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The Title: The Social Mechanism of Investment Subsidies. A Study Conducted with the Usage of the Abductive Approach

Abstract: Investment subsidies belong to the most popular means of public support for enterprises. However, evaluation studies measuring their net effect suggest that their effectiveness is highly debatable. Thus, the social mechanism of investment subsidies has been investigated in the article with a flexible, abductive methodological approach. Both methodological and data source triangulations have been applied: qualitative and quantitative methods were deployed; viewpoints of manifold groups (policy makers, beneficiaries, journalists) were reconstructed. The article goes beyond previous findings indicating the small net effects of intervention by investigating the social mechanism accounting for the size of the effects. It also indicates that the permanency of the program may be explained by the analysis of the program theories of stakeholders involved in implementation.

Keywords: abduction, investment subsidies, program theory, social mechanism

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THE SOCIAL MECHANISM OF INVESTMENT SUBSIDIES. A STUDY CONDUCTED WITH THE USAGE OF THE ABDUCTIVE APPROACH

It is a popular view among policy makers that investment subsidies serve the public interest by enhancing competitiveness of the national economy. Numerous previous studies have challenged this statement by indicating that net effects of subsidies are not satisfactory (Bergström, 2000; Gabriele, *et al.*, 2006; Trainor & Harris, 2005, Venetoklis, 2000a). However, none have thoroughly researched the actual social mechanism (Boudon, 1981; Bunge 2004; Swedberg & Hedström, 1998) leading to the negligible scale of the effects. Moreover, the reasons for the popularity of these types of subsidies are also not sufficiently investigated.

The main research question of this study is the following: what is the social mechanism of the programme under study? In order to answer the question, the research had to be based on an approach which would combine both the investigation of the mental models of stakeholders and rigorous net effect measurement. This approach allows us not only to investigate what kind of influence investment subsidies exert on both enterprises and economy, but also the social context of the mechanism.

The article is organized as follows: firstly, the context of the study is discussed, followed by a presentation of the methods used and then the results of applying these methods are shown in order to answer the research questions. The conclusions and discussion of the results are provided in the final section.

Context of the study

There are two elements which constitute the context of the study: the programme under evaluation and the theoretical framework of the approach. They will be discussed in respective order.

Investment subsidies

Investment subsidies belong to the most popular means of public support for enterprises (Communities, 2009, Thomas 2007). While investment subsidies vary across countries, the common support mechanism is unsophisticated: companies have part of their investments paid by public money. Within the current EU programming period (2007–2013), more than 2 billion euro will be spent to support small and medium sized enterprises only in Poland.

The actual intervention being investigated in this paper is Measure 2.3. of the Sectoral Operational Programme “Improvement of the Competitiveness of Enterprises”, implemented in Poland within the period 2004-2006. The subsidies were co-financed by the European Regional Development Fund. While there were 21 737 applications, only 2 862 contracts were signed. The total value of the contracts amounted to 426 mil EUR. The problem which was supposed to be tackled by the intervention and the official programme theory of subsidies (as depicted in the official documentation of the programme) are presented in figure 1. Basically, a lack of resources among enterprises for investment was defined as the main reason for the low competitiveness of the national economy (Sektorowy, 2004). Thus, subsidies were provided to enterprises. Having resources, enterprises were supposed to invest

more into modern machine parks. As a result, they and the whole economy should have become more competitive.

<< Figure 1 around here >>

Theoretical framework

It is important to stress that the theoretical background of the study was developed using the process of data analysis. While the framework included detailed categories, only the most important ones will be presented (i.e. general categories of social mechanism and programme theory).

Even if the construction of the theoretical framework is based on the process of data analysis, one needs meta-categories with which to organize it. It is the view of Boudon (1981) that in order to construct the theoretical framework of the process one should consider three elements: mechanism (i.e., juxtaposition of social actions), environment (context) and outcomes of the mechanism. Causal phenomena usually involve complex interactions between preceding factors. On this basis, it appears probable that the influence being exerted by the decision of one of the stakeholders leads to the outcomes through the interaction with the environment.

