

Do Foreign Direct Investments Promote Employment in GCC Countries?

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Abstract

The impact of foreign direct investments on the labor market has attracted a lot of attention on behalf of academics. This study contributes to the literature by analyzing the short-run and long-run impacts of FDI on employment in GCC countries during the period 1990 and 2019. To do that, we used the PMG-ARDL model, which allows accounting for cross-section dependence. The analysis shows that GDP, capital stock, international trade and FDI have a positive effect on employment in the long-run. More specifically, an increase in FDI flows by 1% induces a rise in employment by 0.194% in the long-run. The results of the empirical analysis also show that FDI has no significant effects on employment in the short-run. In addition, GDP positively influences employment, whereas international trade has a detrimental effect. Finally, the short-run country-specific analysis suggests that FDI flows increase employment in Bahrain and Qatar in the short-run while it reduces it in Kuwait, Oman, Saudi Arabia, and the United Arab Emirates.

Keywords: *Foreign Direct Investments, Employment, GCC Countries, PMG-ARDL Model.*

Introduction

Since the mid-1980s, developing countries have perceived free international movement of capital as a leverage for raising more savings, increasing foreign direct investment (FDI), rebalancing balances of payments and subsequently stimulating long-term economic growth. Capital flow liberalization, which has resulted in more liberal policies in favor of foreign direct investments and multinational firms, is explained by a consensus on the importance of FDI as a factor for growth and development. International experience shows that, in countries open to more foreign capital, multinational firms bring new industrial techniques and management know-how to the host countries, often promoting productivity, exports and growth. These stylized facts have considerably promoted research into the effects of capital inflows, particularly foreign direct investment, on the economies of host countries. Since then, a body of research dealing with the relationship between FDI and economic performance has focused more on assessing the potential effects of FDI on economic growth (Pegkas, 2015; Belloumi, 2014; Zekarias, 2016). Other studies have examined the issue of FDI effects on productivity; efficiency and exports (Ghali and Rezgui, 2011 ; Bijsterbosch and Kolasa, 2010 ; Djankov and Hoekman, 2000 ; Aitken and Harrison, 1999). However, a relatively current trend in research, has emphasized the idea that capital inflows in the form of FDI, can also, act on employment dynamics (Dao et al., 2023 ; Abouelfarag and Abed, 2020; Saucedo et al., 2020 ; Zmami and Ben Salha, 2020).

The aim of this study is to estimate the impacts of foreign direct investment inflows on employment dynamics, in GCC countries (Bahrain, KSA, Kuwait, Qatar, Oman, and United Arab Emirates (UAE), over the 1990-2019 period. The GCC region presents a particularly interesting case study to examine the effects of foreign direct investment inflows on employment dynamics, given the importance of its foreign direct investment liberalization process. Since the 1990s, the GCC states have been striving to develop a number

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of incentive measures and reforms with one objective in mind: improving the attractiveness of their territories to FDIs. Over time, all GCC countries have adopted or revised laws governing foreign investment. Restrictions on foreign investment have been eased or eliminated in a number of sectors to facilitate entry. A very large number of sectors are now open to foreign investment, with the exception of some sensitive sectors placed on a "negative list". The number of partial sectors or activities on this list has progressively declined in recent years. Saudi Arabia, for example, has opened up a wide range of goods and services to international investors. Foreign capital can now hold a 100% stake in several sectors, including gas, electricity, water treatment and petrochemicals. Foreign capital is also investing in financial and banking services, telecommunications services, goods distribution and IT services. Similarly, the State of Qatar removed banking and insurance activities from its negative list in 2004. Furthermore, in the Emirates, several new free trade zones have been announced, with the intention of making the United Arab Emirates a center of international trade in research, technology and financial services. Moreover, several restrictions on foreign investment in specific real estate projects have been eliminated. The other Gulf countries (Oman; Kuwait and Bahrain) have also undertaken a number of reforms aimed at liberalizing foreign investment, notably by easing procedures for Starting to Business.

