UPDATED AND REVISED EDITION

THE DICTIONARY OF MODERN ECONOMICS

General Editor
David W. Pearce

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Revised Edition

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'A Writer of dictionaries—a harmless drudge.'

Samuel Johnson (1755)

'Letter to Lord Chesterfield',
Boswell, Life of Johnson.

Preface

The idea for this dictionary of economics originated within the reference books division of Macmillan Press. When we were approached to put that idea into practice there was widespread agreement that there was a need for something different in this area of reference studies, despite the excellent contributions that already existed. The dominant thought was that the 'average undergraduate' (for which no entry will be found in this dictionary or, we suspect, any other) needed to be led, sometimes gently, sometimes a little more forcibly, into realms that lay beyond the conventional first year economics course. Hence the coverage of the current dictionary. It extends significantly beyond what the first year student will need. At the same time, and here we can only hope we have succeeded, it covers all that the traditional market has aimed at. In short, we felt there was a demand for coverage of the words and phrases, concepts and institutions that a first year student might want, and more. Economics is undergoing yet another 'revolution', albeit one that it is difficult to secure great perspective on at the time of writing. We have therefore done our best. In so doing, all the authors are conscious that they have been selective in choosing entries, that the 'balance' in a book authored by no less than fourteen people must inevitably be open to criticism and that they will have omitted something, somewhere which others will see as being far more important than many of the entries chosen. To this end all criticism and suggestions for improvement are welcomed. For the moment, we believe that the dictionary we offer is unique, tempting and useful.

Each entry contains cross references except in the few cases where a word or phrase is 'self contained'. To build a picture of a given area of economics, the reader is therefore encouraged to pursue the cross references indicated at the end of each entry. We have also included many business terms which some will argue do not belong in a dictionary of economics. The growth of courses in business finance and analysis, however, testifies to the need to make such an excursion in a dictionary of this kind. We have also included 'potted' bibliographies of celebrated economists. It is not too difficult to decide who deserves mention when they are dead—although students of the history of thought will dispute that statement—but it proved decidedly controversial as to whom among the living should deserve entry. We therefore followed a general rule, again which some will dispute, that those who have received the Nobel Prize for Economics should automatically gain mention. Others, perhaps no less deserving, receive mention because they have lent their names to a particular growth model, a theory of this or a theory of that. We have not eschewed the use of simple mathematical symbolism. When used, it is explained in each entry. Where the axe had to fall, for reasons of time and space, was in the area of institutions. International institutions of note are therefore included, but institutions peculiar to one country are generally but not always excluded. It proved impossible, for example, to explain some words in current usage without reference to UK banking institutions. Against this, we are very conscious that many important Acts of Parliament, Royal Commissions, committees of investigation and so on are excluded. If future editions allow, that is one area we would seek to remedy.

The ready enthusiasm with which we greeted the initial idea for a new dictionary of economics contrasted somewhat with the failing tempers that characterized the indecent haste of the final preparation of the manuscript. That most of the ill temper focused on the so-called 'editor' was predictable, and apologies are owed to all other authors in this respect. The work share in the dictionary is virtually impossible to allocate. Everyone gave freely of their time and it is best to think of each author as being equally responsible, or equally at fault. The more than occasionally bewildering task of typing the manuscript was begun by Mrs. Pearl Watson in truly efficient style, subsequently to be equalled by Mrs. Betty Jones. That the task was beyond one secretary towards the end was quickly realized. Entries flew faster into the 'in tray' than they appeared in the out tray. Winnie Sinclair, Phyl McKenzie, Aileen Fraser, June Begg and Sandra Galbraith all shared the final dash to the final furlong. We owe them everything in terms of seeing the book actually materialize. We also owe a debt of thanks to Shaie Selzer of Macmillan for being very patient, for extending at least one deadline and for providing the encouragement in the form of nearly threatening letters towards the end of the preparation period. It would be a miracle if such an enterprise were not full of errors and omissions. We make no claim to miracles, merely to having done the best that we can in the time available.

