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INNOVATIVE FOREIGN DIRECT INVESTMENT POLICY: LATVIA'S CASE**Agne Simelyte,**  <https://orcid.org/0000-0002-9475-9645>

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Abstract: *As globalization accelerates, the influence of innovative foreign capital on economic development and employment level becomes more significant. However, the impact of FDI on the standard of welfare and economic development is controversial. The demand to promote or target innovative FDI has increased as it has been seen as an innovative tool to stimulate regions' economic growth or intervene in economic structure changes by orienting it in the most favourable way for the host country. Interest in attracting foreign direct investment has increased since the 1980s as it is one of the external financing sources for both developing and developed countries. However, scientists still argue whether the impact of foreign capital on economic growth is positive or negative. Some researchers state that inward FDI is limited to a short-term positive impact. In contrast, others maintain that the performance of multinational corporations cannot harm the host country at all, and FDI only positively influences economic growth. Modern economic science questions whether it is worthwhile for the state to interfere with the market and stimulate the identified target business sectors with the help of innovative FDI policy. In this way, even significant market flaws are revealed, and some companies are doomed to fail. The benefits of FDI are obvious: the creation of new jobs, «know-how», and the tendency to increase exports. In this sense, the host country should attract specific MNCs motivated towards expanding business through research and development. The article proposes a targeted, complex, innovative FDI policy while applying the ANP method. The methods applied in this research include Analytic Networking Method based on the SWOT approach. The ANP has been chosen as a qualitative method based on the experts' opinion, allowing determining the best or several alternatives. The findings & value added of the study demonstrated that to gain a competitive advantage, Latvia should attract more innovative FDI into the service business area, followed by manufacturing. The research contributes to the internalization theory while emphasizing the importance of promoting innovative FDI.*

Keywords: Analytic Networking Method, criteria system, Innovations, FDI policy, Latvia, SWOT.**JEL Classification:** C61, F12, M48.**Received:** 20 July 2022**Accepted:** 15 September 2022**Published:** 30 September 2022

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Introduction. The majority of countries, irrespective of their development, aim to choose effective and innovative economic policies which would facilitate economic growth and the welfare of their people. Despite this endeavor, implementing constructed policies may sometimes lead to rather controversial results (Beshir, 2022; Ighoshemu and Ogidiagba, 2022).

The underperformance of economic policies frequently appears to be the outcome of controversial effects of financial tools or incompatibility of targeted aims. Therefore, innovative approaches to economic policies' contracting have to be applied, i.e., the impact has to be foreseen, and targets have to be ranked according to their priorities. The paper focuses on the peculiarities of constructing foreign direct investment policies; a case study of Latvia has been used.

Literature Review. Foreign direct investment (FDI), as an additional source of capital, is an essential determinant of economic growth in most countries (Mazzanti et al., 2020; Khan et al., 2020; Kaliyeva et al., 2020; Mehmood et al., 2021; Shmarlouskaya et al., 2021; Karpenko et al., 2021). In addition, the host countries, as many authors rightfully claim, considerably benefit via technology transfer resulting from the presence of FDI (Cieslik et al., 2016; Hilkevics and Hilkevics, 2017; Rausser et al., 2018; Khalatur et al., 2021; Buhaichuk et al., 2021; Burinskas et al., 2021; Kucera and Fiřa, 2022; Radavicius and Tvaronavicienė, 2022). However, not all inward FDI brings benefits to the host country. Some adverse effects might occur as well. Some researchers (Lisin and Strielkowski, 2014; Liu, 2019) consider whether it is worth such intervention as market imperfections generate distortionary effects. Even more, some sectors are condemned to the sink for imperfections and have the most significant size distortions. For example, local businesses lose their competitiveness over multinational corporations (MNCs), brain-drain, the investor might not care about the environment; repatriate profit; or the host country might even become dependent on FDI (Cabelkova et al., 2015; Brodzicki, 2016; Milewicz, 2020; Gruzina et al., 2021; Zumente and Bistrova, 2021; Ighoshemu and Ogidiagba, 2022).

