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DUMPING AS A SIGN OF A FAULTY COMPETITION

Introduction

The aim of the paper is to present the question of dumping from the point of view of an enterprise, using the tactics of price diversification in the fight for the foreign market. The author is attempting to answer the question whether each type of dumping practices does in fact indeed mean a dishonest competition, or maybe they should be treated as a typical instrument helpful in winning the foreign markets.

In the paper there will be discussed questions connected with the term of price discrimination, dumping, reasons for using it and the results of their impact on the importing and exporting country. The dissertation will be completed with the issues of contemporary theory of the development of internal-branch trade, presented on the example of the model of "mutual dumping" by Brander and Krugman.

1. The Notion of Dumping

Extensive regulations of the rules protecting against dumping are currently specified by the regulations drawn up under the aegis of GATT and on the WTO demand. According to the binding law, the term of dumping means selling goods abroad at the prices lower than the ones available for those goods in analogous national market conditions. The sales should take place in a usual trade, and the accusation should refer only to similar products. In the comparison of the price on both markets what should be considered is: transport costs, packaging, means and terms of payment etc.

In the presented definition there are two different types of dumping: price dumping and cost dumping. The first one is the mentioned sales in the foreign market at prices lower than in the country. The other one, however, specifies the extreme case of such practice and indicates, in the assumed period, the sales abroad at prices lower than the average production costs or, in some cases, even below the extreme production costs. In this case it is not necessary to have prices in the export market at the lower level than the national market prices, although it is in fact the most common practice. In the interpretation of many economists, dumping is considered to be just the strategy of selling below costs[1], however the so narrowly defined term is only a part of a broader notion and as such should be treated. The notion of dumping should not be limited to this case only, because in a definition formulated this way, dumping must not be a situation, where export price exceeds the production costs, and is still lower than the national price. In the international agenda, the use of dumping as a form of competition is not forbidden, but it is captured as "fairness of the trade".

In the literature, in opposition to the GATT/WTO regulations, the term of dumping is very broadly understood becoming very often a synonym for the words such as trade discrimination or unfair competition. It is very often identified with occurences connected with unfavourable treatment of trade partners, who disregard commonly used rules on the international agenda. The example may be the concept of social dumping, which specifies the sales on the foreign market, at the price lower than in the country, which is possible due to the cheaper labour force abroad. Those lower costs result from disregarding social norms in reference to various factors determining them (payments, social care, work conditions), child labour or compulsory work. This definition is most often provided in literature. It must be noticed, however, that lower labour costs cause that the products are sold at lower prices both within the country and abroad. That is why the statement that social dumping does not exist is controversial. In fact this concept has been created for the use of developed countries which are searching for arguments justifying their markets' protection. They make it impossible for the countries which do not observe the minimum social norms to have the right for the trade preferences system. In the countries where there are commonly accepted practices such as employees' sexual, religious or racial discrimination, lack of the right to affiliate, child labour or compulsory work, they have limited chances of being granted preferences enabling their economic development.

Moreover, in some countries, the avoidance of regulations referring to environmental norms may lead to illegal practices with regard to those countries which have obliging legal system and observe its application. Those practices may take forms of e.g. export of cheap products containing toxic or dangerous

[1] J. Markusen, J. Melvin, W. Kaempfer, K. Maskus, *International Trade. Theory and Evidence*, Mc-GrawHill, New York 1995.

substances, selling goods produced in environmentally harmful conditions or transferring of their production process to the countries where the environmental norms are less restrictive or are not considered[2]. Limiting of those standards by the government causes that the entrepreneurships' costs are becoming lower, which may be the reason for accusations of using unfair rivalry. The above described situation is the so-called ecological/enviromental dumping[3].

In the literature on that subject[4] one may encounter also a term exchange dumping. It is about using a lower rise in prices and costs in the exporting country than the rise in the exchange rate during inflation. The fall in the currency value indicates export becoming cheaper for foreign purchasers. Devaluation indicates thus the fall in products prices paid by the consumers in the importing country.

One can also define dumping as a diversification of prices in the internal markets of individual countries or as an uncomfortable and undesirable foreign competition. They involve among others such cases as e.g. diversification of prices of particular products in the range of several regions within the same country. The examples show how broadly the notion of dumping is interpreted, and that it does not always refer only to intentional differentiating of prices in particular markets. Sometimes the differentiation policy may be the result of specific trade environment, in which a company operates, that is unexpected changes in exchange rates or disrespect of rules that are observed in other countries, e.g. environment protection. In most cases, however, dumping is a reflection of intentional strategy of exporting firms. That is why the subject of our discussion is an intentional, well-thought-out practice of establishing diverse prices, aiming at the achievement of concrete business objectives. The accepted definition of dumping is identical with the term functioning within the WTO. From the point of view of economy, the use of dumping is a sign of a strategy defined broader as price discrimination. Its aim is maximization of profits through differentiating of prices offered to various target groups. In fact dumping is one of many forms of price discrimination, but only in international context, that is when it occurs between a national and a foreign market. The above thesis is exemplified on the table 1.1 below.

[2] E. R o w b o t h a m, *Dumping and Subsidies*, „Journal of World Trade" 1993, no 6, vol. 27, p. 153.

[3] *Ibidem*, p. 152–154; M. R a u s c h e r, *On Ecological Dumping*, KIEL Working Papers, no 523, August 1992.

[4] Compare: J. V i n e r, *Memorandum on dumping*, Publications of the League of Nations, Geneva 1926, p. 12; S. M. H o f f e r, *May Exchange Rate Volatility Cause Dumping Injury*?, "Journal of World Trade" 1992, vol. 26, no 3, p. 61; F. R a a f a t, H. S a l e h i z a d e n, *Dumping Influence of Currency Movements*, „Journal of World Trade" 1994, vol. 28, no 3, p. 181.

Table 1.1.

When does dumping occur?

Situation	I	II	III	IV
National price in the EC	100	100	90	90
European price in export to Australia	100	90	90	100
Australian producer's price	100	100	100	100
Occurence of dumping	–	+	–	–

– dumping does not occur + dumping occurs

Source: Author's own study; compare also: C. Stevenson, J. Grayston, *Postępowania antydumpingowe w UE*, IKiCHZ, Warszawa 1997, p. 11.

The first case (I) reflects a situation, where both prices – export and national one are the same. It means that dumping does not occur. In the second situation (II) the export price is lower than the national price, which, according to the definition accepted above, is an example of dumping. In the third case (III), although the export price is lower than the price of goods of the Australian producer, dumping does not occur, since the national price in the EC and the European price in export to Australia are the same. This example shows that in studying dumping occurrence, the price established by the Australian producer on his products is not important and the meaning is drawn only to the prices of goods brought from abroad. It usually looks different in practice. If in fact the export price is lower than the price of goods produced in a given country, the producers who encounter foreign competition usually examine the import price. In a reverse case, if a price of an exported product is higher than the national producers' price, it does not evoke reservations on the part of home entrepreneurships, because they are not subjected to the pressure of competitors.

In the fourth case (IV) dumping does not occur, because the export price is higher than the national price.

The producers are usually not fully informed about the price at which the exporter sells his products in the home market. Due to the WTO guidelines, they estimate the national price (including profit) with consideration of the production costs of a given exporter. If it is higher than the real price at which the product is exported, then it may be inferred that dumping does occur. The problem is however to precisely establish whether the national price really covers the production costs. Let us draw attention to the figure 1.1 below.

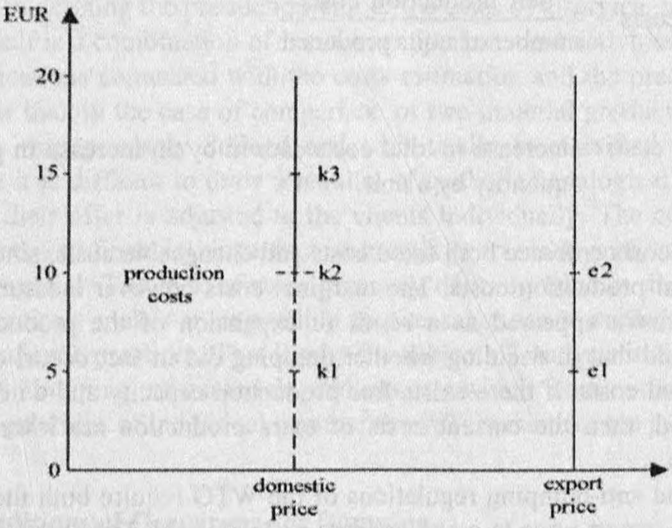

Fig. 1. The importance of production costs in the analysis of dumping

Source: C. Stevenson, J. Grayston, *Postępowania antydumpingowe w UE*, IKiCHZ, Warsaw 1997, p. 13.

Dumping does occur if the domestic price amounts at the level of *k*2 and the export price is *e*1. If the export price was at least *e*2, the suspicions of the use of dumping would not have sufficient justification. In a situation if the domestic price is on the level of *k*1 and the export price – *e*1 (both are the same but they fluctuate below the limit of production costs), foreign producer may be accused of dumping. The price set on the *e*1 level does not cover the costs of production of a given product, that is why it cannot be regarded "fair price". In this case to avoid the suspicion of dumping, the export price must be specified at least in the amount of *e*2.

It is worth mentioning, that establishment of a price by a foreign producer on the *e*2 level in a situation in which the price on the domestic market is *k*3 (covers the costs of production and additionally contains profit margin), may arouse suspicions of using dumping practices. Even though the export price covers the production costs, it is still lower in comparison with the price specified by the domestic entrepreneurship.

It is not at all easy to establish a price which would be accepted by market rivals, especially in a situation, where the competition in a given field is basing on the price. Most often it is an amount covering the production costs, enlarged by sales costs and an appropriate profit margin. There are however differences in the price calculations, because in its establishment, two kinds of costs may be used:

$$\text{average costs} = \frac{\text{total production costs}}{\text{number of units produced}}$$

or

marginal costs = increase in total costs caused by an increase in production quantity by a unit

Average costs embrace both fixed costs and changeable costs, since they are based on total production costs. The marginal costs however measure the total costs which have appeared as a result of expansion of the production. It is sometimes said that in deciding whether dumping did in fact occur, one should apply marginal costs. If there exists free production capacity and a new production is started, then the current costs of extra production are lower than the average costs.

In fact the anti-dumping regulations of the WTO require both the domestic price and the export price to cover average costs entirely. The above issues may be illustrated on the example. If the total costs of production of ten units are 100 EURO, then the average costs (fixed and changeable ones) of production of every unit are 10 EURO. It means that this value at least should be assumed for the export price.

Dumping is used with regard to all the product types[5], that is why it may also occur in the services market. The previous dissertations indicating the difficulties with a proper definition whether we have to do with the phenomenon of dumping can also refer to the field of enterprises operations, which however entails still more problems. Above all, it is a result of the specificity of services turnover in a global scale, determined by a number of typical characteristics, among which the most important are: non-material and heterogeneous qualities[6]. Non-material nature of the services causes that their quality is variously perceived on different markets. However, the individualized highly versatile specificity of services in various countries requires adjusting to the local legal, institutional or economic conditions.

In the structure of costs for the company generating them, what is essential are rapidly rising fixed costs, that is why the production and use of services most often take place simultaneously. In the case of material goods, the "closeness" of both transaction sides is not necessary. The mentioned diversity and non-materiality complicate the establishment whether on the services market there also occurs price discrimination. The difficulty appears already at the very

[5] A product is everything which can be sold at the market. J. A l t k o r n, *Podstawy marketingu*, Instytut Marketingu, Kraków 1996, p. 14.

[6] K. K ł o s i ń s k i, *Usługi w obrocie międzynarodowym*, „Handel Wewnętrzny" 2000, nr 4–5.

beginning in defining the production unit or the sales of a service, since the final product itself is a combination of various components and activities. Due to that the complications connected with the costs estimation and the precise price are a lot bigger than in the case of comparison of two material products[7], where the product is very precisely defined and additionally is classified in the tariff. In practice it is difficult to draw a parallel of quality of analogical services, the more that their offer is adjusted to the clients individually. The comparison of two products e.g. financial, insurance, transport or touristic ones, is problematic and controversial. The lack of rules precisely defining what is dumping in the field of services, makes it impossible to use sanctions towards the exporters suspected of such practices. That is why the subject of analysis in this paper will be entirely dumping of material products, to which both international and national regulations of individual member the WTO countries are applied.

2. Conditions of Occurrence of Dumping

The aim of an average entrepreneurship's operations is maximization of profits obtained as a result of sales of goods offered in the target market. Every company aiming at the realization of this goal, will be attempting to make optimal allocations of its products, that is why it will not sell goods abroad at lower prices, if the consumers in the home country are ready to purchase them at a higher price. In such a case the producer may raise the level of the domestic price, at the same time decreasing the number of goods offered, and at the same time gain bigger profits. The remaining part of the goods could be sold abroad. Such a situation is possible but only in the imperfectly competitive market, because otherwise, at a big number of producers, terminating or reducing of operations by one of them will not affect the price of the product. The lost part of the market will be quickly acquired by another entrepreneur offering such amount of goods which will again lower the price to the former level.

There comes out a conclusion that a company in the conditions of perfect competition cannot sell the same product at diverse prices on different markets. Therefore dumping cannot exist between enterprises from a given field of economy. If a producer is of an opinion that the capacity of his sales does not affect the market price, then there is no reason for him to sell even a unit of the produced goods at a price lower than the best price offered in the market. That is why any practice breaking the above described rules is a sign of a market imperfection taking on various forms.

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[7] B. Hoekman, M. Leidy, *Antidumping for services?*, [in:] P. Tharkan, *Policy Implications of Antidumping Measures*, Elsevier Science Publishers B.V., London 1991, p. 80.

