Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi (13) 2007 / 1 : 176-191

# Managerial and Economic Factors Affecting Global Investing Decision: Evaluation Of Central Asia

Lutfu Sagbansua<sup>\*</sup> Nizamettin Bayyurt<sup>\*\*</sup>

> Abstract: The purpose of this study is to determine the factors that might be affecting global investment decisions. Central Asia countries are being used as the peer group to analyze the relative attractiveness level of them for the potential investors and Europe and Central Asia countries are being used to determine the factors that might affect the investments into such economies as well as the relative importance of such factors among themselves. Canonical Correlation Analysis and Factor Rating Method are used for this purpose. The results of the study shows that while population, length of railways, oil production, inflation, electric production and exchange rate change are the most important factors affecting investment decisions, Income (GNI), GDP, time to start business, unemployment rate, lending rate, time to enforce contracts, growth in GDP and length of highways do not have high effects on investment decisions. Kazakhstan and then Uzbekistan and Azerbaijan are the most attractive market while Turkmenistan, Georgia, Tajikistan and Kyrgyz Republic being the least attractive markets among the Central Asia countries for investors. Keywords: Foreign Direct Investment, Factor Rating, Canonical Correlation, Central Asia

# I. Introduction

Foreign direct investment has increased dramatically in the past twenty five years, in both developed and developing economies. Living in a global world interest business field more than it does geography. Following the major improvements in transportation and communication opportunities, an incredible movement has started in the business world towards the rest of the world as an intention to reach a huge po-

<sup>\*</sup> PhD. Lutfu Sagbansua, University of Mississippi, MIS/POM Department.

<sup>\*\*</sup> Yrd. Doç. Dr. Nizamettin Bayyurt, Fatih Üniversitesi İşletme Bölümü'nde öğretim üyesidir.

tential market that they have never paid attention to. In many cases, firms feel the pressure to become involved in global business environment. Dornier et al. (1998) identified four forces that drive the trend toward globalization:

- Global market forces
- Technological forces
- Global cost forces
- · Political and economic forces

Global market forces involve the pressures created by foreign competitors, as well as the opportunities created by foreign customers. Even if the companies do not do business overseas, the presence of foreign companies in their home markets can affect their business significantly. To defend domestic markets, such companies find it necessary to move into foreign markets as a counter attack (Simchi-Levi et al., 2000). Technological forces are related to the availability of technologies that are necessary for the production. In order to be able to reach such technologies quickly, companies find it necessary to build production facilities close to the regions that have such technologies available. Low labor and raw material cost are also factors that drive companies to move into foreign regions as a way of reducing their production costs. Recently, availability of skilled labor in some regions is also drawing investors. Another trend is just-in-time techniques which encourage companies to locate their facilities near customers to reduce lead times.

The immediate question arises from the above argument is where to invest in a big competitive market. Answer to this question plays a key part of the strategic planning process. Such decision requires a long-term commitment and has an impact on investment requirements, operating costs and revenues. A poor choice might result in excessive transportation costs, a shortage of qualified labor, inadequate supplies of raw materials, loss of competitive advantage.

The general procedure for making investment decisions consists of the following steps:

- Decide on the criteria to use for evaluating location alternatives.
- Identify important factors.
- Develop location alternatives.
- Evaluate alternatives and make a selection. (Stevenson, 2004)

A general approach that is used for evaluating a number of alternatives is Factor Rating. This method provides a rational basis for evaluation and comparison among alternatives by establishing a composite value for each alternative that summarizes all related factors. Factor rating enables decision makers to incorporate their per-

sonal opinions and quantitative information in the decision process. The following procedure is used to develop a factor rating:

- Determine which factors are relevant.
- Assign a weight to each factor that indicates its relative importance compared with the rest of the factors. Weights sum to 1.00.
- Decide on a common scale for all factors.
- Score each location alternative.
- Multiply the factor weight by the score for each factor, and sum the results for each alternative.
- Choose the alternative that has the highest composite score.

We have picked Central Asian countries, namely; Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan as the subject of this study and used a combination of statistical and managerial tools like factor rating method to be able to provide useful information and perspective in evaluating countries as potential locations to invest.

