Lionel Robbins, An Essay on the Nature and Significance of Economic Science
Macmillan 1932

p.15 "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses."

p.16 "The conception we have rejected, the conception of Economics as the study of the causes of material welfare, was what may be called a classificatory conception. It marks off certain kinds of human behaviour, behaviour directed to the procuring of material welfare, and designates these as the subject-matter of Economics. Other kinds of conduct lie outside the scope of its investigations. The conception we have adopted may be described as analytical. It does not attempt to pick out certain kinds of behaviour, but focuses attention on a certain aspect of behaviour, the form imposed by the influence of scarcity. It follows from this, therefore, that in so far as it offers this aspect, any kind of human behaviour falls within the scope of Economic Generalizations. We do not say that the production of potatoes is economic activity and the production of philosophy is not. We say rather that, in so far as either kind of activity involves the relinquishment of other desired alternatives, it has its economic aspect. Save this" there are no limitations on the subject-matter of Economic Science

B.L. 1 classificatory = material object analytical = formal object
2 scarcity & alternatives one aspect that underlies all generalisations known to Robbins; but are there not
a synthetic explanatory unity of these generalisations;
other formal objects? e.g. Economics of Exchange

p.17 "... within the wide field of our definition, the attention of Economists is focused chiefly on the complications of the Exchange Economy. The reason for this is one of interest." !

p.17 "Now as Prof. Mises has shown, given central ownership and control of the means of production, the registering of individual pulls and resistances by a mechanism of prices and costs is excluded by definition. It follows, therefore, that the decisions of the executive must necessarily be 'arbitrary'. That is to say, they must be based on its valuations — not on the valuations of ~~producers and~~ consumers and producers"

p. 19 "The generalisations of the Theory of Value are as applicable to the behaviour of isolated man or the executive authority of a communist society, as to the behaviour of man in an exchange economy – even if they are not so illuminating in such contexts. The exchange relationship is a technical incident, an incident indeed which gives ~~ge~~ rise to all the interesting complications, but still, for all that, subsidiary to the main fact of scarcity."

p. 20 "Prof. Schumpeter .. has attempted .. to vindicate the Catallactic definition by demonstrating that it is possible to conceive all the fundamental aspects of behaviour germane to Economic Science as having the form of exchange." possible construction ≠ criterion

p. 23 ".. in so far as any end is dependent on scarce means, it is germane to the preoccupations of the Economist"

p. 24 "The economist is not concerned with ends as such. He is concerned with the way in which the attainment of ends is limited. The ends may be noble or they may be base. They may be "material" or "immaterial" – if ends can be so described. But if the attainment of one set of ends involves the sacrifice of others, then it has an economic aspect."

p. 25 " Let us suppose this reprehensible community to be visited by a Savonarola. Their former ends become nothing to them. The pleasures of the senses are banished. The sybarites become ascetics. Surely economic analysis is still applicable. There is no need to change the categories of ~~economic~~ explanation. All that has happened is that the demand schedules have changed. Some things have become relatively less scarce, others more so. The rent of vineyards falls. The rent of quarries for ecclesiastical masonry rises. That is all. The distribution of time between prayer and good works has its economic aspect equally with the distribution of time between orgies and slumber. The "pig-philosophy" – to use poor Carlyle's name for Economics – turns out to be all embracing."

p. 29 " .. rejection of material comfort in favour of aesthetic or ethical values does not necessarily bring material compensation. – – – So far from postulating a harmony of ends in this sense, Economics brings it into full view that conflict of choice which is one of the permanent characteristics of human existence. Your economist is a true tragedian."

p. 31 "Economics, then, is in no way to be conceived as we may conceive Ethics or Aesthetics as being concerned with ends as such. It is equally important that its preoccupations should be sharply distinguished from those of the technical arts of production"

Techn~~ology~~ Technology How to build a house?

eg roof of house paper? slate?

p 32 "Economics is not the aggregate of the technologies nor is it an attempt to select from each the elements common to several."

p.34 "- the problem how much wood to use for fires and how much for fencing" = Economics - How make a fire, a fence, = Technique

p. 37 "Economists are not interested in technique as such. They are interested in it solely as one of the influences determining relative ~~scarcity~~ scarcity"

set of relationships regarding disposal of scarce means

p37 Economic Theory — set of relationships regarding disposal of scarce means

Economic History — instances of such relationships

p. 40 Descriptive Economics — economic history of today

p52 Materialist interpretation of history = "History is the epiphenomenon of technical change. The history of tools is the history of mankind"

p.43 "There are no autonomous changes on the demand side. What changes occur are, in the end, attributable to changes in the technical machinery of supply. There is no independent "psychological" (or for that matter "physiological") side to scarcity. No matter what their fundamental make-up, be it inherited or acquired, men in similar technical environments will develop similar habits & institutions. This may be right or wrong, pseudo-Hegelian twaddle or profound insight into things which ~~certainly~~ at the moment are certainly not susceptible of scientific analysis, but it is not to be deduced from any laws of theoretical Economics."

p44 "From the point of view of Economic Science, changes in relative valuations are given data"

Robbins, Economic Science

p.47 Violent change in demand schedules – Armistice 11 a.m. Nov 11, 1918

"The ends had changed. The scarcity of means was different."

p.49 The mass production of particular things irrespective of demand for them, however technically efficient, is not necessarily "economical"

p.50 "fallacy of misplaced concreteness" Whitehead's remark applied to production without demand, "disuse of capital that is big but obsolete, etc"

p.52 Inflation → over-expansion of capital ā low interest rate reduces fixed costs
b̄ flight from money to goods B.L.

∴ inflation ceases to inflate and not possible to run those undertakings however technically efficient

p 53 "— during times of inflation, the artificially low rates of interest tend to encourage the expansion of certain kinds of capitalistic production in such measure that, when the stimulus is exhausted, it is no longer possible to work them as profitable undertakings. At the same time liquid resources are dissipated and exhausted. When the slump comes the system is left high and dry with an incubus of fixed capital too costly to be worked at a profit, and a relative shortage of "fluid capital" which causes ~~oppressive~~ interest rates ~~of interest~~ to be stringent and oppressive. The beautiful machinery which so impressed the newspaper correspondents is still there, but the wheels are empty of profit."

p.57 "Reckoning is by 'weight and tale' or by valuation – so many tons of coal or so many pounds sterling worth of coal. — physical computations may be ~~far~~ unimpeachable and, in certain connections, useful, yet from the point of view of the economist they have no significance apart from relative valuations."

Robbins, Economic Science

Relativity of Economic Quantities

p.56 "~~To assume~~ .. the valuations which the price system expresses are not quantities at all. They are arrangements in a certain order. To assume that the scale of relative prices measures any quantity at all save quantities of money is gratuitous metaphysics

p.56 ".. the addition of prices or individual incomes to form social aggregates is an operation with a very limited meaning. As quantities of money, expressed, particular prices and particular incomes are capable of addition and the total arrived at has a definite monetary significance. But as expressions of an order of preference, a relative scale, they are incapable of addition. Their aggregate has no meaning.

p.57 "If we little to assume that preferences and property do not change rapidly within short periods, and that certain price changes may be regarded as particularly significant for the majority of economic subjects, then no doubt we may assign to the movements of these aggregates a certain arbitrary meaning which is not without its uses

p.58 Redistribution of incomes – "For a substantial proportion of the high incomes of the rich are due to the existence of other rich persons. Lawyers, doctors, the proprietors of rare sites, etc., enjoy high incomes because there exist people with high incomes who value their services highly. .. Redistribute money incomes -- the main initial result would be a rise in the prices of articles of working-class consumption -- If we compute the proportion of the population now producing real income for the rich who could be turned to producing real income for the poor, it is easy to see that the increase available would be negligible

Robbins, Economic Science p6

p.67 "— though at every moment there are tendencies towards equilibrium, yet from moment to moment it is not the same equilibrium towards which there is movement"

p66 "a change in the aggregate of production is not a definite conception"

p67 note "The theory of money — has continually employed pseudo-concepts of the sort we have just declared suspect — the price level, movements of purchasing power parities, etc. But it is just here that the difficulties of monetary theory have persisted. And recent improvements in monetary theory have ~~been~~ been directed to eliminating all dependence on these fictions"

p 69 "The beginning of the change dates from the emergence of the subjective theory of Value. So long as the Theory of Value was expounded in terms of costs, as something social and collective it was possible to regard the subject-matter of economics as price relationships simply as market phenomena. With the realisation that these market phenomena were, in fact, dependent on the interplay of individual choices — —

p.70 "In the modern treatment discussion of "production" is an integral part of the Theory of Equilibrium. It is shown how factors of production are ~~divided~~ distributed between the production of different goods by the mechanism of prices and costs, how given certain fundamental data, interest rates, and price margins determine the distribution between production for the present and production for the future. The doctrine of division of labour, heretofore so disagreeably technological, becomes an integral feature of a theory of moving equilibrium through time. Even the question of "internal" organisation and administration now becomes part related to an outside network of relative prices and costs; and since this is how things work in practice, what is at first sight the greater remoteness of pure theory in fact brings us much nearer to reality."

