



STUDIECENTRUM VOOR ECONOMISCH EN SOCIAAL ONDERZOEK

WHOLESALING ACTIVITIES
AND ECONOMIC THEORY
A survey of the literature

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The work in this paper was conceived as a preliminary step of a research program on wholesaling functions and costs, that SESO is undertaking with the aid of the Fonds voor Kollektief Fundamenteel Onderzoek. Instead of an annotated bibliography it seemed more useful in the end to present a brief statement that tries to relate the different subjects, met in the literature, in a way as coherent as possible, and with a rather considerable number of bibliographic references.

Thanks are due to Professor L.G. Telser, of the University of Chicago, with whom discussions on the subject were held. The author was able to start his work on the basis of these initial ideas. He worked closely together with Mr. R. Swinnen, and also with Professor Dr. E. Van Broekhoven, both of SESO.

Theories claiming to reflect and explain the behaviour of the firm have been numerous in the literature of economics. Among the hypotheses proposed are that the firm will try to maximise its profits, that it will maximise its sales revenue, that it will try to maximise its market power, or that it will try to minimise the danger of takeover. Other theories approach the firm as an organisation which is unable to aim at any goal due to its very nature, but which satisfies itself with certain target levels of achievement, or as a sociological unit with the resulting outcome dependent upon the relative strengths, skills and bargaining positions of the members of the firm. Yet other theories have proposed that firms maximise a utility originating from various combinations of variables among the few mentioned and the countless ones omitted (1).

For a wholesaling study, the question must be asked whether any or all of these theories are valid. It is easy to conceive of a production function, for example, in the case of a manufacturer with a tangible output and tangible inputs, and from here to suppose that something is maximised or minimised, or what not. In the case of a firm involved in the function of distribution, the product is less readily measurable (2). Tons of wheat can be measured, motor cars can be counted, but the service of taking a good from a manufacturer, storing it and finally supplying it to the right person in the right place at the right time is less easily quantifiable. A wide literature exists on some of the basic difficulties involved in concepts of product and input for service industries in general, though rather less of this is concerned with the distribution sector in particular, or with the actual application of the notions evolved to data (3).

(1) See e.g. the following authors; figures following the authors' names refer to the list of references on page 11, which by no means is meant to be an exhaustive or even an extensive bibliography but only mentions those works that present a special relevance for the discussed subjects. Cfr. Hicks, J.R.(44); Samuelson, P.A.(69); Baumol, W.J.(14); Baran, P. & Sweezy, P.(10); Stigler, G.J.(76); Marris, R.(55); Galbraith, J.K.(39); March, J.G. & Simon, H.A.(54); Cyert, R.M. & March, J.G. (28); Cohen, K.J. & Cyert, R.M.(24); Baumol, W.J. (13).

(2) Cfr. Cox, R.(27); Dean, J.(31); Farrell, M.J.(36); Winsten, C. & Hall, M. (85); Hall, M., Knapp, J. & Winsten, C. (43).

(3) V.R. Fuchs (ed.)(37).

It is clear that qualitatively the wholesaling firm is no different from any other firm. It has a product, it uses inputs, it may chase certain goals. An important point from which to start is a consideration in general of the activity of wholesaling, so that certain basic functions may be picked out as representative of all wholesaling activity. The range of tasks performed by the wholesaler sector is impressive (4). Not only are they wholesalers as they are normally thought of, namely as agents in the physical distribution of goods, but also wholesaling activity includes import-export agencies, intermediate goods wholesalers, brokers for bonds and shares, estate agents, central banks, trades' unions, central news agencies, data banks, even theatre agencies.

What are the essential functions which a wholesaler in the broad sense performs? These can be summarised under six headings, as follows (5):

- (a) holding a sufficient level of stock, including holding an appropriate range of goods;
- (b) speculation concerning future prices with a view to levelling fluctuations in price which might otherwise occur;
- (c) anticipating future demand, and making appropriate forward purchases from the manufacturer;
- (d) financing purchases and sales;
- (e) transportation of goods, where necessary from the manufacturer, and then to the retailer or customer;
- (f) the creation and stimulus of demand by appropriate provision of information and publicity.

Clearly some of these activities are of varying importance for different agents. For a wholesaler in fresh foods, storage is very important; for a trades' union speculation may be the most important line; for the theatre agency, provision of suitable information may

(4) For a general view of wholesaling, see: Beckman, T.N., Engle, N.H. & Buzzell, R.D.(16); Bartels, R.(ed.)(12); Barger, H.(11); Stacey, N.A.H. & Wilson, A.(73).

(5) The six points are made by Stacey, N.A.H. & Wilson, A.(73).

be crucial, while for import-export agencies provision of credit facilities may be important. It has not yet been specified which of these activities correspond to the various activities treated in the general theory of the firm, such as investment, and production.