The necessary condition for dumping to occur is occurrence of barriers complicating the mutual trade exchange and occurrence of firms possessing monopolistic or dominating position in the export market. Instruments influencing the separation of domestic market from the competition of foreign entrepreneurs include first of all customs duties, duty procedures, import taxes or technical and sanitary norms. Sometimes to lead to the successful market separation, occurrence of one of the mentioned means is sufficient. Most often, however, the economic isolation is determined by several mentioned instruments simultaneously. Moreover, it is not always necessary to separate the whole market from foreign competition, it is often enough to use excessive protection towards a specific economic branch. The privileges introduced due to that may lead to the creation of a segment – a hermetic one protected from foreign competition. Additionally the presence of barriers will indicate a discrepancy between internal and world prices. To simplify further dissertations, let's assume that each one of the listed obstacles in the trade is influencing the markets in the same way as the customs duty. The introduction of such a condition will allow to avoid certain repetitions each time.

Customs duty is an instrument of trade policy, which in a visible and effective way contributes to the separation of the domestic market from the competition of foreign entrepreneurs. Its most important task is to separate the domestic and foreign markets, which causes that the return of the goods sold abroad at the price lower than the price in the internal market of the exporting country is impossible. Sometimes customs duty is not necessary, because the costs of transport, packaging, insurance or commission remarkably rise the cost of the offered goods, which causes that its re-sales in the market of production is not profitable. The foreign price raised by those costs in fact exceeds the domestic price. The lack of duty does not matter in the case of export to the distant markets of perishable products. Their re-transport to the country of origin is often impossible, and the new price would surely exceed the domestic price.

A relatively high import duty is an effective means isolating two separate growth markets. It must be noticed however, that its existence itself is not a sufficient condition for a company to use dumping. The enterprise should also possess natural or factual monopoly. In case of several companies, their successful discriminating pricing policy will mean a creation of a cartel, that is an agreement of producers or sellers aiming at obtaining a maximum common profit through the establishment of the production capacity and the price. Winning the advantage in the market enables to keep the production (sales) at the level that guarantees the biggest profit. Dominance of enterprises may take other indirect forms, which are not equivalent neither to the monopoly nor the free competition. It is well exemplified on a situation where one of many producers possesses such a big participation in the entire national production, that in case of increasing and decreasing of the goods supply he can influence the change of the domestic price. A similar situation also takes place if there are two or three entrepreneurs in the market, and the quantity of goods sold by them determines the price level.

The occurrence of monopoly (or another form of market dominance) is relevant for dumping to take place, since the essential characteristic of an enterprise having a market advantage is a possibility to regulate the sales price. If a company has a dominant position, it is not possible for it to treat the market price as a fixed and binding one. The flexibility in its shaping is only restricted by two independent factors that is: the demand-related consumers' behaviour and the production costs.

The aim of a monopolist is maximization of profit. According to the theory of economy, the essential condition to achieve that is leveling of the marginal cost and marginal return. It denotes choosing the production quantity bringing the biggest profit.

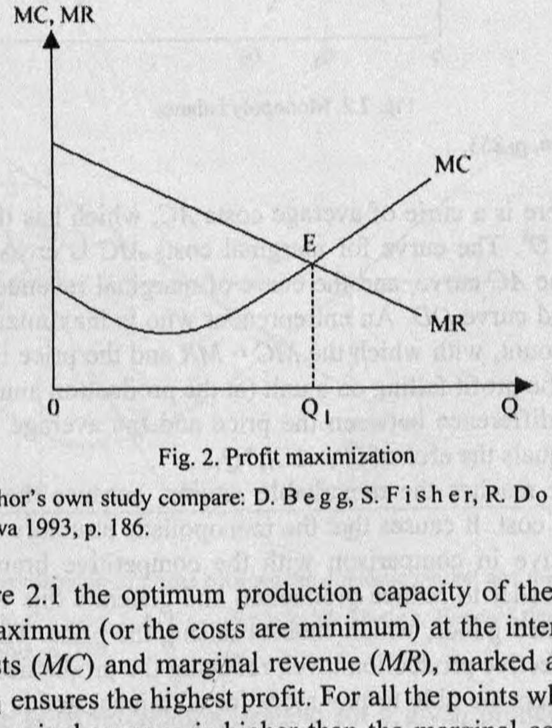

Fig. 2. Profit maximization

S o u r c e: author's own study compare: D. B e g g, S. F i s h e r, R. D o r n b u s h, *Ekonomia*, PWE, t. 1, Warszawa 1993, p. 186.

In the figure 2.1 the optimum production capacity of the enterprise is Q_1. The profit is maximum (or the costs are minimum) at the intersection of curves of marginal costs (*MC*) and marginal revenue (*MR*), marked as *E*. The production capacity Q_1 ensures the highest profit. For all the points which are to the left from Q_1, the marginal revenue is higher than the marginal costs. It means that the growth of production is profitable and each additional production unit will rather raise the return than the costs. Otherwise if the production is bigger than Q_1 and *MR* is lower than *MC*, the profits are rising but only when the production is reduced.

A monopolist must also examine whether the fixed price covers the average costs. It is illustrated in the figure 2.2.

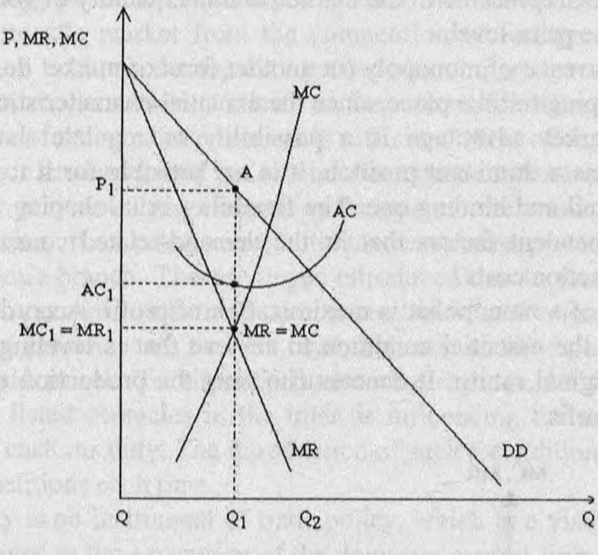

Fig. 2.2. Monopoly balance

S o u r c e: *ibidem*, p. 253.

In fig. 2.2 there is a curie of average costs *AC*, which has the characteristic shape of a letter *U*[8]. The curve for marginal costs *MC* is crossing through the lowest point of the *AC* curve, and the curve of marginal revenue *MR* lies below the falling demand curve *DD*. An entrepreneur who is maximizing the profit, is producing *Q*1 amount, with which the *MC* = *MR* and the price is at the level P_1 exceeding AC_1. The profit falling on a unit (at the production amounting at Q_1) is indicated by the difference between the price and the average costs (P_1–AC_1). The total profit equals the area of $(P_1–AC_1)*Q_1$.

A monopolist reaches the remarkable returns, because the price is higher than the marginal cost. It causes that the monopolistic structure of the market is regarded uneffective in comparison with the competitive branch. Besides its power is used in order to reduce production and generate this way an artificial lack of the generated goods, which enables raising the price. The monopolist is operating on ineffective production level, reducing the production to the point in which the consumers are able to pay more for additional goods than the cost of their production. From the producer's point of view, the production of additional unit of goods is not beneficial since it could lead to the lowering of the price.

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[8] Compare also: D. L a i d l e r, S. E s t r i n, *Wstęp do mikroekonomii*, Goebethner i Ska, Warszawa 1991, p. 147.

A monopolist can therefore use the policy of price diversification, relying on the fact that a product is sold to various purchasers at a different price. If it remains in a direct proportion to the costs and has economic justification resulting from the goods quality, mass, quantity or delivery costs, such strategy is treated as one in accordance with the competition rules. However diversification of prices in such a way that a certain category of consumers is obtaining the products at a price below the costs, and the means for financing of such transactions are obtained from other purchasers as a result of charging them with higher prices, is a monopolistic practice and an abuse of the dominant position. There are many reasons for such a policy often occurring in the export of goods, they are e.g. urge to eliminate the rivals, possessing a significant overcapacity or introducing or testing of new products in the market.

Let's now turn our attention to the economic mechanism of price diversification between the domestic market, on which there is a monopoly and the foreign market where there are free competition conditions.

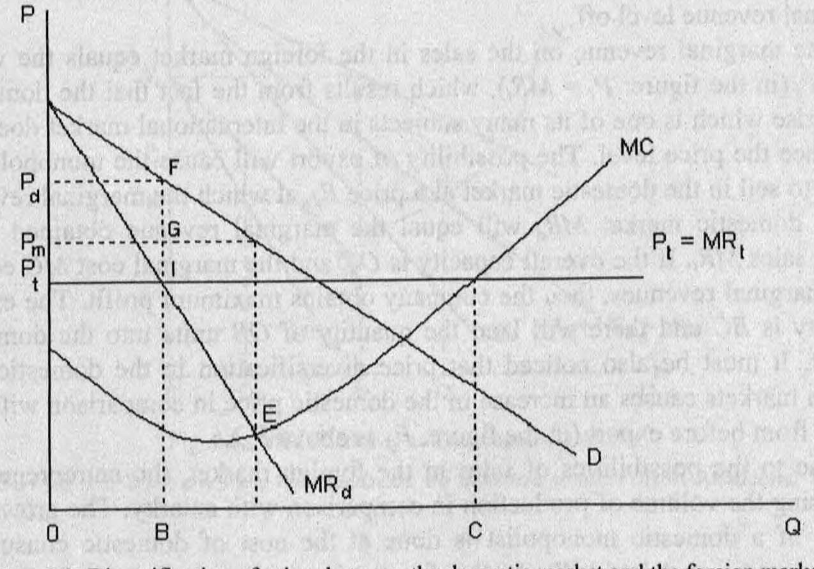

Fig. 2.3. Diversification of prices between the domestic market and the foreign market

Source: R. E. Caves, J. A. Frankel, R. W. Jones, *Handel i finanse międzynarodowe*, PWE, Warszawa 1998, p. 310.

The *D* curie is representing a demand for a given product in the domestic market, however *MR* is a corresponding curve of a marginal revenue. Its shape is a result of the fact that in the monopoly conditions, the increase of demand size is evoking the price fall. Therefore both the average and the marginal revenue are falling (it is illustrated in the *MC* curve). Initially, at small production capacity, the marginal costs are relatively high, then together with the production growth they are starting to decrease. However the technological requirements of the production process cause that obtaining subsequent units of goods – due to the law of decreasing efficiency – requires bigger and bigger outlays. The balance of the monopolist enterprise is indicated by E point – leveling of the marginal revenue with the marginal cost. Therefore a producer selling only in the domestic market is maximizing profit, fixing the P_m price which corresponds to the production capacity at ($MC = MR_d$). Let us now analyse a situation where a world price P_t is lower than P_m. At a large production capacity, the line P_T is above the curve MC. The monopolist will obtain a profit also selling abroad.

At an assumption that there is a demand for a different price in the country and a different price abroad, the monopolist will maximize the profit fixing the price at which the marginal cost levels off with the revenue on both markets. In the case where the marginal revenue on individual markets varies, the enterprise will move the sold units of goods from the market where the marginal revenue is lower into the market where it is higher. Such a situation would last until the marginal revenue level off.

The marginal revenue on the sales in the foreign market equals the world price P_t (in the figure: $P_t = MR_t$), which results from the fact that the dominant enterprise which is one of its many subjects in the international market does not influence the price level. The possibility of export will cause the monopolist to desire to sell in the domestic market at a price P_d, at which the marginal revenue in the domestic market MR_d will equal the marginal revenue obtained from export sales MR_t. If the overall capacity is OC and the marginal cost MC equals both marginal revenues, then the company obtains maximum profit. The export capacity is BC and there will land the quantity of OB units into the domestic market. It must be also noticed that price diversification in the domestic and foreign markets causes an increase in the domestic price in comparison with the period from before export (in the figure: P_d is above P_m).

Due to the possibilities of sales in the foreign market, the entrepreneur is increasing the volume of production in comparison with autarky. The growth of profits of a domestic monopolist is done at the cost of domestic consumers whose losses are "doubled". In the free trade conditions the domestic price would equal the world price (P_t). The isolation of a domestic market causes that it is shaped on the level of P_m, thus the consumer's annuity is lowered by the area P_mP_dFG.

A monopolist does not always have to possess sufficient strength to diversify the prices at which he sells the product to the purchasers. First of all it depends on the type of goods and on the possibility to separate different consumer groups from one another. If it is a product that the purchasers can sell to one another without greater difficulties or costs, dumping is not possible, since every attempt to charge a certain purchaser's group with a higher price ends up with purchasing the products for them by the consumers buying them cheaper. The possibility of using discriminating price diversification by monopoly requires two principle conditions to be fulfilled:

- a possibility to prevent the practices of reselling the product by purchasers who buy it at a lower price to those who buy it at a higher price, which means possessing instruments allowing for effective markets' separation,
- existence of various price flexibilities of the demand on different markets.

The legitimacy of the occurrence of the first one of the given conditions has been analysed earlier, that is why below we will analyse consequences of differences in price flexibility on both markets.

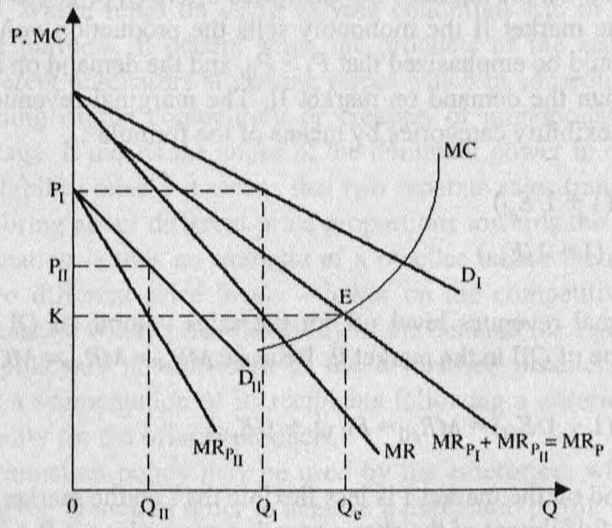

Fig. 2.3. Price flexibility and monopolist's profits

S o u r c e: M. R e k o w s k i, *Wprowadzenie do mikroekonomii*, Polsoft-Akademia, Poznań 1993, p. 238.