More detailed guidelines relating to the research process may be found in the tradition of programme theory evaluation (Chen, 1990; Pawson & Tilley, 1997; Rogers, 2005). A realistic approach to public policy programmes evaluation (Pawson & Tilley, 1997) is particularly in tune with the theoretical frameworks proposed by Boudon. Its authors stress the importance of knowledge accumulation through the analysis of causal phenomena. They also use the same

categories of context, mechanism and outcome. At the same time, they stress the importance and provide tools for the analysis of stakeholders' perceptions of the programme (called programme theories). Programme theories are sets of interrelated hypotheses that stakeholders associate with the programme (Chen, 1990; Pawson, 2006; Rogers, 2005). According to this approach, therefore, understanding the mechanism of the programme should start from researching the stakeholders' perceptions of how the programme works (i.e., their mental models). Next, these mental models shall be broken down into causal hypotheses, which shall be subsequently examinedⁱ.

Methods

In order to go beyond existing studies and investigate the social contexts of the programme, the pragmatic grounded theory methodology has been applied (Bryant, 2009; Strauss & Glaser, 1967)ⁱⁱ and, further, a sequential abductive process of research and triangulation. Abduction is the process of analyzing facts and finding the best explanations that facilitate their understanding (Peirce, 1878; Reichertz, 2007). As already indicated, finding explanations is conditioned by a proper theoretical framework. As Yu states, "*Researchers must be well-equipped with proper categories in order to sort out the invariant features and patterns of phenomena*" (1994). Abduction is followed by retroduction, in which hypotheses are constantly checked against observations (Levin-Rozalis, 2009). The utility of abduction in evaluation studies is already well depicted and documented (Levin - Rozalis, 2000 and 2004).

The project took place in the years 2007-2010. Because of the application of grounded theory methodology, the process of data collection was conducted in an iterative way. After collecting and analyzing each portion of data, the research design could be modified. In order

to illustrate the process of abduction, examples of its influence on the research process will be discussed while presenting findings.

The research process contained the following stages:

1. Defining the research aims
2. Literature review
3. Choice of methodological approach
4. Desk research and identification of official and expert/scientific programme theory
5. In-Depth Interviews and identification of beneficiaries programme theory
6. In-Depth Interviews with policy makers and identification of working/unofficial programme theory
7. Building the theoretical framework
8. Proposal of a new expert/scientific programme theory on the basis of gained knowledge
9. Content analysis of articles and identification of media programme theory
10. Describing causes of programme's permanence.

Both methodological and data source triangulations were applied: qualitative (e.g., in-depth interviews) and quantitative (analysis of quasi-experimental studies and content analysis) methods were deployed; viewpoints of manifold groups (i.e., entrepreneurs, policy makers, journalists and experts) were reconstructed. The specific methods and techniques applied are presented in table 1.

<< Table 1 around here >>

Findings

Three categories of findings will be presented. First, examples of the influence of abduction on the research process will be discussed. Next, the mechanism leading to the low effectiveness of investment subsidies will be depicted. Causes of the permanence of the subsidies will be presented at the end.

The influence of abduction on the research process

Four examples of the way abduction influenced the research process will be discussed. They show that the appropriate approach provides an opportunity for abductive reasoning and a flexible research process.

On the basis of the first research results a hypothesis was developed that subsidies are provided to the most competitive companies and not necessarily the best projects, contrary to what the official aims of the intervention had claimed. The next stages of the research were designed in a way that would enable the verification of the hypothesis. It was proven that not only did the more successful companies receive subsidies but also that all the stakeholders realized this is the case.

While analyzing the interviews with the policy makersⁱⁱ it was discovered that the journalists are important stakeholders in the phenomenon under scrutiny. Having been asked whether the programme is worth implementing, some policy makers answered, “Yes, the media like it.” Thus, it was decided that the programme theory of journalists should be researched. It was hypothesized that newspaper articles describing interventions focus rather on the pace of implementation rather than its effectiveness. Therefore, in order to verify the hypothesis, a new research stage was added. Articles in main Polish newspapers concerning investment

subsidies were investigated with the use of content analysis and the hypothesis was confirmed.

