

# Efficiency of Investments, Financed from EU Funds in Small and Medium Enterprises in Poland

Jolanta Brodowska-Szewczuk

**Abstract**—The article includes the results and conclusions from empirical researches that had been done. The research focuses on the impact of investments made in small and medium-sized enterprises financed from EU funds on the competitiveness of these companies. The research includes financial results in sales revenue and net income, expenses, and many other new products/services on offer, higher quality products and services, more modern methods of production, innovation in management processes, increase in the number of customers, increase in market share, increase in profitability of production and provision of services. The main conclusions are that, companies with direct investments under this measure shall apply the modern methods of production. The consequence of this is to increase the quality of our products and services. Furthermore, both small and medium-sized enterprises have introduced new products and services. Investments were carried out, thus enabling better work organization in enterprises. Entrepreneurs would guarantee higher quality of service, which would result in better relationships with their customers, what is more, noting the rise in number of clients. More than half of the companies indicated that the investments contributed to the increase in market share. Same thing as for market reach and brand recognition of particular company. An interesting finding is that, investments in small enterprises were more effective than medium-sized enterprises.

**Keywords**—Competitiveness, efficiency, EU funds, small and medium-sized enterprises.

## I. INTRODUCTION

THIS article is trying to examine if investments made by small and medium-sized enterprises within the measure 2.3 of the sectoral operational programme 2004-2006 contributed to the increase efficiency of their business.

This article presents results of studies in which subjects were all 2372 companies pursued. Investments were made under measure 2.3 entitled "improvement of the competitiveness of small and medium enterprises through investment".

For 70 years of the twentieth century, economists argued that small and medium enterprises do not play a significant role [1]. Contemporary economists argued that factors such as labor and capital are best used in the production at a very large scale, especially in the manufacturing sector.

The crisis of the seventies was a decline in global demand, higher energy prices, governments did no longer provide aid to large enterprises, there have been processes of liberalization and globalization, and there was a need to cut costs by outsourcing companies. Large companies often went bankrupt,

intensifying the process of mergers and acquisitions. In this situation, small companies were better coping and achieving better results [2].

Today, small and medium enterprises form the basis of all modern economies. Small and medium enterprises are an important source of job creation and play an important role especially in times of environmental instability. These companies are an important source of entrepreneurship, innovation and thus the factors that stimulate the competitiveness of the economy. The strongest advantage of the small and medium-sized companies is the flexibility to provide services and production assortment changes.

Small and medium-sized enterprises play an important role especially in times of instability of the environment:

- These companies are the largest source of job creation, which is important when many countries are struggling with unemployment.
- The results show a positive relationship between the number of emerging businesses and the growth of GDP.
- Although labor productivity is lower in comparison with large companies, they often achieve higher efficiency, thanks to such low costs.
- The structures of small and medium-sized enterprises are more flexible.
- Small and medium sector enterprises can quickly react to changing market conditions.
- Small and medium enterprises benefit from the grasp opportunities, willing to take risks in product development, services, and consequently the entire company [3].

Small businesses play a complementary role in relation to both large enterprises and public sector. Small businesses are associated with the development of small-scale manufacturing and services, often active in trade, construction, transportation, and manufacturing [4].

The relatively low level of investment makes the small and medium enterprises sector less subject to the trade cycle. The vast majority of small and large part of the medium enterprises does not use bank loans. The level of debt in banks is low compared to the size of the sale of companies to SMEs [5].

The European Union is aware of the important role played by small and medium enterprises in the eighties and had been conducting an active policy towards the same [6]. Polish companies had benefits on Polish accession to the European Union from EU structural funds, this was within the sectoral operational programme known as "Increase of Competitiveness of Enterprises" 2004-2006.

Jolanta Brodowska-Szewczuk is with the Faculty of Economic and Legal Sciences, Siedlce University of Natural Sciences and Humanities, Siedlce, Poland (e-mail: szewczukj@uph.edu.pl)

The impetus to undertake the study was strong interest among entrepreneurs and the possibility of financing investments in small and medium enterprises.