Robbins. Economic Science
The Nature of Economic Generalisations

p.73 "... in a free market, intervention by some outside body to fix a price below the market price will lead to an excess of demand over supply"

p.74 "history does not proceed by way of generalising abstraction"

"The vulgar notion that safe methods on political subjects are those of Baconian induction – that the true guide is not general reasoning but specific experience – will one day be quoted as among the most unequivocal marks of a low state of the speculative faculties in any age -- Such reasoners ignore the fact of Plurality of Causes in the very case which affords the most signal example" (John Stuart Mill, Logic, chap X, § 8)

p.75 "Let us look more closely at the arguments by which it is established. The proposition that a price fixed below the equilibrium point must result in an excess of demand over supply is a simple corollary of the general Theory of Price. According to that theory, the equilibrium price must be conceived as that price which restricts demand to the available supply. It follows quite simply that if the price is lower than this, the necessary restriction will not be effected. Demand which would have been excluded by the higher price will arise + there will be disequilibrium --

"If there were no demand beyond the available supply, and no alternative uses for the factors of production involved, there would be no price. The good would not be scarce in relation to the demand for it. It would be a free good"

"In the last analysis, therefore, our proposition rests upon deductions which are implicit in our initial definition of the subject-matter of Economic Science as a whole. Economics is concerned with the disposal of scarce goods with alternative uses."

NB. "in a free market" – equilibrium price – that to which there is a tendency S
that which actually exists N
"scarce" relation to individuals taken singly C collectivity N

Robbins, Economic Science

p.77 "On the analytical side Economics proves to be a series of deductions from the fundamental concept of scarcity of time and materials"

"— It is not always realised how far the theoretical developments of the last half century have succeeded in unifying analytical economics on the lines we have indicated — Unless it is made quite clear that in the marginal analysis we possess the basis for a completely unitary Economic theory, it is safe to say that the inner significance of that analysis has not been recognised at all"

p.80 "In the end subjective valuations govern costs equally with production prices"

p.81 "The intricate interrelationships of the stationary state all resolve themselves into what Pareto called an equilibrium of tastes and obstacles.

p.82 "For the community as a whole, the quantity of money may be a matter of indifference. But for the individual with given resources, to keep a certain proportion of these resources available in the form of free cash is in itself a convenience. Hence there arises a demand for money to hold — a relative valuation of cash and other resources which is expressed "in" the system of prices — — the old conception of velocity of circulation can be derived from the modern conception of demand for money: the thing has been done very frequently (Pigou, Essays in Applied Economics pp 174-8)

p.83

p.83 "In pure Economics we examine the implications of the existence of scarce means with alternative uses"

p.83. "The borderlands of Economics are the happy hunting-grounds of the charlatan & the quack

p.84 "It is well-known that certain of the founders of the modern Subjective theory of Value did in fact claim the authority of the doctrine of psychological hedonism as sanctions for their propositions. This is not true of the Austrians (Menger, Böhm-Bawerk)" True of Gossen Jevons Edgeworth

Robbins, Economic Science p. 9

p.85 "No one who was acquainted with modern value theory could honestly continue to argue that it has any essential connection with psychological hedonism

p.86 "... all that is assumed in the idea of the scales of valuation is that different goods have different uses and that these different uses have different significances for action, such that in a given situation one use will be preferred before another. Why this human animal attaches particular values in this behaviouristic sense to particular things, is a question which we do not discuss"

p.87 'The fundamental concept of economic analysis is the idea of scales of relative valuations; and, as we have seen, while we assume that different goods have different values at different margins, we do not regard it as part of our problem to explain why these valuations exist. We take them as given data. So far as we are concerned, our economic subjects can be pure egoists, pure altruists, pure ascetics, pure sensualists, or — what is much more likely — mixed bundles of all these impulses

p.89 "If it is assumed that -- I always buy from the cheapest seller, it is not assumed that I act for egotistical motives

p.91 "It is the most elementary implication of the idea of scarcity that if a price is lowered the demand tends to increase"

p.92 Change in price: primary effect. demand^A for that good
secondary effect, demand^B for other goods [if A unaffected, B must be, unless less income left]

p.93,4 "In the first place it can deal with changes in the distribution of goods which occur as a result of the equilibrating tendencies. This indeed is the function of the theory of Equilibrium --

"In the second place

"And, secondly, it can assume changes in the given structure and the data. It can describe the difference between the new equilibrium and the old. It can assume the removal of a tax, the imposition of a new obstacle, the effects of change in certain property relationships. As is well known this is one of the main functions of the theory of Variations

"But can it not describe the laws of change in the given data themselves? —

Robbins Economic Science p10

he statistics - average elasticity of demand, etc

p101 "However accurately they describe the past, there is no presumption that they will describe the future... Important as such investigations may be, at the moment at which they are made and perhaps for a short time after, there is no justification for claiming for their results the status of the so-called "statistical" laws of the natural sciences" cp Ross

p106 Empirical studies reveal discrepancies between theoretical terminology and fact eg what is money now, 100 yrs ago. p 107 Empirical studies expose areas where pure theory needs to be reformulated and extended. They bring to light new problems

p.107 "Pure equilibrium theory, as is well known, does not provide any explanation of the phenomena of booms and slumps"

p.109 "Realistic studies may suggest the problem to be solved. They may test the range of applicability of the answer when it is forthcoming. But it is theory and theory alone which is capable of supplying the solution. Any attempt to reverse the relationships must lead inevitably to the nirvana of purposeless observation and record."

p111 "... Economic Science knows no way of predicting what will be the given data at a particular point of time. It cannot predict changes in valuations. But given the data in a particular situation, it can draw inevitable conclusions as to their implications. And if the data remain unchanged, these implications will certainly be realised. They must be for they are implied in the presence of the original data."

p.113 Note "The alleged advantage of economic "planning" - namely that it enables greater certainty with regard to the future - depends upon the assumption that under "planning" the present controlling forces, the choices of individual spenders and savers, are themselves brought under the control of the planners. The paradox therefore arises that either the planner is destitute of the instrument of calculating the ends of the community he intends to serve or, if he restores the instrument, he removes the raison d'être of the "plan". The dilemma does not arise if he thinks himself capable of interpreting these ends or - if he has no intention of serving any other ends than those he thinks appropriate. Scratch a would-be planner and you usually find a would-be dictator"

Robbins, Economic Science

Marginal theory does not compare Jones' scale of values with Smith's and say that Jones' is greater, more important — Jones poor, Smith rich, ∴ hence fallacy to argue — marginal utility to poor greater than to rich, ∴ more even distribution.

