Does Foreign Direct Investments Contribute to Employment? Empirical Approach for The Commonwealth of Independent States

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Abstract

The literature regarding the effect of foreign direct investments (FDI) on employment especially indirectly (e.g. wage level, skill based labor demand) for individual countries and country groups has revealed contradictory results so far. This paper aims to analyze the effect of FDI on employment by macro-level perspective for the Commonwealth of Independent States (CIS) which has not been analyzed so far and has still vital importance for those countries like other transition economies and developing countries in the world. In this context, by utilizing the panel data of nine CIS countries over the period 1995-2013, we explored the nexus between FDI and employment by performing Pedroni's (1999, 2004) and Kao's (1999) cointegration tests. Findings of the paper do indicate not only the existence of a long-run positive relationship between FDI and employment, but also the limited employment-generating effect of FDI.

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1. INTRODUCTION

In many countries, foreign direct investments (FDI) weight in total business investment are considerably high and can take a number of forms, including mergers and acquisitions (M&A), building new facilities, reinvesting profits earned from overseas operations and intra-company loans (Hannon and Reddy 2012). Already developed countries are leading economic and technical development compared to those which are in development process. Earlier-developed countries are producing most of the FDI. Therefore, advanced technology can be absorbed by local firms and modern management skills can be learnt from foreign enterprises. That is why results created by foreign partners can be beneficial in many areas for the local firms (Wei 2013: 5).

By generating new jobs, FDI may result in subsequent decline in unemployment. Interpretation to these results varies among many researches. Effect of a rise in FDI on employment could be differentiated between greenfield investment and brownfield investment (Dufaux 2010: 13). Establishing a new company could be regarded as a greenfield investment and it refers to investments that create new production facilities in the host countries. However, brownfield investment is not used to establish a new company; it is used for mergers and acquisitions. When greenfield investment is concerned, according to many researches, impact of FDI inflow on employment has positive impact. However, especially in short run it has negative impact in case of mergers and acquisitions due to technological innovations, changes in equipment and management systems. The impact of FDI on economy as whole is not clear in the short run particularly (Qiu and Wang 2011: 836-837).

There are direct and indirect effects on employment associated with FDI flows to host country. Especially in the countries where capital is relatively scarce due to negligible domestic saving opportunities, the new employment prospects have been one of the most significant impacts of FDI (Kurtishi-Kastrati 2013: 28). The direct effect of foreign ownership may have either positive or negative effects. An increase in competitiveness of the firm investing abroad in terms of productivity, output and trade, managerial capabilities, labor intensity and skills, technology, etc. are the examples of positive effect. In contrast, direct effects may be negative in terms of a reduction

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of domestic low-skilled labor force, losing of the opportunity to learn and grow through the relationship with the parent company and the write-off previous subcontracting relations (Girma et al. 2014: 3-4).

Indirect effects are the second aspect associated with FDI flows, which indicate the spillovers generated by the activities of foreign-owned companies that are expected to affect either the productivity of incumbent foreign owned firms and domestic firms or in the host country. Two types of externalities are associated with FDI flows could be distinguished. The most significant type from the host country's perspective is knowledge spillovers. They are created by a multinational enterprise and the second type of externalities comprises pecuniary externalities, which take place through firm-to-firm interactions and occur through market prices (Javorcik 2013: 7). As pointed out by Aitken and Harrison (1999), spillover channels in the short and medium run between FDI presence and the performance of indigenous firms display a negative correlation may exist if the increase in competition leads to local firms losing part of their market share and spreading their fixed cost over a smaller market.

There are a number of studies that deal with the impact of FDI flows on different macro-economic indicators at either individual country level or country groups as well. On the other hand, the studies could be distinguished into micro-level (industry level) or macro level, however, the aim of this paper is to analyze the effect of FDI on employment from the perspective of long-run and short-run regarding the CIS countries in a macro-economic perspective. In this context, the layoff this paper is organized as follows: stylized facts regarding FDI flows and other important economic indicators such as employment rate, GDP growth rate is provided in the Section 2. Section 3 presents a brief overview of literature on the direct and indirect effects of FDI on employment from micro and macro-level perspectives either individually or country groups as whole. Section 4 is devoted to data used in the empirical analysis and the methodology while Section 5 explains the empirical findings as a result of the analyses. Finally, section 6 concludes with supporting policy recommendations.