The sector of small and medium enterprises in their business faces many barriers and obstacles. One of them is the lack of resources to undertake investments that are necessary for the development of the company and to compete in the market. One source of financing the investments in small and medium enterprises could be the measure 2.3 SOP, improvement of the competitiveness of enterprises 2004-2006, which would lead to increasing competitiveness of SMEs through investments. This action seemed to be the most popular among other measures of the Sectoral Operational Programme for ICE; its action was the most submitted applications by entrepreneurs. Question that is looking for answers, whether this has affected the efficiency and development of small and medium enterprises.

## II. RESEARCH

In the process of evaluation, research to improve the efficiency of enterprises, includes the financial results such as sales revenue and net profit as well as instruments such as competition of new products / services on offer, more modern methods of production, higher quality products or services, etc.

In assessing efficiency and competitiveness of the enterprises, following were included:

- upgraded product portfolio, introducing new products or services
- modern production methods and / or services,
- increase in quality of products and / or services
- increase in quality of sales,
- improvement in customer relationships,
- increase in productivity and increase in production capacity
- better organization of work,
- innovation in management processes,
- increase in number of customers
- increase in market share,
- increase in brand awareness in the market,
- increase of the market range,
- cost reduction
- increase in the profitability of production and / or services,
- revenue growth,
- increase in net profit.

The research also gathered information about the business itself and the beneficiary of Measure 2.3 SOP ICE, they are:

- Type of business;
- The company's legal form;
- Number of employees in the enterprise;
- Size of the annual turnover;
- The percentage of exports;
- State where business is located.

The study has been obtained about the investment made in companies.

## III. CHARACTERISTICS OF SUBJECTS ADMITTED TO THE RESEARCH

The already existing databases from the Polish agency for enterprise development do not have the characteristics of companies that benefited from the measure 2.3 SOP ICE 2004-2006. Conducted survey includes questions characterizing the beneficiaries of Measure 2.3 SOP ICE. It was set out below the characteristics of the collected sample of companies.

The companies are mostly manufacturing companies, over 61% of companies declared their production activities. Among the companies surveyed, 23% identified themselves as a core business services. This category includes transportation services, travel agencies, communications services, wholesale and retail trade, hotels, bars, restaurants, camping grounds, holiday homes and services: financial inter-mediation, training, consulting, real estate, architecture and furnishings, security, IT, advertising, health, activities related to recreation and sports, gambling, hairdressing, etc. There were 16% of firms that belongs to construction category. This category includes industrial buildings, roads, and finishing.

By definition, taking into account the employment criterion and the criterion of annual turnover, among the companies surveyed, 61% are medium-sized enterprises, while 39% are small enterprises, including 4% of businesses employ fewer than 10 employees [7].

The percentage volume of export business has been presented in ranges. It may be noted that the volume of export driven production depends on the size of the company. Generally, medium-sized enterprises export a higher percentage of their production than small enterprises. Among the companies surveyed, 81% of small businesses exporting to 20% of its production, and only 4 percent of small businesses export constitute 80-100% of production. While 57% of medium enterprises exporting to 20% of production, 15 percent export varies between 20-40% of production, and 9 per cent of the export is 80-100% of production.

## IV. THE INDICATED PROBLEMS OF ENTERPRISES

Most frequently cited problems by businesses facing the company are: the amount of taxes and duties provided by law, the waiting time for payment of the contractor, labor costs, low turnover. Respondents' answers are shown in the following chart. Companies identify problems among these: the amount of taxes and duties provided by law, low turnover, qualified labor force, labor costs, complexity of regulations, red tape, competition from other small businesses, corruption, competition from large companies, waiting for payment from a contractor, other such as currency rate.

## V. TYPE OF INVESTMENT CARRIED OUT

The vast majority of the investment concerned the modernization efforts in the enterprise. Popular investments among both small and large companies were investments for implementation, commercialization of innovative technologies and products. One third of the investment of small and

medium-sized deployment is concerned, the commercialization of innovative technologies and products. Only 4% of the investments of small companies and 7% of the investment covered the use of medium-sized companies and the use of information technology in business management processes. Minor proportion of investment is used for technology applications and use of electronic commerce.

#### VI. SIZE OF INVESTMENT

Among small firms, 25% of the investment carried out for an amount less than 260 000 PLN, whereas 50% of the companies carried out the investment in their companies for an amount less than 647 000 respectively. The third quantile is 1.583 million PLN.

