

## **Investments in innovation and risk in the SME sector in Poland**

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### **ABSTRACT**

The Polish economy is difficult to compare with other economies in Europe or in the world. There are many reasons for this state of affairs, but the most important one is the political and economic past of the country. Enterprises in the SME sector, which constitute the most numerous group of enterprises in Poland (as well as in other countries in the world), have been therefore operating in the sector that has only recently stabilized. It is thus worth reviewing the way they cope with everyday functioning and whether they are able to raise capital for investment and innovation. Risk factors specific to the SME sector will be identified. This article focuses on issues related to enterprise development by means of innovation. Furthermore, the factors which are barriers to development are identified. The development of the SME sector in Poland and the results of the author's own research on investments carried out on the group of SMEs in Poland are briefly described and supported by author's own research.

**Keywords:** SME innovativeness, risk, investments, business

### **1. Introduction**

Between 1952 and 1989 Poland was governed by the communist Polish Workers' Party (and then the Polish United Workers' Party). At that time Poland had to deal with many problems such as low salaries or unavailability of basic food products. It resulted in the growth of corruption, countertrade and discouragement of society. A low standard of living and a corrupt promotion and salary system, which did not encourage diligent work, were widespread. Nevertheless, there was a breakthrough in 1989. Poland became a democratic country. Different economic reforms were adopted in 1990, including the introduction of a free market, lowering the budget deficit and inflation. Poland began to strive for economic growth [BLOK 2006].

State-owned enterprises were privatized. At the same time, new (family, small, medium) enterprises, in short the SME sector, started to appear. The number of these enterprises was

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growing year by year. Table 1 demonstrates the share of the private sector in selected economic indicators in 1990–2006.

Table 1 Share of the private sector in selected economic indicators in the years 1990-2006 (%)

Private sector participation in	1990	1993	1997	2000	2004	2005	2006
- total number of employees	48,9	58,9	68,2	72,1	70,9	71,6	72,2
- GDP	30,9	47,5	58,7	61,2	66,2	66,2	-
- investment outlays	41,3	42,9	53,4	65,2	68,1	65,1	65,1

Source: GUS, *Mały rocznik statystyczny (statistical yearbooks 1990-2006)*, Warszawa 2007

A rapidly growing share of the private sector in GDP or in investment outlays shows a huge change in the economy. At the same time, the level of motivation and commitment to development increased. Many enterprises which were founded in the early 90s have been operating to date. It was possible, however, due to the fact that they were constantly developing and investing in, among others, innovation. What is more, newly established units, along with economic growth, were forced to take risks and invest in order to keep up with market needs.

The question arises: What is the situation of Polish enterprises and their investments in development after thirty years following the massive economic upheaval? Do enterprises in the SME sector invest in development and innovation?

According to the Report of the Ministry of Development in Poland as at the end of 2016, there were 4.2 million enterprises registered in the National Business Registry. As many as 2.4 million were active non-financial enterprises. About 70.1% of entities were natural persons conducting business activity, 11.8% were commercial companies and 6.8% were civil law partnerships (approx. 6.8%). In 2015, 1.9 million entities conducted business activity, where 96% were micro-entities, and the share of small, medium and large entities was 3.0%, 0.8% and 0.2%, respectively. Large enterprises are a group of about 3.5 thousand entities. The SME sector in Poland generates as much as 50.1% of GDP, with the total share of enterprises in generating GDP at the level of 73.5% (30.8% is the share of micro-enterprises) [Raport MR 2017]. According to the aforementioned report, enterprises invest mainly in two areas: expenditure for the purchase of new and used fixed assets. Detailed data can be found in Table 2.