In the fig. 2.3 the curves D_I and D_{II} represent in turn the demand on market I and II. The demand in the market I is characterized by a relatively low price flexibility, which means that its changes are relatively smaller than the price changes evoking it. A different situation is to be observed in the market II, which is characterized by a bigger price flexibility of the demand. The differences are a result of the fact that the foreign recipients have greater possibilities of choice between the home and foreign producers offering substitutes of certain goods. The curves of the marginal revenue are marked as MR_{pI} and MR_{pII}. They both added together make up a curve $MR_p = MR_{pI} + MR_{pII}$. Due to the fact that monopoly sells the same product, there is one curve of the marginal cost *MC*, which levels off with the marginal revenue MR_p common for both markets in the point *E*. Maximization of the total monopoly profit occurs when reaching the production capacity and sales capacity at the level of Q_e.

The maximization of the total profit requires the maximization of profits on individual markets: $MC = MR_{pI} = MR_{pII}$. The fulfillment of that condition requires to occur in intersections MR_{pI} and MR_{pII} with the level of *MC* marked in the x-axis with a letter K. They indicate the monopoly sales volume on both markets Q_I and Q_{II}, where $Q_I + Q_{II} = Q_e$.

It comes out from the previous deliberations that the monopoly using price discrimination sells the same product at the higher price in the market where the demand is relatively fixed and at the lower price in the market of the more flexible demand. On the market I the enterprise offers Q_I of goods at the price P_I, however on the market II the monopoly sells the production volume Q_{II} at the price P_{II}. It should be emphasized that $P_I > P_{II}$, and the demand on the market I is less flexible than the demand on market II. The marginal revenue may also be expressed in flexibility categories by means of the formula[9]:

$$MR_{pI} = P_I\,(1 + 1/E_{pI})$$

$$MR_{pII} = P_{II}\,(1 + 1/E_{pII})$$

The marginal revenues level off for the sales volume of *QI* in the market I and the volume of *QII* in the market II. Because $MR_{pI} = MR_{pII} = MC$, we receive:

$$MR_{pI} = P_I\,(1 + 1/E_{pI}) = MR_{pII} = P_{II}\,(1 + 1/E_{pII})$$

The demand on the market I is less flexible than on the market II ($E_{pI} < E_{pII}$), that's why the fulfillment of the above equation takes place if $P_I > P_{II}$.

Therefore the market with higher prices must be characterized by lower demand flexibility and the purchasers by smaller sensitivity to the price level changes. The increase of the price will not cause a significant fall in sales of certain goods. The company which diversifies prices will establish a low price for the group prone to it, and a high price for the consumers relatively indifferent to it. This way, using the possibility of price diversification, it maximizes its total profit.

The previous deliberations prove that the use of dumping in practice is possible only when the two principle conditions are met. The first one refers to the functioning of an enterprise having a dominant power, which diversifies the

[9] M. Rekowski, *Wprowadzenie do mikroekonomii*, Polsoft-Akademia, Poznań 1993, p. 82–83, 239.

price and production levels. The other condition, however, is connected with the possibility of separating different consumer groups from each other so successfully to make the mutual reselling of goods difficult. Geographical distances of markets, country borders or some instruments of trade policy successfully lead to the creation of hermetic market. The conduct of such policy is easier in a situation where on both target markets there are differences in price flexibility of the demand for similar goods.

3. Price Discrimination and Dumping

As was previously mentioned, dumping is identified with a concept of price discrimination, which relies on using varying conditions e.g. of sales, towards different trade partners. It occurs when the products of the same quality are offered to different purchasers at varying prices which in consequence may lead to the weakening of the competition or creation of monopolistic position or market advantage. It means the abuse of the dominant power in order to obtain different profitability rates[10]. It means that two separate sales transactions of the same product bring about different price proportions towards the marginal cost. Price discrimination is thus an example of a practice where the same producer establishes two different price levels – lower on the competitive market and higher on the market where price flexibility of the demand for a given product is low. Such a policy is not reflected in the diversified production costs. The company runs a segmentation of its recipients following a criterion of different demand flexibility for the offered products.

The discrimination policy may be used by the enterprises with a dominant position in a given branch in order to achieve a maximum profit. On the market that is entirely competitive, every consumer purchases a unit of certain goods at the same price. Due to the homogeneity of goods and the purchasers being fully informed about the product, the seller who would like to dictate a price higher than the market price, will not find the purchaser for his goods. That is why price discrimination is possible only in the monopoly conditions or when there is a company with a dominant position in the market, since it seems unlikely for this company to treat the market price as a given one. In the conditions of imperfect competition, the entrepreneur will aim at the recognition of its influence on the price and he will choose such a price level and production volume to obtain the biggest profits.

[10] B. Majewska-Jurczyk, *Dominacja w polityce konkurencji Unii Europejskiej*, Wydawnictwo Uniwersytetu Wrocławskiego, Wrocław 1998, p. 63.

The economists most often distinguish three types of price discrimination:
1) the first degree of price diversification,
2) the second degree of price diversification,
3) the third degree of price diversification.

The first degree of price diversification means that a monopolist sells different production units at varying prices to individual purchasers. It is an example of the so-called perfect price discrimination, since each unit of the goods is offered to that consumer who prices it the highest and at the maximum price that he is ready to pay. The above tactic is illustrated in fig. 3.1.

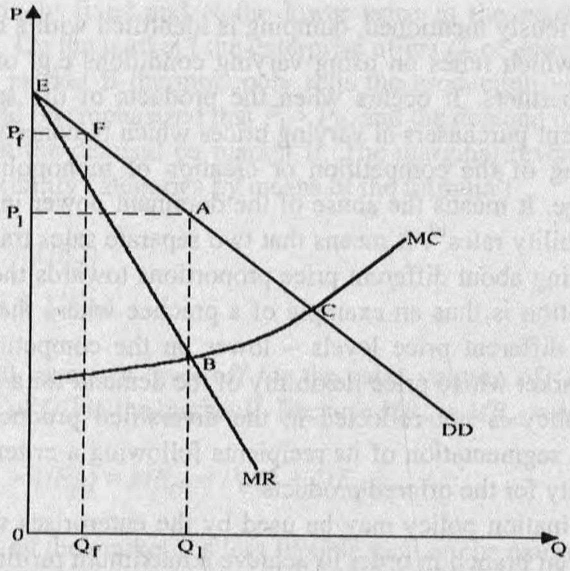

Fig. 3.1. Perfect price diversification

Source: Author's own study; compare D. Begg, S. Fisher, *op. cit.*, p. 261.

Offering the same price to each of the clients, the monopolist will find himself in the B point, in which $MR = MC$. The production capacity maximizing a profit is Q_1, and the price is shaped at the level P_1. The situation will change if the monopolist starts to perfectly diversify prices, charging a different price with every sales transaction, e.g. the first purchaser will be charged with price E, another one – with price F etc. Going down along the DD line, the sales price of every individual product may be defined this way. By decreasing the price in order to sell additional unit, the monopolist does not lose however, the part of revenue obtained from the sales of previous units. In the conditions of perfect price diversification, the demand curve coincides with the curve of the marginal revenue. In this case, the marginal revenue on additional unit sales is a price at which the entrepreneur may offer it. A monopolist that perfectly diversifies prices, will generate the quantity corresponding to the point *C* in the picture, since it is a point in which *MR* and *MC* level off.

On this stage of analysis, one may infer a following conclusion: if price diversification is possible, then its application brings in profits. Moving from point *A* (where the price is harmonized) towards the point *C* indicates, that the monopolist's profits are enlarged by the area *ABC*. It illustrates the surplus of additional return over the additional costs in a situation where the production is increasing. Besides as a result of price diversification, the monopolist obtains bigger return EP_1A from the sales of Q_1.

Obtaining bigger profits encourages the price diversification. The success of such practices depends on the market power that a company has and on the barriers in access to the target market which in the foreign market take on a form of e.g. customs duty. It is worth strengthening that the presented situation may bring about unexpected results, if the consumers cannot resell offered goods to one another. Perfect price diversification leads to an effective result in a sense of Pareto, because like in the case of a competitive market, the sum of the producer's and the consumer's surplus is maximized. If, however the monopolist may order from the purchaser a different price for every subsequent product unit, he will choose the price at which every consumer finds himself in an indifference point towards the choice of consumption or total resignation from those goods. It means that it is the producer who takes over the whole surplus generated in the market. Perfect price diversification leads also to an effective production level, since the monopolist must generate such production volume, at which the price equals the marginal cost. If the price was higher than the marginal cost, it would mean that there is a consumer ready to pay more than the cost of generating of an additional production unit.

Why thus, guided by the above discussion, can't a monopolist sell the purchaser an additional product? It must be emphasized however, that a perfect price diversification is a certain ideal concept explaining the effective mechanism of allocation of resources, similar to the one operating in free competition conditions[11].

The second degree of price diversification means, that a monopolist sells different production units at different prices, but each person who purchases the same quantity of goods, pays the same price. The prices therefore vary, depending on the quantity of the sold goods. Such diversification is known also as a term non-linear evaluation, because it means that a price for a product unit is not fixed but it depends on what quantity of goods is bought by a client.

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[11] H. R. Varian, *Mikroekonomia*, PWN, Warszawa 1997, p. 445.

The third degree of price diversification means that a monopolist sells a product at a different price to separate consumer groups, but every product offered to a certain group has the same price. To make such practice successful, what is significant is the fact – how well can we distinguish the available segments and at the same time avoid arbitration. If assume the consumer groups to be two countries, where the monopolist sells his products at diverse prices (more expensive in the country, cheaper abroad), then such discrimination policy assumed in the conditions of international trade will be a typical example of dumping. It means that dumping is one of the forms of price discrimination, different from the first and second degree, that refers to various price shaping towards the consumers purchasing different product quantity.

The previously presented classification of price discrimination is the most common one to be found in the literature of the subject. Another concept of division was proposed by Stonier and Hague[12], taking as a criterion an existence of various conditions enabling the use of discriminating practices. The market segments described by them use either their spacious distance or the characteristics of products and buyers, which constitute a basis for the diverse proceedings in the field of price shaping. Stonier and Hague have made a distinction of types of price discrimination due to the consumer characteristics, type of goods and the geographical distances and border barriers.

Simon[13] is using a similar division of types of price differentiation, isolating additionally a temporary price differentiation and diversification considering the application of non-price marketing instruments. Both classifications remarkably exceed the framework of the herein paper, so they will not be the subject of further analysis.

One of special cases of price discrimination is a policy of **predatory prices**. An entrepreneur using it is aiming at the removal or discouraging the factual or potential competitors from entering the market in which he is operating. It is done through the sales of products at understated (dumping) price. The strategy of predatory prices, in the conditions of international trade, becomes an extreme case of dumping connected most often with selling at a price which does not even cover the production costs. It is a practice of anti-competitive nature, whose aim is an elimination or weakening of rivals or leading to a situation in which they will surrender to the control of a dominant enterprise.

It is hard to precisely specify, when lowering of prices, regarded in practice as activity evoking a competitive fight, becomes a strategy of predatory prices. There is a number of problems connected with the definition of such questions as: how to measure effectiveness of entrepreneurs at risk of discrimination

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[12] A. W. Stonier, D. C. Hague, *A Textbook of Economic Theory*, Longman, London 1972, p. 203–204.

[13] H. Simon, *Zarządzanie cenami*, PWN, Warszawa 1996, p. 358.

practices, or how long should be the period considered in the examination. The necessity precise formulation of those questions has allowed us to create several tests enabling the recognition whether in a given case of price lowering, there are visible activities aimed at elimination of competitors. The following short characteristic of the most important tests is worked out on the basis of OECD categorization[14].

Basing on the perfect competition model, Areeda and Turner[15] have formulated an economic test (**short-run cost-based rules**) for the analysis of predatory prices. According to the authors' definition the prices are lower than a short-term marginal cost. It comes out from the previous discussion that an entrepreneurship is able to maximize its profit up to the point in which the marginal cost equals the market price. A producer who sells his goods at a price lower than the level of a marginal cost, is using predatory prices. In practice, the use of test based on the marginal cost is difficult to realize, because there are technical problems with calculating it. For this reason Areeda and Turner recognized that it could be replaced by a variable cost. Unlike the fixed cost, it is a function of the production capacity and its assessment is not very difficult. The authors have finally assumed that only in a case where a goods price is lower than the average changeable cost, it can be assumed that it is a predatory price.

Postner[16] formulated a test in which the basis for analysis are **long-term cost-based rules**. Similar to the previous case, due to difficulties with a proper estimation, they were replaced by changeable costs. According to the author, within a short-term period, the enterprises of a similar profitability level, are not able to lead to the elimination of similar firms from the market. The results of actions which are connected with lowering of the price to the level defined as aggressive, are visible only in a long-term. For this reason, it is more justified to juxtapose the examined prices and costs in many temporal sequences.

A Baumol's test[17], based on a long-term strategy (**rules governing price rises**), rejects the solutions taken by Areeda-Tuner and Postner, challenging the rightness of comparing prices and costs. The author suggests drawing attention to the observation of price changes which took place as a result of operations of an enterprise that managed to reduce the power of competitors in the market. To examine whether the limitation of the rivals' position was not a result of aggressive price policy, Baumol suggests establishing prices at least on the level that was binding during the conduct of "the price war". The enterprises would be

[14] *Predatory pricing*, OECD, Paris 1989, p. 23–32.

[15] Compare: P. A r e e d a, D. T u r n e r, *Predatory Pricing and Related Practices under Section 2 of the Sherman Act*, "Harvard Law Review" 1975, no 88.

[16] Compare: R. P o s t n e r, *Antitrust Law: An Economic Perspective*, 1976.