Among mid-sized companies, 25% of the investment carried out for an amount less than 781 000 PLN, while 50% of the average investment companies closed in the amount of 1.63 million. The third quantile is 2.9 million PLN. The smallest investment was worth more than 42 000 PLN, the largest investment made by one company of medium size amounted to 24 million PLN.

Average investments in companies were over 2.56 million PLN. The average investment in small businesses amounted to over 1.46 million PLN.

Funding for 30% of eligible costs of projects involved in the district of the city of Warsaw and Poznan, 40% of eligible costs if the project is implemented in the district of Wrocław, Kraków, Gdańsk, Gdynia, Sopot. Investments in these cities do not receive reimbursement of 50% of total eligible costs of these investments [8]-[10].

#### VII. RESULTS OF THIS STUDY

##### A. The Effects on the Investment

Companies in more than 88 percent said that as a result of investments under measure 2.3 SOP ICE has increased its offer with new products or services. It should be noted that among the surveyed companies in total were 39% of small businesses and 61% of average.

More than 89% of small enterprises and 87% medium, introduced new products or services to its product offerings.

##### B. Impact of Investment to Modernize the Product Range by Activity

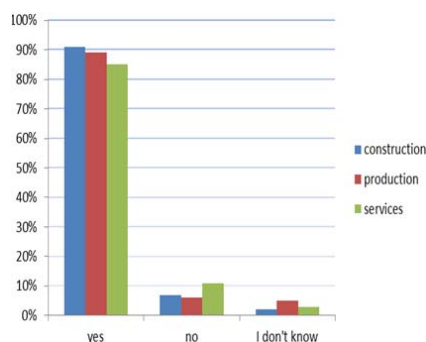


Fig. 1 Impact of Investment to Modernize the Product Range by Activity, own work based on the research

##### C. Reducing the Costs

In this study, 59% of companies said that as a result of investments under measure 2.3 SOP ICE saw a reduction in costs. These responses were more than 24% of the responses of small businesses and 34% of medium sized businesses. It should be noted that among the companies surveyed there were total of 38.5% of small businesses and 61.5% of medium. Over 10% of companies reported no reduction in costs, and as many as 31% of businesses. It is difficult to say whether there was a cost reduction.

##### D. Impact of Investments to Reduce Costs

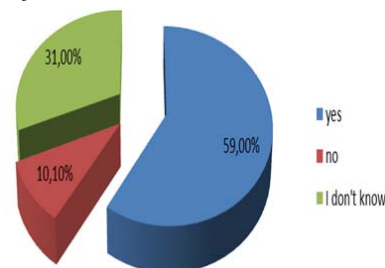


Fig. 2 Impact of Investments to Reduce Costs, own work based on the research

Average value by which the costs were reduced in companies was more than 12%. In small companies, the average cost reduction was more than 14%, while medium-sized enterprises amounted to 11%.

Judging from the median, half of the investment made by companies acquired lower costs by more than 10%.

Lower costs, both in production, construction, and service occurred at similar levels by an average 12-13%, according to the median of 10%.

##### E. Impact on the Investments Profitability

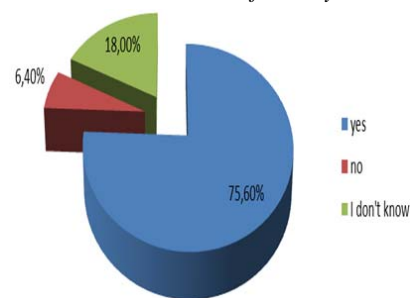


Fig. 3 Impact on the Investments Profitability, own work based on the research

The question of whether as a result of the investment, methods of production, and / or services are more modern, almost all businesses have responded positively (97%).

The quality of products or services has increased. Over 92% of companies granted such a response, 5% of this effect is not found, and 3% found it hard to tell.