# **II. Literature Review**

Even after deciding which method to use in evaluating a country's attractiveness for investment, it is not obvious which factors affect the investment decisions of foreign investors. There is large number of factors that attract Foreign Direct Investments (FDI) to certain countries and prevent it to flow into certain countries. Major factors among them that are agreed on are; market size, cost of labor, transparency, exchange rate, trade restrictions, trade deficit, growth, and tax rates. Political issues and infrastructure in the host countries are also among such factors. The purpose of this study is to analyze the affects of these factors and FDI.

Karluk (2000) lists eight factors that affect the FDI into an economy:

- Transparancy of the country
- Growth rate
- · Low lending rates
- Low inflation rates
- Reasonable exchange rate fluctuations
- Liberal foreign trade strategies
- Incentives for investors
- Favorable international taxation
- Strategic positioning of the country and having favorable geographic conditions.

Brenton et al., (1998) state that FDI is unambiguously beneficial for the receiving country from the point of view that it finances substantial domestic investments in some countries. Receiving technological and managerial knowledge along with the investment is also stated as another benefit for the country. Authors conclude that FDI is directly related to the pace of income growth and the success of the government in orienting their policies to be conducive to business.

David Kotz (2002) has added the importance of income level of the populations in relation with the foreign investment into countries in the study where he has analyzed the economic transition of Uzbekistan. Chantasawat et al. (2004) have studied the emergence of China as an economic giant by directing the foreign direct investment into their country.

Alfaro et al. (2002) investigated the effect of FDI on developing countries and the role of financial markets in attracting foreign investment. Through empirical evidence provided in the study, it is stated that FDI plays an important role in contributing to the economic growth. However, the level of development of the local financial markets is crucial for obtaining the maximum benefits of the investment.

The majority of FDI go to the developed economies (Kornecki, 2006), but FDI to developing countries is also large and has increased substantially in last decades. FDI went to developing countries was \$8.4 billion in 1980. It increased to \$37.6 billion in 1990, to \$204.8 billion in 2001.

In 1998, United Nations Conference on Trade and Development (UNCTAD) has made an analysis in World Investment Report, in regards to the economical, political, and environmental factors affecting FDI. Such factors stated by UNCTAD are:

- Market size and Gross Domestic Product (GDP)
- Growth rate of the market
- Entry opportunities into the market
- Consumer preferences
- Structure of market
- Raw material
- Labor force
- Infrastructure
- Research and Development (R&D)
- Economic, politic, and social stability
- Taxation strategies
- Privatization strategies
- Investment incentives
- Costs

#### • Life standards

There is a rich literature that contains studies conducted to determine the affect of above mentioned factors on FDI. However, there are controversial ideas about the affect of each of these factors on FDI which makes the subject even more interesting to analyze.

Market size seems to be the only factor that researches are agreed on the effect of it on FDI. Market size is measured by the GDP of countries. Scaperlanda and Maurer (1969) have found out that FDI into a country increases as the GDP of the country increases up to a critical point. Swedenborg (1979); Dunning (1980) and Papanastassiou and Pearce (1990) have also drawn similar conclusions about the positive affect of GDP on FDI, not only for the developing countries but also for the developed countries. Chakrabarti (2001) states the GDP level of a host country as the main factor for the multinational American companies in their global investment decisions.

Since the companies investing in other countries have to work with several currencies, the fluctuations and instabilities of such currencies affect both the profitability and the investment decisions of global companies. Sung and Lapan (2000) suggest that such cases presents opportunities as well as the problems for the investors. The relation between exchange rates and FDI has been first explained by Aliber in 1970 by stating that the flow of FDI into different countries can be explained by the existence of different currency regions and fluctuating exchange rates. According to Goldberg and Kolstad (1995), investors prefer to change their investment decisions to avoid the risk when exchange rates become a risk in a certain country. Ito (2000) provides Japanese companies as an example of how Japanese investors started to channel their investments into East Asian countries following the increase in Japan Yen.

