HEA, Index 1246f.,

1 Marginal Analysis
2 Marginal Efficiency of Capital
3 Marginal Productivity Principle
4 Marginal Propensity to Consume
5 Marginal Rate of Substitution
6 Marginal Utility Principle

1 261 "And finally it must be recorded to Turgot's credit that he stated his law in terms of successive increments of product and not in terms of average product... This means that he actually used marginal analysis and that command of modern technique could have improved only the form of his statement."

303 Daniel Bernouilli (1730-31) put the increment of satisfaction relative to one's wealth as
dy = K dx/x; whence (304) y = K log x = K log b/a

674ff Evaluation of Ricardo's achievement on rent.

721n13 Ricardo added 'marginal' to profit re inflationary bank loans

868f Eulogy and evaluatin of contributions of John Bates Clark (1847-193

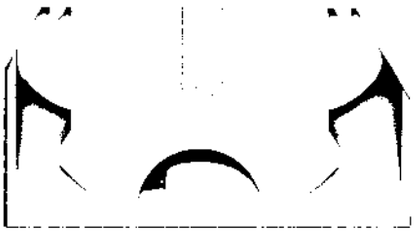
869f "To this day the very use of the term Marginalism is indicative of erroneous [870] conceptions of the nature of the principle. A fortiori, it cannot have any bearing upon policy or social philosophy... It is only the political or ethical interpretation that is put upon the results of marginal analysis which can have such a bearing."

2 278n Monetary analysis deals with aggregates and will refer to such aggregates: to these must be added the rate of interest and of wages, because if their general import.

721 .. he (Thornton) presented (the essentials of) a complete analysis of the market for loanable funds that pivots on the fundamental equilibrium theorem, that the loan rate (money interest) tends to equal expected marginal profitsof investment (marginal efficiency of capital). This requires some elaboration. Cf. 721 ff.

871f Irving Fisher's (1867-1947) masterly contributions.

1048f Marshall's normal profit: "Marshall as a rule considered the profit item of the balance sheets of business practice -- and espacially the balancesheets of owner-managed firms -- rather than anything that has any claim to be called 'pure profit,' and he considered this profit item as it is rather than as it would be in (static) equilibrium of a stationary process. Though careful analysis in this as in other cases can no doubt unearth the contours of a comprehensive schema in which everything finds its appropriate place -- but a schema that is Ulysses' bow to less powerful minds -- the ordinary reader simpl finds a fricassee of such things as.... Nevertheless Marshall created a sort of normal rate of profit... which he felicitously associeted with the representative rather that the marginal firm. This normal rate of profit may be loosely defined as the ratethat makes it worth while to enter, and to stay in, business.., and thus acquires a distinction from the managerial salary that is easier to justify in a commonsense manner that in strict logic. Somehow all of this has grown into the simplified normal profit of Marshall's followers and then into the marginal efficiency of Keynes' General Theory.



3. Marginal Analysis (Cf. HEA 1246 f.: Marginal...)

Turgot (1727-81). Life sketch, HEA 245-47 or -49.

249 " .. as equal quantities of capital (avances) -- amounts of
250 labor would, however, do just as well in this //260// case -- are successively applied to a given piece of land, the quantities of product that result from each application will first successively increase up to a certain point at which the ratio between increment of product and increment of capital will reach a maximum. Beyond this point however further application of equal amounts of capital will be attended by progressively smaller increases in product, and the sequence of these decreasing increases will in the end converge towards zero. This statement of what eventually came to be recognized as the genuine law of decreasing returns cannot be commended too highly..."

303 Daniel Bernouilli (1730-31) noted that ".. the economic significance to an individual of an additional dollar is inversely proportional to the number of dollars he already has."

$y = K.dx/x$; $dy/dx = K/x$; $y = K \log x$

Cf. pp. 1055, 1089.