In fact, the different reforms undertaken to liberalize foreign direct investment have boosted international investment flows in the GCC region over the past decade. According to World Bank data, net FDI flows as a percentage of GDP over the 2010-2022 period are positive, and are on average around 4.46 in Bahrain, 1.97 in Oman, 1.74 in the Emirates, 1.60 in Saudi Arabia, 1.38 in Qatar and 0.37 in Kuwait. These figures raise the question of the role of these FDI inflows on the economies of the GCC countries. However, it is important to point out that a number of studies have been carried out in this regard, and have shown that foreign capital affects several variables such as growth, labor productivity, environment quality and off-balance sheet activities of banks in the GCC region (Elmawazini, 2014; Albassam, 2015; Saif-Alyousfi, 2020; Elheddad et al., 2021). However, no study has sought to quantify the impact of foreign capital inflows in the form of foreign direct investment on employment dynamics. Then, the aim of this paper is to study the effects of foreign direct investment inflows on employment in GCC countries. To this end, we use a dynamic panel approach through a PMG- ARDL (GMM) model for a sample of 6 countries in the GCC region (Bahrain, KSA, Kuwait, Qatar, Oman, and United Arab Emirates (UAE)), observed over the period between 1990 and 2019.

This paper is structured as follows. The second section presents the results of the various theoretical and empirical works dealing with the relationship between foreign direct investment flows and employment dynamics. The third section describes the econometric approach. The fourth section presents and discusses the results of the econometric estimates. The fifth section concludes the paper and highlights the main findings and economic policy recommendations.

The Impact of FDI on Employment

Theoretical Underpinnings

A number of studies are currently examining the effects of foreign direct investment on the labor market, and particularly on employment dynamics (Zmami and Ben Salha, 2020; Saucedo et al., 2020 ; Rong et al., 2020). The findings on the effect of FDI on employment are mixed. Some authors suggest that FDI promotes employment and reduces unemployment, while others argue the opposite, asserting that the presence of technology-intensive Multinational Firms (MNFs) can reduce employment dynamics. On the whole, research shows that the effect of FDI on employment depends on the form of mergers & acquisitions or greenfield investment (UNCTAD, 2000); and the nature of skilled or unskilled employment (Bandick and Karpaty, 2011 ; Saucedo et al., 2020 ; Zmami and Ben salha, 2020).

According to Lipsey et al (2010), foreign companies have relative advantages in terms of easier access to both financing resources and sales channels for their products on foreign markets. These two advantages could have positive effects on production levels and, consequently, on employment. However, it is important to stress that if FDI is in the form of mergers & acquisitions, there is no job creation, whereas in the case of "Greenfield" FDI, there is job creation in the host countries. In fact, foreign direct investment

in the form of mergers & acquisitions or equity stakes in privatized companies seeks maximum profitability, and often undergoes restructuring processes, which explains the low employment rate of these operations, and often comes along redundancies. These investments cannot be compared with foreign direct investment projects aimed at creating new production units and new businesses, which often lead to the creation of new jobs (UNCTAD, 2000). In this regard, Dao et al., (2023) point out that when foreign direct investment is of the "Greenfield" type, substantial employment growth is expected if this FDI is streamed in labor-intensive sectors. However, it is important to emphasize that even these new operations cannot always contribute to boosting employment. This is because, in some cases, the presence of MNCs with highly-developed technologies can reduce the demand for labor, and in particular, the demand for less-skilled labor.

Some other studies have examined another dimension of the FDI/employment relationship, focusing on examining the direct and indirect effects of foreign direct investment on employment dynamics (Aaron,1999; Dao et al., 2023). Under this approach, FDI creates direct jobs, particularly new investments aimed at creating new production units. The direct effect can therefore be summed up as the total number of individuals employed in these units created locally by multinational subsidiaries. On the other hand, the indirect effects of FDI on employment are generally generated by local companies (suppliers and customers) who maintain relationships with the subsidiaries of multinational firms. In this regard, Dao et al. (2023) indicate that foreign companies establish backward linkages with domestic firms for the supply of inputs. Expansion of foreign firms' production requires more inputs, which increases business opportunities for domestic firms and boosts employment in the domestic economy. These indirect effects are sometimes greater than the direct ones (Aaron, 1999).

Other studies have highlighted the role of workers' skill levels in explaining the relationship between FDI and employment (Bandick and Hansson, 2009; Zmami and Ben Salha,2020). Huttunen (2007) confirmed that foreign direct investment inflows can reduce the share of highly-skilled workers in total employment in developing countries. This assumption bears on the idea that multinational firms target relatively less-skilled labor-intensive sectors in developing countries, thereby increasing demand for unskilled employment. Similarly, this type of investment often reduces some administrative costs, in particular the surplus of skilled workers. Zmami and Ben Salha (2020) also confirmed these results, showing that foreign direct investment increased demand for unskilled labor and decreased demand for skilled labor in Tunisia. However, when it comes to developed countries, the results are relatively different. Bandick and Hansson (2009) found that foreign direct investment operations in developed countries in the form of acquisitions of local firms come along increases in the number of skilled employees and decreases in the number of unskilled workers. This is explained by the fact that foreign direct investment uses its technological advantages in these host countries. These technology spillovers associated with inward FDI have led to an increased demand for highly qualified skills, particularly in the fields of technology, know-how and risk management.

