COMPETITIVENESS AND COMPETITION OF MARKETS AND SECTORS

Abstract

The principal aim of EU industrial policy is to create better framework conditions for development and innovation of manufacturing industries due to attract investments and create more jobs in Europe.

The aim of this article is to describe a theoretical analysis of competitiveness and competition of industrial sector as well as assess attractiveness of the Polish shipyard sector in comparison with the same industry in the European Union.

Key words: competitiveness, competition, productivity, human capital, sector, enterprise.

Introduction

In the face of progressing globalisation and liberalisation of the economic exchange, the level of competitiveness and competition in some sectors has increased significantly. Competitive environment of enterprises (in this case sector, market) mainly consists of methods and intensity of competition. An analysis of this environment enables to assess a relative intensity of market competition in sectors, moreover, it provides information on potential entry the market by new competitors (Romanowska 2000). Additionally, it helps to identify strengths and weaknesses of the main competitors and enables to develop a future strategy for already existing entities.

The main aim of this article is to describe competitiveness and competition of sectors with regard to the competitiveness concept defined by Michael Porter and analysis of macro-environment. The Polish shipyard sector will serve as an example. The discussion is also supplemented by EU reports and present data on the economic situation in the shipyard sector.

Sources of market competitiveness

Competitiveness is variously defined in the literature depending on what economy is examined: national, regional, market, economy of sector or enterprise. In a traditional understanding, the concept of competitiveness is derived from three theories of: foreign trade, organization and enterprise, and open economy macroeconomics.
The theory of foreign trade defines competitiveness as a process of trade specialization. The main determinants of such specialization and national competitive advantage include: production resources, productivity of labour factors, technological progress, structure of buyers’ preferences, product lifetime (Zielinska—Głębocka 2005). In accordance with this theory, a country should export only those goods which production costs are relatively higher comparing to other countries, whereas these goods with lower production costs should be imported. The theory of organization and enterprise defines competitiveness as gaining a competitive advantage in the market. It places emphasis on competition among enterprises operating in the same market and strive to increase their efficiency and share in the market. This theory assumes that relative increase in the market share of one of them, results in share decrease of the other. Finally, the theory of open economy macroeconomics is founded on real exchange rates, the exchange rate is shaped by real price and cost levels (given in the same currency) in individual countries. If adverse price relations take place, they result in deficit in a current account, it means a lack of country’s competitiveness. In order to reduce effects of deficit, adopting measures in the macroeconomic policy should be taken. Mentioned traditional concepts of competitiveness enable to compare competitiveness at the international level and show a competition structure of various markets. Depending on what kind of market is taken into account, different types of competitiveness are assessed, e.g. export and import competitiveness where ratio of product price to cost of import or export is assessed, competitiveness of regional or national market which takes into account competition structure of enterprise operating in the market or macroeconomic competitiveness based on the international currency system.

However, a traditional approach towards competitiveness and competition was questioned by Michael Porter in the 1980’s and 1990’s. He believed that competitiveness of the economy is raised in enterprises where strategic steps are taken to strengthen market position and obtain competitive advantage over the competitors operating in the same environment (Porter 2001). Competitiveness of the sector environment is primarily determined by two factors: macroenvironment and microenvironment. Macroenvironment relates to conditions that enable a company to operate in a country, region, legal and political system. They determine, to a significant extent, enterprise development, however, a company
can’t change these conditions. Major forces of the macroenvironment (Gierszewska, Romanowska 1997):
1. economic
2. political and legal
3. demographic
4. technological
5. ecological

**Economic environment** relates to the country’s present economic situation, sectors of the economy, outlet and raw material markets. Such factors as: economic growth rate, interest rate, exchange rates, inflation rate describe operating in the economic environment. Economic growth increases consumers’ spending on goods and services offered by enterprises and consequently fosters development of companies and impedes competitiveness in sectors. When a country faces an economic recession, the situation is reverse, i.e. consumers’ expenditures and enterprises’ profits are dropping, it leads to enhanced price competition among enterprises operating in the market. Interest rate determines demand for products and investments in company. When interest rate rises, consumers are less prone to take out bank loans and increase consumption. This rule implies to enterprises as well, when interest rate rises, companies reduce investments and market expansion, this in turn, enhances competitiveness in a sector. When interest rate decreases, the situation is reverse. Another factor determining the economic environment is exchange rate. Fluctuations of exchange rates enhance or limit product competitiveness on the global market and competitiveness of enterprises operating in a sector. If exporter’s currency depreciates comparing to importer’s currency, exporter’s competitiveness increases, it results in decreasing importer’s competitiveness and vice versa. Last but not least determinant of the economic environment is an inflation rate. If high inflation rate maintains, economic growth is restricted, this in turn, has a direct impact on enhanced competitiveness of enterprises and vice versa.