A glance at statistics of the number of persons employed in wholesaling (as the government statisticians classify it), and the numbers of wholesaling institutions, gives the impression that here is an industry in decline (6). Such are the difficulties of defining concepts and measuring the concepts in practice, that it is not known for certain whether this decline is real or illusory for wholesaling activity in its broader sense. Several reasons can be offered as to the uncertainty. Firstly government statistics do not count as wholesalers many of the institutions indulging in wholesaling activities. But this has presumably always been so, and cannot explain the statistical decline of wholesaling.

More important is the fact that wholesaling functions have in many cases changed, with comparatively minor functions at one time growing ultimately to become the most important activity for a firm at a later date and vice versa (7). For example a traditional wholesaler of coffee broke down large sacks of coffee into small bags, a function which is now comparatively rare among wholesalers (in the statisticians' definition); on the other hand the provision of credit facilities has grown in importance for some classes of goods, such as motor cars, televisions, and so on. It appears to be true that many of the functions of wholesaling are no longer carried out by persons calling themselves wholesalers, but instead the responsibility for execution of these tasks has shifted to other agents in the economic network. It is this which above all has caused the statistical decline of wholesaling, yet which blurs the picture in terms of wholesaling activity.

(6) Cfr. a.o.: Hall, M., Knapp, J. & Winsten, C. (43).

(7) Cfr. Winsten, C. & Hall, M. (85); Jefferys, J.B. (48).

To whom have these functions shifted? There are examples of all types of agents in the economic network usurping different functions:

(a) retailers: - for example, as retail outlets have grown in size, they have tended to eliminate wholesalers completely from the chain by buying direct from the manufacturer, e.g. supermarkets, or voluntary chains (8);

(b) manufacturers: - many manufacturers pre-pack goods today, many provide publicity materials for their own goods, some distribute goods direct to retailers, and many now operate the stock-holding function of wholesalers (9);

(c) consumers: - self service in supermarkets; also consumers have to provide their own credit and sometimes even their own transport from the factory or wholesaler (cash and carry)(10);

(d) government: - for example the provision of a national health insurance scheme is in effect a wholesaling activity with the government acting as the agent; alternatively the governments of some countries have nationalised certain industries such as coal or steel, including the distribution of these goods (11).

These four have all assumed various functions, though generally the last two are less important.

Clearly these changes have not just happened, without rhyme or reason. There must be great forces at work behind the bland statistics to account for the great developments which have occurred in the distribution sector. These factors tend to fall into two groups, namely technical developments, and changes in economic circumstances. The two groups are not as easily separated as might be thought, for it is a moot point whether many of the technical changes resulted from the different economic circumstances, or whether the technical progress caused the economic changes. It is almost certainly true that the two could not exist separately.

(8) Cfr. Buzzell, R.D.(ed.)(20); Barger, H.(11); Giffin, R.R.(40); Gruen, F.H.(41).

(9) Cfr. Anglo-American Council of Productivity (4); Anglo-American Council of Productivity (5); O.E.E.C.(63).

(10) Cfr. Zimmerman, M.M. (88); Coates, J.B.(23).

(11) Cfr. Bartels, R.(ed.)(12).

The economic factors will be listed first. Most important is

- (a) consumers' demand for goods has shifted as the relative prices of goods have changed, so that new distribution channels were required for new flows of goods (12);
- (b) rising income has had a double effect, both on the goods purchased, and secondly on the type of services of distribution demanded by the consumer; an example of this second effect can be cited in the shoppers' demand for better refrigeration of food, or escalators, or hire purchase arrangements (13);
- (c) distribution has needed to become more efficient in order to be able to compete with manufacturing firms for factors of production notably labour; but also capital (14);
- (d) distribution has had to adjust to competition between its own agents, with only the most efficient surviving the rationalisation entailed by this (15);
- (e) the specialisation of factors of production, again notably labour, has necessitated the integration of distribution units to benefit from lower costs (16);
- (f) one other crucial factor which will be classified with the economic forces, though it is of a slightly different nature, is the shift of population into large urban areas as compared with the former rural spread of population; this movement has entailed a corresponding re-location of distributive agents.

On the technical side some of the factors have had a direct effect, others a less direct effect. The developments are more numerous, and only general innovations will be mentioned, though for many particular areas, unmentioned factors may be of outstanding weight (17).

(12) Cfr. Houthakker, H.S. & Taylor, L.D.(47); see also (of passing interest) Willett, R.P. & Stephenson, F.R. (84).

(13) Cfr. Galbraith, J.K. (38); Allen, R.G.D. & Bowley A.(3); Stone, J.R.N.(78); Prais, S.J. & Houthakker, H.S.(66); Barger, H.(11).