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A

AACB
See *Association of African Central Banks*

Abatement Cost. The cost of abating a nuisance such as pollution or congestion. In terms of pollution the cost curve will typically slope upwards at an increasing rate as pollution is progressively reduced. This is because it is usually comparatively cheap to 'clean-up' some part of a polluted environment but extremely expensive to remove the last units of pollution. An example would be noise where engines can be muffled thus reducing noise by a noticeable amount. Further reductions in noise might, however, require expensive engine redesign or wholesale changes in road structures, locations etc.

Ability and Earnings. Measures of ability and levels of education ('schooling') are highly correlated; raising the possibility that much of the estimated return to education is in fact a return to ability. Until recently, however, it was not thought that allowance for ability much reduced the *rate of return* to education. But studies of identical twins, who presumably do not differ in ability, have yielded much reduced estimates of the rate of return to education; the true *rate of return* may be as low as 5 per cent rather than the usual estimate of 10 per cent and above, although there are disputes over the findings. Persistence of schooling expenditures in such circumstances might be attributable to the consumption value of education. Even so, schooling does influence earnings—even for identical twins—and thus schooling can continue to be viewed as an investment. (See *Human Capital.*)

Ability to Pay Theory. An approach to taxation which states that the burden of taxation should be distributed in accordance with ability to pay. The theory is based on the concept of *equal sacrifice.* Sacrifice refers to the loss of *utility* which is incurred when tax payments are made. There are three possible measures of equal sacrifice—equal absolute, equal proportional and equal marginal (or least aggregate). No definition is obviously conceptually superior. Whether the tax system is progressive, proportional or regressive depends on which measure is employed and on the assumed slope of the *marginal utility of income* schedule(s). Any one definition is actually consistent with all three tax structures when different assumptions are made about the slope of the marginal utility of income schedule. If the latter is assumed to be declining the three measurements do not always give consistent conclusions about the appropriate tax structure. The equal marginal sacrifice definition produces the most progressive tax structure. The validity of the theory depends on the ability to make *interpersonal comparisons of utility.* This is denied in modern *welfare economics.* The theory although superficially attractive thus has several major limitations and defects.

Abnormal Profits.
See *Super Normal Profits*

Above the Line.
See *Below the Line*

Abscissa. The value on the horizontal (or X) axis of a point on a two dimensional graph. (See also *Ordinate.*)

Absenteeism. Failure to report for work although the terms of the labour contract require the worker to do so and the contract is still operational. The *overemployed worker* will resort to this where control of the terms of the labour contract

is lax or where sanctions for non-compliance are negligible. In particular employers who are currently experiencing labour shortage may be reluctant to use the ultimate sanction of *sacking*.

Absentee Landlord. An owner of land or property who lives away from his estate, collecting rents and administrating his business through some intermediary or agent.

Absolute Advantage.
See *Comparative Advantage*

Absolute Cost Advantage. A concept referring to those advantages possessed by established firms who are as a consequence able to sustain a lower average total cost than new entrants irrespective of size of output. Examples of sources of absolute cost advantages are: control of the supply of key factor inputs, patents and superior techniques available only to established firms. (See *Barriers to Entry*.)

Absolute Income Hypothesis. This hypothesis states that consumption expenditures (C) are a function solely of current personal disposable income (Y_d): $C = C(Y_d)$. This view of the determinants of consumption was detailed in THE GENERAL THEORY by *Keynes* who hypothesized that consumption would be functionally related to income in the following way. First for any change in income the corresponding change in consumption would be in the same direction but of a smaller magnitude, the *marginal propensity to consume* would be less than 1;

$$0 < \Delta C/\Delta Y < 1,$$

where 'Δ' means 'small change in.'
Second the marginal propensity to consume would be less than the *average propensity to consume*;

$$\frac{\Delta C}{\Delta Y} < \frac{C}{Y}$$

Finally the rate of change of the marginal propensity to consume would be negative; that is that the slope of the *consumption function* will become flatter as income rises. While short-run time series and cross-section evidence on the form of the consumption function broadly support Keynes' hypothesis, long-run evidence contradicts it. In consequence this form of consumption function enters only the most simple models. (See also the *Short-run Consumption Function*; the *Cross-section Consumption Function*; *Long-run Consumption Function*; *Relative Income Hypothesis*; *Life-cycle Hypothesis*; *Permanent Income Hypothesis* and *Endogenous Income Hypothesis*.)