**Political and legal environment** primarily refers to domestic and international legislation. As the world faces progressing globalization of the economies, regulations on competitiveness of individual markets and sectors are of the utmost importance, notably the ones concerning the free movement of human capital. Except for migration of society, regulations on the economic policy, trade competition, functioning of public and private sector as well as domestic and foreign companies (Kreikebaum 1996) are vital as well as they may promote or impede competitiveness in sectors.

**Demographic environment** determines significantly competitiveness in sectors. Its detailed analysis enables to quickly launch goods and services that completely satisfy needs and requirements of consumers, take into account preferences of age groups, genders and reflect such factors as: education, place of living, and income, etc. Production and sale of service and goods tailored to consumers’ needs guarantee enterprises regular revenue, it maintains or increases employment on the market.

**Technological environment** is the most changeable as it results from technology development and implementing innovations in production processes. At present, price competition isn’t the most successful thus other methods of competition are used, however, they can’t be used without increased investments in R&D. Continuous increase in expenditures on R&D enables to cut production costs, increase production efficiency what leads to enhanced competitiveness. The lack of R&D investments results in a competition gap.

**Ecological environment**, environmental protection is one of crucial factors providing stable competitiveness because it’s impossible to maintain development of sector competitiveness in the long term if the environment is being damaged. Hence, an essential step is to implement the ecological policy in sectors. Enterprises should do their best to solve
on their own problems of contamination, protection of natural resources and environmental
damage should as priority be rectified at source. Taken action in this field contribute to
attractiveness of the market and sector.

Microenvironment relates to all the entities cooperating or competing with an
enterprise: suppliers, customers, present and future competitors (Bossak 2004). A distinctive
feature of the microenvironment is a positive feedback between an enterprise and the
competitive environment (Gierszewska, Romanowska 1997).

Analysis of microenvironment enables to determine in details conditions that enable
an enterprise to function and develop. Such a complex analysis of sector competitiveness was
made by Michael Porter who defined a sector as a group of enterprises producing goods
(substitutes) that satisfy needs of customers. Competitiveness depends on five forces of so-
called Porter’s Diagram that have impact on sector attractiveness (Porter 2001).

Chart 2. The Five Forces Model of Porter

Source: own compilation based on: M. Porter, Strategia Konkurencji, PWE, Warszawa 2001

The threat of new entrants, it’s not only incumbent rivals that pose a threat to enterprises in
an industry, a possibility that new enterprises may enter the industry also affects competition.
The threat of new entrants depends on (Porter 2001):

- economies of scale
- product diversification
- capital requirements
- access to distribution channels
- absolute cost advantage

*Economies of scale* refers to advantages that a big factory has over the smaller one because it
can spread its fixed costs over a larger number of units and therefore produce or sell things
more cheaply. Hence, companies may cut costs by introducing new technologies, innovation,
specialization, and employing qualified staff. If entities entering the market want to use
economies of scale, they have to bear higher costs in comparison with already existing firms.
They have also an alternative, it means they may decide to produce on a small scale but the
majority of enterprises reject to follow this path.

*Product diversification* means that enterprises operating in a sector have their brands and
loyal customers. Therefore, convincing customers of e.g. automotive and cosmetic industries to buy new products is a tough task. New companies entering the market have to overcome customers’ loyalty, what in turn, incurs costs of marketing. In many cases they have to wait for positive effects for a long time, however, such investments don’t guarantee to be successful and may lead to a loss of capital.

**Capital requirements**, entering and operating in the market by a new enterprise requires financial resources needed not only to start up a business but also to compete in the market. In many cases, capital needed to entry the market is insufficient and enterprises can’t receive bank loans, that’s why they stop establishing companies in the new environment.

**Switching costs** are linked with diversification of supplier. If a new supplier offers goods and services in a sector, potential customers will pay attention to costs incurred when a customer changes from one supplier to another. Examples of switching costs include transport, training of employees, service, technical assistance, etc. The entities entering the market have to reduce switching costs or, if it’s impossible, give more attractive price.

**Absolute cost advantage** means developing competitive advantage of companies operating in the same sector by: advantageous access to raw materials, favourable localization, subsidies, sole rights to production techniques. Consequently, it establishes a barrier to entry the market.

Another Porter’s force shaping competitiveness in sectors is **threat of substitutes**. It exists when product demand is affected by a change in price of a substitute. Most frequently, it’s a consequence of substitute relative price, costs of switching to substitutes and buyers willingness to buy them. A crucial factor is a high level of technology that results in cutting production costs and manufacturing more advanced products that efficiently meet customers’ needs. Quite new sectors with high dynamics of demand where customers are fed up with products offered so far or haven’t got used to products yet, are particularly prone to introduce substitutes. Launching substitutes in such sectors results in capturing profits of other manufacturers who make similar products. It means increase in cost and technological competitiveness of particular sectors as well.