(14) Cfr. Stigler, G.J.(77); See also general economic literature on theory of the firm, and on competition.

(15) Cfr. Buzzell, R.D.(ed.)(20).

(16) Cfr. Stigler, G.J. (77).

(17) For a general theoretic approach to technical progress, see Satter, W.E.G.(70); Barger, H.(11); Brown, M.P.(18); on the influence of particular technical changes however, the literature does not seem abundant.

(a) The increase in ability of both workers and managers due to generally better education facilities in society. This could also be thought of as an economic change (18).

(b) The advancement of knowledge as to what is efficient practice, due to learning, and also scientific and marketing research.

(c) The introduction of computer technology has made large scale organisation possible in case where it was inconceivable before (18).

(d) There have been substantial improvements in communications, e.g. telephones, telex-machines, which have enabled larger distribution networks to spread knowledge (inwards and outwards) faster than was possible formerly.

(e) There have been equally substantial improvements in transport facilities enabling a speedier physical distribution of goods, hence cutting out the need for middlemen to hold stock in case of sudden fluctuations in demand.

(f) Improvements in storage facilities, notably refrigeration, have enabled retailers with small demand flows to place larger orders, taking over one of the wholesaler's advantages.

(g) Another improvement which may have helped the wholesaler is the invention of new equipments, such as fork lifts, which enable a wholesaler to carry out ware-housing functions more efficiently.

(h) Products sold have tended to become more complicated and sophisticated, requiring specialised knowledge on the part of the seller, and better servicing facilities later (19).

(i) The popularisation of the motor car has revolutionised the size and distribution of retail outlets.

There are undoubtedly other factors at play but these samples give some idea of developments which have occurred.

(18) Cfr. Ewing, J.S.(35).

(19) See marketing literature concerning the influence of product "shape" on marketing methods: Brown, M.P. et al (18); Buzzell, R.D. (20); Cox, K.K.(ed.)(26); Shultz, W.J. & Mazze, E.M. (72).

Perhaps one of the easiest ways of finding out which questions are crucial to economic theory in any area, is to consider the problems which face the institutions involved, and ask what is the best decision to make when faced by these problems. This case is no exception. Putting oneself in the wholesalers' place enables the difficulties to be seen more easily. Typically there are many questions relevant to the firm (20), but in this case, the problem areas can be crystallised into four major ones as follows: firstly the wholesaler must choose a level at which to hold his stocks, secondly he must decide what scale of operations offers the lowest costs to him, thirdly he must decide how much he is willing to expend on promotion of his distribution network and "his" lines of goods, and fourthly he must decide on a policy towards opposition, and what, if anything, he can do to attain or maintain his own desired position. Of course these decisions are not such that they can be made separately. Any one will affect the others, and the choice of policies will inevitably be some kind of balance between the pull of outside factors and the other internal decisions (21). There is a wide literature on each of the problems separately, though very little has been done on the problems of forming an integrated policy for all decisions. This might well be an interesting area for further study.

On the question of optimal stocks, there exists a wide literature, approaching it from both a macro-economic level, and also from the point of view of operations research. The macro-approach attempts to discover the influence of aggregate variables, such as the rate of interest, or aggregate sales, or growth, on the level of stocks held in aggregate in the economy, and in particular the relationship between investment (or disinvestment) and other variables over the

(20) See general literature on theory of the firm, especially Baumol, W.J.(14); Stigler, G.J.(76); Cohen, K.J. & Cyert, R.M.(24).

(21) No good texts are known relating all factors in a systematic theory; perhaps Marris, R.(55) is one of the best.

trade cycle (22). The importance of this to the wholesaler is that aggregate variables are outside his control, and that he must make decisions based on expectations of future aggregate conditions, such as the tightness of credit (23). From a larger point of view the influence of expectations on the future - the extent to which expectations fulfil themselves - is also a question of great interest to the wholesaling industry, since it is investment in stocks which fluctuates most during the trade cycle (24).

The operations research approach to stock-holding is to some extent inseparable from the macro-approach (25). The operations researcher is interested in determining optimal stock levels, and optimal purchase levels, when faced with a given future demand (or an expected demand) and certain institutional factors and costs in purchasing. The usual determinants located in such an approach are (expected) demand, the cost of placing an order, the cost of holding stocks, and the cost of a shortage of stocks. Clearly in a study of wholesalers' stocks the logic of both approaches must be combined, if actual fluctuations are to be explained.

The second problem for the wholesaler was the choice of a scale of operations. In a study of this it would be interesting to know the shape of the total cost curves which are faced by the wholesaler (26). Once the costs are known, it is relatively easy to choose an optimal output, that is one at which long run average cost is minimised. However the most interesting question in this respect is what will be the effect of horizontal or vertical integration on the shape of the cost curves, and hence the effect on optimal size ^{of} operation and units (27).