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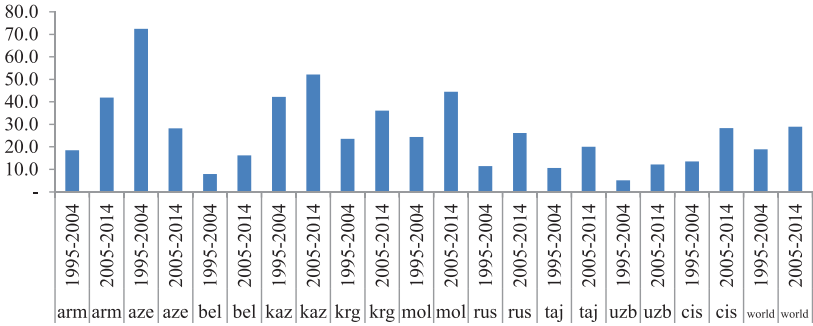
2. SOME STYLIZED FACTS

After the fall of Eastern Bloc at the end of Cold War, transition to the free market economy commenced by 1990s and has reached at an unprecedented pace by the recent decade. Some countries that are part of Eastern Europe and also ex-Soviet Union were integrated to European Union (EU) which in turn facilitates them to proceed into the free market economy and accrue its benefits (attracting more FDI flows, triggering economic growth, etc.). Unlike those countries from Eastern Europe, most of the CIS countries faced some internal and external political tensions and severe financial crises at the end of 1990s. Even though bearing high potential of political conflicts and risks, many of these countries have already managed to take some measures and initiatives to attract capital flows from the rest of the world. Owing to cheap labor force, existence of abundant natural reserves entails them to accrue FDI. Under these political and economic circumstances, Figure 1 shows the development of inward FDI stock as a percentage of GDP, GDP growth rate and employment rate between 1995 and 2013.
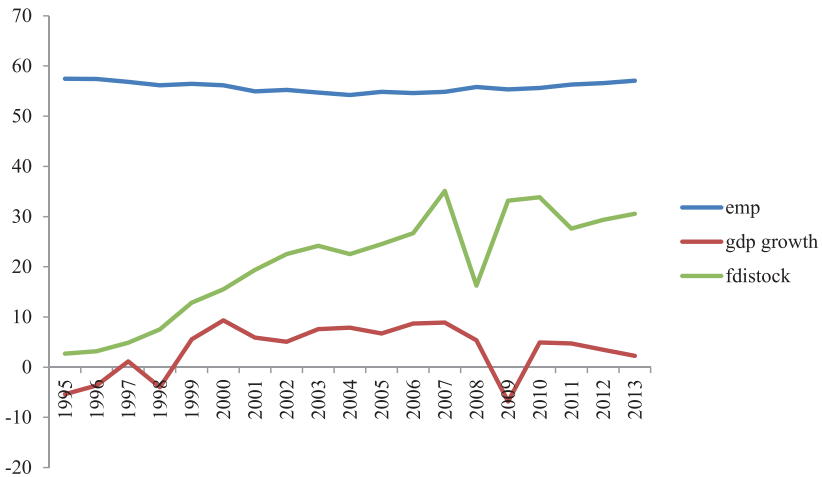
Figure 1. FDI, Employment and Growth in the CIS Countries, 1995-2013 (%)

Source: UNCTAD, UNCTADSTAT; World Bank,

World Development Indicators.

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It is striking that during the transition period at which corresponds to midst of 1990s, by the impetus of political and economic tensions within the CIS countries negatively affect only the GDP growth rate among the variables in consideration. By the impact of financial turmoil in Russia, GDP growth rate declined sharply at the end of 90's. Another sharp decline in GDP growth observed due to the global financial turmoil in 2008. Unlike GDP growth rate, employment rate has shown little volatility under the presence of these two financial critical situations. Its average is above 55 % during the period of study. On the other hand, inward FDI stock as a percentage of GDP shows increasing trend during the transition and post-transition period exempt from the period of global financial turmoil in 2008 and follows almost the same pattern with GDP growth rate. This indicates that as the economies thrive in the region, it attracts more FDI to the extent by which the contributions of the factors mentioned above. Of course, countries within the region have displayed different performances to attract FDI and accrue its benefits so far. In this context, Figure 2 individually shows the breakdown of inward FDI stock as a percentage of GDP for 10-year averages. Most of the countries within the region over the period 2005-2014 could manage to promote FDI level exempt from Azerbaijan. Even though Azerbaijan display declining pattern in attracting FDI, it is still well above the world and the CIS average in a salient fashion. However, Armenia, Kazakhstan, Kyrgyzstan and Moldova are the countries that successfully promote FDI level and their FDI stocks are well above the world average and the CIS region. As a powerhouse of the region in terms of both political and economic aspects, Russia's FDI stock rises more than twofold but it is less than the CIS and the world averages. On the other hand, within the region poorer countries like Tajikistan, Uzbekistan and Belarus show weak performance in attracting FDI even their FDI stocks have increased compared to the remainder of region. When the region as a whole is compared to the world, in both periods inward FDI stock falls behind the world average nonetheless as time elapses the gap between the CIS region and the world diminishes in the recent decade.
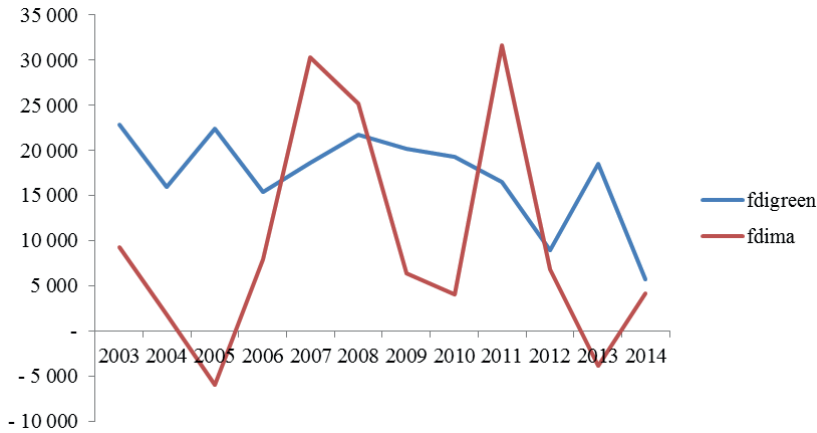
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Figure 2. Breakdown of Inward FDI Stock by Countries (% of GDP)