P125 "— all that part of the Theory of Public Finance which deals with "Social Utility" goes by the board"

p.127 "To show that, under certain conditions, demand is satisfied more adequately than under any alternative set of conditions, does not prove that that set of conditions is desirable. There is no penumbra of approbation round the Theory of Equilibrium. Equilibrium is just equilibrium"

P129 "We cannot say that the pursuit of given ends is uneconomical because the ends are uneconomical; we can only say it is uneconomical if the ends are pursued with an unnecessary expenditure of means"

"— there are no economic ends."

p.130 "It is a well-known generalisation of theoretical Economics that a wage which is held above the Equilibrium level necessarily involves unemployment and a diminution of the value of capital"

i.e. more leisure & less to support leisure

P133 "Propositions involving the verb "ought" are different in kind from propositions involving the verb "is""

p.139 "It is clear that many of our most pressing difficulties arise — because our aims are not co-ordinated. As consumers we will cheapness, as producers we choose security — We call for cheap money and lower prices, fewer imports and a larger volume of trade

F. H. Knight, Risk Uncertainty & Profit, Houghton Mifflin Company, Boston & New York 1921

"Law of Choice" p93 = correspondence principle of utility

p.64 "When confronted with alternative, quantitatively variable lines of action or experience, we tend to combine them in such proportions that the physically correlated amounts or degrees of each are of equal utility to the person choosing"

"the phrase 'equal utility' -- should be taken to refer to the fact of indifference of choice and not a comparison between quantities in the true sense."

p.65. "-- if a given unit of a given resource is yielding in one use a want satisfaction preferable to that which a similar unit is yielding in another, the yield of that resource can be increased by transferring some of it from the second use to the first until the importance of the one is increased and of the other decreased to the point of equivalence"

p.64 Note all utility is relative - this is more useful than that - problem of choice between alternatives because of scarcity - if choice, thus preference no matter what the motives may be [philosophic & ethical neutrality] cp Robbins

Hence a subjective equilibrium is the subject's law of choice

Re p.65 if he does not affect transfer, then he does not "prefer"

p.180 ~~"It is important that we bear in mind that the potential~~

pp 5, 6, 7, 8, 9, 10, 13, 15,

73, 75, 77, 86, 90, 93, 100 ff

p.93 "that "goods" are largely alternative to each other in production (involving those of the same ultimate resources) is the condition of our having an economic order, an organisation of want satisfying activities based on free production & exchange

F. H. Knight

p122 "The equilibrium condition or long-run tendency for the static state has now been formulated in three ways from as many different stand-points. From the stand-point of distribution, every agency must be in the situation where it can make the greatest possible value contribution to the social income and be valued by the contribution which it makes. From the standpoint of production and consumption goods, prices must be such that rates of production and ... or that costs and selling prices per unit are everywhere the same. It is important to see clearly that these statements are logically equivalent, presenting different aspects of the same phenomena. It is self-evident that costs of goods are identical in the aggregate with distributive shares, and both with prices of goods; all these are in fact different names for the total income of society. A formulation including all these statements would be that consumption goods and productive services must be so priced that equal price amounts of the second make equal price contributions of the first which have equal abilities to all persons in the system. It is really self-evident that this condition alone can be stable, that any other sets forces to work to bring it about."

p180 "It is imperative that we bear in mind that the leopard's tail is always in the leopard's mouth, that what the competitive system tends to give in book is just what is put into it in the way of human activities and human powers, natural, acquired or conferred, and has in itself no moral attribute whatever."

p168 "It is quite unnecessary to believe that there will be any progress toward equilibrium."

p292 "There is only one end, finally, to business activity and this is clearly decided upon before the business is founded; that is, to make money."

p 124, 138, 139, 144,

p.150 "In accordance with the law of diminishing returns and the specific productivity theory based upon that law, a relative increase in the supply of labour will increase the product of industry less than proportionally and decrease the relative productivity of labour. Both effects tend to lower wages per man." The same reasoning applies to any other productive service as well as to labour"

157, 163 n, 165, 167, 168, 172, 176 f 179 ff – 183, 187, 189, 191, 192, 193 chap IX

240, 267, 257.

p 297 "The crucial decision is the selection of men to make decisions; any other sort of decision-making is automatically reduced to a routine function"

Prices

Free goods & services
[no permanent scarcity relative to any individual
[no incidental scarcity relative to any regular series of individuals

Scarce Objects
I Authoritative – Order & Rationing – Paternalism, Slavery, Socialism
II Free Consent
Two solutions of problem of [which does who give, do, sacrifice how much of what & whether this is in return for or in anticipation of, how great much of what reward

Market equilibrium
What is it? Balancing of past supply against past, present or future supply
How does it work? 1 Uniform prices ceteris paribus no reason to give A more than one would Banks or to take less from C than D will give
General
Because equilibrium solution [demand – past present future supply]
2 At level where supply equals demand
i.e. on assumption of equilibrium solution
i.e. price is the determinant restricting demand to supply
2' short term supply fixed
+ deficient – urgent buyers bid up price to get goods from
+ excessive – urgent sellers lower price to get rid of goods
3' Long term supply potential
rising prices encourage production
falling prices discourage production

Ultimate basis Law of diminishing utility
1) Utility is decision as to necessity etc of scarce object
2) The greater the supply the lower the utility that is found at the margin
3) The valuation of the marginal utility holds for the category under uniform price

Theoretical Background of Market Equilibrium

Economics deals with "scarce" objects of choice – when scarcity is elastic, it can be reduced by greater effort – when scarcity is ~~multiple~~ alternative, the same resources can yield different products by being combined in different ways

Tendency to Equilibrium = scissors of selling price decreasing from decreasing utility and costs increasing from increasing effort required to reduce scarcity still more (diminishing returns).

Law of Diminishing Utility

Any object first is used to meet max. needs, desires, & then down a descending scale of lesser needs & desires – (individual)

U_1 U_2 U_3 U_4 – – –

Different uses in descending scale DQ_1 DQ_2 DQ_3 DQ_4

Increasing rates of use in each category of services & so intensive use of fungible goods

When DQ is so much every so often of durable goods. a use (1 hr a wk, 24 hrs a day) price of object will not be greater than valuation placed on marginal use or unit used because price is uniform for any unit,

Law of Diminishing Returns (increasing costs)

Object is product of labour & land (any non-human factor) the ~~[illegible]~~ From a given quantity of land (any non-human factor) then product first increases more rapidly than increase of labour, then less rapidly & finally there is no product at all from totally insufficient or totally excessive application of labour. The proposition is reversible – from given quantity of labour & varying quantities of land –

When increasing returns, better to use less land – total product could be greater

When diminishing returns, rent on land of better quality generated by less labour required – value of labour is value of additional product resulting from additional unit of labour applied – Population

Disturbance of Equilibrium i.e. setting up totally new equilibrium to which to tend

1. New utilities
2. New production combinations

Diminishing utility (productivity as particular case)

1 With respect to rates of flow "dq" [piano, drink, 24 hrs – day, rate]
intensity of use of durable goods
so much energy so often of fungible goods services
in descending scale of utility

2 Arrange different categories of uses of same object

$U_1, U_2, U_3, U_4 \; --- \; U_n$

where U_n is the marginal type of use

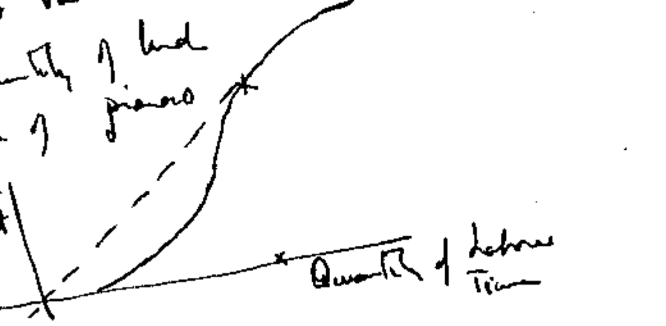
3 Arrange within each category each successive increment of DQ (each dq)
in descending scale of utility

$dq_{11} \quad dq_{12} \quad dq_{13} \quad dq_{14} \; --$

$dq_{21} \quad dq_{22} \quad dq_{23} \quad dq_{24} \; --$

etc.