In the case of dependence on international capital, the host country becomes very sensitive to any economic cycle changes in the home countries of MNCs. Consequently, cyclical fluctuations negatively impact the host economy (Li et al., 2022; Hoshi and Kiyota, 2019). Despite negative impacts, the host country benefits from inward FDI due to the establishment of new job places, higher wages, know-how, and the payment of taxes into the budget. To attract inward FDI, countries compete with each other, primarily when a group of countries is defined as one market (Zhai, 2014). For example, all three small Baltic States are often viewed as a single market of 6 million people and with limited opportunities to develop business in all sectors (Lu et al., 2019; Strielkowski et al., 2021). Thus, Lithuania, Latvia, and Estonia even compete for inward FDI in the same business sectors. Host countries develop and implement their FDI policy to gain a competitive advantage or to emphasize competitive advantages. Both fiscal and financial measures are usually included in the FDI policy. Especially, MNCs tend to move their business to a «tax haven» (Copola et al., 2021). The business environment affects the performance of companies irrespective of their capital origin; alas, FDI is especially sensitive (Grencikova et al., 2021). Busse et al. (2010) mainly highlight unilateral FDI promotion measures or, in other words, creating a more favorable environment for MNCs. Their study shows that less restrictive legal regulation on MNCs correlates with higher inward FDI flows. Implementation of the FDI policy gives significant benefits to the host country. It is supposed to have developed a targeted FDI policy and set measures.

Methodology and research methods. The article aims to propose an innovative approach to FDI policy formation by introducing a complex target. To offer complex, innovative FDI policies, it is necessary to consider the components of FDI policy. In other words, the host country should focus on the possible partial FDI policy. Identifying partially targeted FDI policies assists in understanding which business sectors are the more promising and supposed to be even more stimulated and promoted. Promotion often includes various financial measures. Thus, we used SWOT analysis to analyze the factors describing obstacles and competitiveness of the potential business sector. Analytic Network Process (ANP) has been developed on the analytic hierarchy process by Saaty (2006). The ANP method for decision-making has been applied in various disciplines. For example, the ANP-SWOT-based approach has been employed to develop industry strategies (Liu et al., 2018) and to prioritize ecosystem management strategies by Arsic et al. (2018). The other study considers supply chain solutions while using the Analytical Network Process Method (ANP) (Magableh and Mistarihi, 2022). ANP is adopted in four steps (Aghasafari et al., 2020).

The results of a SWOT analysis are presented as a list of factors according to the analysis of statistical data (Eurostat, LatviaStatistics), Doing Business 2021, Global Competitiveness Report (2019, 2020, and 2021), the legal regulation of FDI in Latvia, the Government's program, and scientific literature.

Furthermore, based on the SWOT analysis results, we established the criteria and developed a system of FDI policy criteria. SWOT analysis, multi-criteria ANP, and SAW approaches are used to create a targeted FDI policy.

First step. Structuring problem and model constructing. The problem should be finalized and decomposed into the network as the rational system (Fig. 1). Decision-makers could use the brainstorming method to construct such a network. Furthermore, SWOT analysis determines the host country's strengths, weaknesses, opportunities, and threats. Based on the results of a SWOT analysis, a four-level criteria system is developed. SWOT analysis answers the following questions, which are substitutes for hypotheses (Figure 1):

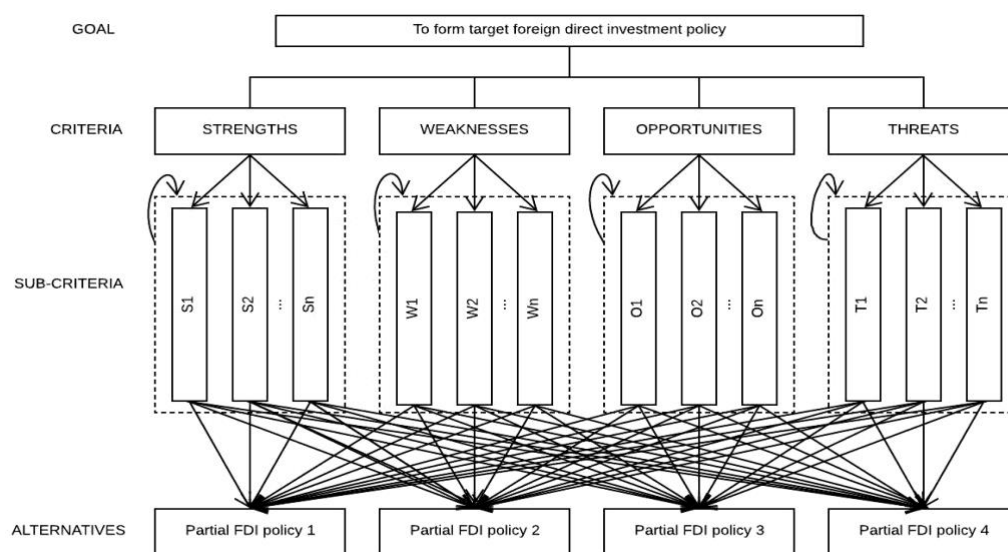


Figure 1. Criteria system for modelling FDI policy applying ANP method

Note: S1, S2, ..Sn – stands for sub-criteria describing the Strength, W1, W2..Wn – sub-criteria describing Weaknesses, O1, O2, On means Opportunities, T1, T2, Tn stands for sub-criteria of Threats.