Note: Abbreviations of the country names are as follow: arm: Armenia, aze: Azerbaijan, bel: Belarus, kaz: Kazakhstan, krg: Kyrgyzstan, mol: Moldova, rus: Russian Federation, taj: Tajikistan, uzb: Uzbekistan, cis: The Commonwealth of Independent States

Source: UNCTAD, UNCTADSTAT.

As discussed in the previous section, mode of FDI entry into the country could be an important factor in boosting employment However, if FDI enters to the host country in the form of mergers and acquisitions (M&As) or so-called brownfield investment, then it may cause even negative impetus to the level of employment in host country due to productivity and competitiveness issues particularly in the short-run. Due to the availability of greenfield investment data that commences by 2003, Figure 3 shows the progress of both types of FDI for the CIS countries between 2003 and 2014. According to Figure 3, it is easily observed that both types of FDI shows volatility, but degree of volatility in terms of sharp falls and rises are relatively higher for cross-border M&A[1] over greenfield[2] investment. Exempt from two periods (2006-2008 and 2010-2012) greenfield investment exceeds cross-border M&A and also exempt from some periods (2003-2004 and 2011), a decline in one is accomplished by an increase in another. Current situation yields that value of greenfield investment is still above cross-border M&A even former exhibits declining path.

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Figure 3. Mode of FDI (Million US $)

Source: Financial Times Ltd, FDI Markets (www.fdimarkets.com).

UNCTAD, (www.unctad.org/fdistatistics).

3. PREVIOUS LITERATURE

Unlike the studies concerning the relationship between foreign direct investment (FDI) and economic growth, literature on FDI-employment relationship is relatively scant even recently growing number of studies in micro and macro level studies. On the other hand, this paper differs over its counterparts as it is a serious attempt on investigating the FDI-employment relationship for the CIS countries in macro perspective. In this context, we approbate the studies that account for the effect of FDI on employment in macro level either for single country or country groups. In both empirical and theoretical literature, there are some attempts to identify the role of FDI on direct and indirect employment generation by using either aggregate and disaggregated data. Nevertheless, research on the indirect effect is relatively scant. Federico and Minerva (2008) assessed the impact of Italy's outward FDI on local employment growth between 1996 and 2001 for 12 manufacturing industries and 103 administrative provinces. The main finding of their study is that, after controlling for the local industrial structure and area fixed effects, FDI is associated with faster local employment growth, relatively to the national industry average. Ajaga and Nunnenkamp (2008) investigate the long-run relationship between inward FDI and economic outcome variables such as value added and employment growth by

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drawing upon a panel of contiguous US states for the period of 1977 to 2001. By conducting Johansen's (1988) cointegration technique and Toda and Yamamoto's (1995) Granger causality tests, they find cointegration as well as bidirectional causality between FDI and outcome variables. This result holds whether FDI measure is taken as stock and/or employment in foreign affiliates or independent from the states' overall economic structure or their manufacturing sector.