4 In case of joint utility, joint demand, in which component factors are not fixed parts of same thing but variable ratios in use possible
e.g. more or less labour on same quantity of land
greater or less intensity in use of pianos



Diminishing returns

e.g. quantity of land fixed

before x, concave upwards – increasing returns
after x, concave downwards – decreasing returns
with increasing returns of labour it would be better to use less land if labour cannot be increased – because output per unit labour greater – if labour can be increased, demand strong – prices of labour rising
with decreasing returns for labour, more & more land will be called into use (less productive land at least in long run) also in long run rents emerge on better land

Therefore holds for any variable combination of two factors
viz 1) product per unit of both agencies (factors) increases
3 stages as V_1 & V_2 increased from $0 \to \infty$ 2) product per unit of relatively increased agent decreases & of relatively decreased agent increases
3) product per unit of both either agent decreases

[unless alternative uses, no competitive system possible]

Fields in which market equilibrium operates

1) Services, fungible goods, durable goods — Market price
2) Use of durable goods — rent
3) Correlation — Discounted capitalisation of rents = Market price of durable goods
4) Capacity to supply goods & services at future date

Present supply of factors — demand for consumption goods

vs

Estimates of future annual rate of profit [— interest on monetary capital]

Diff [Future prices — product costs] = Profits (theoretical)

Enterprise flows to fields of max. annual rate of profit, diminishes prices of products in that field & so secures ultimate equilibrium of investment opportunity — i.e. brings profits down to zero

Fields in which market equilibrium [illegible]

1. Demand = Past, present, future supply

Demand A = present supply of consumer services, fungible goods, durable goods – Market price A

Demand B = use not ownership of durable goods – rent — Market price B

Demand C = productive services – wages — Market price C

Demand D = maintained or increased capacity to supply goods or services at future date

= Estimate of future annual rate of profit $\frac{1}{t}\left[\frac{p}{r + f^{t}/q} - 1\right]$

vs. demand for factors for consumption goods.

= Present supply of factors

Correlations (1) Market price of durable goods (A) = Capitalised value of rents [discounted at least if perpetual]

(2) Rent + wages are complementary

Rent is the saving in labour on more advantageous non-human factors

Wages are the additional product resulting from added unit of labour

Under theoretical conditions selling price = W + R when "W" and "R" vary according as undertaking has better or worse land

If rent is defined as saving in labour, then R + W must equal selling price

(3) Demand for factors for consumption goods restrained by increasing rate of interest → increase in factors free for producer goods

Estimate of future annual rate of profit cut down by high rate of interest paid on loan capital

Interest on loan capital a particular case of capitalised value vs not income

Correlations ① A + B

② A + (B + C)

③ A vs D + (B + C)

↑

D is future A

Schumpeter   Theory of Economic Development   Harvard 1934
Eng Trans.

p166   "Within the normal course of the circular flow there is no reason at all to be aware of the value of land as such -- land .. is not sold in the normal circular flow, but only its uses. Therefore only their values and not the value of land as such are elements in economic planning. And the processes of the normal circular flow give rise to nothing about the determination of the value of land. Only development creates the value of land; it "capitalises" rent, mobilises land. In an economic system without development the value of land would not exist at all as an economic phenomenon"

Cf. my Distinction between "hand-to-hand" & "operation exchange"

p176   "in a communistic or non-exchange society in general there would be no interest as an independent value phenomenon" subsequent purges – political phenomena

N.B. only the initial massacre   to commandeer the producers'

p177   "If entrepreneurs were in a position to carry their new plans into effect, goods which they need to carry ... there would still be entrepreneurs' profit, but no part of it would have to be paid out by them as interest -- the whole of what they make over & above costs would be "profits" to them & nothing else"

"Hence nothing essential is obscured in the picture of the circular flow, if it is assumed that the means with which production is carried on consist of the products of preceding periods; but in the case of new combinations the entrepreneurs have no such products with which to procure means of production. Here then the function of capital comes in, and it becomes evident that nothing corresponding to it can exist in a communist or even in a non-communist but "stationary" society."

Schumpeter   Theory of Economic Development

p 66   Development is defined by the carrying out of new combinations
1) a new good, object of supply – a new quality in object
new i.e. relation to consumers in given field; one with which they are not familiar
2) a new method of production or of commercial distribution – one not tested by experience – not necessarily a new scientific discovery
3) opening of a new market – one that did not previously exist for country in question
4) new source of supply (raw materials, half-manufactured goods) new to country in question
5) new organization (creation or destruction of monopoly position)

New combinations emerge
66   1 a from new men who compete against & eliminate the old
b in socialist or trustified capitalism, from same economic unit
67   from shift in use of raw materials employment
2 a side by side with all other production for same materials & labour ~~[illegible]~~
67   b in competition w existing production; existing firms purchase labour & materials out of receipts of circul flow
69   3 a new firms need credit at start, for no receipts as yet.
69   b to supply such credit is function of capitalists

4 a traditional analysis: capitalists those who accumulate the productive means needed for new enterprises
71   b Schumpeter considers this a false problem: not accumulation but command enabling one to divert old uses to new combinations is the essence of the thing.
71
5 a traditional analysis: this purchasing power comes from "savings"
72   1/5 of annual income in Europe & N. America
b Schumpeter: it comes from creation of purchasing power by banks
73   it does so often & de facto
it would always do so if no previous development
Banker is not the middle man of "purchasing power" but the producer of that commodity; he is the capitalist par excellence
74

Schumpeter + Harrod[?]

My real [?] any circulation phase circles [?] no distinction between growth (mere increase in size) and development (new production combinations)

For Sch. these two are specifically distinct – the new production functions create new situations that increase enormously the average of error + bring about the cycle.

However, the ideas of capital, credit, interest, etc., that Schum. advances appear more clearly + more generally + in more detailed a fashion – the relevance of Sch. insistence on development as opposed to growth is in the concatenation of the phases – eg. Sch development can take place in any static phase if $\Delta Q^{*}_{n} > 0$ and if the new combinations are continuously offset by equal liquidations of former enterprises

Schumpeter – Entrepreneur – Theory of Econ. Dev.

Entrepreneur: the man who carries out new production combinations, introduces
new production functions – insofar as he does so.

Routine work would require the intellect of a giant if not for habit, custom, for
the fact that time hammers logic into men.
no difference between tending machines, managing, banking, etc.

But a new programme has to be based on intuition – "thorough preparatory
work, special knowledge, breadth of intellectual understanding, talent
for logical analysis, may under certain circumstances be sources of failure" –
p 85 The only proof of practicality is that it works – data, effects, counter-
effects are infinite – but the new is untried

p 85,6 "The more accurately, however, we learn to know the natural and social
"world, the more perfect our control of facts becomes; and the
"greater the extent, with time and progressive rationalization, within
"which things can be simply calculated, and indeed quickly and
"reliably calculated, the more the significance of this function decreases.
"Therefore the importance of the entrepreneur type must diminish just
"as the importance of the military commander has already diminished."

Example from military commander reveals weakness of position – justification supposes
N.B. Kondratieff downgrade – reliable calculation supposes absence of radical
change i.e. Kon. downgrade.

Besides difficulty of untried from view-point of knowledge, also
"difficulty from view-point of will. "In the breast of one who wishes
"to do something new, the forces of habit rise up and bear witness
p. 86 "against the embryonic project. A new and another kind of will is
"therefore necessary in order to wrest, amidst the work and care of the
"daily round, scope and time for conceiving and working out the new
"combination and to bring oneself to look upon it as a real possibility and
"not merely as a day-dream. This mental freedom presupposes a great
"surplus force over the everyday demand and is something peculiar and by nature rare."