Table 2 Investment outlays on new and used enterprises' fixed assets in 2016

(in PLN million)	Total	SME	Micro	Small	Medium	Large
Investment outlays on new fixed assets	163 842	68 400	24 092	12 791	31 517	95 441
Investment outlays on the purchase of used fixed assets	24 748	14 188	6 180	3 986	4 022	10 560
Total investment outlays	188 590	82 588	30 272	16 777	35 539	106 001

Source: PARP, *Raport o stanie sektora małych i średnich przedsiębiorstw w Polsce*, Warszawa 2018

According to the aforementioned Report, the total investment outlays of the SME sector in Poland per one company were calculated in 2016. The value of those outlays amounted to

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PLN 41.1 thousand and came from various sources (Table). It is worth noting that in the case of small and medium enterprises about 60% came from own resources.

*Table 3 Sources of financing investment outlays in companies (excluding micro-enterprises) in 2015 (in PLN thousand)*

	Total	Own resources	Budget appropriations	Loans and advances together	Funds directly from abroad		Other sources total	Outlays not financed
					Total	including bank loan		
Total	165 412 596	67,12%	4,07%	12,70%	9,21%	0,75%	3,69%	3,22%
SME (exc. micro)	54 031 619	60,32%	4,51%	21,06%	7,44%	0,68%	5,80%	0,87%
Small	16 591 242	63,04%	4,27%	20,23%	6,01%	1,21%	5,88%	0,58%
Medium	37 440 377	59,11%	4,62%	21,43%	8,08%	0,45%	5,77%	0,99%
Large	111 380 977	70,41%	3,85%	8,64%	10,07%	0,79%	2,66%	4,36%

*Źródło: PARP, Raport o stanie sektora małych i średnich przedsiębiorstw w Polsce, Warszawa 2018*

The author of this article conducted her own research on investment in enterprise development in the SME sector on a sample of 130 micro, small and medium enterprises. The research will be discussed later in this article.

One of the indicators which allows for an international comparison of the level of innovation is Global Innovation Index (GII) published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO). The index consists of 82 partial indicators from seven main areas: institutional environment, human capital and research, infrastructure, market sophistication, business sophistication, knowledge and technology and creativity. According to the report from 2019, Switzerland is on the 1st place with  $GII = 67.2$ , Poland is on the 39th place with  $GII = 41.3$  (out of 129), which seems to be quite a good result. However, comparing Poland to the closest neighbours (whose economic past was not too stable either), the result is bad. For example, the Czech Republic is on the 29th place ( $GII = 49.4$ ), Hungary on the 33th place ( $GII = 44.5$ ) Slovakia on the 37th place ( $GII = 42.0$ ) or Bulgaria on the 40th place ( $GII = 40.3$ ).

## 2. Risk in SMEs in the age of innovativeness

Risk, generally speaking, is something that may or may not happen and may have other effects than expected. Investing almost always involves risk. The entrepreneur/ investor faces a dilemma whether the amount invested will make a profit (and whether it will pay off at all). What distinguishes enterprises in the SME sector from all enterprises is the fact that they are dominated by one person, the owner or the manager, who makes key decisions in the enterprise. These are often people with a low education level (secondary education), limited access to market data and knowledge of the latest trends (this applies especially to poor regions). They face risk outside the enterprise and inside the organization, such as: economic changes, crisis, natural events, risk of fall in demand, loss of competitive position and reputation, loss of

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profitability and liquidity, inadequate staff turnover. As always in the case of risk, the enterprise can have an influence on some events and no influence on some others. Factors affecting the enterprise's operations are economic factors (experience, knowledge of risk management methods), demographic factors (age, education, family situation), sociological factors and government policy (mainly in the field of taxes) or the nature of business (including the characteristics and seniority of a given company) [ABOTSI 2014]

Falkner and Hiebl reviewed literature from seven bases in 2015: EBSCO Business Source Elite, Elsevier Science Direct, Emerald, SpringerLink, Wiley Online Library, Scopus, ISI Web of Knowledge, and selected 27 articles discussing risk management. They distinguished both the types of risk particularly in the SME sector and the risk management process.