[17] W. B a u m o l, *Quasi-permanence of Price Reductions: A Policy for Prevention of Predatory pricing*, "Yale Law Journal" 1989, no 1.

obliged to keep fixed prices during the period of five years. Such a solution would require the producers to establish price strategies on a real level, otherwise the enterprise would be accused of using non-competitive practices.

Another example of a proposal enabling distinction of the predatory prices from the competitive ones, is the Scherer's test[18] **(rule-of-reason test)**. The author states that an examination of such a complex problem should not be restricted only to the comparison of the prices, in a period preceding a competitive fight and afterwards, but a complex investigation must be conducted and a number of factors characterizing the behavior of the dominating entrepreneur must be subjected to an analysis, e.g. his intentions, consequences of a low price level, efficiency of his work etc.

To recapitulate, many economists are trying to analyse strategies realized by companies, formulating tests enabling the examination whether the use of a low price policy is aiming at gaining a dominant position. However some analysts e.g. Bork and Easterbrook[19] or McGee[20] think that in practice there are cheaper and less risky methods enabling the elimination of rivals from the market other than the controversial strategy of predatory prices. Besides they clearly state that the government intervention, trying to restrain the alleged "predacity" of entrepreneurs, will bring about more losses than activities of producers accused of unfair practices.

4. Types of Dumping

On the basis of anti-dumping regulations which are based on the Agreement about the application of article VI GATT, one can distinguish two kinds of dumping: **price dumping and cost dumping**. The first one denotes selling of products abroad at a price lower than in the country, however the other one concerns export of goods whose price is shaped below the production costs. Engering, Brabander and Velmust[21] additionally take the third form: **non-market economy dumping**.

[18] F. Scherer, *Predatory Pricing and the Sherman Act*, "Harvard Law Review" 1975, no 89.

[19] Compare: A. Bork, *The Antitrust Paradox: A Policy at War with Itself*, 1978; F. Easterbrook, *Predatory Strategies and counter-strategies*, "Chicago Law Review" 1981, no 48.

[20] J. McGee, *Predatory Price Cutting: The Standard Oil Case*, "Journal Law & Economics" 1958, no 1; compare also: L. Philips, *Competition Policy: A Game-theoretic Perspective*, Cambridge University Press, 1995, p. 186–189.

[21] F. Engering, H. Brabander, E. Velmust, *EC antidumping Policy in Globalizing World*, "Journal of World Trade" 1998, vol. 32, no 6, p. 116.

In the literature of the subject there are to be found many classifications of dumping which are based on two basic criteria: the length of its lasting period and the reasons of its use and effects it may cause. However the most common classification occurring in the literature[22] distinguishes only three types of dumping: **sporadic dumping**, **predatory dumping** and **persistent dumping**.

The first one, used in the period of a weaker demand, is aiming at the stabilization of production. That form of dumping occurs occasionally if a producer having a surplus of productive force or goods reserves, lowers the price to a level that covers at least average changeable costs. The reasons for the occurrence of such a surplus may vary and they include among others mistakes in planning or a change in the consumers' taste. **Sporadic dumping** may occur also without conscious intention of an exporting firm which will take a decision about the production volume before a demand is known and before the exchange rates change. It may also result from the lack of experience in fixing prices for new products. The sales abroad allows for keeping the domestic prices and the supply unchanged, preventing the domestic market from any undesirable disturbance. Such proceedings is regarded reasonable if an enterprise is expecting an improvement of economic situation in the future and treats such behavior more beneficial than e.g. redundancy.

If sporadic dumping is indeed incidental and is not a result of a repetitive demand fall abroad, it does not incur any serious restrictions on the part of the importing country's government. It results from an objective to avoid worsening of international relations with other countries because of reasons that are of temporary nature.

Predatory dumping is an intended objective to keep sales of given goods in the foreign market at the price lower that the domestic price or the costs of production. The main motive of the enterprise's operations is a will to obtain a monopolistic position, which will allow in the future to raise the prices to the level containing an element of monopoly rent.

Using price discrimination, the exporter is attempting at eliminating of other firms existing in the foreign market. Therefore predatory dumping is used temporarily, until the competition in the importer's country is destroyed or limited. It must be emphasized, that apart from the elimination of other enterprises, the effect of such activity is also preventing new producers from entering the given market. To make it possible, however, the exporter must have either global monopoly for a given product or it should convince the importer's

[22] A. Zielińska-Głębocka, *Wprowadzenie do ekonomii międzynarodowej, teoria handlu i polityki handlowej*, Wyd. Uniwersytetu Gdańskiego, Gdańsk 1997, p. 149; B. V. Yarbrough, R. M. Yarbrough, *The World Economy. Trade and Finance*, The Dryden Press, Fort Worth 1997, p. 247–253.

government to impose or keep the already existing barriers for entering the market. However, a question arises: what benefits are there for the government from establishing a foreign monopoly in its country? The described situation is in practice highly unlikely, that is why the majority of authors state that there are no proved cases of predatory dumping[23]. It could be successful theoretically in a less developed country, where there is weak competition (or no competition at all) and thus it is easy to eliminate it.

As it was mentioned, the use of predatory dumping is possible if the industry consists of at least two firms, one of which possesses a stronger market position. Assuming that there are conditions favourable for predatory dumping, one has to answer two questions. Firstly, why those two companies do not conclude an agreement regulating a beneficial for them price level? It could potentially be a means of achieving a monopoly rent in the future, a cheaper one than an attempt to "destroy" a competitor through the use of a low price policy. Besides such action would strengthen the market power of both partners, gaining bigger benefits from the new situation. Secondly, why does not one of the firms take over control over a weaker enterprise? The answer to these questions depends on a number of circumstances, such as e.g. an existence of anti-monopoly regulations in both countries or a dislike resulting from cultural convictions, which in fact may in some extent hinder acceptance of the above solutions.

Predatory dumping is unfavourable for both the producers and the consumers in the import country. The former ones get driven out of business because their more expensive goods do not find purchasers. The consumers however, initially using the situation, with time, when a company starts to use monopolistic practices, bear remarkable losses. Venables[24] is challenging such a statement and he is describing a hypothetical situation, where an importing country government not giving in to the pressure of producer groups affected by dumping does not interfere in the domestic market. He counts on the fact that a production growth of the monopolist could appear so big in the future that benefits from the concentrated production would lower the costs of production of goods and therefore also the price. Even if a company reached monopolistic profits, the product price would be lower than in a situation where there were a larger group of competing enterprises on a given market. The profits of those consumers and producers, who use these goods to produce the products, could

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[23] B. H i n d l e y, *The Economics of Dumping and Anti-dumping Actions: Is there a Baby in the Bathwater?*, [in:] P. K. M. T h a r k a n, *Policy Implications of Antidumping Measures*, Elsevier Science Publishers B.V., 1991, p. 28.

[24] Compare also: P. H o l m e s, J. K e m p t o n, *Study on the Economic and Industrial Aspects of Anti-dumping Policy*, Working Papers, no 22, Sussex European Institute, 1997, p. 3.

appear much higher than the losses suffered by the competing producers. The described situation is just hypothetical, since the governments of most countries would rather make it impossible for foreign enterprises to achieve a monopolistic position.

Another kind of dumping is permanent dumping, which is an example of price policy systematically realized by producers who have a range of monopolistic power. They have a possibility of differentiation of domestic and foreign prices, selling a product abroad at a price lower than in the country or below the costs of production. The condition of effectiveness of the mentioned tactics is a stronger monopolistic position on the domestic market, which allows to maintain a higher price for longer time. It also requires a separation of domestic market from the foreign market, to restrict domestic consumers in a possibility to buy a product abroad where the prices are lower. The separation of both markets may be a result of imperfect market information, high custom duties and barriers beyond the tariff, foreign exchange restrictions or transport costs. However a strong position of entrepreneurs in the country results from maintaining of a protecting economic policy, based on subsidies, export promotions, tax exemptions or financing of scientific research[25]. The possibility of applying high prices on the domestic market and the separation of markets has an influence on the durability of price dumping. Some economists leave aside the basic classification of dumping. Holmes and Kempton[26], who define dumping as a result of occurrence of various economic circumstances and conditions, favourable for the discriminating price policy, distinguish the following types of dumping:

– predatory dumping and monopolization;

– strategic behavior which is characterized by different types of activities aiming at the reduction of a strong position of competitors, however without the desire to establish monopoly on a certain market (through lowering of the prices on the foreign market, a sign to begin a "price war" or a deliberate increase of productive capacity in a short period exceeding the factual needs in a situation where a product expansion of new competitors is visible)[27];

– market opening dumping;

– cyclical dumping and

– "country trade" dumping, where proper government decisions require or support the sales of particular product types.

[25] A. Zielińska-Głębocka, *op. cit.*, p. 150.

[26] P. Holmes, J. Kempton, *op. cit.*

[27] Tharakan names this types of action – *strategic dumping*. Compare: P. K. M. Tharakan, *The Problem of Anti-dumping Protection and Developing Country Exports*, UNU World Institute for Development Economic Research, Working Papers no 198, September 2000, p. 5.

Another distinction has been suggested by Hoekman and Kostecki[28], who distinguished two types of dumping:

– **sporadic dumping**;

– **cyclical dumping**;

– **defensive dumping** – takes place if a company wants to "scare away" and discourage potential competitors from entering its market. Such a reaction is also typical in a situation when a new rival intentionally lowers prices, to reduce or take over a position occupied by an enterprise on a given market. It may finally lead to initiating of "price war" whose effects may appear unfavourable for both conflict sides. From the point of view of the side defending its share in the market of an entrepreneur, the use of such kind of dumping may be said to be justified;

– **scale dumping** – occurs when accepting such a strategy allows the entrepreneur to achieve scale benefits in the future (e.g. the production will rise, the unit costs will fall) or to use its full productive capacity;

– **market-creating dumping** – it occurs when an enterprise is entering a market with a new product (usually with high technology). In a desire to possess a big market share, the firm will be trying to discourage the local rivals from engaging themselves in a production of competitive goods. An instrument in a form of understated price may serve this goal. Such form of dumping is to help the enterprise to become, in a relatively short time period, a market leader in the production of the newly created goods, and to encourage the consumers to the quality and innovation of the offered product;

– **head-on dumping** – takes place if an entrepreneur's goal is to attack a company which is a leader in the market. The entrepreneur can sell the product at prices which do not even cover the marginal costs. It indicates that instead of profit maximization, his main goal is sales maximization. It is then a part of the strategy concerning the fight for the leader's position;

– **predatory dumping**;

– price discrimination[29].

The previous division could be supplied by only a position of the fixed dumping, whose economic effects are perceptible for both the exporting country and the importing country.

[28] Similar distinction was proposed by Viner. Compare: J. Viner, *Memorandum...*, p. 4–7; idem, *Dumping: a Problem in International Trade*, The University of Chicago Press, 1923, p 23; B. M. Hoekman, M. M. Kostecki, *The Political Economy of the World Trading System*, Oxford University Press, Oxford 1996.

[29] M. M. Kostecki, *Marketing Strategies between Dumping and Anti-dumping Action*, Universite de Neuchatel, Avril 1991, p. 3.

Among the presented concepts there is to be distinguished a classification introduced by Salvatore[30]. Basing on the works of 1970s and 1980s[31] there are specified two kinds of dumping, limiting its definition only to selling below the production costs. The first one occurs in a situation in which export takes place at prices lower than an average production cost. Such a company's policy does not have to indicate aggressive strategy aiming at the elimination of competitors, but only the use of productive capacity and reaching the scale benefits. The other type of dumping is connected with selling below marginal costs. It is possible if there exist demand fluctuations for the given goods (both in the country and abroad) and/or rigidity of outlays needed for its production. High costs of adaptation to the changeable demand flexibility may cause that a company will reach the production surplus whose selling in the domestic market will appear impossible. To avoid remarkable losses, the enterprise prefers to sell the products abroad, offering a unit of goods even below the marginal cost.

Marceau[32], basing on the classification introduced by Willig, an economist dealing with the control of trusts appearing in the American market, has suggested a division of dumping due to the aim of exporter's operations, his market power and a structure of target market. He distinguished the following kinds of dumping: market expansion, cyclical dumping, "country trade", strategic dumping and predatory dumping. According to him, the last two categories are the most harmful since the negative effects of their occurrence in the importing country are higher than net profits in the exporting country[33]. It is a result of a probability of creating a foreign monopoly due to the lack of effective competition in the importing country, possibilities of the creation of oligopoly between the domestic and foreign producers or the closure of the market in the exporting country.

The broadest classification was also suggested by Viner[34] as early as in the 1920s. It distinguished the types of dumping due to the goal of an enterprise's operations and the lasting period of discriminating practices.

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[30] D. Salvatore, *A Model of Dumping and Protectionism in the United States*, "Weltwirtschaftliches Archiv" 1989, p. 766.

[31] Among others: D. R. Blair, L. Cheng, *On Dumping*, "Southern Economic Journal" 1984; D. Bernhardt, *Dumping Adjustment Costs and Uncertainty*, "Journal of Economic Dynamics and Control" 1984; W. A. Wares, *The Theory of Dumping and American Commercial Policy*, Lexington 1977.

[32] G. Marceau, *Anti-dumping and Anti-trust Issues in Free Trade Areas*, Clarendon Press, Oxford 1994, p. 15–16.

[33] Compare: G. Marceau, *ibidem*, p. 16 oraz R. Willig, *The Economic Effect of Antidumping Policy*, OECD Restricted Document, 1992.

[34] J. Viner, *Dumping*...

Table 4.1

Types of dumping due to the goal of company's operations

Motives of the company's operations	Dumping lasting period
Sale of reserves Case[a]	Sporadically
Keeping the position in the target market in which the prices are temporarily dangerously lowered Establishing an enterprise's image in the new market Elimination of the competition using dumping Limiting the development of competition in the market, where the functioning monopoly determines the level of product prices Defending the market share against the competition using dumping prices	Short-term or with breaks
Keeping full production with the use of technological possibilities of an enterprises whose aim is to avoid price fall in the domestic market Achieving scale benefits of production without the price lowering in the domestic market Export stimulation through subsidizing of the production by the government	Long-term or permanently

[a] *Unintentional* dumping takes place e.g. when exported goods are not delivered to their destination and they reach a distant market by chance. In such a case, to compensate for the losses in some extent, the enterprise decides to sell the products at lower prices.

