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IS THE JESSICA INITIATIVE TRULY REPAYABLE INSTRUMENT? THE POLISH CASE STUDY

CZY INICJATYWA JESSICA JEST INSTRUMENTEM ZWROTNYM? PRZYKŁAD POLSKI

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Summary: The JESSICA initiative introduced under the EU Cohesion Policy as revolving instrument, aimed at the regeneration processes and sustainable development of the cities. One of its main assumptions was to increase efficiency and effectiveness of the projects supported by JESSICA. The paper aims to identify whether all the projects implemented in Poland in the years 2007-2015 bring revenue and whether there is a relationship between the amount of the JESSICA loans/projects and the legal form of beneficiaries. The Polish case study based on the analysis of all the projects implemented in the five regions reveals that not all the projects bring revenues from their main operations. The legal form of a beneficiary plays also an important role with regard to the size of the loan/the value of the projects and determines a type of the results (economic, social) achieved by the projects. Thus, the recommendations for policy-makers responsible for the implementation of JESSICA 2 can be formulated[1].

Keywords: JESSICA, regeneration, revenue-generating projects, cohesion policy, Poland.

Streszczenie: JESSICA została zainicjowana przez Komisję Europejską wraz z Europejskim Bankiem Inwestycyjnym jako instrument finansowania zwrotnego mający wspomóc procesy rewitalizacji zdegradowanych obszarów miejskich. Jednym z jej podstawowych założeń było podniesienie skuteczności i efektywności wspieranych projektów. Głównym celem artykułu jest zweryfikowanie, czy projekty realizowane w Polsce w latach 2007-2015 generują przychody i czy istnieje zależność pomiędzy wartością pożyczki/projektu JESSICA a formą prawną beneficjentów projektów. Analiza, która objęła wszystkie projekty zrealizowane w pięciu polskich regionach, pozwala stwierdzić, że nie wszystkie projekty generują przychody z podstawowej działalności. Forma prawna beneficjentów ma znaczenie w odniesieniu do wartość pożyczki/projektu i wpływa na rodzaj osiąganych w projektach rezultatów (ekonomicznych, społecznych). Analiza pozwala na sformułowanie rekomendacji dla praktyki w zakresie wdrażania kolejnej generacji inicjatywy – JESSICA 2.

Słowa kluczowe: JESSICA, rewitalizacja, projekty generujące przychód, polityka spójności, Polska.

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1. Introduction

Broadly defined investments need to remain high in urban areas, particularly in such fields as urban infrastructure, heritage site, deprived areas, housing etc. The financial capabilities of both public and private entities have not been sufficient to address the justified expectations. An approach bridging the gap by providing support in the form of repayable financing has been introduced. There are surprisingly few studies looking into the different nature of such financial aid. This study provides further evidence for the implementation of the JESSICA (Joint European Support for Sustainable Investment in City Areas) initiative. Preliminary studies on JESSICA considered it not to be an excellent instrument for sustainable urban development. Its achievements and shortcomings are critically reviewed by Dąbrowski [2015], Bode [2015] and Musiałkowska and Idczak [2016].

The basic tasks of the JESSICA initiative are to develop an effective process for supporting urban development and to enhance and accelerate a potential for new investments in urban areas. This means that in principal only projects that generate return flows are eligible for funding offered by this instrument. The repayment should be achieved either in a form of solely commercial returns or project revenues secured directly by investors from other sources. This raises the following questions: How many projects have received revenues from primary business activities, and which of them have gained revenues derived outside their main operations? What types of beneficiaries in term of their legal form applied for funding and implemented the JESSICA projects? Is there a clear link between the amount of the JESSICA loans or the value of JESSICA projects and the legal form of beneficiaries? Does the legal form of beneficiary vary by the fact that the repayment for JESSICA loans has been made from project returns or non-project revenues? And finally, is there any link between the capacity of projects to generate own revenues and the legal form of beneficiaries and the value of JESSICA projects? The study sheds more light on the implementation of repayable instruments aimed at bridging urban development disparities in cities by examining the Polish experiences from the 2007-2013 financial perspective. Hence, the other purpose of this study is to advance understanding of the use of financial engineering instruments designed to accelerate investments and multiply the outcomes of EU cohesion policy.