Absolute Monopoly.
See *Monopoly*

Absolute Prices. *Money prices* as opposed to *relative prices*; that is the price of goods and services expressed directly in terms of a quantity of the monetary unit. (See *Price*.)

Absolute Scarcity.
See *Scarcity*

Absolute Value (also known as modulus). The value of a variable ignoring its sign. Thus the absolute value of a positive number is just that number, while the absolute value of a negative number is itself multiplied by minus one.

Absorption Approach. A method of analysing the effects of a *devaluation* or *depreciation* of a country's *exchange rate* on its *balance of trade*. The approach focuses attention on the relationship between *national product* (Y) and national absorption (A), where the latter is defined as the use of goods for the purposes of *consumption* and *investment* by the private and public sectors of the economy. The balance of trade (B) can only be positive (i.e. in surplus) if Y exceeds A. Thus in its simplest form the relationship may be written as $B = Y - A$.

If the balance of trade is to improve then devaluation or depreciation must raise Y relative to A. In an economy with

unemployed resources this is possible, since the decline in the exchange rate should be a greater stimulus to Y than A. At full employment, however, Y cannot be increased, so that B can only improve if A falls. The merit of the approach is that it draws attention to the need for complementary action, e.g. some degree of *deflation*, if a decline in the exchange rate is to improve the balance of trade in conditions of full employment.

Abstinence. A term which describes the necessity of foregoing present consumption in order to allow capital accumulation. It was first used by *Nassau Senior* in his theory of the *rate of interest*. For Senior, the creation of *capital goods* involved saving from current income in order to augment the *capital stock*, and create a greater future stream of consumption goods. As such it implies that a reward for such behaviour is required if capital accumulation is to continue. Interest is the reward for abstemious behaviour, and the rate of interest reflects the scarcity of capital.

J. S. Mill extended the notion of abstinence to include a reward for foregoing consumption of capital itself. Since capital goods take time to produce commodities for consumption the individual must wait for some period before benefiting from an investment. Abstention in this sense of 'waiting' is scarce and requires a reward or payment in the form of interest.

These two elements of abstinence provide a theory of the supply of savings which can be used in conjunction with a demand for investment to explain the existence of a positive rate of interest.

Accelerated Depreciation.
See *Depreciation*

Accelerating Inflation. An increasingly sharp rise in the rate of *inflation*. If government attempts to hold unemployment below the *natural rate of unemployment* this will result in accelerating inflation. (See also *Slumpflation*.)

Accelerator.
See *Accelerator Principle*

Accelerator Coefficient. The multiple by which new *investment* increases in response to a change in income. New investment is hypothesized to be some multiple greater than one of the change in income because the value of a machine is usually well in excess of the value of its annual production. (See *Accelerator Principle*.)

Accelerator Principle. The theory that the level of aggregate net *investment* depends on the expected change in output. In its naive form, it can be expressed

$$I_t = a\Delta Y_{t-1} + b$$

where 'a' is the accelerator coefficient, 'Δ' means 'small change in', and ΔY_{t-1} means the change in the level of output in the previous year. ΔY_{t-1} thus becomes a proxy for the expected change in output, and b is *replacement investment*. The theory hypothesizes that firms attempt to maintain a fixed ratio of desired *capital stock* to expected output. In the naive version there is no role for the interest rate and it is therefore an extreme Keynesian view of the determinants of investment. In the more sophisticated form, known as the flexible accelerator, the ratio 'a' is affected by the *user cost of capital* while further flexibility is introduced in those versions which take account of the substantial construction lag some investment projects entail. As a result only a proportion of any gap between actual and desired capital stock will be made up in any one period. The principle plays an important role in explanations of the *trade cycle* e.g. through *multiplier–accelerator interactions*, and in the theory of economic growth—notably the *Harrod–Domar model*. (See also *Capital Stock Adjustment Principle*.)