Fast growing economies present more profit opportunities for global investors. Bandera and White (1968), Lunn (1980), Schneider and Frey (1985), and Culem (1988) have all observed that growth rate of a country has positive affect on FDI. On the other hand, Nigh (1988) has obtained a strong positive relationship between growth and FDI for least developed countries and a relatively weak relationship for developed countries after conducting a study for these two groups of countries.

Trade balance is also discussed to be an important factor affecting FDI. Torissi (1985) defends a trade surplus to be the proof of a dynamic and healthy economic environment, thus attracting FDI. Schneider and Frey (1985) and Hein (1992) have also drawn similar conclusions in regards to trade balance.

It becomes apparent that when investing in foreign countries, financial and economic situations of the prospective countries have to be analyzed and put into the

equation as well as the managerial aspects. Among the data provided by World Bank as 'World Development Indicators 2005', 'Time to start a business' and 'Time to enforce contracts' are mentioned as factors in defining the favorability of countries. Thus, these factors are included in our study to find out the relative importance of them for the investors. Some factors which are out of the subject like; regime of country, incentives, privatizations and geopolitical position might be decisive in investment decisions.

# **III. Factor Rating Method**

In defining the relevant factors that affect FDI, we have included both economical and managerial indicators of an economy. In terms of economic perspective, we have used macroeconomic indicators of countries that have been provided in World Bank report. These indicators are treated as the independent variables set. Namely:

- Growth in GDP, (%)
- Lending rate, (%)
- Inflation, (%)
- Exchange rate change, (%)
- Oil Production (bbl / day)
- Population
- Railways (km)
- Highways (km)
- Electricity Production (kwh / year)
- Unemployment rate, (%)
- Income, (GNI: Gross National Income)
- Starting business, (days)
- Enforcing contract, (days)
- GDP, (\$)

To be able to assign weight for each of these factors, we have defined a set of dependent variables which represent the investments into an economy as sources in financing investment. These variables are:

- Foreign Direct Investment (FDI), (\$)
- Foreign Credits
- Foreign Direct Investment (FDI), (% of GDP)

Canonical correlation analysis is used as a statistical tool to determine the relationships between the independent and dependent variables as well as the level of

importance of each independent variable relative to the rest of the set. For this purpose, data of 47 countries of year 2003 have been gathered from various sources including World Bank, IMF, CIA, Asian Development Bank, United Nations Statistics Division, National Bureau of Economic Research, and national banks of the countries. This set of 47 countries is listed as the 'Europe and Central Asia' countries in World Bank reports.

			Standard	
	Variable	Mean	Deviation	
	Growth in GDP	4,52	3,93	
	Lending Rate	11,48	6,70	
	Inflation	4,60	5,74	
	Exchange Rate	-5,79	5,73	
	Oil Production	351572,3	1332057	
	Population	1,846E+07	2,768E+07	
	Railways	8050,38	13965,38	
	Highways	140577,4	187559,5	
	Elect. Production	1,011E+11	1,737E+11	
	Unemp. Rate	10,48	9,67	
	Income, GNI	2,700E+11	5,252E+11	
	Starting Business	37,68	23,97	
	Enforcing Contract	353,40	264,21	
	GDP	2,659E+11	5,263E+11	
	Foreign Credits	6,697E+08	1,311E+09	
	FDI (% of GDP)	11,83	50,87	
FDI	-4,344E+07	7,218E+09		

## Table 1: Descriptive Statistics

Canonical correlation analysis seeks to identify and quantify the associations between two sets of variables (Johnson and Wichern, 2002). It is the most general method that can be used for both metric and non-metric values of the sets Y (dependent) and X (independent). Moreover, it is the strongest and the most appropriate technique that can be applied when the number of variables in the dependent set is more than one. While canonical correlation is used for explaining the relation between dependent and independent variables, it explains not only which independent variable has an effect on which dependent variable but also which independent vari-

able has a higher effect on which dependent variables (Levine, 1977). The process can be shown as follows:

$$u = \sum \alpha_i x_i$$
 and  $v = \sum \beta_i y_i$ 

Canonical variates u and v are linear composites of the variables.  $\alpha_i$  and  $\beta_i$  are called canonical coefficients of the variates u and v. The correlation between u and v is maximized

$$Kor(u,v) = \frac{Kov(u,v)}{\left[var(u)var(v)\right]^{1/2}} = \frac{Kov(u,v)}{(1 \ 1)^{1/2}} = Kov(u,v) = \rho$$

Max Kor(u, v)

subject to:

$$Var(u) = E[u - E(u)][u - E(u)]' = 1$$
$$Var(v) = E[v - E(v)][v - E(v)]' = 1$$

Based on the data obtained for this study, the descriptive statistics such as mean and the standard deviation for each variable is calculated and provided in Table1.