Sources: developed by the authors.

1. How to use strengths to accomplish opportunities? The country's strengths are highlighted in the analysis of the country's attractiveness to foreign investors. Strengths are based on the following criteria: people, knowledge economy, market, infrastructure, and international recognition. For example, some businesses might consider the criterion «people» as both strength and weaknesses. In addition, as one of the negative consequences to the host economy, FDI may cause brain drain (Burchandi et al., 2019; Jukšs, 2021). Hence, knowledge economy, knowledge transfer, and successful absorption leading to innovation and patents might be compensated by attracting FDI in R&D sectors (Nurpeisova et al., 2020; Yu Li et al., 2022). At the same time, they are creating job places for a highly qualified labour force and avoiding brain drain (Setzler and Tintelnot, 2021). d FDI policy.

2. How to take advantage of opportunities to correct weaknesses? The country's weaknesses can be the lack of one factor or another that creates barriers to business or obstacles to knowledge transfer through FDI. Based on the opportunities to attract inward FDI in R&D, the host country should promote and provide funds to the potential business sector that may develop innovations. Especially to those domestic companies that are in collaboration with MNCs and require additional funding for introducing innovations. Such finance support would attract targeted MNCs into the country, which tends to invest more in R&D rather than outsourcing (Vujanovic et al., 2022).

3. How to use strengths to reduce threats? Threats to the country are defined as future events that may occur due to implementing an inappropriate FDI policy. FDI spillovers influence phases of innovation (from idea to implementation and productivity) or types of innovations (technological innovation, managerial innovation, product innovation, packaging innovation). For example, studies prove that FDI impact is more significant in companies undertaking innovation through knowledge rather than knowledge exploitation.

4. What weaknesses to address to reduce threats? However, some weaknesses might be beyond implementing FDI policy, especially for MNCs that focus on their organizational structure and seek cultural similarities with all companies. For example, a long geographic distance between one of the establishments and the headquarters impacts the organization of all company establishments (Gumpert et al., 2022).

Second step. Forming a matrix for pairwise comparison and calculating priority vectors. Pairwise comparison is carried out the same as in employing the AHP method. The criteria for each group were compared in the order of importance relative to the group. The expert assessment was applied to determine the significance of each factor. Twelve experts were chosen for the expert assessment. Experts compared two criteria (elements) or a criteria group in respect of a higher-level criterion or a group of criteria. The eigenvalue vector expresses the effect of each element (criterion) on the other element (criterion). A 1-9 point scale was used for the pairwise comparison a 1-9 point-scale (Table 1).

Table 1. Interpretation of the pairwise comparison scale

Importance	Definition	Interpretation
1	Equally important	2 elements contribute equally to the objective
2	Weak	
3	Moderate importance	1 element is slightly more significant than the other
4	Moderate plus	
5	Strong importance	1 element is much more significant than the other
6	Strong plus	
7	Very strong importance	1 element is very much more significant than the other
8	Very strong or demonstrated importance	
9	Extreme importance	Absolute advantage of one over the other

Sources: developed by the authors on the basis of (Saaty, 2006).

1 point means that the two elements are equally essential, and nine means that one element holds absolute importance over the other. It is assumed that there is no interdependency among the SWOT criteria groups.

Coefficient a_{ij} – the importance of component (element) i (in a row) over component (element) j (in a column):

$$a_{ij} = \frac{w_i}{w_j} \quad (1)$$

If consistency coefficient is higher than 0.1, matrices are not inconsistent. In this case, incompatible elements must be determined and revised. A further step is, to organise new experts' assessment. If matrices are not consistent, the final results would not be reliable. Meanwhile, the average random index (RI) depends on the size of the matrix (Table 2); n stands for the factors' number (Saaty, 2006).

Table 2. The average random index

N	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.52	0.89	1.11	1.25	1.35	1.4	1.45	1.49

Sources: developed by the authors on the basis of (Zhu, 2016).