#### F. Impact of Investments on the Quality of Our Products or Services

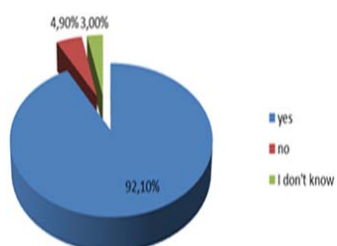


Fig. 4 Impact of Investments on the Quality of Our Products or Services, own work based on the research

#### G. Improved Customer Relations

The question of whether as a result of the investment has improved the relationship with the customer, 61% reported such an improvement, over 11% said no, and over 26% responded that it's hard to tell.

#### H. Impact of Investments in Customer Relationships

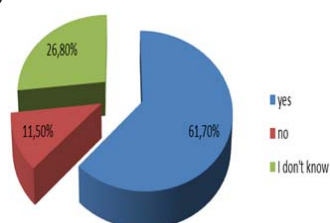


Fig. 5 Impact of Investments in Customer Relationships, own work based on the research

Among the companies surveyed, 80% of companies responded that the investment contributed to the expansion of production capacity and labor productivity growth, about 4% of companies responded negatively, and over 15% responded that it's hard to tell. Over 85% of small and 77% of medium-sized enterprises increased their production capacity.

#### I. Impact of Investment in Production Capacity and Labor Productivity

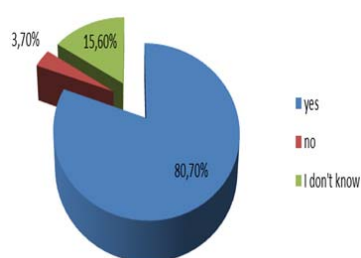


Fig. 6 Impact of Investment in Production Capacity and Labor Productivity, own work based on the research

Judging from the median, half of the investment made by companies acquired increase in production capacity. Productivity increased by over 20% for both the small and medium enterprises.

Analyzing the median, 50% of companies had increased production capacity by more than 20%. However, in the middle of service, their productivity increased more than 22%.

Among the companies surveyed, 82% of companies responded that the execution of the investment contributed to a better organization of work in their company, and 7.5% of companies responded negatively, and more than 10% answered that it's hard to tell. Over 88% of small and 78% medium-sized enterprises improved their work organization.

#### J. The Impact of Investment on Better Organization of Work

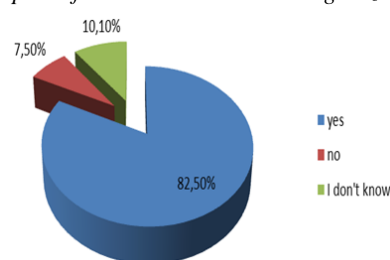


Fig. 7 The Impact of Investment on Better Organization of Work, own work based on the research

Among the companies surveyed, 48% of companies responded that the investment objective has introduced innovation in management processes within their companies, 26% of businesses reported no such effect, and over 25% responded that it's hard to tell.

It should be noted that more than 52% medium and 41% of small businesses has introduced innovation in management processes.

#### K. Impact of Investment in Innovation in Management Processes

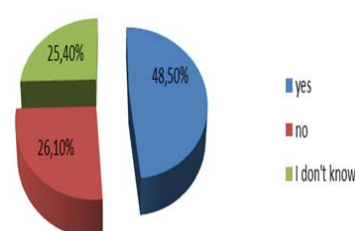


Fig. 8 Impact of Investment in Innovation in Management Processes, own work based on the research

#### L. The Increase in the Number of Customers

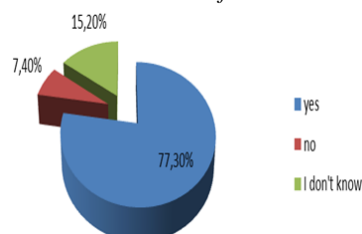


Fig. 9 The Increase in the Number of Customers, own work based on the research

The question of whether as a result of the investment, the rise in number of customers happened (or is expected to increase in the future), more than 77% of companies responded positively, more than 7% of businesses negatively, and over 15% responded that it's hard to tell.

Half of the companies responded that the realization of investments affected the visibility of their brands on the market, 13% of companies reported no such effect, and over 36% responded that it's hard to tell.