Source: J. Viner, *Dumping: A Problem in International Trade*, The University of Chocago Press, 1923, p. 23–29.

Another classification suggested by Viner emphasises the economic condition of an enterprise using dumping practices and it refers to the motives of the company's operations. The author has divided dumping into: **dumping from strength** and arising from its weakness **dumping from weakness**[35].

The first one is practised by a dominant concern whose aim is to gain control over the foreign market and to eliminate the competition through the use of strategy for remarkable price lowering. Another motive of actions is connected with the occupied monopolistic position of the company. It enables to establish high prices in the internal market, which will to a large extent compensate for the sales abroad even below the cost of production.

The other kind of dumping, resulting from the weakness of an enterprises, is visible in the conditions of recession or economic difficulties, most often not dependent on the firm. The liquidation of the collected reserves as a result of sales at lower prices, possible due to partial or entire production abandonment,

[35] *Ibidem*, p. 32.

constitutes the most beneficial solution for an enterprise which possesses slight market power.

From the above discussion, it comes out that the types of dumping are connected with the strategies of a company whose aim is to gain profits within a presupposed period.

5. Reasons for Using Dumping

The motive of entrepreneurs' operations is profit maximization. For this reason all decisions concerning the size of product demand and the price level are taken with an aim to gain the highest possible income. Every enterprise, aiming at the production of such capacity that should provide the lowest possible costs level, is guided by the principle of optimization meaning searching for the best relation between the production outlays and its effects. A rational producer, considering the above conditions, will assume the long-term price level for the offered goods. It must be emphasized, that it will also depend on the conditions of the enterprise's operations or the goals of the accepted market strategies. The role of a price in their realization is also important, because any decision about the optimal price level is subordinated to various tasks. Among the most important ones, one can list among others: winning new purchasers of goods, keeping the market share or its increase and strengthening of the competitive position, return on the assumed capacity of investment outlays or excluding the competitors from the market[36]. The role of prices in the process of achieving of these assumptions depends obviously on internal and external conditions of the firm's operations and the range of restrictions that they entail. Usually an enterprise hardly ever establishes a price of the product on the equal level for all the segments of the target market. Depending on concrete circumstances of sale it can diversify prices, at the assumption of a lack of homogeneity of the buyers who feature a different level of the price flexibility of the demand. In the area of a market where the demand for a given product is very flexible, there is high probability that a low price will increase the consumers' tendency to buy the goods. The price-related stimuli may be left at the unchanged level in the market, where the demand is unflexible, because their impact on the buyers' decisions will be limited. The prices of products of identical structure of characteristics are therefore adjusted to the character and size of individual segments. This accommodation, enabling the use of this specification of market

[36] L. Garbarski, I. Rutkowski, W. Wrzosek, *Marketing*, PWE, Warszawa 1995, p. 226.

fragments at the establishing of prices, allows the enterprise to achieve better economic effects.

The previous discussion concerning the strategic behavior of producers may refer also to the actions of exporters in the foreign markets. They use different price tactics in relation to the same products, depending on a specified aim of spatial expansion and specific entrance barriers characteristic for the given market. Apart from numerous assignments delineated by the enterprise, it seems obvious that occurrence of only obstacles themselves in the form of e.g. custom duties, transport costs, distribution and non-tariff instruments, leads to the establishment of the export price at the level higher than the domestic value of the goods. The entrance barriers, often difficult to avoid, cause the rise of the prices of the offered goods to the level covering the additionally incurred costs. That is why the situation when an exporter fixes the price on the level lower than the price obtained in the domestic market, seems not justified economically and at variance with the rules of rational management. Such behavior if an the entrepreneur is however logical, if we consider a number of motives of the activity connected with the goals of the undertaken spatial expansion.

The use of dumping in practice is not a rare phenomenon. Economic markets, both of the developed and developing countries, operate in the conditions of imperfect competition, between a pure monopoly and pure competition, which extorts the adjustment of sales strategies to the surrounding circumstances. For this reason, some enterprises turn to dumping as a form of rivalry with a foreign competitor, which although treated in a category of "unfairness", often brings about significant benefits.

The reasons for such behaviour are to be found in the treatment of dumping as a means of penetration of a foreign market, the access to which is limited due to the use of high customs barriers or other obstacles non-tariff and para-tariff ones.

Finding oneself in such circumstances may appear likely only as a result of lowering of a price constituting the stimulus for a purchase for the buyers sensitive to that instrument.

Then the aim of dumping is to encourage to try the product and to stimulate its quick acceptance. From the point of view of an enterprise, frequent lowering of the price or fixing it at the level below the production costs in the extreme case, is not profitable in the long run, that is why it can be used only occasionally.

Another goal of a strategic price lowering is a desire to keep the previous markets. An exporter may be forced to sell the goods at dumping prices to protect himself against being eliminated from the market by other competitors offering the same product much cheaper. He adapts then to the existing exceptional conditions, the occurrence of which he could not foresee. The defence against the price competition may cause analogical behavior on the part of the party which is the target of price attack and may lead to the weakening of the position of both rivals.

The aim of „aggressive" lowering of the price, in an extreme case even below the costs of production, is to eliminate competition and to gain a dominant position in the foreign market. The realization of such intention most often causes growth of the goods prices, which allows the entrepreneur to realize the monopolistic gains. As it was mentioned earlier, achieving a dominant position is very difficult, especially in a situation where a government of the importing country is actively using the means preventing from the realization of similar intentions.

The entrepreneur may also possess a remarkable production surplus whose sale in the home market is not possible. It may in fact happen, that market saturation with a given product in the country hinders its further turnover and fixing a new price may cause the so called "destruction of the market". For this reason the decision about selling the product abroad at lower prices is justified even if it took place at the cost of profit. The entrepreneurs choose to gain smaller income offering in return goods whose storage may be expensive and economically irrational. In an extreme case, selling of those goods takes place below the production costs in order to regain only a part of the incurred outlays.

The similar behavior is performed by exporters possessing the surplus of production capacity and operating on two markets, of which the home market is controlled by a dominating enterprise or a cartel. Then the price reduction caused by the intention to sell off the surplus reserves or an increase of the production scale, may take place only on the foreign market. By expanding the scale of economic activity, the enterprise receives profits from the lowering of the unit costs. The average and fixed costs are falling and due to that they spread on the rising volume of production. The enterprise can still gain profits lowering the prices at the same time. In the case of a lack of dominant subjects imposing specified sale conditions, the enterprise can offer products at a lower price on the domestic and foreign market. However the limited possibility of selling them at competitive prices in the internal market causes that such sale takes place only in another customs area.

Gaining profits from the production scale in connection with selling a part of goods abroad is a subject of dissertations of Salvatore[37]. Let's have a closer look at those issues.

The equations (1) and (2) present an upturned demand function for a product sold in the country – D_k and abroad – D_z, where P indicates a price and Q – quantity. The parameters a, b, c and d are coefficients bigger than zero

[37] D. S a l v a t o r e, *op. cit.*, p. 768–771.

specifying the intersections with axes and inclination of the linear functions below. Using the markings and considering the relations occurring between the above categories, we can assume that:

$$P_k = a - bQ_k \tag{1}$$

$$P_z = c - dQ_z \tag{2}$$

Let „*e*" denote a changeable cost of a unit of foods, which takes on a fixed value for the simplification of the analysis. Then the function of total changeable production costs – V (in the production process connected with the use of changeable factors, whose quantities either increase or decrease depending on the size of production) takes on the following form:

$$V = eQ \tag{3}$$

where $Q = Q_k + Q_z$. The functions of total profits (Π), that the enterprise is intending to maximize through the sales in the country and abroad are illustrated by the equation (4).

$$Max\ (\Pi) = aQ_k - bQ_k^2 + cQ_z - dQ_z^2 - eQ - F \tag{4}$$

where F denotes total fixed costs. We determine the fragmentary derivatives:

$$\partial Z/\partial Q_k = a - 2bQ_k - e = 0$$
$$\partial Z/\partial Q_z = c - 2dQ_z - e = 0$$

Thus calculated fragmentary derivatives are compared to zero, which means that at the production of goods on the level Q_k i Q_z the company gains the biggest profits.

Such a conclusion may be noted alternatively with use of the marginal cost analysis and marginal revenue. Maximization of profits is provided by such production capacity at which the marginal cost equals the marginal revenue.

$$MR_k = MR_z = MC \tag{5}$$

where MR_k stands for the marginal revenue in the country, MR_z is the marginal revenue abroad and MC – marginal costs.

An enterprise deciding to export its goods must however consider an additional cost falling on a unit of goods – g, which may appear in connection with the sales abroad. Therefore:

$$Max\ (\Pi) = aQ_k - bQ_k^2 + cQ_z - dQ_z^2 - eQ - gQ_z - F \quad (6)$$

We calculate the fragmentary derivatives of the presented function:

$$\partial Z/\partial Q_k = a - 2bQ_k - e = 0$$

$$\partial Z/\partial Q_z = c - 2dQ_z - e - g = 0$$

It means that:

$$MR_k = MC \quad \text{and} \quad MR_z = MC + g \quad (7)$$

Depending on whether $g = 0$ or $g > 0$, Q_z i Q_z^* are equal respectively:

$$Q_z = (c - e)/2d \quad (8)$$

$$Q_z^* = (c - e - g)/2d \quad (9)$$

$g > 0$ denotes that an enterprises, with regard to the higher costs, is exporting a lot less, fixing at the same time higher prices. The difference between the domestic and foreign prices is smaller than in the case $g = 0$. The marginal cost enlarged by g will cause the mentioned sales reduction, which may contribute to the decrease of production of given goods. Its reduction brings bigger savings in costs, the growth of marginal revenue and fall of prices in the domestic market. The above considerations are completed by fig. 5.1.

In the fig. 5.1, D_k i D_z indicate the lines for demand appropriate for the company possessing monopolistic advantage in its own market and gaining it abroad. MR_k i MR_z constitute the curves of marginal revenue and their graphical sum is the curve MR in the graph (*c*). Optimal production capacity, at which an enterprise gains maximum profits, is illustrated by the segment $0J$. It is defined by point A in the intersection of the curve of marginal costs MC and marginal revnue MR. In the domestic market the company sells $0G$ units of the product at the price GP and respectively, OH' of value HP'' abroad. Regarding the fact that an average cost of the entire production of the enterprise is JB, the company's profits are shaped on the level $P'B'$ for a unit of the goods in the country ($0G$ i P'B' in total production), however the unit losses abroad are illustrated by the segment $B''P''$ ($0H$ i $B''P''$ in total production). The sale of part of the goods in the foreign market, although it brings temporary losses, it allows the enterprise to take profits from the scale of production and to generate bigger profits in the country. The rising income from the scale allow to lower the costs of production, which could appear impossible at the exclusive $0G$ production alone. Higher domestic profits do not only cover the losses, but they may also appear bigger than in a case where an enterprise does not use the price differentiation policy. It must be however emphasized that in this case dumping is not just the sale in the foreign market at a price lower than in the country, but first of all it is sales below the average production costs.

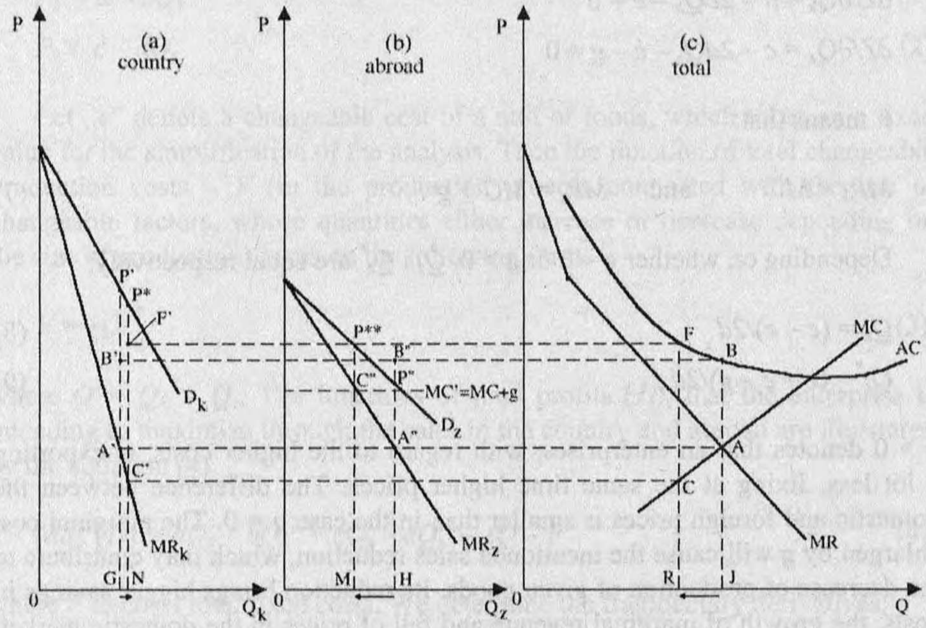

Fig. 5.1. Dumping and scale benefits

S o u r c e: D. S a l v a t o r e, *A Model of Dumping and Protection in the United States*, "Weltwirtschaftliches Archiw" 1989, p. 770.

In a situation when a company considers additional costs, resulting from export of goods, the marginal costs are increasing by the value of *g*, which will be more than zero. The company will reduce export and the entire sales of goods, which will lower the marginal costs. The graphical reflection of such a strategy is a movement to the left along the *MC* line. It will lead to the growth of sales in the country at a lower price and the fall of export at the simultaneous growth of the price. The company will produce 0*R* of product units, out of which 0*N* will be sold in the domestic market at the price *NP** and 0*M* will directed for export will reach the price *MP***. It is lower than the domestic price by a value of *P*F**. The company now sells the goods abroad at the price equal to the production costs (*AC* = *RF*), obtaining at the same time smaller profits from the domestic and total sales. The extent of price discrimination is lower than at $g = 0$, but the sales below the production costs have been eliminated in practice.