One of the surprising results from the first interviews was that stakeholders did not pay too much attention to the intervention costs. Thus, the costs were thoroughly analyzed and appeared to be relatively high.

The last example refers to the influence of abduction on the process of creation of theoretical framework. During the interviews with beneficiaries, the criteria they used to evaluate an intervention appeared as important as the way they perceived the intervention. Thus, the criteria of other stakeholders were analyzed. As a result, the differences between stakeholders in terms of the criteria are thought to be one of most important factors influencing the implementation of intervention.

Table 2 summarizes the examples.

<< Table 2 around here >>

Mechanism leading to the low effectiveness of investment subsidies

On the basis of an evaluation of other similar programmes (Bergström, 2000; Gabriele, *et al.*, 2006; Trainor & Harris, 2005, Venetoklis, 2000a), it was hypothesised at the first stages of the research that the investment subsidies are ineffective. The major focus of the research was the identification of the mechanism of the subsidies and factors decreasing its effectiveness. The six most important factors – flaws in the official programme theory - will be presented. They were identified during the research process and then confirmed by the results of other studies. The low effectiveness of subsidies was later confirmed by the official ex–post evaluation of the programme. There were no significant net effects in terms of the key indicators of competitiveness (income, investments, productivity)^{IV} (Pokorski, 2010).

The programme has a low relevance. The implementation of subsidies stemmed rather from the availability of European funds than problem identification. It is argued in the official documentation of the programme that investment subsidies are highly needed. It is maintained that they respond to the most important problem of Polish enterprises, that is, a lack of financial resources. Therefore, the state should provide funds for companies (Sektorowy, 2004). This view is not necessarily true. As it is proven by diverse studies, it is rather the low quality of regulations than the lack of capital that is the source of the biggest difficulties for both beneficiaries and, in general, enterprises in Poland (Polish Agency for Enterprise Development, 2007). There are many reasons for the lack of investments, and the lack of capital is only a minor one. This thesis has been acknowledged by both policy makers and beneficiaries. While the subsidies have been implemented in Poland, the national public administration has not introduced any intervention which could improve the quality of regulations. Consequently, the programme may fit into the “garbage can model”, where the choice of intervention *is characterized as the confluence of three streams: problems looking for solutions, solutions looking for problems; and people looking for things to do* (Goodin *et al.*, 2006, s. 22).

Even if some companies really need subsidies to become more competitive, the important question is whether subsidies are actually provided to them. Most of the interviewees agreed that the actual beneficiaries of the subsidies are the companies that are the most competitive ones (as opposed to those which had the best projects). The effect stems from the construction of criteria for the evaluation of applications for subsidies, which preferred the more competitive enterprises. Therefore, the subsidies make the best enterprises even better. The effect of the rich becoming even richer and the poor getting poorer is well recognized within social sciences and it is labelled the “Matthew effect” (Rigney, 2010). The mechanism occurs

spontaneously in diverse areas of social life. Thus, the state's intervention that facilitates it should not be perceived as useful.

Another important issue is the vagueness of the aims which investment subsidies are supposed to lead to. Officially, subsidies should enhance the competitiveness of the national economy. However, as the research proves, policymakers also have other aims (e.g., increasing employment or gaining political support). As a result, the aims are often contradictory, making the whole intervention unproductive. While the programme was designed the unemployment in Poland was high (ca. 20%) and policy makers wanted to use all possible measures to decrease it. Thus, the unofficial aim of the intervention was to decrease the rate of unemployment.

As it is proven by various studies (Bergström, 2000; Venetoklis, 2000a), the enterprises that receive public support to make an investment very often could manage to finance it from their own resources (*deadweight effect*). Having saved money, they are able to spend it in other areas e.g., raising salaries or decreasing the price of their products. Thus, the state finances the companies' spendings, which is not necessarily in the public interest. In the evaluation of the programme under study only 8 percent of beneficiaries claimed that they would not have realized their investment without subsidies; 23% would have realized the investment to the same extent and 69% to a smaller extent; 4% had difficulties in answering the question. (Pokorski, 2010).