Some recent studies explicitly care about the direct impact of FDI on aggregate level of employment. Braunstein and Epstein (2002) find no independent effect of FDI on employment in Chinese prefectures, even if a positive effect is found by adjusting their investment measure, the potential impact of FDI on employment is nonetheless very small. Similar to our approach in this paper, Rizvi and Nishat (2009) undertake an empirical study to analyze the impact of FDI on employment opportunities for three Asian countries (Pakistan, India and China) by performing panel cointegration methods over the period 1985-2008. Their findings reveal that whatever other benefits may accrue from FDI it should not be expected to create employment opportunity in any of these three countries directly and FDI enhancement policies by the other measure to stimulate employment growth. In a more recent study Vacaflores (2011) examines the effect of FDI on employment by performing dynamic panel data analysis for 12 Latin American countries between 1980 and 2006. He finds that FDI has a positive and significant effect on the employment generation in host countries, which is driven by its effect on male labor force.

Similar to the countries in our sample in terms of previous economic structure, some studies extensively deal with the effect of FDI on employment for Central and Eastern European (CEE) countries where striking economic transition and stunning FDI flows particularly by dint of EU membership have been experienced in recent decade. Mickiewicz et al. (2000) examines FDI-employment relationship in the context of 4 CEE countries (Czech Republic, Hungary, Slovakia and Estonia) over 1993-1996 and finds that employment is positively affected by FDI, but increase in FDI differ in those countries. Their analysis also reveals that the bigger diversity of FDI is more favorable for the host economy and there is higher potential that it will lead to more diverse types of spillovers and skill transfers. By drawing

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upon an industrial disaggregated level data of 8 CEE countries, Hunya and Geishecker (2005) performed panel gravity model to investigate the effect of FDI on employment. They find that FDI flows increase the level of employment for all countries in consideration, nevertheless, Slovakia accrue the most benefit in terms of employment increase by FDI flows. Their findings also suggest that FDI is a significant determinant of the skill composition in the new EU members and is biased against skilled manual workers. In the most recent study, Brincikova and Darmo (2014) analyze the impact of FDI inflow on employment for 4 Visegrad countries (also part of CEE group of countries) by using panel data over 1993-2012, the period that corresponds to transition to free market economy and EU membership. Unlike the results of the studies mentioned above, their findings show that there is no statistically significant impact of FDI inflow on employment.

Besides the studies concentrating on developing countries as group which are less capital intensive and have higher marginal productivity of capital, they have accrued increasing amount of FDI flows in recent decades and there are also number of studies that address for single developing countries in the empirical literature. In a recent paper Liu (2012) aims to explore the specific relations between FDI and employment of three strata industries in China by performing Engle-Granger cointegration method and Granger causality test to identify the long-run relations and short-run linkages between FDI and employment in each of the industry via distributed lag model. Findings indicate that, in secondary and tertiary industry, growth of FDI in the long-run would promote employment, and it is especially true for tertiary industry, where bidirectional linkage between FDI and employment exists; in the short term FDI has limited and even negative impetus on employment. On the other hand, Banga (2005) analyzes the impact of FDI, trade and technological progress on wages and employment by drawing on a disaggregated data for 78 three-digit level industries in India and his findings claim that the higher extend of FDI in any industry leads only higher wage rate by which having no significant impact on the level of employment within the industry in consideration. Jenkins (2006) considers the impact of FDI on employment in Vietnam that accrued salient inflows of foreign capital in the 1990s as part of its increased integration with the global economy. Despite the significant share of foreign firms in industrial output, the direct effect on employment generation has been very limited

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due the high labor productivity and low ratio of value added of those investments and findings do also indicate the negative indirect employment effect that occurs from the crowding out of domestic investments by FDI. Finally, Jayaraman and Singh (2007) analyze the effect of FDI on employment by drawing on a time series of Fijian economy over the period 1970-2003. By conducting cointegration and Granger causality analysis, employment is found to be positively affected by FDI and GDP for Fiji.

4. DATA and METHODOLOGY

4.1. Data: In this macro-level study, we try to investigate the nexus between FDI and employment for nine CIS countries[3]. Drawing on annual balanced panel of these nine countries, the analysis covers the period over 1995-2013 that corresponds to the fall of Soviet Union and transition to the free market economy. In order to carry on analysis, we utilized the series of FDI, employment and Gross Domestic Product (GDP).

In line with Ajaga and Nunnenkamp (2008), we consider FDI variable as the ratio of inward FDI stock to the real GDP which is mostly drawn in the literature concerning the effects of FDI on growth and employment. The data concerning with inward FDI stock is gathered from the UNCTAD-STAT database of United Nations Conference on Trade and Development (UNCTAD) in annual base. As the size measure of economy real GDP is drawn annually by constant prices in terms of base year 2005 in US$ (millions) collected from the UNCTADSTAT database of UNCTAD. As one of our main variables of interest like FDI is employment, the data for series of employment is compiled in annual base and it refers to persons who are at 15 or over 15 years old and accounts for employment to population ratio. The data for employment is drawn from World Bank's World Development Indicators (WDI) database. On the other hand, series of FDI is realized by using the GDP deflator in terms of base year 2005 in US$. In line with Rizvi and Nishat (2009) to remove the biasness from the estimates due to differences in sizes of the economies we consider FDI variable as the ratio to the real GDP. Nevertheless, all the variables are utilized in natural logarithms throughout the analysis. Definition of the variables and sources of data are summarized in Table 1.