Acceptance. Strictly the act of 'accepting' a *bill*, performed by the person or body on whom the bill is drawn, consists of signing it, usually across the face. However, the term is commonly used to mean a *bill of*

exchange that has been 'accepted' by an *accepting house* or *bank* on behalf of a customer who requires *credit* to cover a purchase of goods, or to enable him, as a seller, to extend credit.

Accepting House. One of a group of London-based *merchant banks* which, for a commission, 'accepts' *bills*, that is, engages to meet payment of them on maturity. The house accepts on behalf of customers whose transactions, e.g. importing, give rise to bills, and from whom it eventually recovers payment. Bills accepted by a recognized accepting house may be discounted at the finest rates in the London bill market, and if they carry another 'good' British name are eligible for rediscount at the *Bank of England*. There are currently 17 merchant banks described as 'accepting houses'; they are members of the Accepting Houses Committee and are required by the Bank of England to meet certain capital and operating conditions. (See *Bank Bills*, *Lender of Last Resort*.)

Accession, Treaty of.
See *European Economic Community*

Accessions Tax. A *tax* levied on gifts and inherited property. Such receipts are not usually classified as income but as they confer spending power they are arguably a legitimate subject of taxation. An accessions tax is levied on the recipient and, as it is related to his economic circumstances, is superior from an *equity* viewpoint to the UK *capital transfer tax* where liability is on the donor. Proponents of an accessions tax normally argue that it should be levied at *progressive rates* on the lifetime cumulative amount of gifts received. This is to prevent the situation arising where one person receives a very large sum in small, annual parcels and pays little or no tax because the receipts are spread over a long period.

Access/Space Trade-off Model. A theoretical model used (principally) in the analysis of residential location in urban areas which explains location patterns as the outcome of a trade-off between accessibility of a site to the centre of the area and the spaciousness of the site. The model assumes that all employment is at the centre of the area, thus sites close to the centre can command a higher price than those further away since travel costs are reduced by locating near the centre. In *equilibrium*, the price or rent of land will fall with increasing radial distance from the centre, the difference in rent exactly reflecting differences in travel costs. Further, since land becomes relatively cheaper as one moves away from the centre, the size of the site purchased by a household will increase with distance from the centre. Although extremely unrealistic, particularly in its assumption that employment is found only at the centre, the model forms the basis of more sophisticated analyses of location patterns and is consistent with at least some empirical evidence. (See *Bid-Rent Function*, *Central Business District*, *Density Gradient*, *Urban Economics*.)

Accommodating Monetary Policy.
See *Validated Inflation*

Accommodating Transactions. A type of international transaction implemented in order to offset a net credit or debit situation arising from *autonomous transactions*. They are dependent on these credit/debit situations which occur because international payments and receipts will not always be in balance. Examples are, stabilization of *exchange rates* by central banks; changing international loans, paying foreign debt with short-term domestic liquid claims. Accommodating transactions share the characteristic of being purely monetary; there is no accompanying movement of goods, services or *fixed assets*, only money and short-term liquid claims.

Account.
1. A running record of transactions between two transactors, who may be two

departments of one business, and a basic element in all systems of recording business transactions. In retail trading the term is widely used to denote the *credit* facility automatically extended to a customer with whom an account is operated. In banking, customers' accounts have a particular significance in that some or all of the outstanding credit balances in them are regarded as forming part of the *money supply*. (See *Bank, Cheque, Current Account.*)

2. The periods, normally of two weeks' duration, into which the business year of the London and other UK *stock exchanges* is divided, and over which the settlement of all transactions except those in *gilt-edged securities* is deferred. Unless there is an arrangement to carry it over to the next Account, a settlement must be concluded on the fifth day, called Account Day, after the close of the Account.

Accounting Standards Committee. An independent body set up initially in 1969 by the Institute of Chartered Accountants in England and Wales in response to demands for the accounting profession to develop and improve a set of consistent standards in financial reporting. It is now comprised of members from the six governing bodies of the CCAB (Consultative Committee of Accounting Bodies). Its main purpose is to propose statements of standard accounting practice.

