at the base of the Russian surplus expansion as in the nineteenth century British expansion that so raised the explosive anger of Marx.

Similarly, a lowering of interest rates may encourage the expansion of basic industry; but it also will encaurage the expansion of well-intentioned but not well-thought-out innovations, the number of bankruptcies, etc. What is needed is the egalitarian shift in incomes, that will compensate for the previous and shorter anti-egalitarian shift, and will produce the things that people really need and can learn to purchase without the help of self-seeking advertisers.

77 RETURN TO TEXT.

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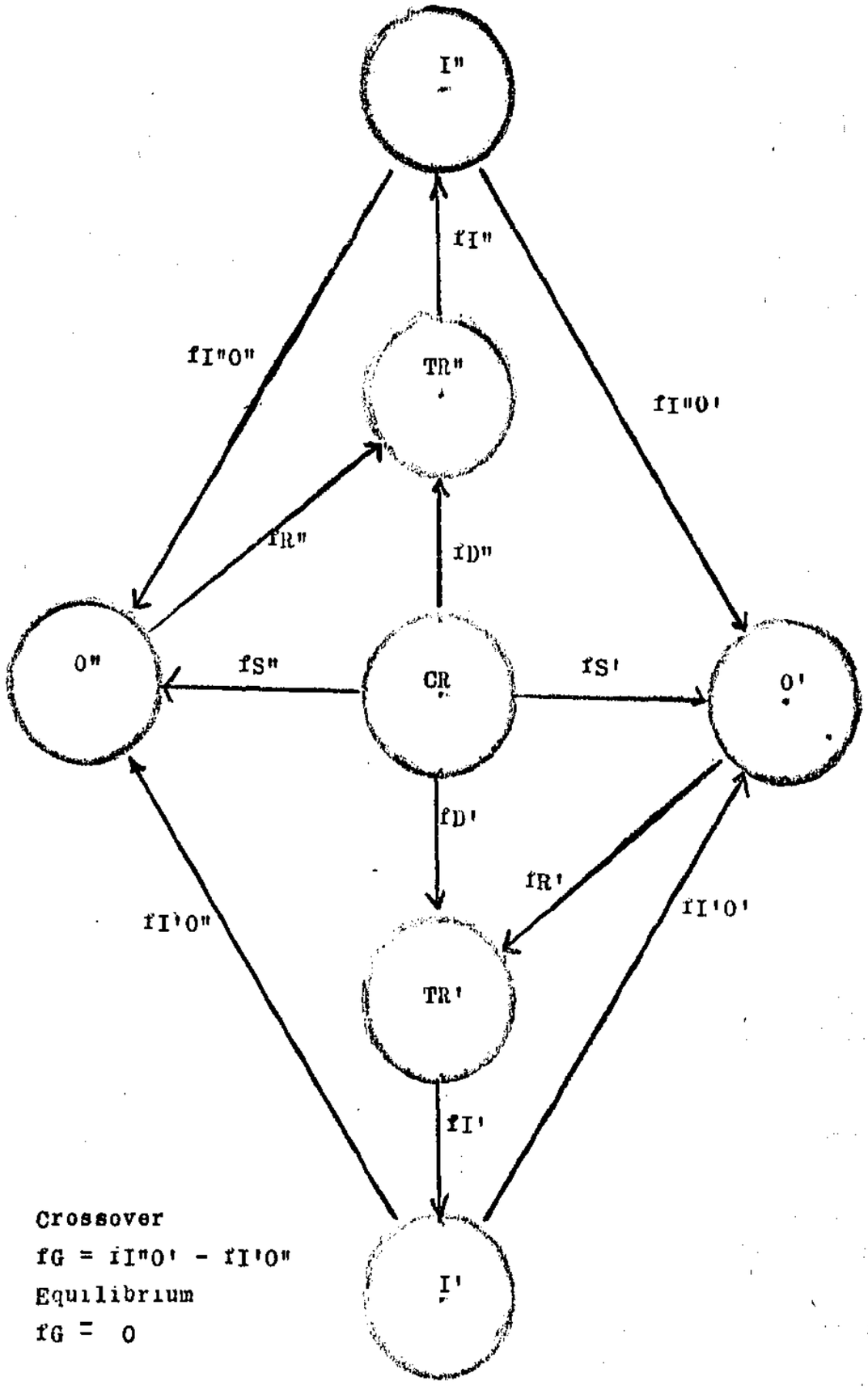
Circulation Analysis: Revised Diagram



Crossover

fG = fI"O' - fI'O"

Equilibrium

fG = 0

Surplus Income

Surplus income is not the same as profits. The latter are a simple matter of the excess of accounts receivable over acccounts payable. They include a firm's additions to its portfolio and living expenses (no matter how high) of the upper echelons. This accountant's concept of profit pertains not to macro- but to microeconomics.