Entrepreneur

1. Intuition
2. Will
3. Opposition
   1) existence of legal + political impediments
   2) astonishment, condemnation, ostracism, physical prevention, & instability
   simply because new
   especially
   a in threatened groups
   b in finding cooperation → finance, trained workers
   c in winning over consumers.

hence entrepreneur a leader

not a capitalist who takes the risk

not a manager who carries on what is established — may be subordinate in big corporation / socialist state

not necessarily an independent agent

not an inventor or a discoverer who adds to knowledge

leader acts principally by will authority personal weight

entrepreneur a peculiar leader

those who follow are competitors who will annihilate his profit (exception bankers), but by

→ leads not by argument, creating confidence,

purchasing materials & hiring labour

leads for personal profit [not mere hedonism — desirability of effort simply not counted]

Motives
a dream & will to found a private kingdom, a dynasty
b will to conquer, to succeed — like sport
c joy of creating, getting things done

b & c possible in socialist state (a directed to power palace intrigue B.L.)

"We neither style every entrepreneur a genius or a benefactor of humanity, nor do
p.10 we wish to express any opinion about the comparative merits of the social
organization in which he plays his role, or about the question whether
what he does could not be effected more cheaply or efficiently in
other ways."

Equilibrium Rate of Interest

1 Nature of Equilibrium

Rate of surplus income = rate of automatic savings plus rate of interest savings

DS = DE" m DE" n DFor Tr. D Bud.

Surplus income = large concentrations of wealth of income

automatic savings = DE" that would be DE' if interest lower.

interest savings

2 Action of equilibrium - session

High rate cuts down DS increases (perhaps slightly) interest savings

low rate stimulates DS, lessens (perhaps slightly) interest savings

3 Necessity of equilibrium

d otherwise P' basic price level has more than prosperity rise in boom and more than ~~&~~ recession fall in basic expansion

ie. [price inflation when interest rate too ~~higher~~ low
[price deflation when interest rate too high

Hence since enterprise is based on calculation of prices & interest, too low - rates - excessive capitalist plans when P' too high & interest too high & recession becomes sharp when P' too low & interest too high

We do not say that lack of this equilibrium is the cause - it may be that enterprisers & managers do not sufficiently discount ~~& ... banks do not prevent the~~ prosperity rise in P' and cannot discount recession fall in P'.

~~4 Possibility of Equilibrium doubtful because interest has upper & lower limits~~

4 Possibility of Equilibrium

Limits of Variation in Interest Rate

1 Lower [1 must meet banking costs (working capital) to carry on administrative activity
[2 must attract funds (savings) to purchase of new cap. equip.
[3 must attract funds to the enterpriser

Upper Must leave a margin of profit to the enterpriser

5 Possibility of Equilibrium - Doubtful

in recession. surplus income decreasing rapidly, automatic savings sticky below banking costs, & this is not enough interest cannot be lowered

in prosp, expansion possible but doubtful surplus income increasing (automatic savings less rapid income, interest savings & new habit not acquired - e.g. income goes to new classes) bankers unwilling to raise rate & spoil their business. (Hayek)

If there is such an equilibrium rate of interest items we must keep distinct

A Bankers' costs
- 1 = exchange technical activity (liquidity)
- 2 = supply of working capital

B. Equilibrium : Rate of surplus income = Automatic savings plus intent savings

Roughly distinction between long-term and short-term interest rates
But (Schumpeter) has maintained that long-term financing is done in short-term market

in A Banker is a prima causa
B Banker is a middle man

A must continue at all times, especially Ao
B has function of limiting surplus production to rate at which consumers consume

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Working capital increases
1) cost of materials
2) cost of labour
3) number of new production units
4) turn from more labour-saving machines to more labour

~~Factor 4 needs an equilibrator~~

Factor 4 results from drop in real wages Hayek 1939 essay
Involves increase in rate of profit Ricardo effect

F. Hayek, Monetary Theory & the Trade Cycle, Jonathan Cape 1933

p. 42 "By 'equilibrium theory' we here primarily understand the modern theory of the general interdependence of all economic quantities, which has been most perfectly expressed by the Lausanne School of theoretical economics." Fundamental idea. J.B. Say Théorie des Débouchés

p. 56 "The prevailing disproportionality theories are in agreement in one respect. They all see the cause of the slump in the fact that, during the boom, for various reasons, the production apparatus is expanded

? more than is warranted by the corresponding flow of consumption; there finally appears a scarcity of consumption goods, thus causing a rise in the prices of such goods relatively to the prices of production goods (which amounts to the same thing as a rise in the rate of interest) so that it becomes unprofitable to employ the enlarged productive apparatus or even to complete it."

p 60 "It is not, therefore, the simple fact of fluctuations in the production of capital goods (which is certainly inevitable in economic growth) which has to be explained. The real problem is the growth of excessive fluctuations in the capital goods industries out of the inevitable fluctuations in the rest of the economic system, and the irregular fluctuations of the rest of the two main disproportional development arising from these of the two main branches of production."

p65 "Why do the forces tending to restore equilibrium become dangerously inoperative and why do they only come into action again when it is too late?"

p68 "But the entrepreneur in a capitalist economy is not — as many economists seem to assume — in the same situation as the dictator of a socialist economy. ... In the modern exchange economy, the entrepreneur does not produce with a view to satisfying a certain demand (quantity of demand) — but on the basis of a calculation of profitability; and it is just that calculation which will equilibrate supply & demand.

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Hayek, Monetary Theory of the Trade Cycle

p. 70 "The other factor, no less important but all too often overlooked, is the price the producer has to pay for raw materials, labour-power, tools and ~~raw materials~~ borrowed capital — i.e. his costs. These prices, taken together, determine the extent of production for all producers operating under conditions of competition; and the producer's decisions as to this production must (surely?) be guided not only by changes in expectations as to the price of his product but also by changes in his costs. To show how the interplay of these prices keep supply & demand in equilibrium, and the analysis is the main object of pure economics, and cannot be here repeated in detail. It is, however, the task of Trade Cycle theory to show under what conditions a break may occur in that tendency towards equilibrium which is described in pure analysis — i.e. why prices, in contradiction to the conclusions of static theory, do not bring about such changes in the quantities produced as would correspond to an equilibrium situation."

p75. "... the fact that any attempt to extend the productive apparatus must necessarily bring about, besides a rise in factor-prices, a further checking force — viz. a rise in the rate of interest"

B.L. interest rises only with increase in rate of producing production goods apart from banking rule of thumb.

p.75 "... all contemporary theories agree in regarding the function of interest as one of equalizing the supply of capital and the demand arising in various branches of production"

Hayek Monetary Theory and Trade Cycle

p. 87 "Once we assume that, even at a single point, the pricing process fails to equilibrate supply and demand, so that more or less long period demand may be satisfied at prices at which the available supply is inadequate to meet total demand, then the whole system loses its determinateness and a range of economic events appears, within which movements can originate leading away from equilibrium."

p. 164 "The rate of interest at which, in an expanding economy, the amount of new money entering circulation is just sufficient to keep the price-level stable, is always lower than the rate which would keep the available loan-capital equal to the amount simultaneously saved by the public"

First cause of cycle. Credit creation chap IV etc

p. 179 "The determining cause of the cyclical fluctuation is, therefore, the fact that on account of the elasticity of the volume of currency media, the rate of interest demanded by the banks is not necessarily always equal to the equilibrium rate, but is, in the short run, determined by considerations of banking liquidity"

cp. Prof. F. A. Fetter, Interest Theories and Price Movements, American Economic Review

"Throughout this process the much esteemed elasticity of bank funds (credit creation) is the very condition causing, or making possible, the rising prices which stimulate the "so-called "needs of business." Truly a vicious circle, which to be broken only by crisis and collapse when bank loans reach a limit and prices fall" cited Hayek note p. 181

cp R. G. Hawtrey Monetary Reconstruction London 1926 2nd edit

"so long as credit is regulated with reference to reserve proportions, the trade cycle is bound to recur."

Problem what are "business needs" what is equilibrium rate?