The presented example shows that an enterprise aiming at the gaining of scale benefits of production may apply a strategy of price lowering in the foreign market. Dumping can help in the acceleration of the realization of the company's goals and become an instrument of its dynamic development.

Dumping is used also by entrepreneurs, obtaining benefits in the form of export subsidies[38] from the state. They include financial bonuses, preferential credits and many means indirectly lowering the costs incurred by the producers and thus increasing export transactions. Lowering of the costs of production influences the growth of competitiveness of goods of a given enterprise in the world market and it affects the capacity of sales to individual countries. The exporting subsidies may help to increase export or to keep it on the same level and to enable the sales at the world price lower than the price paid by the domestic consumers. Owing to the support provided by the government to the domestic economic subjects, the subsidies constitute a form of official dumping, and its beneficiaries are first of all the exporters.

From the above considerations, it comes out that there exist many reasons for the use of dumping. They depend on the aim of the exporter's operations both in the short-term and in the long-term period. Some of them may be called *stricte* marketing ones, because they concern the strategies connected with familiarizing the consumer with the company's product, whereas the others assume an elimination of the existing competition, gaining the dominant position and in the future a realization of a monopolistic profit.

6. Economic Effects of Dumping for an Importing Country

According to the above presented considerations dumping is a privileged position of the foreign market in comparison to the domestic one. However, on the other hand, it may lead to a number of negative economic effects, especially when goods competing with local production are sold. Dumping goods may also cause unfavourable movements in the structure of global demand in the consumer's country. Let us, then, focus on the consequences brought about by dumping in the importing country from the point of view of consumers and manufacturers.

Abroad, where companies operate under conditions of free competition, demand is flexible. Therefore, manufacturers must compete for markets introducing methods enabling sales increase. Consumers may be encouraged to increase their purchase by lowered prices of the offered goods, which is a powerful

[38] R. B o l t u c k, *Assessing the Effects on the Domestic Industry of Price Dumping*, [in:] P. T h a r a k a n, *Policy Implications...*, p. 102.

incentive to test a product or increase their stores. Meeting the manufacturer's objective means raising the price and the consumer's benefits will be short-term.

The situation is different when the exporter practices aggressive dumping. The price is kept at a low level until such a strategy brings about the desired effects. In such a case, the company which is not threatened by competitors any more is able to set prices higher than the existing ones. It is very likely that benefits achieved by consumers and resulting from temporary purchase of cheaper products will be balanced or eliminated by subsequent losses. Savings achieved up to this point will not compensate for the created disproportion regarding prices of goods in the period of price discrimination. It is enough to add that subsequent losses of consumers result mainly from the occurrence of the phenomenon of so-called the social cost of a monopoly[39]. Thus, the disadvantage is connected with imperfect competition and is created because manufacturers equalise the marginal cost with marginal revenue which is lower than the price and marginal utility of the consumer[40]. From the point of view of buyers, the monopolist manufactures too little and only increased production would result in greater social benefits compared to costs.

There is a different situation when the reasons for practicing dumping are subsidises or other financial support granted to the company by the government of the exporting country which allows lowering the price on the foreign market. From the point of view of the consumer, the benefits are permanent and are experienced until the reduction of the government support.

The negative effects of dumping may be unnoticed also by manufacturers using merchandise sold at artificially lowered prices as half-finished products utilised in the production of final goods. Thanks to dumping they can enhance their business operation or strengthen their position on the market. Starting or continuing production at costs lower than the ones so far, undoubtedly, affects their competitiveness. On the other hand, there is danger that dumping will prove to be a short-term policy and unexpected increase in the prices of raw materials, which have been acquired at artificially lowered prices so far, will significantly reduce profitability of these companies.

Dumping exerts a negative influence on manufacturers offering similar or substitution goods who may experience serious difficulties price competing. If it is likely that dumping is permanent or at least long-term, losses incurred by manufacturers in such a situation may considerably outweigh benefits achieved by consumers. From the point of view of local manufacturers who are unable

[39] G. Bhagwati, R. E. Hudec, *Fair Trade and Harmonisation. Prerequisites for Free Trade?*, The MIT Press, Cambridge 1996, vol. 2 p. 378.

[40] Marginal utility of the consumer is the marginal benefit of the consumer by way of acquiring the last unit of goods.

either to lower production costs or to compete, starting a new business activity and complete withdrawal of capital from the former industry may prove to be more profitable. However, it is hard to determine without any doubts whether dumping is permanent so local manufacturers rarely decide on such a radical solution.

According to Viner dumping does not exert a negative influence on the importing country because it is not important whether export of goods at low prices results from a natural possibility of cheap production abroad or from dumping. From the point of view of the importing country, it is also insignificant whether price discrimination is the result of the operation of a company having a monopoly position on the market of the exporting country. However, it is significant that profits achieved by consumers (as a result of low prices) may prove to be higher than losses incurred by producers of competing goods. As Viner points out, only temporary dumping, existing for a few months or even years, has a negative effect on local manufacturers of similar products and on prosperity of the importing country as it may lead to allocation of resources which will prove inappropriate at the moment of giving up the policy of low prices[41]. Marceau[42] disagrees stating that temporary dumping only helps eliminate inefficient manufacturers from the market. It does not affect negatively the prosperity of the importing country. On the contrary, it determines its development as dumping helps eliminate less efficient entrepreneurs.

Occasional or temporary dumping is harmful also to domestic manufacturers, which results from decreasing sales of the goods they offer. They stop being competitive and they are forced to lower their prices or reduce their production. Such a situation makes expansion difficult for them and, consequently, may lead to complete elimination from the market, thus leading to increased unemployment and decreased prosperity in a particular region.

Furthermore, Marceau and Vince claim that dumping may prove to stimulate competition, not to limit it. This happens when the policy of low prices regarding import weakens the dominant position of one company or a few companies. The reduction of the level of their market power may encourage other companies to allocate their resources to the development of a particular branch of the economy. Thus, conditions promoting the development of competition instead of a monopoly or a cartel may be created. Another beneficial situation may occur when the dumped goods are not manufactured in the importing country. Low prices are incentive to test goods and are no threat to local manufacturers.

The evaluation of the results of dumping made from the perspective of its influence on consumers and manufacturers in the importing country is, first of

[41] J. V i n e r, *Dumping...*, p. 140.
[42] G. M a r c e a u, *op. cit.*, p. 17.

all, dependent on the motives of the company practising discriminating diversification of prices. Establishing a monopoly on the foreign market will be disadvantageous both from the point of view of the manufacturers of similar goods who fight against being eliminated from the market and from the point of view of consumers who will be deprived of the possibility to choose from among goods of numerous manufacturers. Profits gained by the manufacturers may prove to be higher than losses of domestic producers only in the short run.

7. Economic Effects of Dumping for an Exporting Country

The influence of dumping on the exporting country is not obvious. The following remarks will be an attempt of its evaluation taking into account the domestic price and sales volume on the market of the exporter. However, it is necessary to emphasise that while investigating the impact of dumping on the domestic price, the comparison will not take into consideration its level in the situation of free competition but a monopoly price set before and after applying dumping strategies. This assumption stems from the fact that dumping is a manifestation of the imperfection of competition and may be practiced only in such conditions. The influence of dumping on manufacturers of similar goods will not be considered either since the above analysis shows that price discrimination may occur only in the case of a monopoly or a dominant position of one company or a few companies.

The monopolist who plans expansion may decide to export goods. Selling merchandise abroad will generate profits if revenue cover additional production costs of goods aimed at overseas markets (if the foreign price is higher than marginal costs). At the beginning of the analysis, let us assume that the exporter has the dominant position abroad as well and demand abroad equals the total demand on the overseas market. While export increases revenue generated by goods sold on the overseas market increases as well, which means that simultaneously production costs rise. Production targeting both domestic and foreign markets will increase until constantly decreasing marginal revenue equals marginal costs. The export volume at the level of which it will take place depends on the type of a marginal cost occurring in the cycle of manufacture. From the point of view of a company increasing production which is characterised by decreasing marginal costs will be beneficial. It will enable lowering the unit price of an item of goods, selling more merchandise, expanding on the domestic and foreign markets and, consequently, further significant cost decrease. Thus, the company gains increasing revenue from production scale as long-term average costs decrease while production increases. Their decrease resulting from sales increase in the home country and abroad, and another sales increase on the domestic and foreign market will continue until marginal costs and marginal revenue in the home country and marginal revenue abroad are equal.

In the case of fixed marginal costs, production increase takes place along with identical cost increases. Therefore, export does not cause their decrease. Fixed costs, thus, reduce the opportunity to increase sales on the domestic market which would be connected with price lowering. This means that the price set by a monopoly will not be changed as a result of dumping. Similarly, when marginal costs increase, the domestic price may be increased as a result of increasing output. Sales increase both on the domestic and foreign market entails the occurrence of disadvantages from the production scale since long--term average costs increase along with production increase. The above described influence of dumping on the price in the exporting country is presented in fig. 7.1.

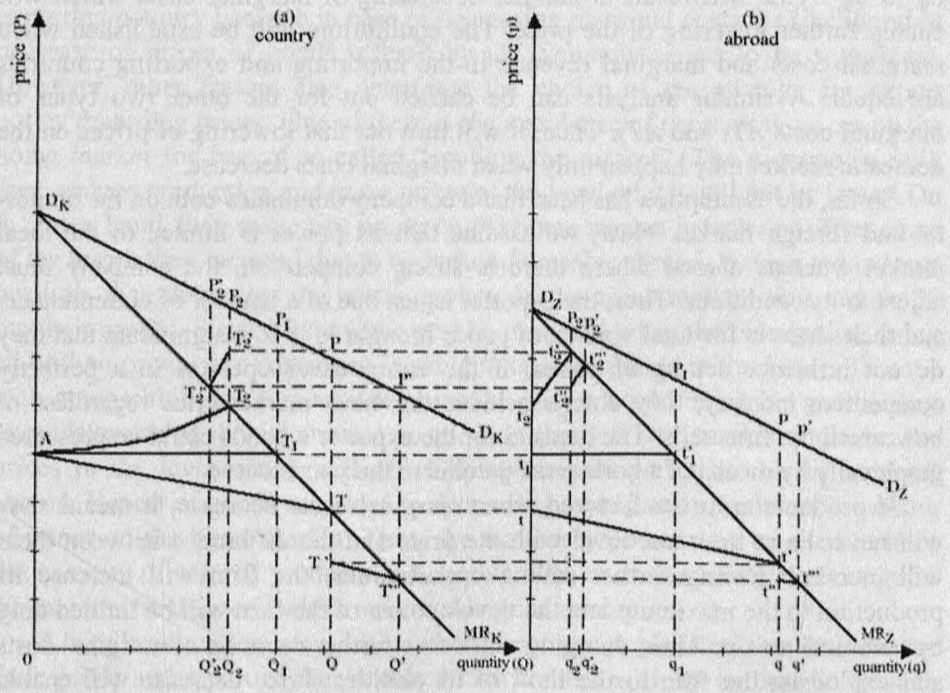

Fig. 7.1. The influence of dumping on the price in the exporting country

Source: J. W. Massalski, *Problemy eksportu polskiego węgla (dumping)*, Drukarnia Uniwersytetu Jagiellońskiego, Kraków 1936, p. 25.

Graph (a) shows the situation on the domestic market in the exporting country whereas (b) its situation on the foreign market. Curves DD_k oraz DD_z present demand in the home country and abroad respectively. Curves MR_k and MR_z show marginal revenue. The optimal monopoly price in the home country amounts to QP and the quantity of goods offered equals $0Q$. Curves AT, AT_1 and AT_2 placed on graph (a) present decreasing, fixed and increasing marginal costs. Moving point T to picture (b), to point t enables further drawing of marginal costs curve until it intersects with the curve showing marginal revenue on the foreign market, which will occur at point t'. The lowered marginal costs from point t' may be set at point T on graph (a) and one may outline another lowered curve of marginal costs to the point of intersecting with the marginal revenue curve T''. As a result of export marginal costs decrease, which reduces the domestic price to level $Q'P'$ and leads to increased quantity of goods offered to $0Q'$. This enables further lowering of marginal costs. The image of point T'' on graph (b) is point t'' from which one may start again drawing another curve of costs. Its intersection with MR_z at point t''' shows expanding of export from $0q$ to $0q'$. This will result in another decreasing of marginal costs which will enable further lowering of the price. The equilibrium will be established when marginal costs and marginal revenue in the importing and exporting countries are equal. A similar analysis can be carried out for the other two types of marginal costs AT_1 and AT_2. Then, it will turn out that lowering of prices on the domestic market may happen only when marginal costs decrease.

So far, the assumption has been that a company dominates both on the domestic and foreign market. Now, we assume that its power is limited to the local market whereas abroad where there is strong competition, the company must adjust to its conditions. Thus, the exporter is just one of a number of entrepreneurs and their share in the total volume of goods brought in is so insignificant that they do not influence setting of prices. If the entrepreneur operates in a perfectly competitive industry, they always achieve the exact market price regardless of how much the firm sells. The demand for the exporter's goods could be presented graphically by means of a horizontal, parallel to the y-axis curve.

If products are manufactured when marginal costs decrease, it means they will never be at the same level with the price and the difference between them will increase. Facing further selling opportunities, the firm will increase its production to the maximum and the development of the firm will be limited only by technical means. Thus, dumping will cause further decrease of marginal costs and exploiting the firm to the limit of its abilities. Price decrease will enable increasing sales on the domestic market. As the domestic price is higher than the one abroad, the monopolist's profits will be higher than the ones resulting from export in the situation of dumping. Taking this into consideration, a sensible entrepreneur will sell their products only on the home market assuming that demand for their products will not decrease.