2. The JESSICA initiative as an instrument for financing the urban regeneration

Due to insufficient non-repayable funds for regeneration measures, a new initiative of JESSICA was created for this purpose in the 2007-2013 financial perspective. It is an instrument used in the framework of the cohesion policy to promote regeneration through increasing effectiveness and efficiency of actions and projects. It uses the resources of one of structural funds − the European Regional Development Fund – in the form of revolving instruments (loans, guarantees), allowing for e.g. achieving the multiplier effect of the actions implemented [MoU 2006]. JESSICA was developed by the European Commission in cooperation with the European Investment Bank (EIB) which can act as a trust fund manager and which works in cooperation with the Council of Europe Development Bank (CEB). In the years 2007-2013, this initiative was applied in 11 EU countries, including Poland [European Commission 2017]. In all five Polish regions: Mazowieckie, Pomorskie, Śląskie, Wielkopolskie, and Zachodniopomorskie that implemented JESSICA, EIB was a beneficiary of the measures of regional operational programmes and performed a function of the so-called holding fund that cooperated with the specialised Urban Development Funds (namely: Bank Gospodarstwa Krajowego, Bank Ochrony Środowiska and Bank Zachodni WBK S.A) responsible for the selection of the projects.

JESSICA, in general, supports projects in the following areas: urban infrastructure (including for transport, water and sewage systems or power), heritage or places relevant to culture (contributing to the development of tourism or other permanent use), development of brownfield sites (including cleaning and decontamination of the areas), creation of new commercial premises for small and medium-sized enterprises, development of information technology and research and development works, expansion of university buildings and improving the energy efficiency [Komisja Europejska 2013a, in: Musiałkowska, Idczak 2016]. Almost all types of legal persons enumerated in Polish law were eligible for applying for funds (see more in parts 3-4).

It is assumed that this initiative should bring a number of benefits [FE 2011, Komisja Europejska 2013b, in: Musiałkowska, Idczak 2016]:

- generating profits through projects implemented using financial engineering instruments,
- occurrence of leverage − by combining structural funds with other existing sources of funding,
- providing flexibility in structural terms regarding the usage of funds,
- gaining know-how − the structural funds managing authorities and urban authorities are able to benefit from the aid of the private and banking sector, which ultimately aims to facilitate the acquisition of further investments in the coming years and to provide technical and financial performance in the implementation phase of the project,
- being a catalyst for establishing partnerships between countries, regions, cities, EIB, CEB, other banks, investors [Nadler, Nadler 2017],
- emphasizing the so-called social aspect of the projects, estimated based on the advantage of positive externalities of an urban project over the commercial part of an investment,
- projects shall potentially represent greater complexity than under the grant system and be more varied (e.g. shopping malls, business incubators, office space, hotels, etc.).

3. Data and research methods

The empirical analysis in this study builds on a dataset containing details on all projects implemented within the framework of the JESSICA initiative in Poland during the 2007-2015 period.[2] This dataset was created on the basis of the information made available by the Marshall Offices of all regions implementing the JESSICA initiative and institutions acting as managers of the Urban Development Funds. Data regarding projects were supplemented by own examination of other sources such as project descriptions, policy reports, official websites and field studies.

In order to meet the goals identified in the introduction, we undertook a three-pronged approach. First, we identified how many projects had received revenues from primary business activities, and which of them had gained revenues derived outside their main operations. We also fixed how beneficiaries in terms of their legal form varied by the source of repayment for JESSICA loans. To this end, we applied an approach based on dichotomous items. For the purpose of calculations, integer values were assigned to the particular types of JESSICA projects as follows: 0 = non-revenue-generating project; 1 = revenue-generating project.[3] Furthermore, we engaged in identifying the status of beneficiaries as entities eligible for JESSICA funding. By using data accessible through the National Court Register, we assigned an appropriate legal form to particular beneficiaries. As a consequence, we obtained a clear view on the variety of private and public entities involved in implementing urban projects through repayable funding. Second, we examined the dependence existing between the amount of the JESSICA loans and the legal form of beneficiaries as well as between the value of JESSICA projects and the legal form of beneficiaries. In this case, such verification consists in comparing different groups of measures, i.e. variables including numerical data and categorical data. This issue is addressed by the Wilcoxon rank sum test with continuity correction which is a non-parametric test and can be used to compare two independent groups of sample. Calculations were preceded by grouping all beneficiaries according to their legal form into two distinct categories, namely: public entities and private entities (see more in section 4). Third, we examined the relationship between the fact that the particular projects generated revenues or not, the legal form of beneficiaries and the value of JESSICA projects by means of logistic regression. It allows constructing a model which

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[2] N+2 rule was taken into account when considering the implementation of the projects.