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Table 1. *Definitions of Variables*

Variables	Abbreviation	Period	Source
Natural logarithm ofemployment (%)	LEMP	Annual (1995-2013)	World Bank, WDI
Natural logarithm of real GDP (million, US$)	LGDP	Annual (1995-2013)	UNCTAD, UNCTADSTAT
Natural logarithm of FDI stock to GDP ratio (%)	LFDIG	Annual (1995-2013)	UNCTAD, UNCTADSTAT

4.2. Methodology: By drawing on panel data, our approach is similar to Ajaga and Nunnenkamp (2008), Rizvi and Nishat (2009) and as a country specific study to Jayaraman and Singh (2007). In this context, our baseline specification is as follows:

$$EMP_{i,t} = â_0 + â_1 FDIG_{i,t} + â_2 GDP_{i,t} + å_{i,t} \tag{1}$$

where subscript i denotes country while t denotes time (year). In this specification $EMP_{i,t}$ represents the employment rate in country i in period t, $FDIG_{i,t}$ represents the annual inward FDI stock to GDP ratio in country i in period t and finally $GDP_{i,t}$ represents the real GDP of country i in period t respectively. On the other hand, error term in the equation in which is denoted by $\varepsilon_{i,t}$ follows the standard one-way error specification consists of unobservable individual specific effect and remainder disturbance with i.i.d over the whole sample with constant variance σ_i^2. In equation 1, employment rate in the CIS countries expected to be positively related (especially in the long run) with the size of the economy represented by real GDP by Keynesian point of view in which higher demand would lead to higher levels of production and employment. However, this clear-cut relationship becomes ambiguous for FDI the extent to which is mentioned in the previous section. As pointed out by Vacaflores (2011) FDI should increase the level of the productive capacity as well as its efficiency, so its impact is usually expected to be positively related to employment. But this relationship might be neutral or even negative by depending on the mode of entry or type of FDI. If FDI enters into the host economy in the form of mergers and acquisitions (M&A), then its potential effect on the employment could be even negative (especially in the short run).

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We follow the procedures in a similar way proposed by Ajaga and Nun-nenkamp (2008) in our exact empirical investigation. In this context, our empirical analysis commences by checking the stationary of the variables in consideration. For this purpose, unit root tests proposed by Breitung (2000) and Im, Pesaran, and Shin (2003) (hereafter IPS) are performed. Both tests are superior over their counterparts in terms of applicability as T (time) and N (individual) goes to infinity and work better in small sample sizes. In the second step, existence of long-run relationship between the variables is checked by performing cointegration test suggested by Kao (1999) and Pedroni (1999, 2004). Similar to two-step Engle-Granger (1987), Kao (1999) developed a cointegration test that is based on Dickey Fuller (1979) and Augmented Dickey Fuller (1981) type tests by testing the null hypothesis of "no cointegration among series" against the alternative "existence of cointegration among series". On the other hand, Pedroni (1999, 2004) proposed seven cointegration tests for testing the null of no cointegration in panel data model that allows for considerable heterogeneity. Four of these tests cover within group statistics while three of them cover between group statistics. In terms of our model specified by equation 1, one might derive a concerted version of Pedroni (1999, 2004) tests as in the following equation:

$$EMP_{i,t} = \acute{a}_i + \ddot{a}_i t + \hat{a}_1 FDIG_{i,t} + \hat{a}_2 GDP_{i,t} + \mathring{a}_{i,t} \tag{2}$$

where α_i represents country specific fixed effects while δ_i represents the dynamic effects. By using the error terms obtained by estimating equation 2, null of no cointegration among the series is tested.

The final step is devoted to identify both long-run and short-run relationship by performing mean group estimator (MGE) and pooled mean group estimator (PMGE) instead of panel dynamic ordinary least squares (PDOLS) which is only developed for estimating the long-run parameters. Proposed by Pesaran and Smith (1995), MGE is performed by using the long-run parameters of autoregressive distributed lag models for each cross-section to estimate the long-run parameters. Hence, it allows long-run parameters to vary by each individual. Nevertheless, proposed by Pesaran et al. (1999), PMGE constrains the long-run coefficients to be identical, but allows the short-run and adjustment coefficients as the error variances differ across each cross-section. On the other hand, homogeneity of the long-run parameters obtained by these methods is checked by Hausman (1978) test

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that is based on the null hypothesis of difference in coefficients not being systematic. If the null hypothesis is not rejected, then the long-run coefficients are regarded to be homogenous and it is more appropriate to prefer PMGE rather than MG.