The third step. If it is estimated that the matrices are consistent, the supermatrix is constructed. Thus, local priority vectors are written into specific columns in the matrix to estimate generalized priorities in a system where reciprocal relationships exist. The supermatrix was divided into several matrices, where a part of each matrix represents a relationship in a system between two clusters.

Any zero values in the supermatrix might be changed to a matrix, whether an internal relationship exists between the elements of the cluster or a relationship between two clusters. However, if internal connections exist between clusters in the network, the sum of the supermatrix columns might be greater than 1. Hence, the supermatrix should be changed so that the sum of the columns is equal to 1. Saaty (2006) proposed to determine the comparative significance of clusters in the supermatrix using a columnar cluster as a control cluster. These are row clusters that have no zero value. In addition, they are compared according to their effect on the cluster in the column. The eigenvalue vector is calculated from the row concerning the clusters of the columns of the matrix.

Further, the clusters' eigenvectors in the columns are estimated. The first record corresponding to the eigenvector of each cluster in the column is multiplied by all in the first column of cluster elements, the second by all the elements in the second cluster, and so on. Thus, clusters gain weights in all columns. It forms the weighted matrix. For achieving convergence, the weighted matrix was raised by $2k + 1$, where k is an optionally large value. Thus, a new marginal matrix was constructed. The final priorities of the elements were obtained by normalizing each cluster in the marginal matrix.

The fourth step is to determine partial FDI policies. If the supermatrix is constructed in the network's third step, then the alternatives' priority weights are in the alternative's column in the normalized matrix. Therefore, if the supermatrix consists of interconnected groups, further calculations should be done to obtain common priorities for partial FDI policies.

In order to reach the final decision, five synthesis methods were used to calculate the significance of partial FDI policies (Zhu et al., 2015), additive (2), probabilistic additive (3), subtractive (4), multiplicative priority powers (5), and multiplicative (6).

$$P_i = sS_i + oO_i + w \left[\left(\frac{1}{W_i} \right)_{normalized} \right] + t \left[\left(\frac{1}{T_i} \right)_{normalized} \right] \quad (2)$$

$$P_i = sS_i + oO_i + w(1 - W_i) + t(1 - T_i) \quad (3)$$

$$P_i = sS_i + oO_i - WWI - tT_i \quad (4)$$

$$P_i = S_i^s \times O_i^o \left[\left(\frac{1}{W_i} \right)_{normalized} \right]^w \times \left[\left(\frac{1}{T_i} \right)_{normalized} \right]^t \quad (5)$$

$$P_i = \frac{S_i O_i}{W_i T_i} \quad (6)$$

The methodology and methods should be described in sufficient detail to allow the reader to verify the study's results. If there are any restrictions on the disclosure of the information or access to data, it should be indicated in this section.

Results. The final synthesis of simulations reveals that Latvia has the highest potential to implement the FDI policy oriented towards services. The research proved that Latvia would exploit its strengths while adopting the FDI policy oriented towards export; besides, this sphere offers the most untapped opportunities.

Thus, it might be concluded that by increasing the existing strengths in services and exports and eliminating or minimizing the weaknesses, these sectors might be successfully developed and highly competitive. However, the attraction of investment in knowledge-intensive services and high- and medium-high-tech sectors is possible in the long run. To achieve that, it is necessary to formulate and implement additional innovation policies. It would eliminate the weaknesses of the knowledge economy and avoid a loss of investment in high-tech sectors.

Table 3. The weights of component and weight of the partial indicator in a SWOT analysis in respect of FDI policy: Latvia's case

Criteria group	Weight of the component	Criterion	Weight of the partial indicator
Strengths	0.21309	S11 Access to major markets	0.17533
		S12 Human resources	0.05898
		S13 Friendly business environment	0.19377
		S14 Macroeconomic and political stability	0.12817
		S15 Infrastructure	0.20357
		S16 International recognition	0.24019
		Total	1.0
Weaknesses	0.27325	W11 Strong dependence on MNCs	0.43716
		W12 Efficiency of financial markets	0.04677
		W13 Knowledge economy	0.18145
		W14 Institutional factors	0.14280