Empirical Evidence

Numerous empirical studies have examined the effect of FDI on employment in host countries. Varblane et al. (2003) analyzed the role of FDI in job creation in four Eastern European countries (the Czech Republic, Hungary, Slovakia and Estonia), and found that the role of FDI in job creation was successful in Hungary and Estonia, in contrast to the Czech Republic and Slovakia. Similarly, Abor and Harvey (2008) showed clearly that FDI flows positively affect employment in manufacturing in Ghana. Ahmed (2012) studied the effect of FDI on several economic variables, namely human capital, labor, absorptive capacity and physical capital, using quarterly data for the 1999-2008 period in Malaysia. The author found that FDI flows positively affect all four variables, especially the labor variable. These results were recently confirmed by Pinn et al. (2011) using an ARDL model also applied to the Malaysian economy over the 1970-2007 period. The used causal cointegration approach shows that FDI is the most important factor contributing to employment growth in Malaysia. Moreover, Bruno et al., (2012) studied the effects of foreign direct investment on factory employment in Poland, Hungary, and the Czech Republic over the 1994-2002 period. The results show that FDI has a positive effect on employment demand in Hungary, a negative effect in Poland and an insignificant effect in the Czech Republic. Mpanju (2012) examined East African Community

(EAC) countries (Tanzania, Kenya, Uganda, Rwanda and Burundi) and showed that FDI inflows were often associated with an increase in employment. Inekwe (2013) examined the links between economic growth, employment and FDI in the manufacturing and services sectors between 1990 and 2009 in Nigeria. Among the important findings is that foreign direct investment has a positive effect on employment in manufacturing and a negative effect in services. Abouelfarag and Abed (2019) studied the impacts of FDI on employment in Egypt during the 1985-2014 period. The results showed that foreign investment has a weak positive effect on employment in Egypt. A sector-wise analysis reveals that the effect varies across sectors. Overall, the empirical results show that the effect of FDI on employment is positive in the agriculture, construction, industry and finance sectors, while it is insignificant in the tourism and other services sectors.

Saucedo et al. (2020) examined the effect of FDI inflows on employment of low- and high-skilled employees in the manufacturing and services sectors in 32 Mexican states over the 2005-2018 period. Econometric estimates show that the impact of foreign direct investment inflows on employment is sector sensitive. Overall, the results indicate that an increase in FDI inflows in the manufacturing sector has a positive effect on low- and high-skilled employment. By contrast, the results for the service sector are not significant, for both types of employment (skilled and unskilled). Recently, Dao et al., (2023) found that FDI was a factor behind employment growth in the formal economic sector over the 2006 to 2020 period. The results also showed that foreign companies were more able to create jobs than domestic ones.

However, it is important to point out that a number of empirical studies could gather a significant robust effect of the impact of FDI on employment. One example is the study of Hisarciklilar et al. (2014) on the role of foreign direct investment inflows on sectoral employment dynamics in Turkey during the 2000-2008 period. The results showed a weak positive relationship between FDI inflows and employment. Jude and Silaghi (2015) also examined the role of FDI as a determinant of employment in 20 countries in the Central and Eastern European Countries (CEE) region over the 1995-2012 period. The results showed that the effect of FDI on job creation is negligible, and overall they show that the effect of FDI as a determinant of employment is relatively weak compared to the effects of other variables such as economic restructuring and output growth. Furthermore, Nordin (2017) studied the case of Malaysia over the 2000-2010 period and showed that FDI has no clear impact on employment in agriculture, mining and extraction, manufacturing, construction and services. Çolak and Alakbarov (2017) examined the link between FDI and employment in the Commonwealth Independent States between 1995 and 2013. Although the cointegration method revealed a long-term relationship between FDI and employment, robustness tests showed that the effect of FDI on employment generation is limited and very weak. Malik (2019) did not find a positive effect of foreign direct investment on employment dynamics in India's manufacturing sectors. Recently, Mkombe, et al (2021), using a panel data approach, found that FDI has an insignificant effect on reducing youth unemployment in the Southern African Development Community (SADC) over the 1994-2017 period. The authors explained this result by the nature of FDI, which is often made up of mergers and acquisitions, which are less job-creating than greenfield investments.