Accrued Expenses. An entry in a company's account which records as a *liability* the cost of services used but not yet paid for.

Achieving Society, The. This was the title of a book published by Professor David C. McClelland of Harvard University (Princeton, NJ 1962) in which he defines the concept of the achievement motive, to measure imaginative thought and levels of new ideas which he considered to be necessary personality traits for *entrepreneurs* and hence crucial for rapid *economic development*. He classified these under such headings as 'desiring to do well' and 'competing with a standard of excellence' and arriving at a scoring definition which he names 'n-achievement'. This is, therefore, a psychological measure of a personality trait. The score for an individual is the sum of achievement 'ideas' introduced when he is asked to write an imaginative story to a picture. He provides evidence that 'n-achievement' is highly correlated with entrepreneurship.

Across-the-board Tariff Changes. A situation when all *tariffs* in a country are increased or decreased by an equal percentage. (See *Concertina Method.*)

Action Lag. The lag between a policy *decision* (particularly in macroeconomics) and its implementation. The action lag is usually preceded by a *decision lag*. Also a component of *inside lag*.

Active Balance. In monetary theory, some models postulate a division of the money supply into active balances, which are money stocks that turn over actively within periods determined by the intervals between payments; and *idle balances*, which are money stocks not employed in the circuit of regular payments. In the *quantity theory of money*, changes in the *velocity of circulation*, in conditions other than *hyperinflation*, are conceived to occur mainly through transfers between active and idle balances, and only to a lesser extent through changes in the rate at which money moves round the payments circuit. Empirically, the distinction between active and idle balances is elusive since the 'activity' of money is a matter of degree. But for practical purposes active balances are frequently defined as *currency* in circulation plus *current account* deposits in *banks*.

Activity Analysis.
See *Linear Programming*

Activity Rate.
See *Labour Force Participation Rate*

ADB
See *African Development Bank*

ADB
See *Asian Development Bank*

Adding Up Problem.
See *Euler's Theorem*

Additional Worker Hypothesis. On this argument, the fall in family real incomes during a cyclical down-turn will exert an *income effect*: additional workers from the family will enter the labour force in the hope of finding a job so as to maintain family income. Thus *labour force participation rates* will move counter-cyclically. In fact, the evidence reveals that on balance labour force participation rates move pro-cyclically (see *Discouraged Worker Hypothesis*). However, the added worker effect is discernible among certain low income groups for whom need is more important than price.

Addition Rule. A rule for the determination of the *derivative* of a function with respect to a variable, where the function consists of the linear sum of two or more separate functions of the variable. Thus, in the function

$$Y = u + v$$

where u and v are separate functions of say X, then

$$\frac{dY}{dX} = \frac{du}{dX} + \frac{dv}{dX}$$

Additive Utility Function. A *utility function* of the form

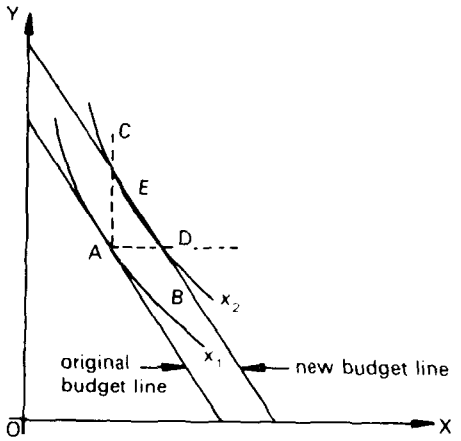
$$U = U_a + U_b + U_c$$

where U is utility and a, b and c are goods, or in *linear expenditure systems*, groups of goods between which substitution is not possible.