Hayek, Monetary Theory & the Trade Cycle

Credit creation does not merely affect basic price level

p.128 "a rate of interest lowered by monetary influences, which must necessarily lead to the excessive production of capital goods"

B.L. production of capital goods is excessive when pure inflation – P' lower than prosperity a rise but rate of interest can be lowered by monetary influences without this effect.

p.128 "Wicksell and Mises both rightly emphasize the decisive importance of this factor in the explanation of cyclical phenomena, as its effect will occur when the increase in circulation is only just sufficient to prevent a fall in the price level

p.129 there also follows from credit creation "changes in the relation of costs and selling prices and the consequent fluctuations in profits, which Professors Mitchell and Lescure in particular have made the starting point of their exposition; and the shifts in the distribution of incomes which Professor Lederer investigates" --- "neither of these can be immediately connected with changes in the value of money"

p.131 "The problem of cyclical fluctuations can only be solved satisfactorily when a theory of the money economy itself – still almost entirely lacking at present – has been worked out, comprising a detailed discussion of all those points on which it differs from the equilibrium analysis worked out on the assumption of a pure barter economy"

p.139 "-- we constantly find those deviations of the money rate of interest from the equilibrium rate which, as we have seen, must be regarded as the cause of the periodically recurring disproportionalities in the structure of production

0

Monetary Theory of the Trade Cycle Hayek

p.140 "– the primary cause of cyclical fluctuations must be sought in changes in the volume of money, which undoubtedly are always recurring and which, by their occurrence, always bring about a falsification of the pricing process, and thus a misdirection of production"

B.L. it is not change in volume of money but change in DE'/DE" that changes structure of prices

p. 147 "The situation in which the money rate of interest is below the natural rate need not, by any means, originate in a deliberate lowering of the rate of interest by the banks. The same effect can be obviously produced by an improvement in the expectations of profit or by a diminution in the rate of saving, which may drive the 'natural rate' (at which the demand for and the supply of savings are equal) above its previous level; while the banks refrain from raising their rate of interest to a proportionate extent, but continue to lend at the previous rate, and thus enable a greater demand for loans to be satisfied than would be possible by the exclusive use of the available supply of savings"

B.L. "exclusive use of available supply of savings" cuts out expansion & ties one down to static phase

or expansion = liquidation phase.

p. 149 " – in principle, an increase in the volume of cash, occasioned by an increase in the volume of trade, also implies a lowering of the money rate of interest . . " ??

p. 152 " because the banks have no particular interest in keeping the supply of bank credit in equilibrium with the supply of savings – "

p. 168 " . . the natural rate of interest has risen -- the reasons for this can be of very different kinds. New inventions or discoveries, the opening up of new markets, or even bad harvests, the appearance of entrepreneurs of genius who originate "new combinations" (Schumpeter) a fall in wage rates due to heavy immigration: and the destruction of great blocks of capital by a natural catastrophe or many others "

p.171-3 Which bank raises the rate? The one that wishes to lose business

p.175 cites 10th yearly report of Federal Reserve Board, for 1923 (Washington 1924)

" This is the usual sequence – an increase in deposits followed by an increase in currency. Ordinarily the first effect of an increase in business activity on the banking position is a growth in loans and deposits -- then comes a time when the increase in business activity and the fuller employment of labor and increased pay-roll call for an increase in actual pocket money to support the increased wage disbursements and the increased volume of purchases in detail."

p.176 Only so long as the volume of circulating media is increasing can the money rate of interest be kept below the equilibrium rate; once it has ceased to increase, the money rate must, despite the increased total volume in circulation, rise again to its natural level and thus render unprofitable (temporarily at least) those investments which were created with the aid of additional credits "

Hayek   Monetary Theory of the Trade Cycle

183 " For it is not the occurrence of a 'change in data' which is significant but the fact that the economic system, instead of reacting to this change with an immediate 'adjustment' (Schumpeter) — i.e. the formation of a new equilibrium — begins a particular movement of boom which contains, within itself, the seeds of an inevitable reaction "

189 " So long as we make use of bank credit as a means of furthering economic development we shall have to put up with the resulting trade cycles. They are, in a sense, the price we pay for a speed of development exceeding that which people would voluntarily make possible through their savings and which therefore has to be extorted from them "

199 " So long as the amount of credit obtainable at any given rate of interest is limited, competition will ensure that only the most profitable employments are financed out of a given amount of credit."

226 " — it is probably more proper to regard forced saving as the cause of economic crises than to expect it to restore a balanced structure of production."

O.K. Bh.

238 " — owing to the existence of banks, the equilibrating forces of the economic system cannot bring about the automatic adjustment of all its branches to the actual situation

Selling Price Turnover Period Profits

Period years	2	1	1/2	1/4	1/12
Turnover volume	24,000	12,000	6,000	3,000	1,000
Annual rate of profit	6%	6%	6%	6%	6%
Profit on turnover	12%	6%	3%	1½%	½%

Suppose 1% rise or fall in selling price; therefore in rate of profit on turnover, provided wages and materials do not vary in price

Profit on turnover	13%	7%	4%	2½%	1½%
	11%	5%	2%	½%	−½%
Annual rate of profit	6½%	7%	8%	10%	18%
	5½%	5%	4%	2%	−6%

In general if Annual rate of profit is "A"
Initial increase in selling price is "dP" per cent
turnover period in years is "t"
then new annual rate of profit is "$A + \frac{dP}{t}$"
provided costs (wages and materials) do not vary

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Profits, Interest, Investment   Hayek   1939 London

1. "Ricardo effect" – shift in profit schedules according to turnover period
2. Shift in multiplier, multiplicand, quotient

Multiplicand – increment in demand for consumers goods dOE'

Multiplier – ratio between increment in demand for consumers goods dOE''/dOE' and increment in demand for producers goods

Quotient – inverse of multiplier i.e. dOE'/dOE''

3. Ricardo effect varies multiplier – determinants [1. technological 2. proportion of fixed to circulating capital

Increase in short-turnover profit schedules – decrease of multiplier
Increase of long-turnover profit schedules – increase of multiplier

Quotient [Present increment in capital goods / Future resurgent increment (say after a year) of consumer goods
→ dOE'/dDE'' where numerator lags a year behind denominator

Multiplier dOE''/dOE' simultaneous

Quotient connected to effective zero rising to level of OE''

then of constant rate of surplus expenditure

e.g. if $Q = \frac{1}{10}$ consumer goods have increasing $\frac{10}{10}$ in ten years of increase in capital goods

?

Variations in Annual Rate of Profits

$$\text{Annual Rate of Profits} = \frac{\text{Annual profits}}{\text{Turnover Receipts}} = A$$

Turnover – Let V be annual volume of receipts – then outlay – receipts, so much every so often, say R every t years – so that $Vt = R$ and the "t" is turnover period. Defined as interval between ~~turnover~~ outlay + receipts + new outlay: partly production period but prolonged when sales delayed, shortened when sales prompt.

Other terms	Quantity	Receipts	Variable Costs	Fixed Costs	Profits
per unit		p	v	ft/q	a
per turnover	q	pq	vq	ft	aq
per year	q/t	pq/t	vq/t	f	aq/t

then $p = v + ft/q + a$ $\qquad a = p - v - ft/q.$

$$A = \frac{aq/t}{pq} = \frac{a}{pt} = \frac{p - v - ft/q}{pt} = \frac{1}{t}\cdot\frac{p-v}{p} - \frac{f}{pq}$$

$$= \frac{1}{t}\cdot\frac{p-v}{p} - \frac{f}{pq}$$

More accurately

$$\text{Annual rate of profits} = \frac{\text{Annual profits}}{\text{Turnover outlay}} = A_1$$

$$A_1 = \frac{aq/t}{vq + ft} = \frac{1}{t}\cdot\frac{aq}{vq+ft} = \frac{1}{t}\cdot\frac{pq - vq - ft}{vq + ft}$$

$$= \frac{1}{t}\left[\frac{pq}{vq + ft} - 1\right]$$

$$= \frac{1}{t}\left[\frac{p}{v + ft/q} - 1\right]$$

Implications of Variations in Annual Rate of Profit

1. There is no equilibrium rate of interest

since $A_1 = \frac{1}{t}\left[\frac{p}{v + ft/q} - 1\right]$ annual rate of profit is function of turnover period in most fundamental way — to offset alterations of new profit schedule resulting from change in price ~~ratios~~ + cost patterns, interest would have to be changed per turnover.