Methodology

Econometric Specification, Sample and Data

In order to study the effect of FDI on employment dynamics we build a model inspired by previous studies dealing with the Employment / FDI relationship (Zmami and Ben-Salha, 2020 ; Nordin, 2017 ; Jude and Silaghi, 2016 ; Bruno et al., 2012). Our econometric model therefore incorporates FDI as a determinant of employment dynamics. In addition, the model includes other control variables in the econometric specification, such as GDP, capital stock and trade openness, which represent other independent variables of employment. Then, we model employment dynamics equation as follows:

$$\ln(L)_t = \alpha + \gamma + \varphi \ln FDI_t + \delta' \ln X_t + \varepsilon_t$$

The Different Variables in The Model Are:

Ln (L): this is the model's dependent variable; it is measured by the logarithm of the number of employees. Ln (FDI) is the logarithm of one plus the percentage of net FDI inflows as a percentage of GDP. It is the variable of interest of our study. Overall, the results of previous studies work show that FDI stimulates job creation (Dao et al., 2023; Saucedo et al., 2020; Abouelfarag and Abed, 2019; Inekwe, 2013; Pinn et al., 2011).

Ln (X) : a vector of control variables expected to affect employment dynamics. For the purposes of this model, we selected several variables, namely the logarithm of GDP at constant prices ((lnGDP)), capital stock ((lnK)), and openness rate ((lnTRADE)). All else being equal, faster economic growth stimulates employment dynamics. Consequently, the coefficient of this variable should also be positive. The effect of capital stock is ambiguous, and depends on the degree of substitution between production factors (employment and capital). If the two factors are substitutable, then capital stock has a negative effect on employment dynamics. On the other hand, in cases where the two factors are complementary, an increase in capital stimulates employment. Trade openness rate has a positive effect on employment dynamics. A country known by a high trade openness rate facilitates investment dynamics and economic recovery, generating positive effects on employment.

The econometric analysis is applied to the sample of six GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates) between 1990 and 2019. The data is obtained from different sources. Employment (EMP) is measured by the number of persons engaged extracted from the Penn World Table. Capital stock (CK) at constant 2017 prices and real gross domestic product (GDP) at constant 2017 prices are also obtained from the Penn World Table. Foreign direct investment (FDI) is measured by net inflows as a share of GDP. Finally, Trade openness rate (TRADE) is the sum of exports and imports as a share of GDP. These two variables are extracted from World Development Indicators of the World Bank. Table 1 below summarizes some descriptive statistics. As shown, the maximum FDI reached 3.774 in Bahrain in 1996, while a minimum FDI of 1.550 was also recorded for Bahrain in 1993. Overall, the mean FDI is about 2.479 of the GDP in GCC countries. GDP ranges between a minimum of 9.964 in Bahrain and a maximum of 14.316 in Saudi Arabia. Mean employment is about 14.128, with a minimum of 12.085 in Bahrain and a maximum of 16.436 in Saudi Arabia.

Table 1. Descriptive Statistics

	lnEMP	lnCK	lnFDI	lnGDP	lnTRADE
Mean	14.128	13.255	2.479	12.046	4.618
Median	14.025	13.031	2.409	11.890	4.553
Maximum	16.436	15.708	3.774	14.316	5.348
Minimum	12.085	11.195	1.550	9.964	4.027

PMG-ARDL Model

To estimate the short-run and long-run effect of FDI flows on employment in GCC countries, we employ the PMG-ARDL model. The PMG-ARDL model may be written as follows:

$$\begin{aligned} \Delta \ln EMP_{it} = & \alpha_1 + \vartheta_1 \ln EMP_{it-1} + \beta_{1i} \sum_{i=1}^{p_1} \Delta \ln EMP_{it-i} + \beta_{2i} \sum_{i=1}^{p_2} \Delta \ln FDI_{it-i} \\ & + \beta_{3i} \sum_{i=1}^{p_3} \Delta \ln GDP_{it-i} + \beta_{4i} \sum_{i=1}^{p_4} \Delta \ln CK_{it-i} + \beta_{5i} \sum_{i=1}^{p_5} \Delta \ln TRADE_{it-i} + \gamma_1 FDI \\ & + \gamma_2 \ln GDP_{it-1} + \gamma_3 \ln CK_{it-1} + \gamma_4 \ln TRADE_{it-1} + \varepsilon_{it} \end{aligned} \quad (4)$$

where α_1 is the constant, ϑ_1 is the coefficient of the lagged dependent variable (EMP). β_{ki} ($k=1, \dots, 5$) is the short-run coefficients of the different explanatory variables to be estimated, while γ_k ($k=1, \dots, 4$) are the long-run coefficients to be estimated. Finally, ε_{it} is the error-term.