A situation will be similar when the monopolist manufactures products with proportional marginal costs because an unchangeable price will never equalise the marginal cost. The profit sum will constantly increase as a result of export increase. The marginal cost will not change and, therefore, the domestic price will remain at the fixed level. A different situation takes place when the entrepreneur manufactures products with increasing marginal costs. In such a case, they will move towards the level of the price. Similarly as in the previous examples, profits generated by export will constantly increase in proportion to increasing sales abroad. Expanding production aimed at export will, however, cause marginal cost increase. Profits will constantly increase until they reach the volume level at which the rising marginal cost equals the price and they will be the highest in case of this particular volume of a turnover. Nevertheless, it will constantly decrease starting from this point. Increasing the marginal cost will lead to a rise in the monopoly price on the home market. Due to export, the price will deviate from its optimum, which may result in reducing the domestic market.

Finally, one may notice that dumping may affect in a positive way also the exporting country because in case of decreasing marginal costs the likelihood of decrease of prices of goods offered by the company seems to be significant. However, other factors also determine the choice of the strategy for export policy regarding prices. One of them is the avoidance of decreasing prices on the home market for fear of so-called "spoiling the market". The monopolist will, then, reduce production and leave prices at the level which will not be lower. On the other hand, they may raise prices on the home market in order to offset some of the losses they incurred due to their dumping sales abroad. Having a dominant position, they determine the pricing policy on the home market, thus, maximising their profits. Similar behaviour may be observed when the monopolist, using all of their production capacities is going to operate abroad in the future. To cope with competition and to persuade potential consumers to buy their goods, they may make use of their dominant position on the domestic market and raise the prices to the level which will offset completely or partly the losses incurred abroad. Export of goods may lead to decreasing supply and simultaneous raising of prices on the home market. Thus, the monopoly power may be used to limit the quantity of offered products and, in this way, to create artificial shortage of the manufactured goods which will enable price raising.

A similar situation may occur when a company miscalculates demand for their goods and a part of the produced merchandise will not be bought. In such a case, the best solution may prove to be export of the goods at lower prices in order to reduce stock as it is costly to keep it for the company. However, domestic consumers may experience dire results of such a decision as the monopolist may raise prices on the domestic market in order to offset some of the losses they incurred due to the dumping sales aboard.

It is worth emphasising that a company having a dominant position on the market will not strive for price decrease unless there is strong social pressure or legal measures that forbid such discriminating practices. The monopolist will tend to reduce their profits only when they notice threat from potential competitors. Reducing the business operation of new rivals may occur as a result of a price war started by the monopolist. Limiting the competitors' expansion or their total elimination will enable the monopoly price to be set at the optimal level again and, simultaneously, it will allow to offer only such an amount of output that will ensure greatest profits for the company.

The diversification of the domestic and foreign prices also contributes to the exacerbating situation of manufacturers who use the merchandise offered on the home market and sold abroad at dumping prices as raw materials or half-finished products when manufacturing their goods. They incur losses buying the necessary components at inflated prices. This rises their production costs which results in higher prices of goods on the home market. Besides, entrepreneurs buying raw materials on the domestic market have a limited possibility to expand overseas. This is due to the fact that merchandise prices increased by shipping or distribution costs are no longer competitive compared to products by other foreign suppliers. Their operation on the domestic or foreign markets may make operation of local entrepreneurs be on the sidelines. The cost barrier accompanying the production process may limit their profitability and exert a negative influence on their further development.

According to Brander and Krugman[43] practising dumping may have a positive influence on the development of intra-industry trade between two countries. Their theoretical model of "reciprocal dumping"[44] shows that commercial exchange is the result of strategic behaviour of oligopolistic firms introducing price discrimination based on tangible differences regarding demand flexibility on separate markets. It is worth considering in detail the results of dumping described by Brander and Krugman as the model they created is the most often quoted example of oligopolistic attitude to commercial exchange in the relevant literature[45]. Due to the complexity of consideration, its simplified version[46] will be presented below.

[43] J. Brander, P. Krugman, *A Reciprocal Dumping Model of International Trade*, "Journal of International Economics" 1981, vol. 15, no 3–4, p. 313–321.

[44] The presented model is a modified version of Brander's model created in 1981 which additionally takes into consideration a non-zero shipping cost between countries. See: J. Brander, *Intra-Industry Trade in Identical Commodities*, "Journal of International Economics" 1981, vol. 11, p. 2–14.

[45] The model is discussed in detail in Polish literature by E. Czarny and A. Rusinowska or A. Cieślik. E. Czarny, A. Rusinowska, *Handel wewnątrzgałęziowy na rynkach oligopolistycznych*, Instytut Ekonometrii SGH, 2001, p. 16–26; A. Cieślik, *Nowa teoria handlu zagranicznego w świetle badań empirycznych*, PWN, Warszawa 2000, p. 24–25.

[46] The simplified version follows: J. Michałek, *Polityka handlowa. Mechanizmy ekonomiczne i regulacje międzynarodowe*, PWN, Warszawa 2002, p. 292–296.

In the model, it is assumed that there are two identical companies (a domestic and a foreign one) which produce homogeneous goods. In the situation of autarky, the production of this merchandise is monopolised in each country. To start the production, an initial investment is necessary (fixed cost F; $F > 0$). The manufacture of each unit of goods requires incurring an additional equal cost (marginal cost c, $c > 0$), and the delivery of the goods on the foreign market requires incurring transport cost (g). Assuming that x is the volume of deliveries on the home market and x^* abroad, and that a total cost function is linear, the function is the following:

$$C_x = F + cx + (c + g)\, x^*$$

Similarly, this is the cost function of the foreign company:

$$C_y^* = F + cy^* + (c + g)\, y,$$ where y is the volume of deliveries on the foreign market and y^* on the domestic market.

The demand on the domestic market is described by a linear inverse demand function:

$$p = a - b(x + y),$$ where a and b are positive parameters.

Similarly, here is the demand abroad:

$$p^* = a - b(x^* + y^*).$$

In the case of autarky there is only one manufacturer[47] on the market of each country and reciprocal trade does not exist, hence $x^* = y = 0$. Total revenue on the home market (TR_x) is:

$$TR_x = px = [a - b(x)]x$$

On the domestic market, the monopolist struggles to achieve the maximum profit. Therefore, the choice of the production volume is determined by equalising the marginal revenue (MR) with the marginal cost (MC). Hence:

$$MR_x = \frac{\partial TR}{\partial x} = a - 2bx = MC_x = c \Rightarrow a - 2bx = c \Rightarrow x = \frac{a - c}{2b}$$

[47] The monopolist influences the price of their product and consequently encounters a descending line of demand for their product which is proved by the symbol of „–" in front of parameter b in the formula of the function of demand.

Thus, the monopolist sells their products on the home market at the following price:

$$p = a - b(x + y) = a - b \cdot \frac{a-c}{2b} = \frac{a+c}{2}, \text{ or } p = c + \frac{a-c}{2}.$$

This means that the company gains extra profits because the price exceeds the marginal cost[48] (a monopoly profit margin amounts to $\frac{a-c}{2}$). The situation is identical on the foreign market.

On opening the economy, the monopolist is going to deliver a product abroad because on the foreign market there is one monopoly price which is in effect and which generates positive profits to the only one local manufacturer of particular goods. As long as the price on the foreign market exceeds the marginal cost of manufacture of the domestic company, the company is motivated to offer goods abroad. An analogy can be drawn in the case of the other monopolist.

Brander and Krugman assume that manufacturers behave in accordance with Cournot's model. This means that each of them knows the volume of their deliveries assuming that their production decisions do not spark reactions concerning the competitor's deliveries. Market equilibrium between the two companies is achieved by means of subsequent iterations. First, the domestic entrepreneur assumes the value of their marginal cost and follows Cournot's competition assuming a certain volume of deliveries by the foreign company. Then, they add up the chosen level of deliveries and on this basis they calculate their marginal cost again. Such a calculation of cost is the basis for defining the volume of deliveries. The procedure is repeated until the equilibrium between the companies on both markets is achieved.

Let us determine the production equilibrium of both companies on the domestic market. The condition of maximasing the profit of the domestic company means that:

$$MR_x = a - b(2x + y) = MC_x = c \Rightarrow a - b(2x + y) = c.$$

[48] According to the theory of economics, the marginal revenue of a monopolist (and of any company operating in the situation of imperfect competition, that is in the case of a descending curve of demand) is lower than the market price of their product. This happens because an increase in production changes the amount of revenue under the influence of two factors. The first factor is an increase in revenue due to sales of a greater number of units. The other one is its decrease as a result of a fall in prices of all items of goods which are sold. See: E. Czarny, A. Rusinowska, *op. cit.*, p. 7.

This defines the domestic firm reaction function (*xx*), which presents the quantity of products maximasing the profit of the domestic firm on the domestic market with a given production of the foreign firm on the same market:

$$x = \frac{1}{2b}(a-c) - \frac{y}{2} \text{ or: } y = \frac{a-c}{b} - 2x.$$

On the other hand, the struggle to maximise the profit of the foreign firm on both markets lets us define the following condition:

$$MR_y = a - b(x+2y) = MC_y = c + g \Rightarrow y = \frac{1}{2b}(a-c-g) - \frac{x}{2},$$

which is the foreign firm reaction function (*yy*) on the home market.

The equilibrium is determined at the point where both functions intersect (which is easily noticeable in fig. 7.2). The coordinates of point *E* present the optimum output of both firms aimed at the domestic market assuming unchangeable deliveries by the competitor on this market.

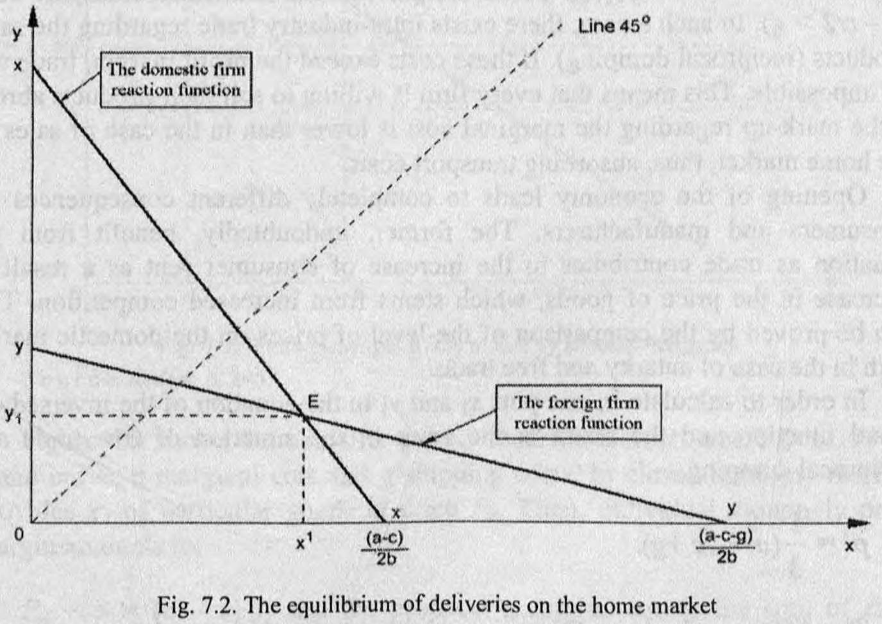

Fig. 7.2. The equilibrium of deliveries on the home market

Source: J. Michałek, *Polityka handlowa. Mechanizmy ekonomiczne i regulacje międzynarodowe*, PWN, Warszawa 2002, p. 294.

The coordinates of point E may be calculated comparing the domestic company reaction functions and the overseas company reaction function. Hence:

$$x_l = \frac{1}{3b}(a - c + g),$$

$$y_l = \frac{1}{3b}(a - c - 2g).$$

If there were not any transport costs ($g = 0$), point E would be on straight line 45° and both manufacturers would have the same home market share. Owing to these costs, each firm has a lower share in the foreign market than in the domestic one and experiences a difference regarding demand flexibility among the countries. The existence of transport costs increases the marginal cost of export compared to an analogous production cost in the case of the domestic market. Consequently, the results are the decrease in the production aimed at export, raising the price on the overseas market and increase in the marginal revenue generated there. Decrease in sales abroad prompts companies to deliver a larger quantity of the product on the domestic market. International trade is possible until a monopoly profit margin exceeds individual transport costs ($a - c/2 > g$). In such a case, there exists intra-industry trade regarding the same products (reciprocal dumping). If these costs exceed the profit margin, trade will be impossible. This means that every firm is willing to sell their products abroad if the mark-up regarding the marginal cost is lower than in the case of sales on the home market, thus, absorbing transport costs.

Opening of the economy leads to completely different consequences for consumers and manufacturers. The former, undoubtedly, benefit from the situation as trade contributes to the increase of consumer rent as a result of decrease in the price of goods, which stems from increased competition. This can be proved by the comparison of the level of prices on the domestic market both in the case of autarky and free trade.

In order to calculate it, one puts x_1 and y_1 in the equation of the inversed demand function and the result is the price in the situation of free trade and reciprocal dumping.

$$p' = \frac{1}{3}(a + 2c + g).$$

The difference between this price and the autarky price equals:

$$p' - p = -\frac{1}{6}(a - c - 2g) < 0, \textit{ because } (a - c/2 > g).$$

This means that every company sells their products at prices which are lower on the foreign market than on the domestic market, and the difference equals shipping costs. Furthermore, as a result of reciprocal dumping and increased competition, the monopoly profit margin decreased from: $(a - c)/2$ *to* $(a - c + g)/3$.

However, it is difficult to assess accurately the influence of reciprocal dumping on manufacturers. It is so since, on one hand, individual monopoly profit margin goes down and, on the other hand, production volume increases. The influence of exchange on prosperity which depends on the comparison of results of incurring transport costs and benefits experienced by consumers due to more fierce competition or companies making better use of economies of scale is equally intangible. Prosperity changes are presented in fig. 7.3.