**Bargaining power of buyers** is another factor determining sector attractiveness. It depends on a behaviour of potential customers in exchange of goods and services with entities operating in the sector. Buyers influence the sector by negotiating price, quality, and technological assistance, etc. When the share of their purchases in suppliers’ revenue and volume rises, bargaining power of buyers increases significantly. Moreover, detailed information on demand, present prices and conditions on the market provides greater bargaining power. Then buyers may check quality, prices, production costs, transport offered by other suppliers what strengthens customer bargaining position. However, character of offered goods shouldn’t be omitted in analysis of bargaining power. If products are standard, buyers will find similar ones elsewhere and increase competition among enterprises, this in turn, will strengthen their bargaining power.

Another Porter’s force shaping competitiveness in sectors is **bargaining power of suppliers** which depends on:

- concentration of suppliers – when producers are going to sell goods and services in less concentrated sector that the present one, they may have a considerable impact on prices, quality, terms of delivery and vice versa
- profitability of suppliers – when suppliers selling goods determine significantly buyers’ profit, they obtain competitive advantage in terms of price and quality of goods
- switching costs – high switching costs inhibit diversification of goods and services
- branding – low number of potential producers and outlets for a product increases competitiveness of suppliers

The last of five Porter’s forces is **rivalry among the existing enterprises**. Enterprises strive for a competitive advantage over their rivals, they obtain it by shaping prices of goods and
services, implementing technology, launching products, etc. Rivalry takes place when one competitor influences other in order to improve own situation in the sector. In the majority of sectors, one entity significantly influences the others, it means that entities depend on each other and maintain a competition level that guarantees proper market functioning.

Competitive forces influence the sector depending on economic and technical features of the sector. It’s obvious that in some sectors (e.g. automotive industry) the most important factor increasing competitiveness is the threat of entry the market, in some (e.g. shipyard industry) it is bargaining power of suppliers or the threat of substitutes in the others. Nevertheless, all the five forces of Porter condition market competitiveness.

In order to put described theory of competitiveness in practice, the following part will describe competitiveness of the shipyard industry.

**Competitiveness of the Polish shipyard industry**

Competition among entities operating in the shipyard industry has been quite tough for several years. It is of strategic importance as it fosters development in advanced technologies which later on are used by other sectors of the economy, provides international trade with essential means of transport and supplies the navy with modern vessels used successfully in military operations. That’s why, the industry is regarded all over the world as particularly vulnerable and high competitiveness is a distinctive feature of this sector (CESA Report, 2005). As the European Union faces the accession of another Member States and unification of the European economy, it’s worth to assess competitiveness of the Polish shipyard industry comparing with other Member States.

Polish shipyard industry comprises shipbuilding and shiprepair industry. Three main entities operate in this sector, namely: Szczecin New Shipyard together with Szczecin Shiprepair Yard GRYFIA and Stocznia Gdanska—Grupa Stoczni Gdynia. They employ over 22 thousand people found employment in the seaside area, over 100 thousand people work for the industry in other parts of Poland and some 800 Polish enterprises (both manufacture and service) are under contracts with shipyards (GUS, 2004). The shipyard industry is a leading exporter of goods and services in Poland (over 5% share in total export), it is ranked 3rd top Polish exporter, over 90% of profit was generated by export what is an absolute phenomenon in Poland. It’s important that in the face of huge trade deficit in Poland, shipyard industry attained one of the highest positive balances of foreign exchange. Export sale of shipbuilding industry in 2002 amounted to 714,4 million USD, in 2003—416,0 million USD, and in the first half of 2004—379,1 million USD (GUS 2005).

Building ships is a significant factor stimulating competitiveness in the shipyard industry. At the end of 2003, Poland was the second EU country in terms of order-book, Polish shipyards built 14 vessels in 2003, i.e. 16 vessels less comparing to 2002. After a crisis in the 2002—2003 period caused by mistakes in management and high exchange rate of Polish zloty comparing to US dollar, without any doubt, Polish shipyard industry got its second wind in 2004. At that time, the shipyards built 25 vessels (11 more than in 2003) with total capacity 448.684 CGT and value of 754,7 million USD (CESA Report, 2005). That’s why Polish shipyard industry is ranked 4th after Germany, the Netherlands and Italy in terms of built vessels and 6th in terms of their value after Germany, Italy, Spain, the Netherlands and Finland. Despite the financial difficulties of shipbuilding yards, high technical level of Polish ships has been maintained. The RINA list of “Significant Ships of the year 2004” mentions two Polish units: arctic container ship “Mary Arctica” of the GRYFIA Shiprepair Yard and multi-purposed carrier 23 700 DWT “Suomigracht” of the Szczecin New Shipyard. It proves, without any doubt, that social and economic potential in shipbuilding industry has grown and become more competitive. Moreover, 51 new orders were placed for
vessels with total capacity 1.088.744 CGT, in majority (34)— container ships. They will have been finished in 2-3 years and their prices are far more attractive than the previous ones. It ranks Poland 3rd comparing to other Member States (cf. chart 1).