Different thoughts exist in literature about the sample size for canonical correlation. Barcikowski and Stevens (1975) necessitates 20 observations for each variable while Thorndike (1978), Marascuilo and Levin (1983) state 10 unit enough per variable. Some researchers claim that if there is a high correlation between the sets (R>0.75) relatively small sample sizes (about 50) can also be adequate (Tabachnick and Fidel 2001). Thus, our sample size of 47 countries is efficient for the analysis. When the canonical correlation is high enough and significant it can be said that the relation between the sets is linear because canonical correlation measures the linear relations.

Table 2 displays canonical correlations and their significance levels between the dependent variables and independent variables. The first canonical correlation is very high (R=0.93) and also highly significant (p=0.000076). This shows that the independent set can be used to explain the dependent set by the first canonical variates. The other two correlations are not significant.

Variate	Canonical	R		Num	Den	Prob	Wilks'
Num.	Correlation	Squared	r-vaiue	DF	DF	Level	Lambda
1	0,93	0,86	2,60	42	900	0,000076	0,094056
2	0,50	0,25	0,45	26	620	0,986198	0,706927
3	0,21	0,04	0,13	12	320	0,999672	0,952695

Table 2: Canonical Corelations Between the Sets

Canonical coefficients, canonical loadings or canonical cross loadings are interpreted to derive the relation between dependent and independent variables. Because canonical coefficients can cause misleading when multi-colinearity appears in one of the sets, generally loadings or cross loadings are preferred. In table 3, the significant one among three canonical loadings and cross loadings is shown. Researchers generally assume the loadings significant if it is over 0,30 (Hair, 1998). According to the table, canonical variate of dependent set is a linear combination of the variables; Foreign credits, FDI (% of GDP), and FDI. The variable which has the highest correlation with the first canonical variate is foreign credits (R=0,99) is the most important variable in the set. The other two variables do not have significant loadings to their canonical variate. The variables in independent set that seen to have negative effects on investment decisions: Income-GNI, GDP, and starting business do not have significant loadings to their canonical variate there have not significant effects on investment decisions. Other variables in independent set have positive correlation with investment decisions but unemployment rate, lending rate, enforcing contract, growth in GDP and highways do not have high effects on investment decisions. The most important variables in this set are population (R=0,65), railways (R= 0,63), oil production (R=0,58), inflation (R=0,54), electric production (R=0,42) and exchange rate change (R=0,38). The variables that have positive (or negative) correlations with their canonical variate have positive correlations with each other and the variables that have correlations in opposite directions have negative correlations with each other.

	Loadings	Cross Loadings
	U	V
Growth in GDP	0,23	0,22
Lending Rate	0,13	0,12
Inflation	0,54	0,51
Exchange Rate Change	0,38	0,35
Oil Production	0,58	0,54
Population	0,65	0,61
Railways	0,63	0,59
Highways	0,27	0,25
Electricity Production	0,42	0,39
Unemployment Rate	0,03	0,03
Income (GNI)	-0,13	-0,12
Starting Business	-0,09	-0,08
Enforcing Contract	0,22	0,21
GDP	-0,13	-0,12
	v	U
Foreign Credits	0,99	0,92
FDI (% of GDP)	-0,07	-0,07
FDI	0,11	0,10

Table 3: Canonical Loadings and Cross Loadings

The weights resulted from the canonical analysis have been standardized in order to obtain a set of weights that sum up to 1 as a standard scale used in factor rating. Standardization procedure for each variable is

(variable)<sup>2</sup> / (Sum of square of variables)

The next step is to score each country on a common scale from 0 to 100. Such scores result readily by standardizing the input for each country that has been used in our research. Inputs of each country are divided by the sum of inputs of the other countries. Resulting weights and the scores are provided in the table 5 below. Raw scores are also provided in table 4.