Finally, the results of the official programme evaluation question its efficiency. As an example, while creating one full time job by providing subsidy costs of on average 9 000 EUR, a similar effect was achieved by providing consultation costs of 1 400 EUR (Pokorski, 2010). Subsidies involve a lot of cash flow. Taxpayers pay money, and then it circulates within diverse public institutions in order to be given to enterprises. Each transaction involves some costs. As rough estimations show (Krupnik 2008), the costs of the enterprises preparing

the applications for subsidies alone may constitute one quarter of the subsidies' amount (100 mil EUR in comparison with 426 mil EUR). Therefore, even if there are some positive effects they are most likely to be too small in comparison with the costs that they involve.

The last argument against investment subsidies involves institutional dysfunctionality. Programme theory does not secure the appropriate evaluation of the intervention. All stakeholders (i.e., entrepreneurs receiving the subsidies, policymakers) benefit from them and are interested in their implementation. What it means is that even if the overall subsidies are not worth implementing in terms of public interest, all the actors deciding about it have preferences towards implementation. The argument will be depicted in detail when the reasons for its permanence will be discussed.

Figure 4 summarizes the mechanism leading to the low effectiveness of subsidies. Studies show that the effects are small, especially in relation to costs. However, subsidies are still being implemented. As it will be argued below, the permanency of the programme may be explained by the analysis of the programme theories of actors involved in the programme implementation.

<< Figure 4 around here >>

Permanence of investment subsidies: programme theories of stakeholders

Because of the comparison of programme theories of the stakeholders, two main differentiating dimensions were identified: problem definitions and evaluation criteria. They are presented in table 2. There were similarities between stakeholders in both dimensions. As an example, they all evaluated the programme positively. However, for the sake of simplicity, only the differences are presented and will be discussed.

<< Table 2 around here>>

The official opinion of policymakers is that the problem to be solved by the investment subsidies is the lack of financial resources for investment in the SME. They are supposed to apply classic evaluation criteria (e.g., efficiency, effectiveness, sustainability, utility and relevance). As a result, the whole programme is perceived in terms of investment. The state acts as an investor whose actions, here subsidies, should serve the public interest.

However, the actual praxis of programme implementation and the interviews conducted show that the real problem believed to be tackled by the programme was unemployment. Policymakers wanted to solve two problems with the usage of one tool. The actual evaluation criteria inferred from the interviews with policymakers also differed from the official version presented in the documents. The most important evaluation criterion is the easiness of implementation. Interviewees stated that for politicians, media coverage is of utmost importance. Thus, evaluation focuses rather on short-term than on long-term effects. Surprisingly, interviewees claimed that the programme could not be implemented if it was not co-financed from European funds. Thus, the source of financing is also used as the evaluation criteria.

There are also two important stakeholders whose programme theories are needed in order to understand the social mechanism of intervention: beneficiaries of the programme and journalists. According to beneficiaries, there are two factors/problems that lead to the programme. Firstly, the government has European funds to spend. Secondly, small and medium enterprises (SME) are treated worse than big companies. Hence, the programme is evaluated positively on the criteria of justice and relative effectiveness. The programme is good because it a) partially compensates the privileged position of big companies (i.e. now also smaller enterprises receive subsidies) and b) is a much more efficient way of spending the money than leaving it with the government or for other projects. As one of the beneficiaries stated, “Entrepreneurs know what to do with money.” To conclude, for beneficiaries the programme is all about redistribution of resources and they see receiving money as just and relatively effective.

According to journalists, the major problem to solve is the danger of giving money back “to Brussels” in case the funds will not be spent. Public institutions are depicted in articles as the barrier to effective (i.e., fast) implementation of subsidies. Thus, the programme is good only if the easiness of money flow is secured – they are provided to enterprises as quickly as possible. There is no space for the discussion of its effectiveness. As an example, while 32% of articles discussed administrative problems with subsidies, only 2% referred to any doubts relating to the effectiveness of the subsidies. Once again, the programme is all about redistribution.

To conclude, the presented analysis shows that the programme theories of stakeholders accounts for the persistence and positive evaluation of the policy. While the programme is perceived in terms of redistribution, there is no need to assess its effectiveness.