#### *M. The Impact of Investment on the Brand Companies by Company Size*

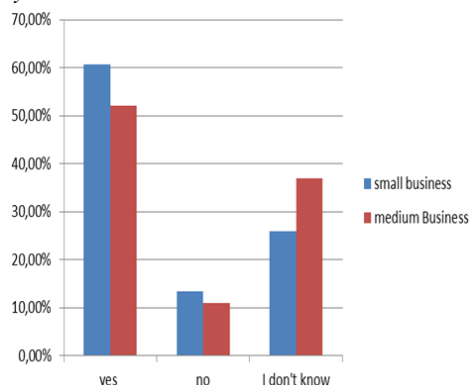


Fig. 10 The Impact of Investment on the Brand Companies by Company Size, own work based on the research

Among the companies surveyed, over 74% of companies responded that their sales revenue increased, over 8% of companies reported no such effect, and over 17% responded that it's hard to tell.

#### *N. Impact of Investment in Sales Revenue*

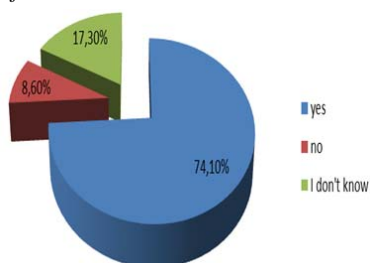


Fig. 11 Impact of Investment in Sales Revenue, own work based on the research

Over 78% of manufacturing companies, 73% construction and 64% of service firms reported revenue growth.

According to the median, half of small businesses achieved sales growth, 19% for medium-sized enterprises, this increase was at the lower level of 11%.

Among the companies surveyed, over 51% of companies reported increased investment in net profit, 16% of companies reported no such effect, and over 32% responded that it's hard to tell.

#### *O. Effect on Net Income*

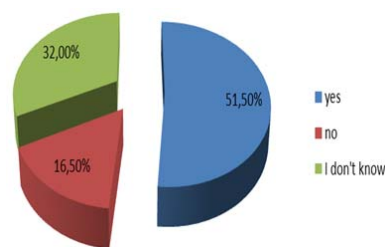


Fig. 12 Effect on Net Income, own work based on the research

### VIII. CONCLUSIONS

The conclusion is that the investments from the Structural Funds contributed to the increase in efficiency of small and medium enterprises, and have also contributed to their development.

Summarizing the results of questions about costs, revenues, and net income, it confirms that small businesses through investments under the measure 2.3 SOP ICE show better results than medium size companies.

Wilcoxon test that was conducted confirmed that small enterprises have a greater impact on the investment than the medium ones. Investments made under the measure 2.3 SOP ICE 2004-2006 by raising the level of technology have enabled the implementation of the various elements of competitive strategy in small and medium enterprises. Test instruments include competitive new products on offer, more modern production methods, cost reduction, methods of forming relationships with clients, and quality of products or services.

Small and medium enterprises are an important source of job creation and in stimulating economic growth. Creation of business development trend is possible by using new technologies and techniques and modern information systems. In consequence of this is an increase in economic efficiency and growth. The main barrier to the development of small and medium enterprises is the lack of resources to undertake investments that are undoubtedly necessary for the development of the company and to compete in the market.

Polish accession to the European Union has allowed a greater possibility of financial support for Polish enterprises. Tremendous opportunity for companies to develop a SOP and subsequent programs are provided for the funding period 2007-2013.

SOP ICE supports the work of enterprises, scientific research institutions, and business institutions to increase their competitiveness on the European market. SOP ICE takes care of business support activities and the potential and dynamics of development, which enables enterprises to compete on the national and European level.

As a result of SOP ICE, we have got increased spending on business investment, increased number of jobs. The program subsidized investments in 65 institutions; micro-loan funds capitalized 53 and 39 credit guarantee funds. It is supported by 27 industrial parks, 17 scientific and technological parks, and 19 technological incubators. Direct support of SOP ICE

received 3220 companies and it was really beneficial for the small and medium enterprises sector.

Small and medium enterprises actively applied for grants for investments, and to a lesser extent, for grants to counseling. Businesses differently evaluate the feasibility of these programs, particularly access to specific support actions. The main obstacles are the laws and bureaucratic administrative system. Good use of EU Structural Funds also depends on the efficiency of intermediaries in providing this assistance.

Undoubtedly, the Sectoral Operational Programme has stimulated activity of small and medium enterprises in the absorption of funds.

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