Empirical Findings

The empirical investigation involves many steps. We start by checking the presence of CSD for all variables under examination. This is done using three CSD tests: Breusch-Pagan LM, Bias-corrected scaled LM, and Pesaran CD tests. The findings reported in Table 3 strongly indicate the presence of CSD for all variables at the 1% statistical level. Therefore, one could confirm the presence of CSD between GCC countries for employment, capital stock, FDI, GDP, and international trade.

Table 3. CSD Analaysais

Variables	Breusch-Pagan LM	Bias-corrected scaled LM	Pesaran CD
lnEMP	422.323*** (0.000)	74.366*** (0.000)	74.263*** (0.000)
lnCK	447.386*** (0.000)	78.942*** (0.000)	78.839*** (0.000)
lnFDI	31.554*** (0.007)	3.022*** (0.002)	2.918*** (0.003)
lnGDP	410.144*** (0.000)	72.143*** (0.000)	72.039*** (0.000)
lnTRADE	69.220*** (0.000)	9.899*** (0.000)	9.795*** (0.000)

After checking the CSD issue, we move to explore the order of integration associated with the variables under study. This study utilizes the PP-Fisher Chi-square test, which is widely employed for analyzing panel data series (Armeanu et al., 2021). One important characteristic of this test is its integration of the p-values from each series obtained through the unit root test (Zoundi, 2017). The findings for the series at level and first difference are presented in Table 4. When taking series at levels, the table shows that employment, capital stock, GDP, and trade are not stationary using all test statistics. These series become stationary when taking their first differences. At the same time, the table shows that FDI is stationary at the 1% significance at the level and first difference. Therefore, the stationarity analysis confirms that the series are stationary at levels or first-differences.

Table 4. Unit Root Test Results

	Inverse chi-squared stat. (P)	Inverse normal stat. (Z)	Inverse logit stat. (L*)	Modified inv. chi-squared stat. (Pm)
Level				
lnEMP	8.444 (0.749)	2.725 (0.996)	3.085 (0.998)	-0.725 (0.766)
lnCK	15.800 (0.200)	0.562 (0.713)	0.736 (0.766)	0.775 (0.218)
lnFDI	48.041*** (0.000)	-4.611*** (0.000)	-5.333*** (0.000)	7.356*** (0.000)
lnGDP	9.994 (0.616)	0.289 (0.613)	0.233 (0.591)	-0.409 (0.658)
lnTRADE	16.434 (0.172)	-0.890 (0.186)	-0.841 (0.203)	0.905 (0.182)
First-difference				
Δ lnEMP	25.479** (0.012)	-2.637*** (0.004)	-2.585*** (0.007)	2.751*** (0.003)
Δ lnCK	19.883* (0.069)	-1.608* (0.053)	-1.680* (0.051)	1.609* (0.053)
Δ lnFDI	200.961*** (0.000)	-12.677*** (0.000)	-22.966*** (0.000)	38.571*** (0.000)

$\Delta \ln \text{GDP}$	250.246*** (0.000)	-13.310*** (0.000)	-28.578*** (0.000)	48.631*** (0.000)
$\Delta \ln \text{TRADE}$	176.281*** (0.000)	-11.155*** (0.000)	-20.137*** (0.000)	33.533*** (0.000)

***, **, * denote the rejection of the null hypothesis at 1, 5, and 10%, respectively.

We can now estimate the long-run coefficients to assess the impact of the different variables on employment. As shown in Table 5, all series have positive coefficients and are statistically significant. The coefficient of FDI flows is particularly positive and significant 5% level. In addition, a 1% increase in FDI flows in GCC countries induces a rise in employment by 0.194% in the long-run. These findings are in line with many previous studies, including Mehra (2013) and Tsaurai (2018). In addition, Khan et al. (2023) investigated the effects of FDI on employment in Pakistan between 1990 and 2019 using the ARDL model. The analysis shows that FDI has a positive impact on employment in the long-run. Trade openness also has a positive and significant coefficient, meaning that higher exports and imports are associated with more job creation in GCC countries. An increase in trade by 1% leads to an increase in employment by 0.512% in the long-run. GDP is found to have the highest positive coefficient, as an increase in GDP by 1% induces a rise in employment by 0.674% in the long-run. These findings are in line with Ben-Salha and Zmami (2021), who showed that economic growth is a driver of employment in GCC countries. Finally, the effect of capital stock on employment is positive, which means that more investment induces a rise in employment in the long-run.