(22) Cfr. Abramovitz, M.(1); Baumol, W.J.(15); Duesenberry, J.S. et al, (33); Kuznets, S.(52); Lovell, M.(53); Mills, E.S.(59); US Govt. Joint Economic Committee (80); Evans, M.K.(34).

(23) Cfr. Arrow, K.J. & Nerlove, M.(6).

(24) Cfr. Lovell, M.(53); Duesenberry, J.S. et al (33).

(25) Cfr. Baumol, W.J.(15); Hadley, G. & Whitin, T.M.(42); Mills, E.S. (58); Whitin, T.M.(83).

(26) Cfr. Johnston, J.(50); Walters, A.A.(82); Chamberlin, E.H.(21); Bain, J.S.(8); Dean, J.(29); Stigler, G.J.(76).

(27) Cfr. Chamberlin, E.H.(21); Cook, P.L. & Cohen, R.(25); Rosenbluth, G.(68); Nelson, R.L.(61); National Bureau of Economic Research(60); Stigler, G.J.(74).

Equally, given the technical trends which have occurred, it is of interest to know the effect on cost curves of these trends, so that extrapolation of technological data into the future will enable future cost curves to be estimated - essential for the wholesaler himself to know in which direction he should be moving (28). This is one area of economic knowledge which is relatively unexplored, especially with regard to the shifts which occur in response to large changes.

Advertising is the next problem(29). The definition of advertising must be broadened to include not just the obvious publicity activities, but all the costs of promotion, including the cost of setting up a distribution network. The distinction must also be made between advertising expenditures and advertising capital (30); the former represents current expenditures on general promotion activities, while the latter is the cumulative effect of promotion activities in the past, expressed in the form of a certain level of demand (brand loyalty), a brand image, a functioning distribution network, and general good-will (31). Some research could be useful to indicate the link between expenditures and capital in reality, since unlike physical capital, advertising capital need not be additive (32). A suitable approach might be made to this question by attempts to measure the influence of a current expenditure on sales at different points in the future until its influence becomes negligible; this approach would also enable advertising to be evaluated in the context of DCF methods (33). A further feature of advertising is its fluctuation over the trade cycle, which could be examined in the light of trade cycle theory,^{or} the interaction of an advertising multiplier and an advertising accelerator, with the specification in the light of empirical research of realistic lags (34).

(28) On measurement problems, see Adelman, M.A.(2); Winsten, C. & Hall, M.(85).

(29) For a general consideration of advertising, see: Hoos, S.(45); Kaldor, N.(51); Border, N.H.(17); all three works are important with many good general points.

(30) Cfr. Dean, J.(30); Dean, J. (31).

(31) For measurement problems see Palda, K.S.(65).

(32) Cfr. Hoos, S.(45).

(33) Cfr. Palda, K.S.(65); Dorfman, R. & Steiner, P.O.(32); Horowitz, I.(46); Nerlove, M. & Arrow, K.S.(62); Buchanon, N.S. (19).

(34) Cfr. Hoos, S.(45).

The final decision of the wholesaler is in his attitude to competition (35). Essentially the level of demand for wholesaling services is limited by the demand for the goods being handled, so that a gain by a competitor is a loss to a wholesaler which can not be easily made up. The analysis of the interaction of competitors is complicated by several features; firstly the number of competitors may be fairly small so that economic theory based on the hypothesis of perfect competition may be useless, secondly there is unevitably a degree of monopoly in wholesaling by virtue of geographic location. Economic theory is not yet decided on the way to handle oligopoly situations, and inevitably the results depend very much on the type of actions which, it is assumed, competitors will take in response to certain moves. Concerning the element of monopoly in wholesaling, an interesting study might be of the extent to which present structures differ from an optimal situation due to this monopoly, and also of the practices employed to preserve this degree of monopoly, that is steps designed to heighten the barrier to entry by newcomers (36). Among the different approaches to economic concentration is the application of game theory to economic situations, in an attempt to locate the actions of an enterprise when faced by a certain choice of strategies, and certain probable retaliations by competitors (37). In addition there is a wide literature on the consideration of monopoly and concentration from both a social and a legal point of view (38).

(35) General texts on monopoly are: Robinson, J.(67); Chamberlin, E.H.(22); Bain, J.S.(9); Mason, E.S.(56).

(36) Cfr. Bain, J.S.(7); Michel, M.(57); Mason, E.S.(56); Sweezy, P.M.(79).

(37) Cfr. Shubik, M.(71); Von Neumann, J. & Morgenstern, O.(81); Baumol, W.J.(14).

(38) Cfr. Yamey, B.(86); Yamey, B.(ed.)(87); Mason, E.S.(56).

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