The presented constellation of stakeholders seems to be an example of “low level equilibrium” (Greskovits, 1998) between economic and good governance development. According to Greskovits, low-level equilibrium is typical for countries under transformation. However, comparative studies suggest that similar public policies persist within countries with a more advanced political culture (Krupnik 2008). The issue shall be further researched with the use of comparative analysis.

Conclusions and discussion

The study shows the social mechanism of investment subsidies. The article goes beyond previous findings indicating the small net effects of the intervention by investigating the social mechanism accounting for the effects. It also indicates factors accounting for the persistence of subsidies.

Even if only one case study was examined, and this is clearly a limitation, the comparison with other research shows that the presented mechanism may be universal. The issue shall be further elaborated.

One of the important results of this study is also the presentation of possible ways to improve the effectiveness of the public policies in the discussed domain. Firstly, the stakeholders involved may become more aware of the real mechanism of the intervention and influence the process. Secondly, the involvement of other stakeholders (independent experts, taxpayers, and entrepreneurs who are not beneficiaries) is needed. Most of all, more evaluation needs to be done by independent experts. As it is proven by Venetoklis (2000b), independent studies conducted by research institutes tend to use more advance methodologies and provide less enthusiastic (i.e., more realistic) results of public policies. Taking into account the global trend of lowering the involvement of citizens in public policy processes, one should be

pessimistic about the possibility of their protests. One should be similarly pessimistic in relation to entrepreneurs who are not beneficiaries and are worse off because of the subsidies. While the organisations who are supposed to represent them are, at least in the Polish context, relatively weak and interested in receiving subsidies from European funds themselves (Anacik *et al.*, 2009), and therefore, one cannot expect any protest from them.

It should be the object of further research to investigate the way the policy is presented to the broader audience. The findings from sociological theories of consumption may be of use. As an example, Fevre uses the term of “category error” to describe situations *in which people are encouraged to mistake a commercial transaction for one in which different rules of behaviour apply, and so be more easily parted of their money.* (2003, p.78). According to Fevre, within the buyer–seller relations, the categories of “market exchange” and “reciprocity” and respective rules of behaviour are mixed up. In commercial situations buyers are prompt to behave as if they were taking part in the social process. As an example, they are given gifts in order to make them buy something. The present study suggests that we may observe an analogous situation within the state–taxpayer relation. However, in this case, the mistake relates to categories of “investment” and “redistribution.” While the aims of the programme are defined in relation to investment, the actual mechanism is more similar to redistribution. This hypothesis needs further investigation.

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Appendix

ⁱ A detailed discussion of causality in programme theory evaluation may be found in (Virtanen & Uusikyla, 2004).

ⁱⁱ Grounded theory methodology includes diverse research approaches. In the opinion of the author of this article, the three most important features of pragmatic approach are: abduction, triangulation and taking advantage of theoretical approaches within the whole research process (Strúbíng, 2007).

ⁱⁱⁱ For the sake of simplicity the term policymakers is used to group three diverse groups of stakeholders: politicians, actual policymakers who exerted influence on the programme under study and civil servants responsible for the programme implementation.

^{IV} The net effect was measured in the quasi-experimental design, in which Propensity Score Matching was used. 755 beneficiaries and 755 enterprises which applied for subsidies and were unsuccessful were compared. The data was taken from: applications for subsidies, the statistical office and survey research. The study was conducted 18 months after the subsidies were accounted for (Pokorski, 2010).