Since the utility of good a is independent of the utility of good b, then the *marginal utility* of good a is dependent upon the amount of good a alone and on no other good. If then each good is subject to *diminishing marginal utility* it will be the case that the *indifference curve* will be convex—i.e. bent 'inwards' to the origin. That is, provided the utility function is additive and diminishing marginal utility exists for each good then the indifference curve will be convex. Proof is given in the diagram. An indifference curve relating to two goods X and Y is shown. Consider point A on the indifference curve, and then consider the move to point B. At B there is more of X and less of Y. So long as the marginal utility of X depends on the amount of X alone, we know that the marginal utility of X must be less at B than it was at A simply because the consumer has more of X. Since he has less of Y his marginal utility of Y will be more than at A, hence the ratio of the two marginal utilities, which defines the slope of the indifference curve (its *marginal rate of substitution*), must fall so that the indifference curve at B has a shallower slope than at A. It follows that additive utility functions imply convexity of the indifference curve.

A further feature of such utility functions can be illustrated on the same diagram. Consider the move from A to C, where C is directly 'north' of A on a near but parallel *budget line*. If the marginal utility of X is dependent upon the amount of X alone, and similarly for Y, then we know that the ratio of the marginal utilities at C must change in such a way as to make the indifference curve steeper at C than at A. This is simply because we have more of Y (its marginal utility has fallen) and the same amount of X (its marginal utility is the same). Parallel analysis will show that the indifference curve through D is less steep than it is at A, where D also lies on the new parallel budget line and where D is directly 'east' of A. It follows that the indifference curve which is tangential to the new budget line will be at a point between C and D, say E. But this implies that a change in income will, provided utilities are independent, always cause more of both commodities to be bought. In short each good must be a

normal good. One of the properties of additive utility functions, therefore, is that they always imply that the goods entering into the utility function are normal.



Additive Utility Function

Address Principle. In a *planned economy* such as the USSR each target has an organization or 'address' which is responsible for carrying it out.

ADF
See *African Development Fund*

Adjustable Peg System. This was instigated by the *International Monetary Fund* (IMF) at the *Bretton Woods* conference and refers to a set of fixed, or 'pegged' *exchange rates* which are basically static, but allowed to adjust or change by small amounts in either direction. Adjustable peg systems have three main problems; finding the necessary reserves to meet short term fluctuations in foreign receipts and payments to keep the rate fixed, and compensation for long run trends and crises due to speculation.

Adjusted R^2 (also known as $\bar{R}^2$ (R bar squared.)
The *coefficient of determination* adjusted for *degrees of freedom*, bearing the relationship to the unadjusted coefficient

$$\bar{R}^2 = 1 - \left(\frac{n-1}{n-k}\right)(1-R^2),$$

where n is the number of observations, and k is the number of explanatory variables. While it is not possible for the unadjusted R^2 to decline as more explanatory variables are added, if the latter do not significantly add to the explanatory power of the equation, then $\bar{R}^2$ will decrease. This figure thus provides a valid way of comparing the explanatory power of equations containing different numbers of explanatory variables. (See *Goodness of Fit.*)

Adjustment Lags. The time taken for a variable such as *capital stock* to adjust to changes in its determinants. (See *Partial Adjustment, Capital Stock-adjustment.*)

Adjustment Process. The generic name for the adjustment mechanisms which operate in the international economy to remove imbalances in foreign payments. The most important mechanisms which have been advanced to explain the process are *the gold standard, the gold exchange standard, the foreign trade multiplier, floating exchange rate.*

Administered Prices. Prices which are established by the conscious decision of some individual or agency rather than by the impersonal play of market forces. Administered pricing is generally possible where a good is sold by a *monopoly* firm or public body. (See also *Fix-prices.*)

Administrative Lag. One of the lags in time between the implementation and resulting effect of a *monetary policy*. It is the time between the recognition by the authorities that action is necessary and the actual taking of the action. Its length depends on the efficiency of the authorities and whether they believe in prompt action or infrequent but more major changes.

Ad Valorem Tax. A tax based on the value of a transaction. It is normally a

given percentage of price at the retail, wholesale or manufacturing stage and is a common form of *sales tax*. Examples are the retail sales tax which is common in the USA, the *value-added tax* widely employed in Europe and the *purchase tax* formerly employed in the UK. Other common examples are *royalties* and *severance taxes* levied on the production of minerals. Frequently, the *incidence* of this type of sales tax will be at least partly on the consumers of other products concerned and as everyone pays the same amount of tax on a unit purchase irrespective of his income this type of taxation is said to be *regressive*.