2. There is a "secondary wave"

<u>Primary wave</u> given by $C' p'' dq'' = (P' - C'kp')\, dq'$

where dq'' increases, .. forced savings $(P' - p')$ increasing and then dq' increases as result of increased dq'' — <u>Property-raising</u>

<u>Secondary wave</u>

A. Forced savings $(P' - p')$ increase; revise basic profit schedules; plus price by (altering k) new production (increment in dq') further increase of forced savings

B. Forced savings $(P' - p')$ cause rise in P', p'' — further forced savings — which covers contraction caused by increasing dq'

C. Rise in p', dq', p', dq'', P' causes rise in Q'' — surplus profit schedules revised in favour of short-turnover firms — rise in dq'' — further forced savings

D. Hence general up-swing till ~~rise in~~ full employment

Monetary pure inflation — then banks tighten — prices begin to drop — revision of profit schedules in favour of long-turnover firms — elimination of short turnover expansion

C.F. Roos Dynamic Economics 1934

p.147 "It is clear that it is entirely sound and, under certain restrictions, socially desirable economics to permit the practice of using loss leaders, provided the ratio of the sensitiveness of demand (for the economy) of the loss leader and its companion commodity is neither too small nor too large -- The net effect of this is to increase the consumption of the loss leader and of the companion commodity and at the same time give merchants greater profits -- Hence it is not at all necessary to require that all goods be sold above cost, nor is it desirable. Such a situation leads only to decreased consumption. In other words the whole notion of selling every good on a cost-plus basis is faulty; it is based on inadequate knowledge of joint demand.

p.172 "Thus, in the problem as formulated here, operations of entrepreneurs are largely ~~determined~~ dependent upon whether they choose optimistic or pessimistic values of $\cancel{y}$ Y_j. Therefore employment depends to considerable extent upon entrepreneurial guesses of expected price and, of course, as already pointed out, of consumer income.

→ NK. But consumer income itself depends on entrepreneurial decisions in the aggregate.

Velocity of Money

1. Redistributional Area — neglect
2. Process

a. Suppose series of production periods

eg. series T_1 series T_2 series T_3 etc

b. Receipts = Value of Production graph corrected by increases or decreases in inventories

Outlay = Step graph

- so much added per week
- so much added per month
- so much added per 6 mos
- So much added

Smooth out step graph

Net outlay value of production in production period ± increases or decreases in inventories

$= P_i DQ_i + \Sigma dI_i$

$= \sum_{i=1}^{N} P_i DQ_i + dI_i$

From Traders to Consumers

Diff between ordinates
$= \Sigma P_i DQ_i + \Sigma dI_i$
= Consumer balances
= Trader outlay

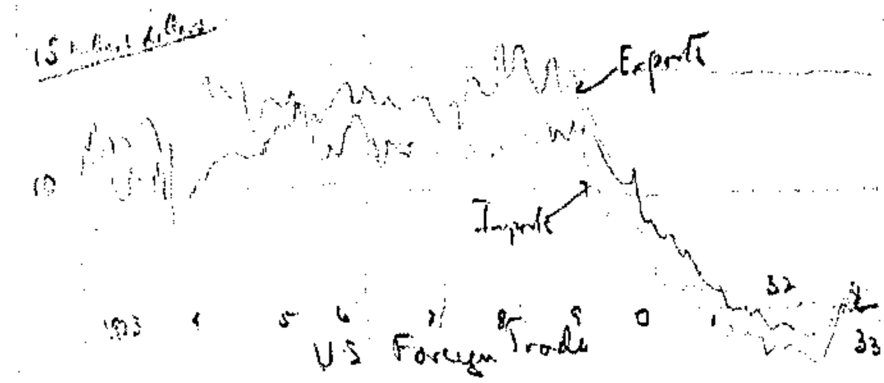
c. Income step graph identical to outlay graph

Expenditure identical to receipts graph

Minimum difference = Basis for permanent loans to Redistributional Area

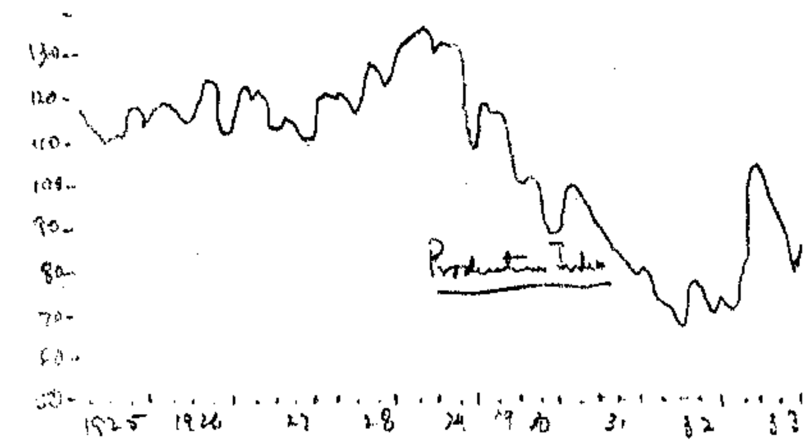
Max diff − Min diff = Basis for Call Loans, demand deposits

P.T.O.



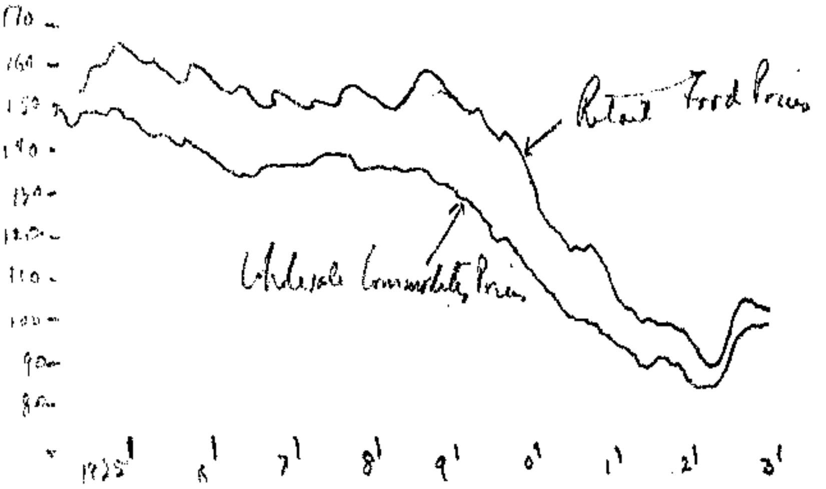
Ross Dynamic Economics p 239

"Excess of exports over imports may be regarded as internal inflation of purchasing power"