				Ex					
	Growth in		Tofla-	change rate			Pail	High-	
Country Name	GDP	Lending Rate	tion	change	Oil Prod.	Population	ways	ways	Elec. Pr
Azerbaijan	11,2	15,46	4,6	4910,73	312800	8233000	2957	28030	1,954
Georgia	11,09	32,27	4,6	2,15	2000	5126000	1565	20229	7,257
Kazakhstan	9,2	14,9	6,44	149,58	1200000	14878100	13597	82980	5,833
Kyrgyz									
Republic	6,67	19,13	3,5	43,65	2000	5052000	417	470	1,192
Tajikistan	10,2	16,57	4,6	3,06	250	6304700	617	27767	1,524
Turkmenistan	16,9	11,49	4,6	0,6	162500	4863500	2523	24000	1,12
						2559000			
Uzbekistan	4,4	33,4	4,6	5,04	143300	0	4126	81600	4,96

Table 4: Input & Output Data of The Study Countries

							FDI %	
	Unemp.		Start.	Enfor-		Foreign	of	
Country Name	Rate	Income (GNI)	Bus.	Cont.	GDP	Credits	GDP	FDI
Azerbaijan	1,3	6695164766	123	267,00	7137509756	421900000	46,02	2351747000
Georgia	12,3	4015365686	25	375,00	3988156169	583100000	8,47	334130418
Kazakhstan	2,6	28008512809	25	400,00	29749396293	1265000000	7,02	2209766090
Kyrgyz								
Republic	18	1847009591	21	492,00	1908697901	530400000	2,39	45544628
Tajikistan	2,9	1462566207	37	353,00	1552866207	227500000	2,04	2000000
Turkmenistan	60	6119815540	37	353,00	6200515539	29700000	1,61	226000000
Uzbekistan	20	9833257726	35	368,00	9949257726	298500000	0,70	7000000

	Scores-Out of 100								
	Kyrgyz								
Factor	Weight	Azerb.	Georgia	Kazak.	Rep.	Tajik.	Turkm.	Uzbek.	
Growth in GDP	0,026	16	16	13	10	15	24	6	
Lending Rate	0,008	11	23	10	13	12	8	23	
Inflation	0,146	14	14	20	11	14	14	14	
Exchange R.C.(%)	0,072	96	0	3	1	0	0	0	
Oil Production	0,168	17	0	66	0	0	9	8	
Population	0,211	12	7	21	7	9	7	37	
Railways	0,198	11	6	53	2	2	10	16	
Highways	0,037	11	8	31	0	10	9	31	
Electricity Produc-									
tion	0,088	11	4	34	7	9	6	29	
Unemployment Rate	0	1	11	2	15	2	51	17	
Income (GNI)	0,009	12	7	48	3	3	11	17	
Starting Business	0,004	41	8	8	7	12	12	12	
Enforcing Contract	0,024	10	14	15	19	14	14	14	
GDP	0,009	12	7	49	3	3	10	16	

Table 5: Scores Associated with Each Country

By multiplying each weight by the associated score and adding them up, we are able to obtain a composite score for each country. Last row in the following table provides these composite scores (Table 6).