5. RESULTS

Before proceeding to the main results in discussion, summary statistics for the series shown in Table 2. Standard deviations of FDI and employment variable are lower compared to GDP series as they are expressed in ratios. Maximum value of GDP series observed in Russian Federation in 2013 while FDI and employment series observed in Kazakhstan in 2012 and 2013 respectively. Minimum value of GDP observed in Tajikistan, while FDI and employment observed in Belarus and Republic of Moldova respectively.

Table 2. *Summary Statistics*

Summary Statistics	GDP	FDIG	EMP
# of Observation	171	171	171
Mean	95219.96	31.63805	55.8114
Maximum	995637.8	125.6669	68.7
Minimum	1211496	0.3921	37.7
Standard Deviation	233530.1	27.2836	6.2478

Source: Authors' estimations.

As mentioned in the previous section, we follow a three-step procedure to examine the relationship between FDI and employment. In this context, our analysis commences by examining the stationary of the series in consideration by performing IPS and Breitung panel unit root tests as discussed in the previous section and Table 3 exhibits the results of the unit root tests. The results of panel unit root tests do indicate that all series are stationary by taking the first difference either with intercept or adding a deterministic trend which in turn points out the rejection of null of non-stationary of the series. It means that series are integrated at I (1) which indicates the existence of long-run relationship or cointegration between the variables in consideration and allows us to proceed to the cointegration analysis.

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Table 3. *Results of Unit Root Tests*

IPS Unit Root Test	Level		1st Difference	
Variables	Intercept	Intercept+Trend	Intercept	Intercept+Trend
LFDIG	-0.404 (0.343)	-2.131 (0.016)**	-6.391 (0.000)*	-4.162 (0.000)*
LGDP	2.686 (0.996)	0.345 (0.635)	-7.155 (0.000)*	-4.812 (0.000)*
LEMP	3.833 (0.999)	2.321 (0.989)	-7.268 (0.000)*	-6.324 (0.000)*
Breitung Unit Root Test	**Level**		**1st Difference**	
Variables	Intercept	Intercept+Trend	Intercept	Intercept+Trend
LFDIG	4.565 (1.000)	1.637 (0.949)	-1.380 (0.083)***	-2.410 (0.008)*
LGDP	7.417 (1.000)	1.666 (0.952)	-1.868 (0.030)**	-1.619 (0.052)***
LEMP	3.088 (0.999)	3.809 (0.999)	-1.856 (0.031)**	-4.623 (0.000)*

Source: Authors' estimations.

Note: *indicates the significance level at 1 %. For IPS type unit root test lag is specified by Akaike Information Criterion whereas for Breitung unit root test maximum lag is specified as 1.

In the second step, we check whether there exist cointegration among the series by performing Pedroni's (1999, 2004) and Kao's (1999) tests. In this context, Table 4 shows Pedroni's (1999, 2004) cointegration tests results.

Table 4. *Pedroni Panel Cointegration Test Results*

Statistics	Without Trend	With Trend
Panel ν-statistic	-0.950	1.345***
Panel ρ-statistic	0.583	-0.902
Panel PP-statistic	-0.907	-3.711*
Panel ADF-statistic	-1.164	-2.699*
Group ρ-statistic	0.907	0.657
Group PP-statistic	-1.827**	-2.735*
Group ADF-statistic	-1.959**	-1.481***

Source: Authors' estimations.

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Note: The panel statistics are the within-dimension statistics while group statistics are between-dimension. These are one-sided standard normal test with critical values of 1%, 5% and 10% given by -2.326, -1.645 and -1.282. A special case is the panel v-statistic which diverges to positive infinity under the alternative hypothesis. Rejection of the H_0 of no cointegration requires values being larger than 2.326, 1.645 and 1.282 at 1%, 5% and 10% significance level. The critical values for the mean and variance of each statistic are obtained from Pedroni (1999). H_0 corresponds to no cointegration.

There are seven statistics provided by these tests, four of them are panel or within dimension while three of them are group or between dimension statistics. According to the results shown in Table 4, exempt for panel and group ρ-statistic, adding up a deterministic trend yields the existence of cointegration among the series produced by most of the statistics which are larger than the critical values at different significance levels by which rejecting the null hypothesis of no cointegration. On the other hand, without deterministic trend, cointegration among the series satisfied by group PP-statistic and group ADF-statistics which are larger than the critical values proposed by Pedroni (1999) at 5 %. In this context, by considering the fact of trend effect, it could be said that the presence of cointegration exist.

Similar result is also driven by performing Kao's cointegration test and it is provided in Table 5. Based on ADF test, value of t-statistics is larger than critical value at 10 % significance level results in rejecting the null of no cointegration.