The most common types of risk that can be found in SMEs are as follows [Falkner & Hiebl 2015]:

- Interest rate risk - SMEs are often financed with external funds to a large extent (loans). Thus, they are very sensitive to unfavourable changes in interest rates. It should also be emphasized that banks perceive SMEs as risky, which results in a limited loan offer with high risk protection.
- Risk of price changes - Due to more and more frequent price changes, especially in agricultural markets, SMEs are looking for better ways to manage the costs of ordered raw materials. This is important taking into account the large impact of changes on raw material and energy prices, especially on small enterprises, where very often the profit is only a few percent, which means that any change in prices is passed on to the customer, and thus - the SME offer ceases to be competitive.
- E-business and technological risk - SMEs are subject to many threats from Internet crime, credit card phishing or cyber attacks. The purchase of expensive (management support or even anti-virus) software is not a priority for those enterprises, which makes them more vulnerable to data loss. There are cases where the purchase of software and the costs of its maintenance have significantly reduced the enterprise's profit, and even led to its bankruptcy.
- Supply chain risk - It often turns out that the key success factor for SMEs is to offer a very wide and diverse range of products. This makes them excessively dependent on their suppliers. In addition, these enterprises often have to go beyond the local or even domestic market. As a result, entrepreneurs depend on suppliers, which creates a risk even in the context of overdraft facility, which small businesses often use. A given enterprise is often associated with one or only a few

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suppliers, which means that any changes in relations or the functioning of the supplier affect the enterprise.

– Risk of growth - It may seem surprising that many SMEs do not want to grow larger, justifying it with the fear of rising costs and the problem of covering them. These enterprises prefer not to increase in size, but to increase the amount of profit. The reason is the fear of risk associated with running a large enterprise. It is then necessary to enter new markets and increase expenditure in market research or implement projects for which know-how and technologies are necessary, which SMEs simply cannot afford. Interestingly, small enterprises are less and less afraid of export. They even see it as a chance for development.

– Management and employees - Knowledge management is also one of the challenges faced by SMEs. The reason is that in the case of small enterprises which employ several people, each person constitutes a very large capital, and the loss of such an employee is a great expense for the enterprise. It is particularly dangerous to lose an employee or manager/ foreman who has been connected with the enterprise for many years and is a specialist and decision-maker. As can be easily seen, due to the lack of funds, SME enterprises do not invest in employee training, but rather employ people with extensive knowledge, which often means that a given knowledge resource “belongs” to one person.

CPA Australia Ltd. published the Risk Management Guide for Small and Medium Businesses, which pointed out specific threats of SMEs: customer, supplier, personnel, operational, reputation, financial (e.g. liquidity, credit, currency, interest) currency, market, economic risks, unexpected vacation of the owner and many others (related to internal control, sales, receivables, liabilities, purchase, etc.). These types of risk overlap partly with those listed above [CPA 2009].

The financial crisis of 2007-2011 was a challenge faced by SMEs in Poland. It was severe for SMEs due to the fact that their risk protection was small and the costs of removing the effects of risk were high. Only one out of three enterprises weathered the crisis. It is brutal, but correct to say that the crisis was a kind of natural selection of inefficient economic entities. The risk of a rapid loss of financial balance is greater when an enterprise is small. The method used by the majority of entrepreneurs in the SME sector is cost optimization, e.g. by monitoring fixed costs, reducing purchases (minimizing inventory) or replacing external services with their own. During the crisis, employees also suffered salary reduction. Investments were also suspended. Enterprises fought for every order and sought market niches, diversified their activity and changed its profile. Obtaining external financing was also a kind of rescue, but a difficult one due to restrictions imposed by banks [Kin, 2014]