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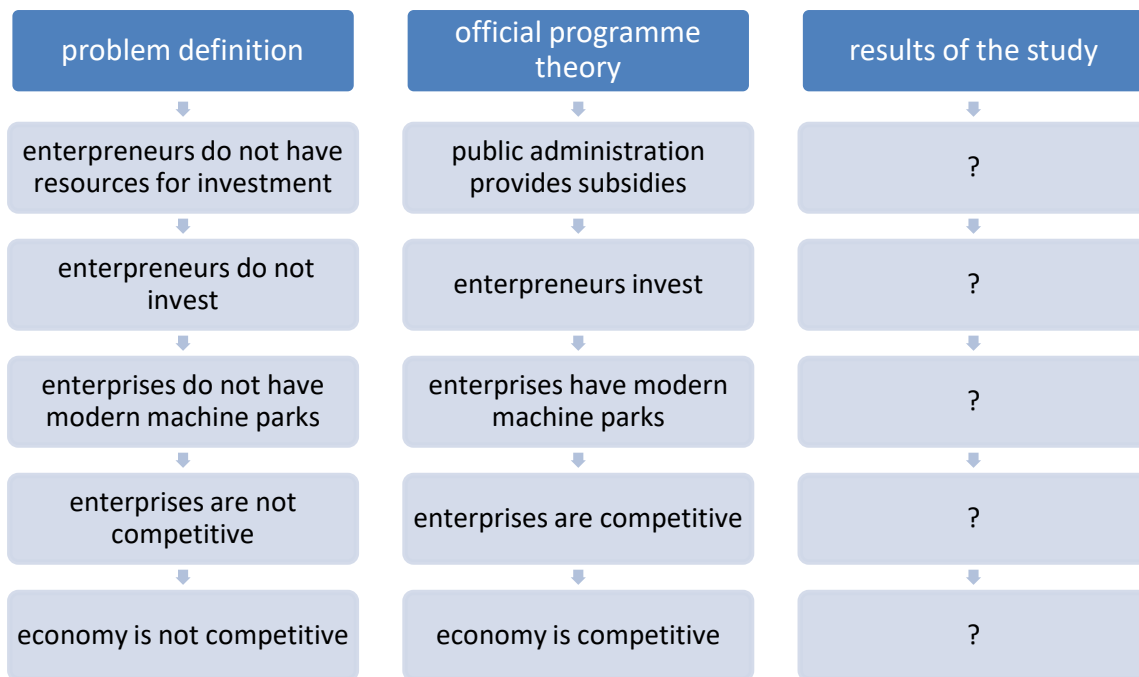
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Figure 1. Problem definition and programme theory in official documentation of programme



Source: (Krupnik, 2008)

Table 1. Groups of stakeholders and relevant methods applied

GROUP OF STAKEHOLDERS	METHODS USED	TECHNICAL DETAILS
Beneficiaries	In-Depth Interviews	17 interviews
	Desk Research	Evaluation reports
Policy makers	In-Depth Interviews	10 interviews
	Desk Research	Official documentation of the programme, Evaluation reports
Journalists	Content Analysis	605 articles in main Polish newspapers concerning investment subsidies
Experts	Desk Research	Polish and international research reports and scientific articles

Table 2. The examples of the influence of abduction on the research process

Data	Rule	Influence on the research process
Beneficiaries claim that more competitive enterprises are more likely to receive the subsidies	St. Matthew rule	New questions asked in next stages of the research
Policy makers indicate the role of media	Agenda -setting role of media	New stage in the research process – inclusion of the newly researched group (content analysis of articles)
The costs of intervention are not thoroughly analyzed in official documents	1. Costs provided in many categories are more likely to be accepted than the ones summarized in one amount 2. Stakeholders concentrate on profits and tend to hide costs	1. Costs estimation 2. Questions in next stages of the research project
Diverse criteria of evaluation of intervention	Criteria of evaluation as the crucial element of mental models	Questions in the next stages of the research project The role of criteria in the theoretical framework

Figure 2. Problem definition, programme theory in official documentation of intervention and the results of the study



Source: (Krupnik, 2008)

Table 2. Main stakeholders, their definitions of problems, evaluation criteria and perceived forms of integration

Stakeholders	Policy makers officially (documents)	Policy makers unofficially (interviews)	Beneficiaries	Journalists
Problem definition	lack of financial resources for investment low level of national economic competitiveness	Unemployment low level of national economic competitiveness	European funds to spend SME treated worse than big companies	Danger of giving money back “to Brussels”
Evaluation Criteria	efficiency effectiveness utility relevance sustainability	media coverage on pace with implementation outputs (short-term effects) source of financing (national vs. European funds)	relative effectiveness justice source of financing (internal vs. external)	speed of spending the money outputs (short-term effects)