Table 5. *Kao Panel Cointegration Test Results*

	t-statistics	Probability
ADF	-1.6107	0.0536***

Source: Authors' estimations.

Note: ***indicates the significance level at 10 %. Lag length is chosen by Akaike Information Criterion.

Verification of cointegration leads us to estimate both long-run and short-run relationship in error correction form by PMGE and MG methods discussed above with details and Table 6 displays the PMGE estimation results.

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Table 6. *Pooled Mean Group Estimation Results*

Long-Run Relationship

Dependent Variable: LEMP

Variables	Coefficient (Std. Error)
LFDIG	0.0317 (0.0058)*
LGDP	0.0612 (0.0101)*

Error Correction Form

Dependent Variable: LEMP

Variables	Coefficient (Std. Error)
Constant	0.9355 (0.2329)*
EC	-0.2826 (0.0696)*
LFDIG	0.0191 (0.0150)
LGDP	0.0372 (0.0388)

Source: Authors' estimations.

Note: *indicates the significance level at 1 %.

Above part of Table 6 is devoted to long-run relationship and it shows that both FDI and GDP positively affect employment in the long-run for CIS countries. This result confirms the expectations regarding the impact of GDP on employment while we stressed ambiguity about the expectation regarding the effect of FDI on employment. Coefficients of both variables are significant at 1 % significance level and there is a 1% increase in inward FDI stock represented by LFDIG leads to 0.3 % increase in employment. Nevertheless, this clear-cut relationship does not exist in the short-run estimated by error correction form. Coefficient of the error correction term (EC) is negative and significant as expected while the coefficients of FDI and GDP are insignificant imply that both variables do not affect employment in the short-run.

However, the picture becomes contradictory when the estimation performed by MG method and estimation results exhibited in Table 7.

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Table 7. *Mean Group Estimation Results*

Long-Run Relationship	
Dependent Variable: LEMP	
Variables	Coefficient (Std. Error)
LFDIG	0.0303 (0.0931)
LGDP	-0.0184 (0.0306)
Error Correction Form	
Dependent Variable: LEMP	
Variables	Coefficient (Std. Error)
Constant	1.5807 (0.7725)**
EC	-0.4537 (0.1290)*
LFDIG	0.0241 (0.0130)***
LGDP	0.0493 (0.0483)

Source: Authors' estimations.

Note: *,**,*** indicates the significance level at 1 %, 5 % and 10 % respectively.

Unlike the results provided in Table 6, these results point out the non-existence of long-run relationship between FDI and employment since the coefficient of FDI is insignificant and similar result is also valid for GDP. Based on error correction model, estimations regarding the short-run relationship differ compared to PMGE method. The sign of error correction term (EC) is negative and the value of the coefficient is significant through the expectations. Although the effect of GDP on employment is expected to be positive, the results of error correction model displayed in below part of Table 7 reveal that GDP does not have any significant effect on employment as the corresponding coefficient is insignificant at any significance level. However, it is observed that FDI positively effects employment in the short-run as there is 1 % increase in inward FDI stock results in about 2.4 % rise in employment.

Homogeneity check of long-run parameters for both estimators is done by performing Hausman (1978) test and results are exhibited in Table 8. The null hypothesis could not be rejected since χ^2 statistics is not significant at all significance levels. In this context, long-run parameters which are obtained from PMG estimator are homogenous compared to MG estimator.

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Table 8. *Hausman Test Results*

H_0 : differences in coefficients are not systematic	χ^2 statistics	Probability
	2.62	0.2697

Source: Authors' estimations.

6. CONCLUSION and POLICY RECOMMENDATIONS

The role of FDI on employment has been discussed in different aspects, especially host country effects in terms of wage levels and demand for skilled labor. In this terrain, most empirical research has been conducted by using disaggregated firm level data and findings of those studies revealed contradicting results for the role of FDI on wage level and need for skilled labor. In this context, this paper aims to analyze the effect of FDI on employment by using country level data for the CIS countries which has not been analyzed empirically so far.

By using an aggregated panel data, we tested the nexus between FDI and employment for the CIS countries between 1995 and 2013 by performing panel cointegration tests introduced by Pedroni (1999, 2004) and Kao (1999). Results of cointegration tests yield the presence of long-run relationship between FDI and employment in the CIS countries. Meanwhile, the sign and magnitude of this relationship is tested by MGE and PMGE proposed by Pesaran and Smith (1995) and Pesaran, et al. (1999) respectively. According to the results, estimations that are performed by PMGE yield positive relationship between FDI and employment in the long-run but the magnitude of this effect is quite limited while results of MGE yields no such a relationship neither in the short-run nor in the long-run.