Continued Table 3

Criteria group	Weight of the component	Criterion	Weight of the partial indicator
Weaknesses	0.27325	W15 Existing FDI policy	0.07267
		W16 Labour market	0.11915
		Total	1.0
Opportunities	0.25436	O11 Reducing market weakness due to coronavirus crisis	0.17998
		O12 Promotion and modernisation of traditional sectors	0.14741
		O13 Strengthening international competitiveness	0.11330
		O14 Improving the quality of life	0.18267
		O15 growth of service sectors	0.17914
		O16 creationcreation and absorption of innovations	0.19749
		Total	1.0
		T11 Expansion of monopolies	0.09684
Threats	0.25929	T12 "Brain drain"	0.03989
		T13 Rising costs for attracting FDI	0.10903
		T14 Loss of investment in R&D	0.12426
		T15 Failure of FDI policy	0.16709
		T16 Technological dependence on MNCs	0.23581
		T17 Formation of new interest groups	0.22709
Total	1.0	Total	1.0

Sources: developed by the authors.

Table 4. Significance of partial FDI policies in respect of strengths, weaknesses, opportunities and threats

Criteria	Partial FDI policy			
	Policy towards R&D	Policy towards export	Policy towards services	Policy towards manufacturing
Strengths	0.142020	0.325727	0.201906	0.170566
Weaknesses	0.382844	0.193576	0.255004	0.291966
Opportunities	0.127615	0.56440	0.157264	0.299752
Threats	0.347521	0.124257	0.385826	0.237716

Sources: developed by the authors.

In order to optimize the attraction of FDI, more than 34.1% of subsidies should be allocated to incentives to attract FDI into the manufacturing sector; 26.1% of subsidies should be provided to FDI, which would encourage exports; 23.1% of subsidies should be assigned to the MNCs investing in service sectors, and 16.7% of subsidies should be provided to FDI oriented towards R&D.

Table 5. Results of the synthesis of priorities of partial FDI policies

Partial FDI policy	Priority			Rank
	Raw	Idealised	Normalised	
Policy towards R&D	0.050712	4	0.166842	4
Policy towards export	0.079430	2	0.261324	2
Policy towards services	0.070272	3	0.231193	3
Policy towards manufacturing	0.103539	1	0.340642	1

Sources: developed by the authors.

The analysis reveals controversial results regarding attracting FDI to the manufacturing and service sectors. The final synthesis of the priorities of alternatives differs from the initial synthesis. The difference is significant, as the manufacturing-oriented FDI policy is given the highest rank during the initial synthesis. After additional syntheses by five methods, the ranking of this policy falls to third place.

Table 6. Final synthesis of priorities of partial FDI policies

Synthesis	Additive	Probabilistic additive	Subtractive	Multiplicative priority powers	Multiplicative	Primary synthesis	Average
	Priority/ Rank	Priority/ Rank	Priority/ Rank	Priority/ Rank	Priority/ Rank	Priority/ Rank	Priority/ Rank
Policy towards R&D	0.1667/4	0.3793/4	0.0239/4	0.1486/4	0.2323/4	0.1668/4	0.1783/4
Policy towards export	0.2223/3	0.4338/2	0.0305/2	0.1800/3	0.8219/2	0.2613/2	0.3199/2
Policy towards services	0.3795/1	0.5789/1	0.1757/1	0.2666/1	5.9853/1	0.2312/3	1.2745/1
Policy towards manufacturing	0.2314/2	0.4145/3	0.0112/3	0.1934/2	0.5918/3	0.3406/1	0.2971/3

Sources: developed by the authors.

The FDI policy oriented to services is in the top position. Thus, after recalculating the weights of the components of alternative policies across the overall FDI policy, the final decision-making matrix shows the following distribution of alternatives: 23.55% of all subsidies should be devoted to stimulating the FDI policy oriented toward export, whereas 34.08% should be assigned to stimulate the attraction of FDI into service sectors. To avoid dependence on FDI and monopolies, international capital in manufacturing sectors should make no more than 24.87%. Thus, based on the results, it might be stated that priority in the FDI policy should be given to such sectors as logistics, healthcare, IT, the woodworking industry, and the metals and equipment sectors.

Conclusions. The promotion of innovative FDI requires both financial and human resources. Thus, to gain the most significant benefits, the host country is supposed to develop an innovative targeted FDI policy and focus on the most promising business sectors. A traditional strategic tool such as a SWOT or BOCR analysis integrated into ANP would assist in developing a targeted FDI policy. The case analysis reveals that to benefit significantly from FDI, Latvia should focus on its weaknesses and attempt to exploit them in its favor. Opportunities and threats play the same role in forming the FDI policy. Unfortunately, in Latvia's case, the strengths are the weakest link in developing its FDI policy. The findings are in line with the recent study of Li et al. (2022) that proves that geopolitical and institutional factors, including policy, significantly impact the attraction of FDI. Especially, new tools to attract or maintain MNCs owned by families should be considered, as the studies show (Calabro et al., 2022) that family MNCs tend to avoid risk in post-pandemic families.