470 DAVID Ricardo (1772-1823) Life sketch, HEA 470.

473 "The diminishing-return theory (of rent) or as we could also call it, the diminishing-cost theory, as everybody knows, is associated with the name of Ricardo... Ricardo achieved his purpose of excluding rent from the price (value) problem in this way. In practice firms operate under different cost conditions... We may, of course, array them up in ascending order of costs, and we may further observe without difficulty that, in a state of perfect competition and perfect equilibrium, price cannot be lower and is not likely to be much higher than the average costs of the highest-cost firm.... 'the real value of a commodity is regulated... by the real difficulties encountered by that producer who is least favored.'

474 Extended to cultivation of land and applied to case where every part of output is equal in cost to every other part so that there is allocated to each successive increment in output the increase in the total cost of the total output.

Note 75 This is as far as Ricardo got. We may attribute to him, as to other writers of the period, a conception of marginal cost that differs from the modern conception only in technique

615-25

IV Schumpeter, Hist Econ Anal, Part III, ch 6, #4

615 J.-B. Say, Traite d'economie politique, 1803[1] with several editions each more voluble on his "loi des débouches."

616 Our first task is to find out what Say's original meaning really was. With so inexact a writer this is not always easy. Sch. begins from Say's examples. It was not because the English produced too much that the Brazilians could not buy their products, but because the Brazilians produced too little to be able to afford English products. Similarly, within a given country.

.. production increases not only the supply of goods on the market but also the demand for them... products are 'ultimately' paid for by products in domestic as well as foreign trade. In consequence a balanced expansion in all lines of production is a very different thing from the one-sided increase of the output of an individual industry or group of industries.

617 .. the particular industry's equilibrium output, the output that is neither too great or too small, is the right output only with reference to the outputs of all the other industries... In other words, demand, supply, and equilibrium are concepts with which to describe quantitative relations within the universe of commodities and services. They do not carry meaning with respect to the universe itself. .. there is no more sense in speaking of an economic system's total or aggregate demand and supply and, incidentally, of overproduction than there is in speaking of the exchange value of all vendible things taken together or of the weight of the solar system taken as a whole.

In particular, this aggregate demand or supply are not independent of each other, because the component demands 'for the output of any industry.. comes from the supplies of all the other industries... and therefore will in most cases increase (in real terms) if these supplies increase and decrease if these supplies decrease. This is the proposition which (like Lerner) I shall call Say's law and which I believe renders Say's fundamental meaning.

As stated Say's law is obviously true, Nevertheless, it is neither trivial nor unimportant.

618 Finally, the law, at least by implication, amounts to a recognition of the general interdependence of economic quantities and of the equilibrating mechanism by which they determine one another, and therefore has a place -- as have other contributions of Say's -- in the history of the emergence of general equilibrium.

But Say himself was little interested in the analytic proposition per se.. he was much more anxious to exploit it for practical purposes than to formulate it with care... The chapter being mainly an argument for laisser-faire and against restrictions upon production, abounds in reckless statements, which were precisely the ones to attract his attention. His readers were treated to a picture of the capitalist process what showed only a triumphal onward marchm of industry withm nothmxingx to distrub permanent advance at full employment except sectional maladjustments and restrictive government policies.

The first x point to be made is that, though Say's law is not an identity, x his blundering exposition has led a long series of writers to believe that it is one -- and this in no less than four different senses.

619 The four different senses in detail.

620-5 Law applied to Say's money: Ricardo, Malthus, Mill, Marshall, Wicksell, Keynes

Schumpeter HEA

V

Substitution, Principle590, 680n, 682, 832, 839, 917n, 994n, 993ff
Marginal Rate of Substitution, 44, 941, 1044n, 1066'

44 (As concept immune from ideology) For instance, we find a concept that is called the marginal rate of substitution, which has since 1900, been increasingly used in the theory of value instead of the older concept of marginal utility.

590 The 'classics', it has been held, were not in possession of the latter principle (of substitution). This is true and so it constitutes one of the most serious shortcomings of their analytic apparatus. But if they did not formulate it explicitly and did not apply it systematically, neither were they entirely unaware of it. They used it in individual cases. And it is implied in some of their propositions.