As a policy recommendation, it could be stressed that amount of FDI flows into those countries should be enhanced by providing the political and economic stability and removing the barriers and regulating the markets in favor of foreign investors. On the other hand, type and mode of FDI entry into the countries are another important factor that may promote higher economic growth and employment. In this context, countries should attract more horizontal investment and greenfield investment which have productivity and employment enhancing effects. Even currently the amount of greenfield investment is higher than cross-border M&A which are generally based on takeover of ownership or privatization of public companies in this

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region still not enough to promote higher employment levels supported by our findings. As our paper is not an industry-specific one or we did not deal by drawing on a disaggregated firm level data, it is not easy to provide industrial concentration of FDI in this region. Because of having rich natural resources such as natural gas and oil reserves especially located in the Caspian basin, foreign investments could be concentrated mainly on energy and gas sector. In order to promote higher productivity and employment, those countries should attract foreign oriented direct investments more onto labor intensive industries as which labor is abundant and cheap factors of production in this region. As our paper does not deal with home country effects or industry specific effects of FDI in this region, the future research for the CIS countries should lean into this domain as well to observe the effect of FDI flows on employment in a micro-level perspective.

Endnotes

[1]   Cross-border M&A sales are calculated on a net basis as follows: Sales of companies in the host economy to foreign TNCs (-) Sales of foreign affiliates in the host economy. The data cover only those deals that involved an acquisition of an equity stake of more than 10%. Data refer to the net sales by the region/economy of the immediate acquired company.

[2]   Data for greenfield investment refer to estimated amounts of capital investment.

[3]   As founding states Ukraine and Turkmenistan have not ratified the charter of establishment yet and are currently associate states of the CIS. Although Georgia had ratified the charter, was withdrawn by the membership due to the conflict between Russian in 2008. List of the CIS countries according to alphabetical order is as follows: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan and Uzbekistan.

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Doğrudan Yabancı Yatırımlar İstihdama Katkı Sağlar mı? Bağımsız Devletler Topluluğuna Yönelik Ampirik Yaklaşım

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Öz

Doğrudan yabancı yatırımların (DYY) istihdam üzerine özellikle dolaylı etkilerine yönelik ülke ve ülke grupları bazında var olan literatür, şimdiye kadar çelişkili sonuçlar ortaya çıkarmıştır. Bu çalışmanın amacı, hâlihazırda dünyadaki diğer gelişmekte olan ülkelerle geçiş ekonomilerinde olduğu gibi hayati önemi olan ve daha önce çalışılmayan Bağımsız Devletler Topluluğu ülkeleri için DYY'nin istihdam üzerindeki etkilerini makro düzeyli perspektifle incelemektir. Bu bağlamda, 1995-2013 dönemi için dokuz BDT ülkesine ilişkin panel veri kullanarak, Pedroni'nin (1999, 2004) ve Kao'nun (1999) eş bütünleşme testlerini uygulayarak DYY ile istihdam arasındaki ilişkiyi irdeledik. Çalışmanın bulguları DYY ile istihdam arasında uzun dönemli pozitif ilişkinin varlığına işaret etmenin yanı sıra DYY'nin istihdam yaratıcı etkisinin sınırlı olduğunu da vurgulamaktadır.

Anahtar Kelimeler

Doğrudan Yabancı Yatırımlar, İstihdam, Bağımsız Devletler Topluluğu, Panel Eş bütünleşme Testleri.

JEL SINIFLANDIRMASI KODLARI: F32, F43, C32

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Влияют ли прямые иностранные инвестиции на занятость? Опыт Содружества Независимых Государств

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АННОТАЦИЯ

Литература, касающаяся влияния прямых иностранных инвестиций (ПИИ) на занятость, особенно косвенно (например, уровень заработной платы, спрос на рабочую силу, основанный на профессии) для отдельных стран и групп стран, пока выявила противоречивые результаты. Целью данной статьи является анализ влияния ПИИ на занятость на макроуровне для Содружества Независимых Государств (СНГ), которое до сих пор не анализировалось, но сохраняет жизненно важное значение для стран с переходной экономикой и развивающихся стран. В этом контексте, используя данные из девяти стран СНГ за период 1995-2013 годов, мы изучили взаимосвязь между ПИИ и занятостью, проведя тесты коинтеграции Педрони (1999, 2004) и Као (1999). Выводы этой статьи свидетельствуют не только о существовании долгосрочной положительной взаимосвязи между ПИИ и занятостью, но и о ограниченном воздействии ПИИ на создание рабочих мест.

Ключевые слова

Прямые иностранные инвестиции, занятость, Содружество Независимых Государств, Тесты коинтеграции.

КОДЫ КЛАССИФИКАЦИИ JEL: F32, F43, C32

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