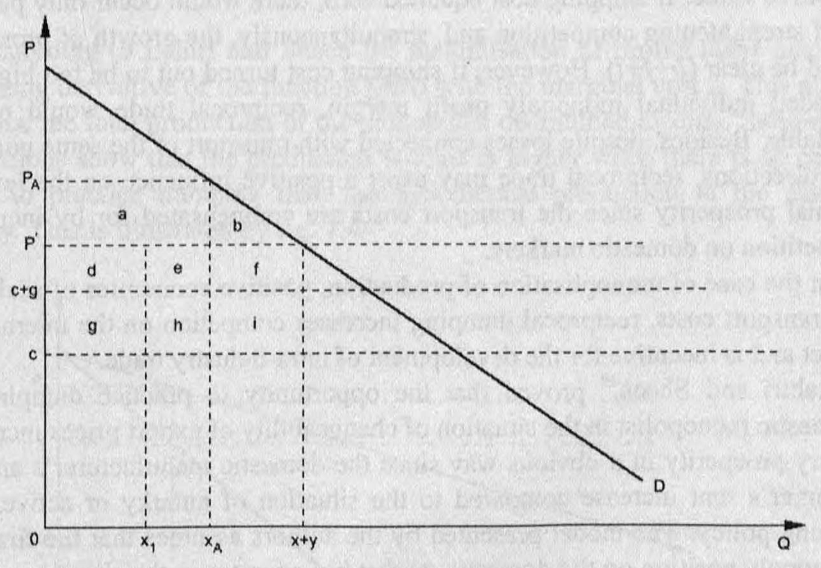

Fig. 7.3. Welfare changes in the model by Brander-Krugman

S o u r c e: *ibidem*, p. 296.

Figure 7.3 shows the situation on the domestic market, where D is the demand curve, c marginal cost and g shipping costs. In closed economy the firm provides x_A of particular goods at price P_A. Then, individual monopoly profit margin amounts to:

$P_A - c = (a - c)/2$, and the producer's surplus equals the sum of areas $(a+d+e+g+h)$.

On the other hand, in the situation of exchange, total deliveries of domestic and foreign firms on the domestic market amounts to x and y respectively. Due to increased competition products are sold at lower prices p'. Consequently, the consumer rent is increased by two areas $a + b$. However, the domestic manufacturer rent decreases by areas $e + h$, as a result of limiting the amount of goods delivery by quantity x_1x_A. On the other hand, there is increase in the domestic manufacturer rent on the foreign market by areas $e + f$, as a result of export by quantity $[(x + y) - x_1]$ at a price exceeding production and transport costs $(p' > c + g)$.

The net welfare change for domestic economy equals:

$$(a + b) - (a + e + h) + (e + f) = b + f - h.$$

However, it is difficult to determine without any doubts whether it is a positive value. If shipping cost equalled zero, there would occur only positive effect strenghtening competition and, simoultaneously, the growth of prosperity would be clear $(b+f+i)$. However, if shipping cost turned out to be too high and exceeded individual monopoly profit margin, reciprocal trade would not be profitable. Besides, despite losses connected with transport of the same goods in both directions, reciprocal trade may exert a positive influence on the level of national prosperity since the transport costs are compensated for by increased competition on domestic markets.

In the case of monoplisation of production, positive economies of scale and low transport costs, reciprocal dumping increases competion on the internationl market and is incentive for the development of intra-industry trade.

Lahiri and Sheen[49] proved that the opportunity to practice dumping by a domestic monopolist in the situation of changeability of export prices increases country prosperity in a obvious way since the domestic manufacturer's and the consumer's rent increase compared to the situation of autarky or active anti-dumping policy. The model presented by the authors assumes that the firm has a monopoly position on the domestic market but operates in the situation of free competition abroad. The marginal cost of the firm ($MC = c$) is constant. In addition, the domestic product function which determines average revenue dependent on the volume of deliveries ($D = AR(q)$) is known as well. The only unknown is the foreign price (p) which may be set at various levels, among others depending on rate fluctuations and changes regarding the revenue of the country of the importer. In order to calculate the price, the authors assume that its distribution is uniform distribution in the interval [0; b]. The expected price fulfils the condition: $E(p) < c < b$, that is, it is lower than the marginal cost. The

[49] S. Lahiri, J. Sheen, *On Optimal Dumping*, "The Economic Journal" 1990, vol. 100; this model in also presented in J. Michałek, *op. cit.*, p. 289–291.

demand function is linear, which means that $AR(q) = \alpha - \beta \cdot q$; $\alpha > \beta$ where a and b are parameters taking positive values.

At the beginning, the entrepreneur sets such a level of production q which maximizes their profits. It is worth emphasising that this decision is taken *ex ante* without the knowledge of foreign prices and cannot be changed *ex post*. Then, the entrepreneur distributes the volume of production for the domestic market (q_p) and abroad ($q - q_p$) in a way which will enable them to equalize the marginal revenue generated by domestic sales ($MR(q_p)$) and foreign sales (p). The expected profits (the manufacturer's rent) generated by sales on both markets equal:

$$PS^d = F[MR(q)]AR(q) \cdot q + \int_{MR(q)}^{b} [AR(q_p)q_p + p(q - q_p)]dF(p) - cq^{50}$$

According to Lahiri and Sheen the maximisation of profits takes place on equalizing derivative of the function (MR) with the marginal cost c. This allows to define the total production of the monopolist determined *ex ante*. Subsequent calculations show that the production volume is higher when there is an opportunity to practice dumping than the hypothetical production in the case of autarky. This is illustrated by fig. 7.4.

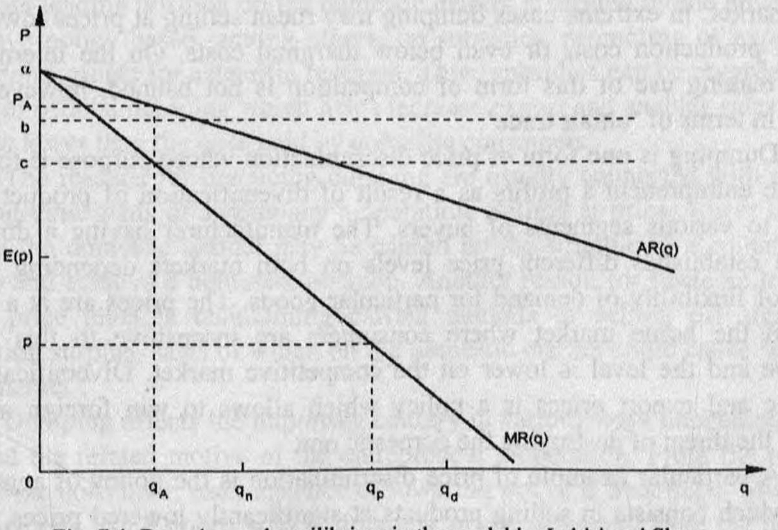

Fig. 7.4. Dumping and equilibrium in the model by Lahiri and Sheen

Source: S. Lahiri, J. Sheen, *On Optimal Dumping*, "The Economic Journal" 1990, vol. 100, p. 129.

[50] The first term is domestic revenue at the price from interval $[0;MR(q)]$, the second one is the revenue generated by sales form interval $[MR(q);b]$, the third one is production costs.

In fig. 7.4 P_A is the level of price equilibrium in the conditions of autarky when the marginal cost equals domestic marginal revenue and $E(p)$ is an example of the expected world price. If the production volume is larger there is an opportunity to practice dumping on the foreign market (q_d) than the production in the conditions of autarky (q_A), then $q_d > q_A$.

The authors also compare the domestic consumer's rent in the conditions of autarky and practicing dumping. Using complex mathematical formulas, they finally conclude that the consumer's rent increases as a result of the opportunity of selling at dumping prices. This occurs because the increase in the production volume (compared to autarky) in the situation when the world price is too low in relation to costs makes the whole supply be directed to domestic market, which leads to lowering of the price and increasing of the domestic consumer's rent.

Conclusions

1. In accordance with article 1 of Agreement on applying articles VI GATT dumping means exporters' pricing policies which consist in selling products abroad at prices that are lower than prices set in analogous conditions on the home market. In extreme cases dumping may mean selling at prices lower than average production costs or even below marginal costs. On the international forum, making use of this form of competition is not banned, however, it is tackled in terms of 'unfair trade'.

2. Dumping is one form of price discrimination whose purpose is to maximise the entrepreneur's profits as a result of diversification of product prices offered to various segments of buyers. The manufacturer having a dominant position establishes different price levels on both markets depending on the degree of flexibility of demand for particular goods. The prices are at a higher level on the home market where consumers are insensitive to this selling incentive and the level is lower on the competitive market. Diversification of domestic and export prices is a policy which allows to win foreign markets without the threat of destroying the domestic one.

3. A particular example of price discrimination is the policy of aggressive prices which consists in selling products at significantly lowered prices, which often do not cover even production costs. Such a strategy in the conditions of international trade becomes an example of dumping whose purpose is the elimination or weakening of rivals, or creating a situation when they accept being controlled by the dominating company.

4. A prerequisite for dumping is the existence of barriers stifling reciprocal trade exchange and entrepreneurs holding a monopolist or dominant position on the market of the exporting country. The existence of obstacles, e.g. duties, import taxes, technical and sanitary standards means that there arises a difference between domestic and world prices. On the other hand, it is not always necessary to separate the whole market from foreign competition. It is often enough to introduce excessive protection of a particular industry. The introduced privileges may lead to the creation of a hermetic, protected from foreign competitions segment.

5. There are a lot of classifications of dumping in the relevant literature. Most often dumping is divided into three types: **sporadic**, **aggressive** and **permanent**. The first one is practiced occasionally when the producer possessing the surplus of industrial capacity or goods supply lowers the price due to significant reduction of demand. It is considered to be an accidental phenomenon as it may also result from lack of experience of setting prices of new products. Aggressive dumping consists in keeping sales of particular goods on the foreign market below the level of the domestic price or production costs. The main motivation of the company is to attain the dominant position, which will allow to raise the prices to the level including the element of a monopoly rent in the future. The permanent dumping is a policy applied regularly by manufacturers whose leading position on the domestic market is created by the government protective policy based, among others, on subsidies, promoting of export, tax exemptions, grants for scientific research. Thus, subsidies can be regarded to be a form of official dumping which helps increase export and enables sales abroad at prices lower than the ones paid by domestic consumers.

6. The reasons for practicing dumping are usually connected with motives and long-term goals of a company's operation. Selling at prices lower than the ones on the domestic market may be caused by the struggle to eliminate competitors and achieve a dominant position. Another reason for strategic lowering of the price level is maintaining current markets or selling off significant production surplus, sales of which on the domestic market could cause 'spoiling of the market'.

7. Dumping affects the importing country in various ways depending on the type and the related motive of the entrepreneur's operation. From the point of view of the consumer, each instance of lowering prices is beneficial. Moreover, manufacturers using goods sold at dumping prices as supply have the opportunity to expand their operation and strengthening their position on the market. However, they should carefully observe the exporter's pricing policy which may turn out to be a short-term strategy. The unexpected increase in prices of materials acquired at lower prices so far may lead to significant diminishing of their profitability.

8. Dumping exerts a negative influence on manufacturers in the importing country who offer similar or substitution goods. Local companies may experience significant difficulties regarding price competing with new rivals, especially when dumping will presumably be long-term. Losses thus incurred by manufacturers may considerably exceed the benefits obtained by consumers.

9. Dumping may prove to encourage competition in the importing country since the policy on low export prices limits the dominant position of one company or more companies. Reduction of the level of their market power may prompt other firms to get involved in the development of a particular sector of the economy. Conditions enhancing the development of competition may arise due to dumping.

10. Practicing dumping may affect the development of inter-industry trade between two countries. The model of 'reciprocal dumping' proves that commercial exchange is the result of a strategic behaviour of oligopoly firms which attempt to apply price discrimination on separate markets based on tangible differences in demand flexibility. In the case of production monopolisation, a positive economy of scale and low shipping costs, reciprocal dumping increases competition on the international market and encourages the development of inter-industry trade.

11. Other theoretical models show the opportunity to practice dumping by a domestic monopolist in the case of changeable export prices, undoubtedly, increases the prosperity on the country as the domestic manufacturer's and consumer's rent increase compared to autarky or applying active, anti-dumping policy.

12. Concluding, it is worth noticing that 'anti-competitiveness' of dumping is, in fact, a very controversial issue. There is no obvious answer whether one should oppose it. Certainly, some types of discrimination, like the strategy of aggressive prices do not promote strengthening competition. On the contrary, they significantly limit the competition. However, the instances of occasional limitation of competition do not cause abrupt changes in the competition structure but they can encourage "healthy" competing.

Anetta Kuna-Marszałek

DUMPING JAKO PRZEJAW NIEDOSKONAŁEJ KONKURENCJI

Stosowanie dumpingu w praktyce nie jest zjawiskiem sporadycznym, ponieważ rynki zarówno krajów rozwiniętych, jak i rozwijających się działają w warunkach konkurencji niedoskonałej, co wymusza dostosowywanie strategii sprzedaży do warunków panujących w otoczeniu. Z tego powodu niektóre przedsiębiorstwa uciekają się do dumpingu jako formy rywalizacji z zagranicznym konkurentem, co może wywoływać poważne skutki dla gospodarki. Zamierzeniem Autorki jest zdefiniowanie podstawowych pojęć oraz omówienie teoretycznych fundamentów dotyczących tego zjawiska. W tym celu przedstawiono kwestie związane z pojęciem dyskryminacji cenowej, dumpingu, przyczynami jego powstawania oraz skutkami oddziaływania na kraj importujący i eksportujący. Rozważania zostały uzupełnione współczesną teorią rozwoju handlu wewnątrzgałęziowego, zaprezentowaną na przykładzie modelu „wzajemnego dumpingu" Brandera i Krugmana.