[3] Throughout this paper the term "revenue-generating project" stands for cash in-flows directly paid by users for the goods or services provided by particular projects. This means that the projects had to achieve neither an adequate level of profitability nor even an operational margin. Such an assumption can be justified on the grounds of the promotion of economic and social cohesion by correcting urban imbalances. Hence, the insufficient level of revenues in some projects can be offset by subventions that are paid in form of other operating revenues by public institutions due to the occurrence of an important public interest.

estimates the probability of a categorical response based on one or more predictor variables. In other words, it tells us that the occurrence of a predictor increases (or decreases) the probability of an outcome by a specific percentage. All calculations were done in the R statistical package [R Core Team 2017].

4. Results and discussion

By its nature the JESSICA initiative requires designing undertakings which ensure a strong and long-term viability. In a nutshell, a necessity arises for a growing number of projects with full self-financing potential. However, when looking at Table 1, one may see that nearly one in every three projects implemented under the JESSICA initiative in Poland neither provides any financial profitability nor revenues. The only region where all the projects are characterised by the fact of generating own revenues is the Zachodniopomorskie region. In turn, at the bottom of the hierarchy stands the Pomorskie region where only every second project gives the required revenues. Contrary to the expectations, it should be emphasised that the framework of the JESSICA initiative did not provide for a proper scale of long-term viability. Indeed, there are many projects (32.2%) for which the repayment of the loan is secured by investors from other sources. Taking into account the assumption related to the meaning of category "revenue-generating projects" (see footnote 2), it is likely that the number of non-profit projects is even higher.

Table 1. Number of the JESSICA projects according to capacity to generate revenues

Type of project	Mazowieckie region	Pomorskie region	Śląskie region	Wielkopolskie region	Zachodnio-pomorskie region	Total
Revenue-generating projects (RGP)	23	21	20	26	19	109
(percentage)	(74.19)	(46.67)	(76.92)	(65.00)	(100.00)	(67.70)
Non-revenue-generating projects	8	24	6	14	0	52
(percentage)	(25.81)	(53.33)	(23.08)	(35.00)	(0.00)	(32.30)
N	**31**	**45**	**26**	**40**	**19**	**161**

Source: own work.

The beneficiaries of JESSICA represent 20 different types of legal forms that were grouped into two main categories: 1) public entities − acting in the widely defined social and public interest and 2) private entities – operating for profit (Table 2). Nearly half of 57 beneficiaries classified as public entities have had to arrange other revenues than those stemming from charges paid by users. Interestingly, the highest number of projects focused on public interest was implemented in the Wielkopolskie region but only one in three of them can generate revenues. When relating this issue

Table 2. Number of the JESSICA projects by legal form of the beneficiaries

No. of types of beneficiary	Mazowieckie region	Pomorskie region	Śląskie region	Wielkopolskie region	Zachodnio-pomorskie region	Total
Private entities − including RGP	20 17	32 14	15 12	20 19	17 17	104 79
Share of RGP by private entities (percentage)	85.00	43.75	80.00	95.00	100.00	75.96
Public entities − including RGP	11 6	13 7	11 8	20 7	2 2	57 30
Share of RGP by public entities (percentage)	54.55	53.85	72.73	35.00	100.00	52.63

Source: own work.

to private entities most projects have received revenues from their primary business activities.

The main goal of the subsequent analysis is to demonstrate whether the amount of JESSICA funding (a loan or the value of a project) varies by the type of beneficiary (its legal form). We examined whether with regards to the Wilcoxon rank sum test, we found that there were significant differences between the examined groups of entities: W = 3721, p-value = 0.02362. We can conclude that a type of beneficiary is significantly different when it comes to the size of the JESSICA loan. The same procedure was conducted regarding the statistical link between the type of a beneficiary and the values of JESSICA projects. We observed that the dependence between these two variables is even stronger, which was confirmed by the test results: W = 3955, p-value = 0.002097.