Chart.1 New orders in 2004

![Chart 1: New orders in 2004](chart1.png)

Germany, Italy, Poland, the Netherlands, France, Croatia, Finland, Spain, Portugal, the United Kingdom

Source: own compilation based on the CESA Report

It is worth mentioning that countries closer linked with the shipyard industry such as: the Netherlands, France, the United Kingdom, held a lower ranking comparing to Poland. Many factors contributed to obtaining such a competitive advantage: high production efficiency, low production costs thanks to the economies of scale, low cost of raw materials, and support of the government in transformation of the Polish shipyard industry.

Similar growing tendency is noticed in the shiprepair and conversion industry which enjoyed increase in turnover and profitability, profit from shiprepair rose by 25% and from ship conversion—by 54% (in USD) in comparison with 2003. While number of conversions was decreasing, average value of an unit increased by above 50% (cf. table 1).

Table 1. Shiprepair and conversion turnover in 2004 (EUR million)

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<td>Croatia</td>
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<tr>
<td>France</td>
<td>86</td>
<td>95</td>
<td>88</td>
<td>82</td>
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<tr>
<td>Germany</td>
<td>620</td>
<td>552</td>
<td>592</td>
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<td>Netherlands</td>
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<td>245</td>
<td>275</td>
<td>275</td>
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<tr>
<td>Poland</td>
<td>186</td>
<td>139</td>
<td>137</td>
<td>116</td>
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<tr>
<td>Spain</td>
<td>228</td>
<td>245</td>
<td>285</td>
<td>277</td>
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<td>United Kingdom</td>
<td>428</td>
<td>420</td>
<td>407</td>
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<td>Total</td>
<td>1917</td>
<td>1709,9</td>
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Source: own compilation based on the CESA Report

It’s worth mentioning that none of the European shipyard industries attained so fast growth of profit from ship conversion as Polish industry did. The highest growth (10%) was reported by Germany with the general downward trend. Such competitive advantage of Polish
shipyard industry proves the fact that in 2004 conversion works were done by the same number of workers as in 2003 although they required employing additionally 200 workers.

Despite good results obtained in 2004 and 2003, Polish shipyard industry is still facing problems that impede development of competition and competitiveness. The principal contributors to the situation are as follows: production capability surplus on the shipyard market all over the world, unfair practices, too long inactivity of decision makers and mistakes in management. Polish shipyards have to compete with EU shipyards, particularly with those from Spain, Italy, Germany which were modernized from the public resources. An average modernization cost of one shipyard was 300 million USD, what’s more, these countries consolidated the shipyard industry (CESA Report, 2005). Thus, increase in competitiveness of the shipyard industry is impossible without the state assistance. In order to develop consistent and efficient organization capable to compete in shipbuilding and conversion on the global market, Polish shipyards have to consolidate because only this move will ensure financial and operational stability of the sector, help to avoid closing down enterprises and making bankrupt the sector due to economic fluctuations. Moreover, it will provide more effective use of domestic R&D base in order to develop and modernize the sector. Such steps won’t only contribute to obtaining competitive advantage on both EU and global market but also will lead to increase in competitiveness of the national economy.

**Conclusion**

Analysis of the environment competitiveness and competition is essential to obtain a competitive advantage by enterprises operating in this environment. Changes in the micro- and macroenvironment have impact on competition within a sector. Thus, if an enterprise wants to be on the market, it’s forced to follow these changes and keep finger on the pulse of trends and development. Only this way, an enterprise will adjust to changing environment on time. This rule implies to all the sectors, including the shipyard one.

Similarly to many Member States, the shipyard industry in Poland should be regarded as strategic. As it’s a key outlet for many branches of production, maintains and absorbs a significant level of employment in the seaside areas, moreover, due to high labour consumption and innovation, the shipyard industry may determine the economic growth in Poland. The Polish government should provide Polish shipyard industry with the same assistance as shipyards in other Member States receive from their governments. The state should support this sector in:

- developing stable financial conditions in order to maintain so far position on a global market, it may be achieved by supporting specialization in a ship conversion and keeping a high level of salaries in Polish shipyards,
- implementing measures in order to close the gap in efficiency between the Polish shipyards and the EU or Far East ones,
- consolidating some fields of activity such as: financial structure, raw material supply, marketing, design, R&D, and implementation of effective audit procedures which will enable more efficient monitoring and will increase the economic value of consolidated shipyards.

If Polish shipyards receive such assistance, they will have equal opportunities on the global market and will be able to increase attractiveness of Polish shipyard industry in the European Union and all over the world.
REFERENCES: