MULTIDIMENSIONAL ANALYSIS OF INVESTMENTS ATTRACTIVENESS OF SELECTED EUROPEAN COUNTRIES FROM JAPANESE INVESTORS' PERSPECTIVE

CHEBA Katarzyna

West Pomeranian University of Technology in Szczecin, Szczecin, Poland, EU, katarzyna.cheba@zut.edu.pl

Abstract

Japanese investors' decisions regarding the location of these investments are determined by many different external and internal factors. Japanese investors in the location of their investments often choose developed countries with a stable socio-economic situation. Hence, there are important questions about the analysis of the behavior of Japanese investors and the assessment of the investment attractiveness of the countries in which Japanese capital is invested. In the work to evaluate the investment attractiveness of selected European countries (those countries were considered in which the most common Japanese investments were located) the results of the study were used on the competitiveness of the economies of the world published by the World Economic Forum, which were compared with the actual values of Japanese foreign investment. The purpose of the study was to evaluate the investment attractiveness of the Japanese investments in the concerned country .The result of the research include rankings of investment attractiveness.

Keywords: Japanese investors, investment attractiveness, reference model, annuity of attractiveness

1.   INTRODUCTION

Japanese investments, their determinants, the reasons for the change of location decisions and factors determining the Japanese investors' perception of a location as more attractive than others have been a subject to numerous scientific and practical considerations for many years, eg.: [1], [2], [3], [4], [5], [6], [7]. In addition to the obvious benefits of locating this capital in the country, a characteristic feature of Japanese investments is also the attraction of subcontractors or even competitors to the location of the investment [8]. Japanese investors are often chosen as the most competitive economies in the world with high development potential and a stable socio-economic situation [9]. This means looking at Japanese investment decisions from the perspective of the competitiveness of the economy of the country in which the capital is invested.

The aim of the study is to evaluate the investment attractiveness of selected European countries, considered from the perspective of the competitiveness of the economy, countries in which the capital is located in Europe. The competitiveness of the economies of selected European countries was analyzed on the basis of the information published by the World Economic Forum as a part of the "Global Competitiveness Index" [10], [11]. This information was compiled with data on the size of Japanese investments in Europe from 2006 to 2015. Investment attractiveness was considered taking into account the actual volume of investment outlays made by Japanese investors in a given country. In the literature of the subject, attractiveness is most often assessed from the perspective of socio-economic development of a given country or region. The attractiveness in this way should be treated as potential investment attractiveness. The result of the research include rankings of investment attractiveness from the Japanese investors perspective.

2.   INTERNAL AND EXTERNAL CONDITIONS OF JAPANESE FDI

Japanese investment decisions are conditioned by a number of factors that can be broadly divided into internal and external factors [12]. In this case, there are both specific internal determinants of Japan as the country making a decision to invest its capital outside its home country and external conditions for the countries in which the Japanese capital is ultimately invested. In the case of internal conditions,

factors such as:

a) the specific location - Japan is located on almost 400 islands), the natural topography (over 75% of the country is covered by mountains) and the existence of almost 80 active volcanoes in the area, make geographical environment heavily influence on the development of the country;

b) cultural condition (difficult language, different religion: Buddhism and Shinto, , hierarchical structure of social relations) [8];

c) socio-economic determinants (problem of deflation: in May 2016 deflation in Japan amounted to -0.4%, lower than expected level of 0.2%, and at the same time in the countries of the EU it amounted to -0.1%, low unemployment rate, very high density of population: 358 people per km^2 [9], very high price of land: in 2016 market price of 1 m2 in Tokyo fluctuated from 651 000 to 40 100 000 yen and despite the increase the prices were at the level of one third of the peak prices from the 90s in the previous century) [13].

Further growth of employment in the service sector and a decline in the manufacturing sector are also significant, which is particularly disadvantageous for the export-oriented country as it is more difficult to export services than products or technology [14]. On the other hand, the identification of external factors that determine the choice of a particular country or region as a location for investment in general (not just Japanese) may be conducted from the perspective of economic competitiveness, where competitiveness is analyzed here through the prism of the country's ability to attract investors. Internal considerations regarding Japan should be considered as independent factors. On the other hand, external factors influencing the localization attractiveness of particular country can be analyzed by assessing the competitiveness of particular economy. This is especially true for Japanese investors who choose well-developed countries for their investments. The flow of Japanese capital has changed over the years. This capital is still most often located in the United States, then in Asian countries, but more and more recent investments are also taking place in European countries, mainly in United Kingdom (89 228 mln US dolars in 2015) and in Netherlands (104 329 mln US dollars) [15].

3. RESEARCH METHOD

3.1. Scope of the study

In the literature [16], [17] investment attractiveness is most often considered under the multidimensional comparative analysis, in the course of which various areas of socio-economic development are assessed that cn decide about the attractiveness of a place for potential investors. These factors are analyzed in different systems and dimensions, treating them as a set of determinants that determine the attractiveness of a particular economy. A completely different approach to the study of investment attractiveness was presented by B. Guzik [18], who suggested that "the empirical (real) investment attractiveness of a territorial unit should be used to assess the amount of investment made in its territory". The following assumptions were made in the present paper [18]: 1) estimation of investment attractiveness only on the basis of various types of measures, mainly determinants of socio-economic development, does not allow to determine so- called real investment attractiveness; 2) if we assume that the investment attractiveness considered from the perspective of Japanese investors is a consequence of evaluating different areas of economic competitiveness, it is also possible to estimate econometric models (regressive) describing investment attractiveness based on the information describing these competitiveness ratios; 3) the investment attractiveness determined by the method of multidimensional comparative analysis (WAP) should therefore be considered as potential or theoretical attractiveness.

However, in order to obtain information on the real investment attractiveness, the results of such analyzes should be compared with the actual investment expenditure sustained by investors (in Japanese FDI) in a particular region [8] as "natural symptoms" of investment attractiveness. In the next part of this paper these

assumptions were verified taking into account the size of Japanese FDI in selected European countries compared to the results of the World Economy Rankings published by the WEF.

3.2. Research material

The basis of the analyzes presented in the paper were the values of indicators describing the competitiveness of the world economies published annually by the World Economic Forum (WEF) in the reports: "The Global Competitiveness Index" (GCI), compiled with information published by Japan External Trade Organization (JETRO) on the average annual value of Japanese foreign direct investment in 2006-2015 in European countries. The analyzes were conducted in 3-year cycles, it was assumed that the average value of Japanese FDI in European countries for example in 2006-2008 could be related to the level of competitiveness of the host country of those investments based on the indicators of 2006. The (indirect) way of predicting the size of Japanese investments in European countries based on an analysis of the determinants of their attractiveness seems to be useful when standard methods (such as trend extrapolation) prove useless. This is the case when analyzing the influx of Japanese investments into Europe. According to experts [1], [4] the inflow of Japanese investments is cyclical, which is quite different from that of US investments.

3.3. Research stages and analysis methods used

The econometric models (regression models) were used to study the investment attractiveness of European countries considered from the perspective of Japanese investors. It was assumed that the size of Japanese FDI is a function of the development of 12 pillars describing the competitiveness of these countries. According to the methodology of measuring the competitiveness of international economies proposed by WEF as a measure of competitive ability, the following were adopted: F_1 - institution, F_2 - infrastructure, F_3 - macroeconomic environment, F_4 - health and primary education, F_5 - higher education and training, F_6 - goods market efficiency, F_7 - labor market efficiency, F_8 - financial market development, F_9 - technological readiness, F_{10} - market size, F_{11} - business sophistication, F_{12} - innovation.

Thus, the competitiveness of international economies was considered by the prism of the relationship between the size of Japanese direct foreign investment and the factors describing the level of competitiveness of international economies. Three versions of the normative model were identified, namely the model determining the size of Japanese FDI that should occur in a given country with the adopted values of WEF competitiveness measures:

a)   linear model (L): Y=w1F1 + w2F2 + … + w12F12,

b)   exponential model (E): Y= exp (w1F1 + w2F2 + … + w12F12),

c)   power model (P): Y = F1w1 *F2w2 * … * F12w12.

where: *exp* (*X*) means exponentail function e^x, F_1, …, F_{12} - the values obtained in each pillar of competitiveness according to the WEF methodology.

The rest of the prescribed normative models are differences between the actual values of Japanese foreign direct investment in the analyzed European countries and the model values (estimated on the basis of models). Positive residues indicate that, for example, the actual investment value is higher than the normative value and the surveyed (European) country is attractive (or relatively) to Japanese investors and vice versa. The RAI (investment attractiveness pension) can be used to assess investment attractiveness (European countries) [18]:

RAI $_{object}$ = e $_{object}$/ Y $_{average}$, where: *Y $_{average}$* - average value of Japanese FDI *per capita*, *e $_{object}$* - the rest of the normative model, the difference between the empirical value (real) and the value from the model

4. STUDY RESULTS

Table 1 presents selected reference models describing the relationship of Japanese FDI *per capita* to metrics describing the competitiveness of the economies of selected European countries where Japanese capital is most often invested. The model selection criterion was the degree of fitting the model to the actual data measured by the determinant R^2. Presented models only include those explanatory variables that are relevant. Models were estimated using stepwise (progressive) regression. An empty place in the table means that the variables were irrelevant.

Table 1 Reference models

Pillars	Dependent variable							
	$Y_{(6.7.8)}$	$Y_{(7.8.9)}$	$Y_{(8.9.10)}$	$Y_{(9.10.11)}$	$Y_{(10.11.12)}$	$Y_{(11.12.13)}$	$Y_{(12.13.14)}$	$Y_{(13.14.15)}$
F_1	1.26						-294.20	
F_2	-1.17		-0.39		7.10	0.93	414.70	0.70
F_3	-1.10		-2.14	-0.50		-0.85	575.50	
F_4					14.88		1109.50	2.70
F_5	1.91	-334.49	-1.76			0.06	-1240.20	-3.15
F_6	10.68	871.12	11.75	10.97	35.79	6.84	3235.90	5.90
F_7	0.79			0.98			-148.50	-0.69
F_8	-1.33		-0.84					
F_9				-0.67				
F_{10}		-159.65					818.40	
F_{11}	-0.59		-3.45	3.92			-1684.00	
F_{12}	-3.60	-274.67	-0.16	-5.63	-16.01	-1.44		
R^2 (%)	97.20	86.19	95.36	96.73	94.10	90.28	97.63	91.28
Model	E	L	E	E	P	E	L	E

Matching the models presented in the table to real data is high. For all estimation models the determination coefficient (R^2) is above 80%. The highest matching (97.63%) is for a model describing the average Japanese foreign direct investment *per capita* in 2012-2014. The model estimated for this period shows that the increase in factor 1 (F_1), which describes the competitive capacity in the area of: unit by unit will entail *ceteris paribus*, a decrease of Japanese FDI in the analyzed European countries by an average of US $ 294.20 million dollars per 100 residents. A similar situation applies to factors that describe: F_5 - higher education and training, F_7 - labor market efficiency, F_{11} - business sophistication. It is also worth noting that the negative values for F_5 were also obtained for models describing the average Japanese FDI for years: 2007-2009 and 2013-2015, F_7 in: 2013-2015 and F_{11} in: 2006-2009 and 2008-2010. Investment attractiveness does not always have to be positively correlated with the factors describing it and the increase in the value of measures, e.. in the area of labor resources will not always be considered attractive for foreign investors. It may mean, for example, an increase in labor costs (related to expectations of higher wages).

Table 2 shows the RAI's relative attractiveness ratios relative to the average per capita Japanese foreign direct investment and the RAI's investment attractiveness index. Positive RAI values refer to countries in which: Japanese FDI is higher than the reference value. These countries acquire so-called attractive pension, whereas in the case of negative values this is so-called disability rent [18].

Table 2 RAI measure for selected countries

Country	Incicator RAI for years:							
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Belgium	-4.69	-43.16	-12.62	-9.54	-14.13	-4.18	-4.92	3.67
France	4.35	34.61	12.69	6.36	5.96	15.53	-3.27	16.55
Spain	-1.43	-90.90	-6.33	-12.55	-11.94	-14.58	3.91	-5.34
Netherlands	3.01	110.42	9.28	1.12	20.09	19.10%	7.74	13.60
Luxemburg	2.74	12.54	0.77	3.26	-3.13	2.19	-2.11	0.80
Germany	-3.38	31.85	-3.15	5.98	6.51	9.62	-4.26	1.08
Poland	-1.34	37.95	4.91	5.96	5.81	5.94	-1.06	9.64
Switzerland	1.71	-59.59	-0.45	-3.65	-5.41	-6.20	0.34	-8.08
Sweden	-1.88	6.32	-0.54	-2.80	-10.91	-10.35	2.62	-19.07
United Kingdom	-2.85	-56.85	-2.71	4.77	7.03	-16.11	-1.21	1.55
Italy	3.76	16.81	-1.85	1.09	0.11	-0.96	2.21	-14.41

Positive values of the RAI, e.g. so-called attractive pension for all analyzed years was obtained for the Netherlands. This country also has the highest occupancy rate in the whole ranking. In 2009 the attractiveness rating estimated for the Netherlands was as high as 110.42% of the average Japanese foreign direct investment per capita. A similar situation also applies to France, which in 6 out of 7 analyzed rankings also obtained so-called an attractive pension. The highest also in 2009 at 34.61%. Apart from the Netherlands and France, the most attractive rents were obtained for countries such as:

On the other hand, the largest negative difference (-90.90%) between actual Japanese FDI and investment in the reference model relative to the average size of Japanese FDI was in Spain. This difference, as in the case of the attractiveness pension was related to 2010. In that country, the actual size of Japanese FDI was smaller than the amount of investment that it should take given the level of competitiveness of the country's economy estimated by the WEF.

CONCLUSIONS

In the paper, the method proposed in [18] is used to study the investment attractiveness of selected European countries according to which the analysis of investment attractiveness based only on indicators describing different areas of socio-economic development is insufficient. Considering the investment attractiveness of a particular country from the perspective of investments made by foreign investors, such as Japanese ones, it is also necessary to take into account some specific characteristics of these investments. Japanese investors in their capital locations often choose the most competitive countries with a stable socio-economic situation (e.ge. in Europe: Great Britain and the Netherlands and the United States in the world), and culturally or dynamically developing countries (e.g. China). This means theoretically the possibility of looking at the attractiveness of a particular country also from the perspective of its competitive ability.

This way of acting allows to estimate so- called attractive or disillusioned pensions, e.g. a difference between "in plus" and " in minus" respectively between actual Japanese FDI and investment resulting from the estimated reference model relative to the average size of Japanese FDI in the analyzed European countries. It is therefore a kind of two-stage procedure for studying investment attractiveness from the perspective of foreign investors, working on Japanese investments in the studied European countries.

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