### **3. Innovations and Barriers of their Implementation in SMEs**

The subject of this article is the SME sector. These companies use ideas and knowledge from various internal and external sources to increase the possibilities of creating innovations tailored to the needs of their clients. Customers are key elements of innovative thinking, which is why their knowledge and experience help shape new products and services. Therefore, the analysis of clients' needs and expectations is a source of innovation, especially for small enterprises [Tont, 2016]

Reflections on innovation in SMEs should start with the question: what exactly will their implementation in the SME sector consist in. The social perception of production plants or service companies assumes that a given company always develops an innovative product/service itself. Nothing could be more wrong! The emergence of new solutions in a given organization can occur in various ways, not only by developing its own innovative process. The enterprises also apply [Satkowski 2016]:

1. Transfer of ready-made technical solutions to enterprises operating within a corporation. Such flow is a one-time flow within one organization (in an international environment). No new technological knowledge is generated and knowledge is not exchanged with other enterprises. The only benefit is the fact that domestic employees employed by foreign companies in the course of technological service processes can learn. Such knowledge may be used on their own or passed on to others.

2. Acquisition of foreign technical solutions, e.g. a license. Such licenses can be diverse. Both the purchase of technical documentation and a complete technological line, including employee training. To protect against problems associated with the implementation of purchased technology, enterprises prefer to purchase comprehensive license offers. It allows for reducing the risk connected with implementation into production. It should be noted that the cheapest version of a license is only technological documentation, and the most expensive one also includes equipment and commissioning of e.g. a production line.

3. Purchase of new machines and equipment for production. With the development of technology, the productivity and capabilities of production machines and equipment increase. The purchase of such devices is associated with the implementation of better-quality products for production, thereby enterprises can launch a new product or change a production profile.

4. As a result of a company's R&D activity. Own R&D base is the best solution for enterprises; however, it is believed that these departments are only a cost centre, therefore usually only big (and large) enterprises decide to have them.

5. Internal production orders. This form has become more popular in recent years due to a limited scope of R&D activity and market globalization. The complexity of such orders varies and includes, for example, the implementation of a specific semi-finished product or design of technical solutions according to specific top-down specifications.

6. Modernization of existing products. This method is used for products that had been very popular for a long time, but the interest in them declined. This method is not very popular because "product refreshing" is not always positively perceived by the recipients.

Janiero also points out several possible sources of innovation. The first group consists of groups of business entities as sources of innovation, i.e. entities such as users, suppliers, producers, universities and others. These units contribute to the development of innovation in

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the field of products, processes or services. In other words, the source of innovation are units that provide useful information for new innovative projects or those that contribute to the completion of ongoing innovative projects [Janiero et al., 2013].

The enterprise must therefore consider the best way to introduce innovation with its own funds and production capabilities. It is vital that the owner of the enterprise/ manager should ask the following questions: Can I afford to purchase a ready solution? Will the solution meet the customers' expectations? Are my employees qualified enough to develop a product (prototype, model)? Do I have enough time to develop a new product? What is the risk of introducing a new product (purchased or developed internally)? Those questions are fundamental when making a decision and the success of the enterprise can depend on the proper analysis of the answers.

At this point it is important to keep in mind what is not an innovation. On bellow are shown only some examples what shouldn't be considered as an innovation [Acosta et al., 2016]:

- Product innovation: minor improvements and modifications,
- Process innovation: applying new manufacturing/logistical systems similar to one already in use.
- Marketing innovations: Seasonal changes in marketing instruments (or regular)
- Organizational innovations: modifying business practices or external relations based on methods already in use within the company.

However, enterprises often face obstacles while implementing innovation. Innovation barriers often coincide with barriers blocking the development of the enterprise. In the case of SMEs, those are [Ziemba, 2013]:

1. External barriers:
  - a. legal,
  - b. social,
  - c. market,
  - d. economic,
  - e. infrastructural,
  - f. information and educational;
2. Internal barriers:
  - a. financial barriers,
  - b. problems with business management,
  - c. size and location of entity,
  - d. capital problems,
  - e. problems with production factors.

In 2013, the Union of Entrepreneurs and Employers (Poland) presented the results of studies conducted among entrepreneurs, according to which the following obstacles to conducting business were identified to exist in Poland (ranked from the most important ones) [ZPP Report]:

- labour costs,

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- high taxes,
- instability of legal regulations,
- bureaucracy (excess of responsibilities),
- independent and arbitrary decisions of officials,
- investment barriers,
- offices and officials,
- complicated economic law,
- controls conducted by tax offices and other institutions,
- long period of settling court disputes.

A list of potential barriers is much longer. Those cited above are only examples and are intended to emphasize the multidimensionality of obstacles that entrepreneurs must overcome.

**4. Results of The Author's Own Research**

The author of this article has conducted her own research on investment in enterprise development and innovation in the SME sector.

The studies have been conducted on a sample of 130 micro, small and medium enterprises from Dolnośląskie and Wielkopolskie Provinces. The studies were conducted in 2018. The enterprises which have operated on the market for 4-10 years dominated in the study (34.60%). The second largest group were enterprises which have been active for 10-20 years (25.40%). The third largest group were those which have been functioning for over 20 years. As many as 3/4 of enterprises provide services. The research was oriented mainly towards micro, small and medium enterprises. As many as 1/3 of enterprises employ over 31 employees. Micro enterprises employing from 2 do 10 employees constitute about 30%. A large group, 1/5 of enterprises, consisted of those conducting sole business activity.

The conclusions of the study are as follows:

**Part 1: INNOVATION AND ENTERPRISE DEVELOPMENT**

- 78.5% of the enterprises introduced innovation within one year. They related mainly to work organization (50.8%) and applied technologies (48.5%). Product modernization constituted almost 1/3 of innovation. Marketing innovation amounted to 26.2%.
- 67.7% of innovative solutions were financed with own funds. Additionally, 54% of respondents admitted to have an investor. Some funds were obtained from leasing (18.5%) and loans (17.7%), and from EU funds (12.3%).
- 73,1% of the enterprises are planning to introduce innovation, where 41.5% of enterprises are planning to modernize technology, 30% of enterprises are going to modernize organization and 23.8% of (all) enterprises wish to modernize marketing and products.
- 26.9% of the enterprises surveyed indicated that they did not have problems with introducing improvements (provided that there are funds). Bureaucratization when obtaining funds is the most discouraging aspect in the eyes of the surveyed enterprises (22.3%). Filling out applications, providing financial statements, completing personal questionnaires and other documents necessary for obtaining funds from a loan or leasing is simply deterrent. The lack of suitable partners (20% of enterprises) was proved to be the second significant difficulty.

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Risk assessment (17.7%) and difficulty with introducing innovation due to the profile of conducted business (17.7%) are a vast obstacle for SMEs. Lack of research and development infrastructure or too long implementation time of modernization, or measuring the level of innovation efficiency do not cause great difficulties, but were still mentioned by the surveyed enterprises.

- Almost 25% demonstrated that they did not conduct research and development activity since it did not apply to their business. This is the same group which expressed a view that it was not possible to introduce innovation due to the nature of the business. Only 34% admitted that they conducted such an activity.

- 40% of the enterprises revealed that they did not have rights to intellectual property (or a recognizable brand or their own technological solutions). What is positive is the fact that over 1/4 declared that they owned copyrights and 17.7% owned trademarks. 14.6% of the enterprises use utility models, and 10.8% of them hold patents (or have filed patent applications). In addition, 13.1% of enterprises use acquired technologies;

- 30% of the enterprises surveyed indicate that they stand out with a recognizable brand, and 29.2% of them use their own technological solutions.

- 57.7% of the enterprises invest in equipment and computer software as well as in the purchase of devices such as telephones or tablets (56.2%). Almost 55% of the enterprises show that employee training is one of the most frequent investments. The purchase of machines and equipment is equally important for 51.5% of the enterprises (mainly in manufacturing companies). Almost half of the enterprises (45.4%) purchased new cars, which are also their work tool. Over 1/4 of the enterprises allocated their funds for the construction or modernization of production halls (this is, however, one of the most expensive types of investment). 1/5 of the enterprises demonstrated that they had bought new technologies and solutions.

- 71.5% of the enterprises financed the above-mentioned investments with their own funds and 43.3% of investments were financed with credits and loans. Leasing is also a popular form of financing. As many as 1/3 of enterprises benefited from this form. 20.8% of the enterprises benefited from EU programs. Enterprises least often were financed by business support organizations, as well as business angels or other sources.

- 52.3% of the enterprises admit that improvement of the professional qualifications of their employees is the most desirable (this is most justified in the case of micro and small enterprises, because the success of the enterprise depends on the skills and qualifications of employees (and the owner). Over half of those surveyed would invest in machines and equipment. For 1/3 of the enterprises surveyed, it would be important to purchase and modernize land and real estate. As many as 26.2% of the enterprises would spend low-interest funds on the purchase of software, and 25.4% on research and development.

**Part 2 EXPENSES ON DEVELOPMENT**

- 27% of the enterprises said that it would be difficult to indicate what percentage of turnover is allocated for development in their enterprise. This is mainly due to the fact that in the case of small enterprises, often declared on a flat-rate basis, no financial analysis that would allow for a quick indication of funds allocated for development is carried out. In the researched group, 4% of the enterprises confirmed that they did not allocate any funds for development.

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1/4 of the enterprises admit that it is between 1 and 3% of their turnover, and 18% of them indicate a value above 10%.

- 86% of the enterprises indicated that a reduction of costs would convince them to invest in innovation. 74% of them would decide to invest in innovation that would shorten the lead time. Due to the nature of the industry, 21% of the enterprises would not undertake such an investment.

- 86% of the respondents affirmatively answered the question “Is the profit increase able to encourage you to invest a large amount of money in development?” Enterprises are aware of the costs associated with potential innovations that would ensure a reduction in lead time and costs. When asked about the cost of potential improvement, they showed very different value ranges. The needs are both low, because about 18% said that an amount of up to EUR 2.5 thousand would be sufficient, average value - 18% of the respondents would need between EUR 25,000 and EUR 50,000, and a very large amount for the SME sector, because over EUR 125 thousand was indicated by 19% of the respondents.

- 94% would take advantage of the opportunity to obtain non-returnable financial support for the company’s operations. It is surprising that 6% of the enterprises would not like to benefit from such help. The reason for this standpoint is the aforementioned fear of complicated financial procedures and the fear of settling such assistance from EU funds (the risk that the amount misused would have to be reimbursed).

## **5. Conclusion**

Poland is a country where entrepreneurship has emerged quite recently and has developed quickly. Despite the economic changes, the environment for developing one’s own business has been difficult and full of barriers for many years. And so is it today.

The pace of technological development is constantly increasing. International competition is intensifying and customers’ requirements are constantly growing. It is necessary to shorten the development time of new products, which forces enterprises to manage technologies actively by investing in innovation. This knowledge allows for appropriate planning, development, implementation, as well as monitoring and administering the technological potential of a given enterprise. This favours the implementation of both operational and strategic goals of the enterprise [Santarek, 2008].

Studies conducted on a sample of 130 enterprises confirmed many of the assumptions indicated in the literature, but not all of them. SMEs are not afraid to invest in business development. They take a risk. The literature mentions that they do not allocate funds for training. Nothing could be further from the truth. SMEs invest in their employees. The fact that they do not employ too many people was pointed out, so they need them to be specialized in what they do. The positive fact is that SMEs are not afraid to invest in innovation. This phenomenon is positive taking into account the number of micro and small enterprises in Poland. The faster these enterprises develop, the faster the Polish economy will develop.

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