	Weighted Scores								
			Kyrgyz						
Factor	Weight	Azerb.	Georgia	Kazak.	Rep.	Tajik.	Turkm.	Uzbek.	
Growth in GDP	0,026	0,416	0,414	0,343	0,249	0,381	0,631	0,164	
Lending Rate	0,008	0,088	0,180	0,083	0,107	0,093	0,064	0,187	
Inflation	0,146	2,044	2,039	2,854	1,553	2,039	2,039	2,039	
Exchange R.C.(%)	0,072	6,912	0,003	0,211	0,061	0,004	0,001	0,007	
Oil Production	0,168	2,856	0,018	11,060	0,018	0,002	1,498	1,321	
Population	0,211	2,532	1,544	4,482	1,522	1,899	1,465	7,708	
Railways	0,198	2,178	1,201	10,434	0,320	0,473	1,936	3,166	
Highways	0,037	0,407	0,282	1,158	0,007	0,388	0,335	1,139	
Electricity Produc-									
tion	0,088	0,968	0,369	2,966	0,606	0,775	0,569	2,522	
Unemployment Rate	0	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
Income (GNI)	0,009	0,108	0,062	0,435	0,029	0,023	0,095	0,153	
Starting Business	0,004	0,164	0,033	0,033	0,028	0,049	0,049	0,046	
Enforcing Contract	0,024	0,240	0,345	0,368	0,453	0,325	0,325	0,339	
GDP	0,009	0,108	0,059	0,443	0,028	0,023	0,092	0,148	
	Sum=1	19,03	6,56	34,88	4,99	6,48	9,11	18,95	

#### Table 6: Weighted scores and the final composite scores

Final composite scores show us that Kazakhstan has the highest composite score. Thus, it looks like the most attractive market in the study group, and then Uzbekistan and Azerbaijan come, while Kyrgyz Republic, Tajikistan, Georgia and Turkmenistan being the least attractive markets among these countries for investors. Among the former Soviet Republics, Kazakhstan is the second largest oil producer after Russia. Maximum electricity production and the longest railways are in Kazakhstan among the study group. These encourage foreign investment to flow its energy resources.

### **IV.** Conclusions

Canonical correlations between the variables of this study suggest that population; railways, oil production and inflation are the most important determinants among others affecting the flow of money into a country. Considering them as baits of a country for high profits, low labor costs and available transportation facilities, it does not come as a surprise that foreign investors are interested in investing into such economies.

The rest of the independent variables like unemployment rate, starting business, income (GNI), GDP and lending rate change do not seem to be highly affecting the level of foreign direct investment into an economy. The result of the canonical correlation displays that only population is significant among the market-related variables known as traditional FDI determinants such as GDP, growth in GDP and Income (GNI). Non traditional variables such as unemployment rate, starting business and enforcing contract are also not significant for foreign investors.

Factor rating scores suggest us that Kazakhstan is the most attractive market in the study group, while Kyrgyz Republic being the least attractive markets among these countries for investors.

#### References

- Alfaro L., A. Chanda, S. K. Ozcan, and S. Sayek. (2002). "FDI and Economic Growth: The Role of Local Financial Markets". Harvard Business School Working Paper No. 01-083. http://www.people.hbs.edu/lalfaro/JIEfinal1.pdf
- Aliber, R. Z. (1970). "A Theory of Foreign Direct Investment" In the International Corporation: A Symposium, edited by C.P. Kindleberger, 17-34. Cambridge: MIT Press.
- Bandera V. N., White J. T. (1968). "US Direct Investment and Domestic Market in Europe." Economica Internazionale 21:117-33.
- Barcikowski R., Stevens J. P., "A Monte Carlo Study of the Stability of Canonical Correlations, Canonical Weights and Canonical Variate-Variable Correlations", Multivariate Behaviral Research, 10, 1975, pp. 353-364
- Brenton, P., F. DiMauro and M. Lucke (1998). Economic Integration and FDI: An Empirical Analysis of Foreign Investment in the EU and in Central and Eastern Europe. Kiel Working Paper 890.
- Chakrabarti, A. (2001). "The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions", Kyklos, Vol. 54, pp.89-114.
- Chantasavat B., K.C. Fung, H. Iizaka, A. Siu, (2004). "Foreign direct investment in East Asia and Latin America: is there a People's Republic of China effect?", Asian Development Bank Discussion Paper, 17. November.

http://www.adbi.org/files/2004.11.dp17.fdi.prc.effect.pdf

- Culem, C. (1988). "Direct Investment Among Industrialized Countries," European Economic Review 32, pp. 885-904.
- Dornier, P., R. Ernst, M. Fender, and P. Kouvelis. (1998). Global Operations and Logistics: Text and Cases. John Wiley, New York.