As a further step of the analysis, we constructed a logistic regression model in order to predict the probability of the capacity of projects to generate revenues based on the type of beneficiaries and the value of JESSICA projects. Table 3 presents the

Table 3. Coefficients of logistic regression

Deviance Residuals		Term	Estimate	Std.error	Statistic	p-value
Min	–2.4512	(Intercept)	–17.6140	3.0793	–5.720	1.07e-08 ***
1Q	–0.5275	Public entity	–1.8161	0.5005	–3.628	0.000285 ***
Median	0.1736	Log (project value)	1.2826	0.2132	6.015	1.80e-09 ***
3Q	0.4891					
Max	1.9298					

Legend: * null deviance: 202.57 on 160 degrees of freedom, residual deviance: 115.95 on 158 degrees of freedom, Number of Fisher Scoring iterations: 6.

Source: own work.

results of logistic regression for this analysis. These findings ($\beta_1 = -1.8161$) indicate that a decrease in the variable "public entity" is associated with a decrease in the probability of "project value". More precisely, if the project is implemented by a private entity, the value of the project is higher. The level of R^2 coefficient 58.13% (based on the Nagelkerke pseudo-R^2) reflects a good replication of the model.

Bearing the outcomes in mind, we have constructed a graph (see Figure 1) that displays the plotting effects of relationships between the capacity of projects to generate revenues, the type of beneficiaries and the value of the JESSICA projects. The relations confirm our assumptions. The first chart refers to the link between the type of beneficiary and the capacity of projects to generate revenues, and points out that the capacity of projects to generate revenues is higher when they are implemented by private entities. The second one reports that the capacity of projects to generate revenues increases with the growing value of JESSICA projects. A parallel can be drawn here with the amount of the JESSICA loan which is due strong correlations between both variables.[4]

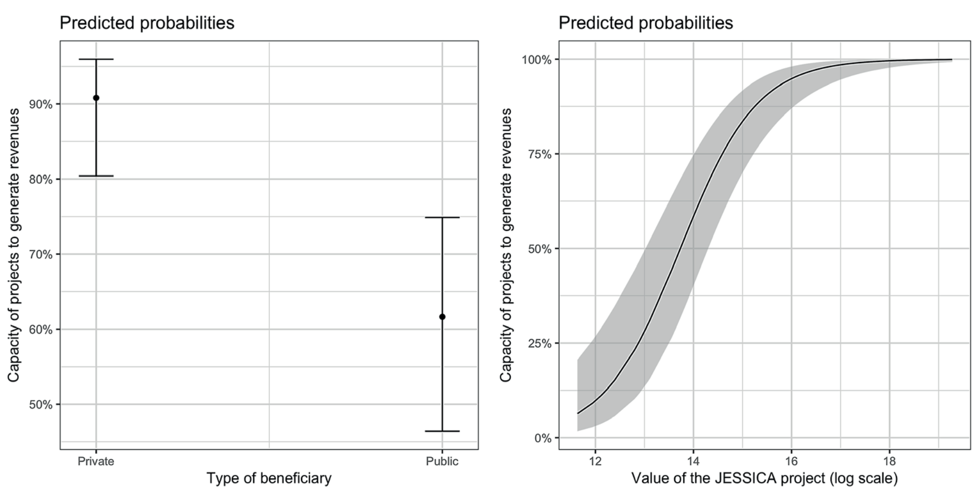

Fig. 1. Effect display for the interaction of all examined variables

Source: own work.

By referring to all the results presented above, it is possible to argue that projects implemented under the JESSICA initiative in Poland respect the spirit of this instrument in a varied way. On the one hand, there are projects, mostly executed by private entities, which generate profits and ensure the repayment of the loan based on self-financing capacity. But on the other hand, a lot of projects completed mainly by public entities do not provide any revenues, which downscale the repayable nature

[4] The correlation coefficient between those two variables reaches 0.775, and is significant at $p < 0.01$.

of JESSICA financing. Findings emerging from the empirical analysis suggest that the most appropriate projects to be considered for JESSICA support are those of a high value and designed by private entities.

5. Conclusions

The JESSICA initiative was designed to support sustainable development of the cities and focused on more efficient and effective use of the resources through the introduction of the revolving mechanisms. It aimed at generating revenues and profits and occurrence of leverage. However, the Polish study shows that the accomplishment of these requirements varies depending on the legal form of project managers and the value of supported projects. Notwithstanding, the social benefits were equally important to the UDFs that were in charge of project selection. The results of the study can serve as recommendations for policy-makers currently involved in the implementation of JESSICA 2 and help them learn that the efforts should be put on large-scale projects run by mainly private entities. This might be enough to build an effective stock for delivering products and services that are both socially and economically profitable.

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