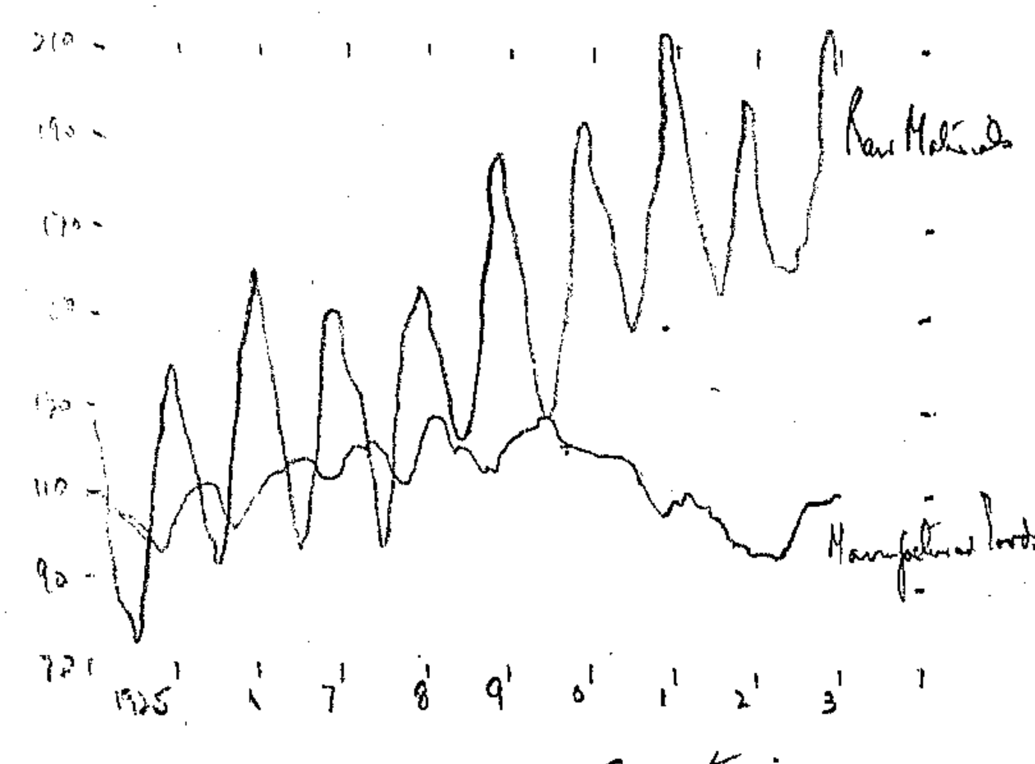


Ross p. 222

Rough Copy

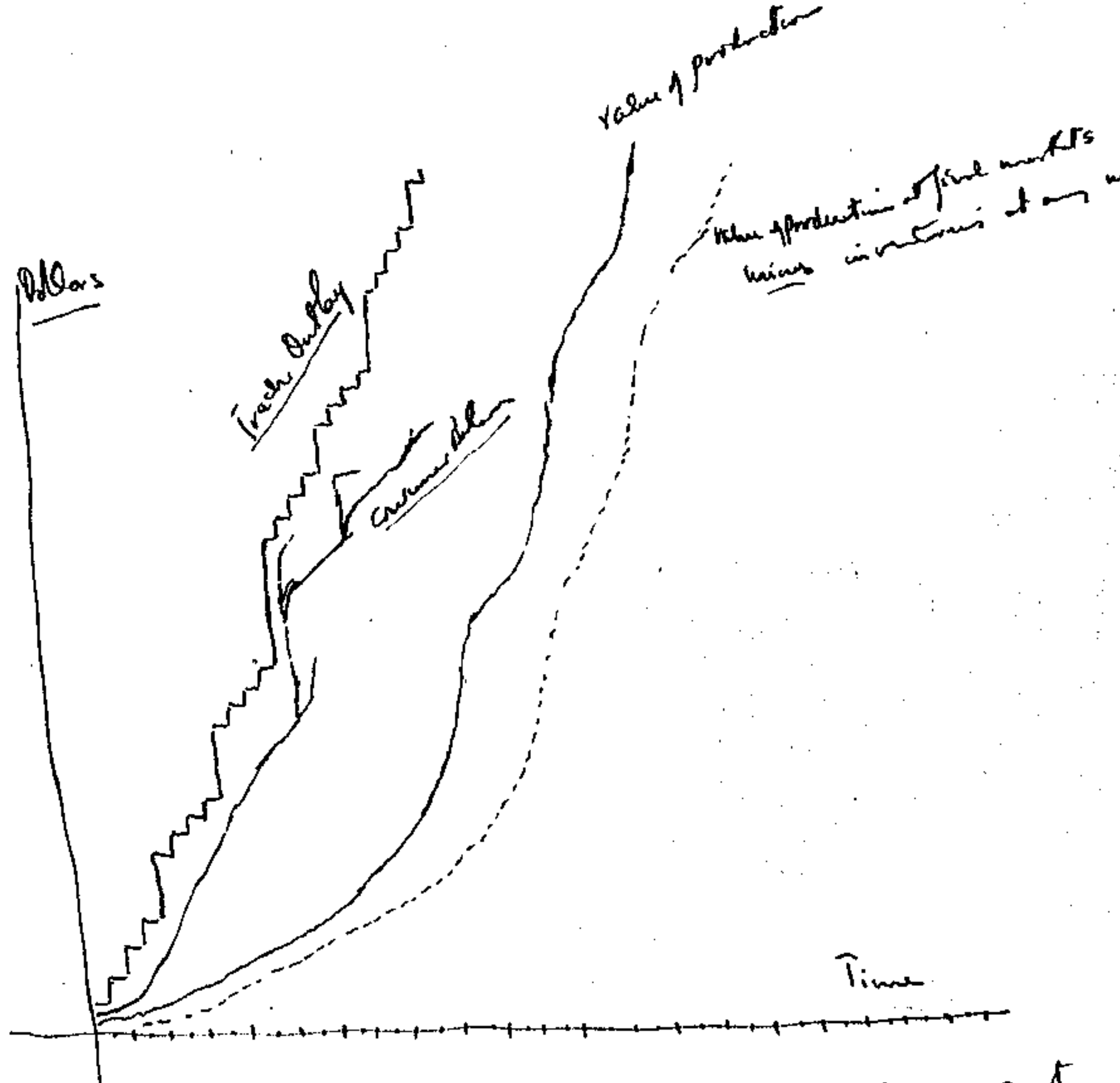


Ross p 222



Ross p. 223

Inventories



Trader Outlay: a step function, so much per week, per month, per quarter, per half year, etc

Value of Production at Final Market [Curve heightens q with shortening of production period
p with rise in prices
Curve flattens: q with lengthening of production period
p with drop in prices

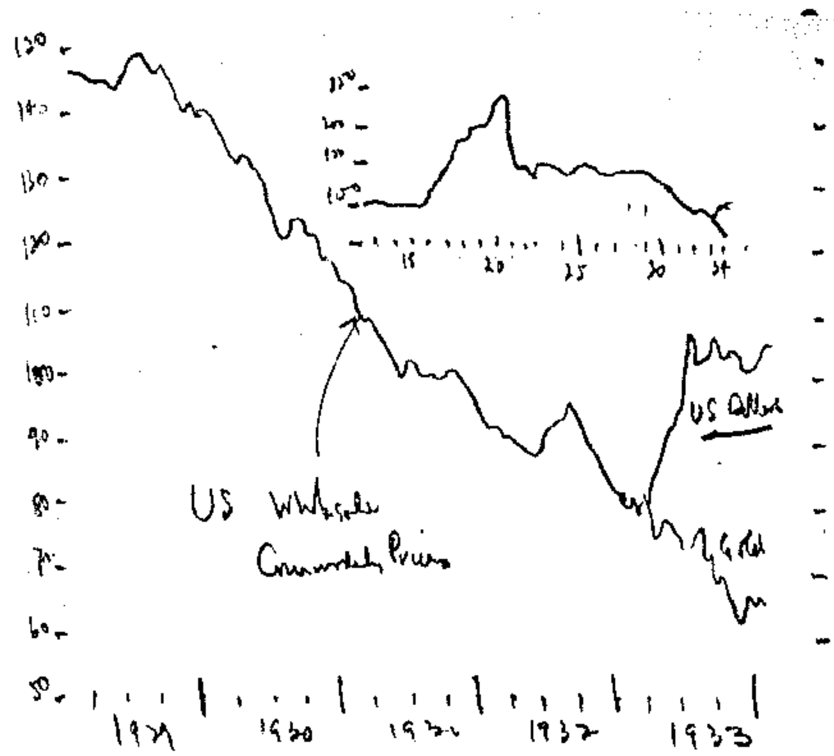
Inventories: anywhere along the line

× Value of production minus Inventories

× Trader Outlay minus [Value of production× minus inventories] plus other sources = Consumer Balances

× Measure along ordinate

Banking is using consumer balances to create trader balances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