Advance. A loan, whether against an identified or an expected inflow of cash. (See *Bank Loan*.)

Advance Corporation Tax (ACT). When a company in the UK makes a distribution of dividends it has to pay advance corporation tax at the rate of 3/7 of the distribution. As the name suggests it is an advance payment of corporation tax and is credited against its liability for that tax. It is a device to collect some corporation tax earlier than otherwise would be the case. It is noteworthy that when taxable profit is not big enough to 'cover' all dividend payments ACT cannot be fully recouped against corporation tax. The existence of ACT in this situation means that imputation credit cannot be claimed by shareholders without corporation tax being paid by the company. The maximum ACT which can be set off against corporation tax liability is the amount which after being added to the dividend equals the taxable profit. The rules allow a surplus of ACT to be carried backwards for two years against taxable income and forward without limit. In recent years many firms in the UK have experienced unrelieved ACT because of low profits and high capital allowances.

Advanced Countries. The dividing line between advanced countries and *developing countries* is usually based on per capita income. Those with per capita incomes of less than one-fifth of the level of those in the US are considered 'underdeveloped'. It is not an absolutely clear definition as there are some countries, for example, Middle East oil producing countries which on this criteria would be advanced countries, but when the *income distribution* and availability of various services is taken into consideration, they are obviously not very advanced. (See *Underdevelopment*.)

Adverse Balance. A *balance of payments deficit*.

Advertising. Expenditure incurred by a firm to promote the sales of its products, the basic aim being to increase the number of consumers who prefer these products to those of its competitors. This can be achieved in two different ways. Firstly, advertising can be used to inform consumers of the existence and location of the product(s) to which it is directed. Secondly, advertising can influence the nature of consumers' preferences to the benefit of the firm's products. It has been argued that advertising is a source of *market imperfection*, in particular, by contributing to *barriers to entry* and *product differentiation*, established firms are given an element of discretion over price. In this way, advertising can sustain existing levels of concentration within the industry. Further, N. Kaldor has argued that because advertising is not a marketable product, consumers are not given the opportunity to determine the volume of advertising they wish to consume. On the other hand, advertising is a source of information on prices and product attributes available to potential buyers. In this way, advertising enhances information flows between traders and thereby strengthens competitive market forces. By enhancing sales, advertising may also enable firms to secure a minimum efficient scale and thereby acquire economies of scale. Recent theoretical and empirical work has suggested that advertising be treated as a *capital expenditure*. This

suggestion recognizes that advertising expenditures contribute to a stock of goodwill which decays gradually overtime.

Advertising–Sales Ratio. The ratio of firms' advertising expenditure to total sales revenue. Rivalry in more highly concentrated market structures tends to take the form of non-price competition, hence we can expect *ceteris paribus* the intensity of advertising (as measured by the advertising-sales ratio) to increase as we move from a perfectly competitive market structure to oligopolistic market structures. (See *Advertising.*)

AFL–CIO
See *American Federation of Labour*

African Development Bank. A regional development bank established in 1964 to accelerate the economic development and integration of independent African countries through the evaluation, coordination and financing of development projects. (See also *African Development Fund.*)

African Development Fund. An intergovernmental institution created in 1972 to assist the *African Development Bank* in effecting the economic development and integration of its members. The fund, originally established to allow capital exporting countries control over their contributed funds, enables the bank to include non-African funds in its investment portfolio.

Africanization. A term used with reference to employment in Africa to describe the changeover from non-Africans (usually Asians or Europeans) to Africans in any type of employment.

Age–Earnings Profile. The relationship between earnings and age. The simplest age earnings profile would be a horizontal line stepping up from zero at the age of leaving school with the size of step being determined by the quantity of schooling. In fact the typical post-school age-earnings profile is more complex than this: the pattern for annual earnings is for a steep increase on leaving school followed by a slower increase until a plateau is reached in the mid-forties, after which a slow and then a faster descent occurs. The modern explanation of the parabolic path of earnings is that after leaving school the individual does not cease to invest in his *human capital.* He is still willing to forego a certain fraction of his potential earning power, thereby reducing current earnings, so as to accumulate capital and raise his earnings at later stages of his life cycle. Because the period over which the investment can be amortized becomes shorter as the individual approaches retirement, he will devote a smaller and smaller proportion of his potential earnings to investment and his stock of human capital will grow at an ever decreasing rate. Eventually investment will no longer exceed *depreciation* and the stock of human capital will actually shrink and subsequently observed pay will decline.