680n [95] These shortcomings were not so much due to faulty handling of the 'classic' apparatus of analysis but to deep-seated faults of this apparatus itself. But if we were called upon to name one as more important than others, we should have to name once more the failure of the 'classics' to understand substitution (both of factors and of products) in its full importance.

Substitution is of what better suits the objective end. It is free from subjective satisfactions. But it introduces the final causes banned by modern science. cf p.44, where above is

682 Change in organic composition of capital.

A capitalist who so far has employed a certain number of laborers with a certain amount of fixed capital decides to introduce a newly invented labor saving machine and lets part of these laborers produce this machine, which in his balance sheet now stands for part of the wage capital that he used to reproduce, with a profit, year after year. His motive for doing so is that, since not all firms adopt a new machine simultaneously, a temporary profit is attached to the introduction of the machine. In Ricardo's example, the capitalist's capital remains intact -- it neither increases or decreases in value. But it has changed its organic composition.

839 .. Marshall was less than generous to all those whose contributions were closely related to his own. The one exception is Thünen's great law of substitution, whose work was properly recognized not only in a general way in the Preface to the first edition of the Principles but also in the passage (p 704 of 1st ed) that speaks of T's great Law of Substituion.

917[19] The idea of substitutibility was, of course, familiar to Thünen. But Menger was the first to formulate it explicity: 'it is... that not only can fixed quantities of ~~kinds~~ goods of higher order be combined in production in the way in which we observe this in chemical products... (But) ~~in general~~ general experience teaches us that a given quantity of any good of lower order can result from very different combinations of goods of higher order.'

941 The marginal productivity theory, in a very advanced version that took full ~~account~~ account of the relations of substitution between productive factors and came 'close to the ~~marginal~~ modern concept of a marginal rate of substitution sprang ready-made from the head of Stuart Wood, whose two papers on the subject should assure his position in the history of analytic economics.

S W, Quarterly Journal of Economics, October 1888, July 1889
Publications of the AEA, IV 1889
J.B. Clark, Ibid.
J. R. Hicks, Theory of Wages, 1932.

994 The theory of these supply curves from which they are supposed to be independent is a development of Cournot's theory of costs and is subject to restrictions that are still more severe than those that partial analysis places on demand curves. Cf. n. 8.

992ff. Marshall's price elasticity of demand.

The ordinate of a demand curve represents prices and the abscissa quantities. dy/dx represents elasticity of price at some determinate point, x_0. Since dy/dx is not invariant for different measures of the units, a simple remedy is to divide dy by y and dx by x, to yield xdy/ydx, which is called the flexibility of price. To express the sensibility of quantity determined by slight changes in price, we take elasticity as the reciprocal of flexibility, and write ydx/xdy; as this is a negative quantity (~~because~~ quantity demanded falls as price increases) we write -- ydx/xdy.

As there are many diverse demand curves, so there are many elasticities, including elasticity of substitution.

Schumpeter, Hist Econ Anal, Part IV, ch 2, #3

777 Note 15? On the misleading effect on economists of the sharp distinction between Natur- und Geisteswissenschaften; social sciences can straddle
Note 14: on different tendency in Jevons, Sigwart, Wundt.

801-24 ch 4: Sozialpolitik and the Historical Method.

827 Carl Menger (1840-1921)

> However, as far as pure theory is concerned, (Léon) Walras is in my opinion the greatest of all economists. His system of economic equilibrium, uniting as it does the qualities of [illegible] of 'revolutionary' creativeness and classic synthesis is the only work by an economist that will stand comparison with the achievements of theoretical physics.

837 .. Marshall's theoretical structure, barring technical superiority and various developments of detail, is [illegible] fundamentally the same as Jevons, Mengerm and esmpecially Walras, but that the rooms in this new house are unnecessarily cluttered up with Ricardian [illegible] heirooms...

844 Menger.. found two disciples, Böhm-Bawerk and [illegible] Wieser, who were Menger's intellectual equals and who completed Menger's success

844-48 Böhm-Bawerk

848 [illegible]Friedrich von Wieser (1851-1926)

862f Knut Wicksell (1851-1926) Cf. 1085.