Surplus income as a macroeconomic concept is the social dividend that results from the functioning of an expanding economy. It receives contributions from basic income (fI'O") as well as from surplus income (fI"O"). The possibility of a contribution from the basic circuit arises from the balancing contributions to basic outlay from surplus income (fI"O'). Without such a cross-over balance one circuit is suffering an inflation while imposing a deflation on the other.

There is a further but parallel implication. The fact that people earning their living in the surplus circuit spend a notable part of it on consumer goods gives rise to the basic price spread. This price spread is the excess of basic receipts over basic costs. In microeconomics it is interpreted as profit and so trade union leaders argue that commercial and industrial profits justify a rise in wages. But in macroeconomics, which is aware of the need of a cross-over balance for equilibrium, the basic price spread is to a greater or less extent a part of the social dividend in an expanding economy. It is only in the static economy that all of it justifies a rise in wages.

On any turnover, then, the possible sources of surplus income is are the flows of money into surplus transitional receipts, namely,

(1) existing surplus firms maintaining the level of the previous turnover by spending on surplus supply the sum of fI"O" and fI'O",

(2) existing surplus firms increasing the level of previous turnover by drawing on the central redistributional center by fS",

(3) emergent surplus firms drawing on CR by fD" to acquire plant and equipment.

Query: How does one distinguish surplus from basic firms?

The distinction is not legal and to be learnt by studying incorporation proceedings but functional to be understood by distinguishing the markets at which the firms products are sold.

While this distinction is empirical (resting on matters of fact) it is not empiricist (resting on easily ascertained matters of fact and preferably to be found in tables already drawn up and published).

Pure Surplus Income

At times, when an economy is not expanding, surplus income is spent simply on maintenance and replacements.

But when an economy is expanding, a distinction has to be drawn between expenditure of maintenance and replacement and on the other hand the pure surplus that supports the expanding economy.

Let H denote the fraction of surplus income that goes to the expansion of the economy and (1 - H) the remaining fraction that goes to maintenance and replacement.

Revert to text, p. 81, line 3 ff: "This pure surplus income is quite an interest ing hobject....

up almost the bottom of p. 82.

Let "W" represent the fraction: $fI''/(fI' - fI'')$ so that

$$F = HW \tag{42}$$

N w a maximum is reached when the graph shifts from increasing to decreasing. Consider then very small (relatively) increments (positive or negative) of F, W, and H. Then

$$\triangle F = (H + \triangle H)(W + \triangle W) - HW \tag{43}$$

On the RHS multiplying through the expressions in brackets, then the HW's cancel and the product of the small fractions, $\triangle H \triangle W$, is amaller still and so negligible. It follows that

$$\triangle F = H\triangle W + W\triangle H \tag{44.1}$$

Now if H became zero, the surplus expansion would be over, the basic expansion would be skipped, and at best the economy would be in the stationary state with surplus confined to maintenance and replacements.

If W became zero, there would be excluded not only expansion but also maintenance and replacements.

If $\triangle W$ became zero, surplus income would be at its maximum. Expansion would still continue though less in the surplus than in the basic phase. But mainteance and replacements which have been increasing throughout the expansion would continue to increase until they used up the whole. Then H would be zero and, as was noted above, all expansion is over and the stationary state is, for the time being, an optimum.

It is to be borne in mind that the foregoing analysis prescinds from the shocks that result from nature's refusing to conform to human anticipations, from the ravages worked by high-level predators in the fields of labor, management, and finance, and from whole countries out to exploit the weaknesses due to pious beliefs in the benefits of free trade.

Our concern is to draw attention to the fact that, while the Old Political Economists by their doctrine or slogan of "thrift and enterprise" enabled people to adapt to the surplus phase, the New Political Economists have not yet attended to the parallel needs of the basic phase. Instead of appealing to the freedom and responsibility of individuals, as did the Old Political Economists, they resort to enormous and inefficient bureaucracies manned by political appointees.

(Skip to p. 84 at equation (44.2).