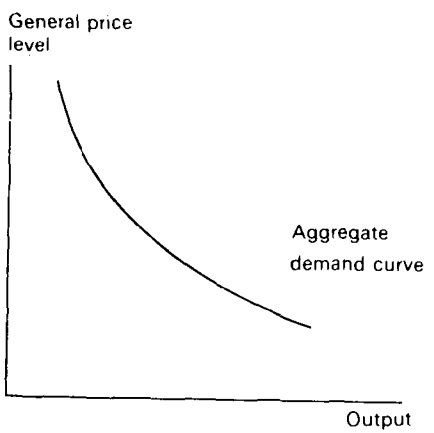
Agency Shop. The requirement that workers entering employment do not have to join the trade union but do have to pay union dues. The arrangement is a compromise, frequently found in the US between those who argue that the worker should be free to join a union or not, and those who argue he should not enjoy the benefits that union representation ensures without paying for them. (See *Closed Shop.*)

Agglomeration Economies. Cost savings in an economic activity which result from enterprises or activities locating near one another. Examples of such savings include the clustering of retail establishments which permits consumers to make price comparisons without multiple journeys, the efficient use of information where contact between buyers and sellers is facilitated, the spreading of costs of public services and the development of specialized input suppliers serving a number of consumers in the surrounding area. In the last case, cost reductions arise through

economies of scale and *specialization* in the supplying firms, thus they are said to be internal to the firms. Agglomeration economies are an example of *external economies* where one firm's activities confer benefits on other firms. (See also *Urbanization Economies, Congestion Costs.*)

Aggregate Concentration. The degree to which production within a sector of the economy or the economy as a whole is centralized around the largest few corporations. (See *Concentration, Concentration Ratio.*)

Aggregate Demand Curve. The schedule detailing the quantity of *net national product* that would be purchased at each general price level as shown below. The combinations of output and the price level at which the commodity and money markets are simultaneously in equilibrium. In contrast to the individual *demand curve* the aggregate curve does not reflect the ordinary *substitution effect* of a rising price reducing demand. Rather in this case the rising price reduces the equilibrium level of output demand by reducing the *real money supply* and thus raising *interest rates* and lowering *investment.* (See also *the Aggregate Supply Curve, Aggregate Expenditure.*)



Aggregate Demand Curve

Aggregate Expenditure (also known as aggregate demand).
The sum total of (nominal expenditures on goods and services in the economy. That is consumption (C), *investment* (I) and *government expenditure* (G) together with *exports*, less *imports*. That is

$$Y = C + I + G + (X - M)$$

In the simple *income-expenditure model* the volume of aggregate expenditure determines the volume of output and employment. The volume of these expenditures may vary systematically with changes in the general price level. See *Aggregate Demand Curve.*

Aggregate Income.
See *National Income*

Aggregate Output.
See *National Income*

Aggregate Production Function. A functional relationship between the flow of output in the whole economy (Y) and the total labour (L) and total capital (K) inputs, actually engaged in production. This is usually written as

$$Y = F(K, L)$$

It may be extended to include *land* as an input, and technology.

Such a relationship is usually taken as referring to the maximum flow of output associated with the factor inputs. While K and L are stocks it is the flow of capital and labour services which are considered as inputs to the process of production. The aggregate production function in common with aspects of the microeconomic *production function* is usually assumed to have one of two forms:

1. Fixed Coefficient, which does not allow *capital-labour substitution* and allows either labour force or *capital stock* to be unused. Along any *expansion path* the ratio of aggregate capital stock used to labour force actually used is constant.

2. Continuous, which allows for the substitution of aggregate capital for labour in the production of output.