- Dunning, J. H. (1980). "Toward an eclectic theory of international production: Some empirical tests". Journal of International Business Studies, 11, Spring/Summer: 9-31.
- Goldberg L., Kolstad C. D. (1995). "Foreign Direct Investment, Exchange Rate Variability, and Demand Uncertainty", International Economic Review, vol. 36 no. 4, pp.855-873
- Hair, Anderson, Tatham, Black: Multivariate Data Analysis, Prentice Hall, 1998
- Hein, S. (1992). "Trade Strategy and the Dependency Hypothesis: A Comparison of Policy, Foreign Investment, and Economic Growth in Latin America and East Asia.", Economic Development and Cultural Change 40(3): pp. 495-521.
- Ito, Takatoshi (2000). "Capital Flows in Asia" in Capital Flows and The Emerging Economies, Ed.by, Sebastian Edward, NBER, Chicago Press, ss.263-276.
- Johnson, Richard A., Wichern D. W. (2002). "Applied Multivariate Statistical Analysis", Prentice Hall, pp.543.
- Karluk, R. (2000). Affect of Foreign Direct Investment to Economic Growth of Turkey. Central Bank of Turkey, Education Department. 11-12
- Kornecki L. (2006). "Foreign Direct Investment (FDI) in the Polish Economy: A Comparison with Central and Eastern Europe (CEE) Countries", Problems and Perspectives in Management, Volume 4, Issue 3, pp.5-14
- Kotz, D. (2002), "The record of economic transition in Uzbekistan", in UNDP: Growth and Poverty Reduction in Uzbekistan. Preparation of a National Study, with the Centre for Economic Research <a href="http://www.cer.uz">http://www.cer.uz</a>, Tashkent, on "Macroeconomic Policy and Poverty Reduction (2002-2003)".
- Levine, Mark S. (1977). "Canonical Analysis and Factor Comparison", Sage Publications, pp.6.
- Lunn J. 1980. "Determinant of U.S. Investment in the EEC: Further Evidence," European Economic Review 13, pp. 93-101.
- Nigh, D. (1985). "The Effect of Political Events on United States Direct Foreing Investment: A Pooled Time-Series Cross-Sectional Analysis". Journal of International Business Studies 16(1):1-17.
- Papanastassiou, M., R.D. Pearce. (1990). "Host country characteristics and the sourcing behaviour of UK manufacturing industry". University of Reading, Department of Economics, Discussion Papers in International Investment and Business Studies, Series B, Volume II, number 140.
- Richard C. Pugh, Yuehluen Hu, "Use and Interpretation of Canonical Correlation Analyses in Journal of Educational Research Articals:1978-1989", Journal of Educatinal Research, 84:3, s.147-152
- Scaperlanda, A. E., Mauer L. J. (1969)." The Determinants of U.S. Direct Investment in the EEC", American Economic Review, Vol. 59: pp. 558–568.
- Schneider F., Frey, B.S. (1985) "Economic and political determinants of foreign direct investment", World Development 13(2), pp.161-175

- Simchi-Levi D., P. Kaminsky; E. Simchi-Levi. (2000). Designing and Managing the Supply Chain. McGraw-Hill.
- Stevenson W.J. (2004). Operations Management. McGraw-Hill College, pp.356-376.
- Sung H., H.E. Lapan (2000). "Strategic Foreign Direct Investment and Exchange-Rate Uncertainty", International Economic Review, (May, Vol. 41), pp.411-422.
- Swedenborg, B. (1979). The Multinational Operations of Swedish Firms: An Analysis of Determinants and Effects, Stockholm: IUI. Industrial Institute for Economic and Social Research.
- Tabachnick, Barbara G., Linda S. Fidel: Using Multivariate Statistics, Allyn and Bacon, Pearson Education, 2001
- Torrisi, C. R. (1985). The determinants of direct foreign investment in a small LDC. Journal of Economic Development, 10, pp. 29-45
- UNCTAD (1998). World Investment Report 1998- Trends and Determinants-, New York and Cenova: United Nations.
- www.abd.org
- www.cia.gov
- www.imf.org
- www.nber.org
- www.unstats.un.org
- www.worldbank.org