Meanwhile, they respond vigorously compared to non-family-owned MNCs, risk-seeking to immediate threats to achieving their goals. Thus, facing uncertainties, MNCs may leave the country for a more secure area. Therefore, FDI policy should ensure better economic resilience of attracted MNCs while facing uncertainties and taking risks. In addition, Park and Yoon (2022) verify the moderation of the FDI policy of the host country on the relationship between the influence of the largest shareholders and the divestiture of a foreign subsidiary. Other studies (Liu, 2019) prove that promoting particular sectors creates positive social value. Furthermore, it has been found that sectoral interventions have generated positive aggregate effects in South Korea and China.

Theoretical and managerial implications. The article contributes to the theory of internalization. It fulfills the gap regarding innovative FDI policy and provides specific measures that the host country would benefit from rather than suffer any loss. The article offers a model for creating an innovative FDI policy. However, the model might be extended by including more criteria. Furthermore, the study might help form FDI policy in Latvia as recommendations for considering measures for FDI stimulation. In addition, the study's results may serve as consideration for FDI promotion policy, including targeting business sectors.

Limitations and future research. As with every study, this research has some limitations leading to further research. First of all, it is limited to one country. For further research would be interesting to compare the results of neighboring countries as mentioned that foreign investors very often treat the Baltic States as a single market. In addition, the present results might be influenced by the recent COVID-19 pandemic, as most businesses had limited activities or were closed. Hence, the potential business sectors should remain similar due to existing infrastructure and the economic and labor power structure. Still, future research on innovative FDI attraction may show different results due to the rapidly changing world and political and global economic uncertainties, including the Ukraine war's impact, constantly increasing inflation, and signs of the forthcoming global recession.

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Інноваційна політика прямих іноземних інвестицій: на прикладі Латвії

Глобалізаційні процеси підвищують вплив інноваційного іноземного капіталу на економічний розвиток країн та рівень зайнятості в них. Однак, вплив іноземних прямих інвестицій на рівень добробуту та економічний розвиток є суперечливим. Попит на інноваційні іноземні прямі інвестиції збільшився, оскільки вони розглядаються як інноваційний інструмент стимулювання економічного зростання регіонів або втручання у зміну структури економіки шляхом її орієнтації у найбільш сприятливий для приймаючої країни спосіб. Інтерес до залучення іноземних прямих інвестицій зростає з 1980-х років, оскільки вони є одним із джерел зовнішнього фінансування як для країн, що розвиваються, так і для розвинених країн. Однак, в наукових колах відсутній консенсус щодо характеру впливу іноземних прямих інвестицій на економічне зростання. Низка науковців стверджують, що іноземні прямі інвестиції обмежуються короткостроковим позитивним впливом. На противагу вищезазначеному, вважається, що діяльність транснаціональних корпорацій не може завдати шкоди приймаючій країні, тоді як іноземні прямі інвестиції позитивно впливають на економічне зростання. У роботі зазначено, що сучасна економічна наука ставить під сумнів доцільність втручання держави в ринкові відносини та стимулювання визначених цільових секторів бізнесу за допомогою інноваційної політики іноземних прямих інвестицій. Наголошено, що це може спричинити суттєві помилки на ринку, тоді як деякі компанії будуть приречені на провал. При цьому перевагами іноземних прямих інвестицій є: створення нових робочих місць, «ноу-хау», тенденція до збільшення експорту. Компанії мають залучати транснаціональні корпорації, що орієнтовані на розширення бізнесу за рахунок досліджень і розробок. У статті запропоновано цілеспрямовану комплексну інноваційну політику іноземних прямих інвестицій із застосуванням методу аналітичного мережевого процесу. Методологія даного дослідження заснована на методі аналітичних мереж, в основі якого лежить SWOT-аналіз. Отримані результати мають практичну та теоретичну цінність та свідчать про необхідність залучення більшого обсягу інноваційних іноземних прямих інвестицій, спершу, у сферу послуг, а потім у виробництво, що сприятиме підвищенню конкурентних переваг країни.

Ключові слова: метод аналітичних мереж, система критеріїв, інновації, політика іноземних прямих інвестицій, Латвія, SWOT.