Table 5. PMG-ARDL Long-Run Estimation Results

Variables	Coefficient	<i>p</i> -value
$\ln \text{FDI}$	0.194**	0.027
$\ln \text{CK}$	0.362***	0.000
$\ln \text{GDP}$	0.674***	0.000
$\ln \text{TRADE}$	0.512***	0.000

***, **, * denote the statistical significance at 1, 5, and 10%, respectively.

We also estimate the short-run coefficients and report the findings in Table 6. As shown, the error correction term is negative and statistically significant. The coefficient is low, indicating that there is a slow adjustment process. In addition, there is evidence of cointegration between the variables under study. This means that there is a long-run relationship between GDP, FDI, capital stock, trade, and employment. In addition, the table shows that lagged employment has a positive impact on employment, with a coefficient of 0.499. These results are in line with previous studies, including Zmami and Ben-Salha (2015a,b), Pellegrino et al. (2019), and Nica et al. (2023), who confirmed the presence of positive relationships between lagged employment and actual employment. GDP is also found to have a positive impact on employment in the short-run. Therefore, economic growth has a positive effect on employment in both the short-run and long-run.

Table 6. PMG-ARDL Short-Run Estimation Results

Variables	Coefficient	<i>p</i> -value
ECT	-0.166***	0.000
$D(\ln \text{EMP}_{t-1})$	0.499***	0.000
$D(\ln \text{FDI})$	-0.012	0.377
$D(\ln \text{CK})$	-0.017	0.961
$D(\ln \text{GDP})$	0.128*	0.098
$D(\ln \text{TRADE})$	-0.116***	0.002

Constant	-0.257***	0.000
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***, **, * denote the statistical significance at 1, 5 and 10%, respectively.

Finally, international trade has a negative and statistically negative coefficient at the 1% level. Therefore, trade flows might lead to a decline in employment as local companies face heightened competition from foreign products in the short-run. The effects of trade in the short-run are different from those of the long-run. Indeed, Geishecker (2006) suggests that the influence of international trade on labor markets remains unresolved. Furthermore, using a sample of middle-income nations, Harrison and Revenga (1995) analyze how trade liberalization has affected employment. In Latin American countries, trade liberalization boosts employment, but in transition countries, it has the opposite impact. Finally, capital stock and FDI have negative and insignificant coefficients, which means that both of them do not impact the employment dynamics in the short-run.

We finally move to estimate the country-by-country short-run coefficients and present the results in Table 7. First, the table shows that the error correction term is negative and statistically significant for all countries, which confirms the presence of long-run cointegrating relationships between the different variables under study. In addition, the speed of the adjustment varies from one country to another. The lowest speed is found for Bahrain and Oman, while the highest is recorded for Kuwait and Saudi Arabia. The empirical results also show that the lagged employment has a positive and statistically significant coefficient for all countries. Therefore, employment in a given year is found to be positively correlated with employment in the previous year. These findings are in line with many previous studies that concluded the presence of a positive relationship between lagged and actual employment levels. For example, Dao et al. (2023) analyzed the effects of FDI on employment in Vietnam between 2000 and 2014.

Table 7. PMG-ARDL Short-Run Individual Estimation Results

Variables	Coefficient	p-value	Variables	Coefficient	p-value
BAHRAIN			KUWAIT		
ECT	-0.027***	0.002	ECT	-0.322***	0.000
D(lnEMP ₋₁)	0.620***	0.000	D(lnEMP-1)	0.422***	0.000
D(lnFDI)	0.006***	0.000	D(lnFDI)	-0.031***	0.000
D(lnCK)	-0.099	0.514	D(lnCK)	-0.078	0.338
D(lnGDP)	0.278	0.123	D(lnGDP)	0.002	0.530
D(lnTRADE)	-0.026***	0.008	D(lnTRADE)	-0.161***	0.000
Constant	-0.040**	0.034	Constant	-0.447***	0.003
OMAN			QATAR		
ECT	-0.052***	0.000	ECT	-0.165***	0.000
D(lnEMP ₋₁)	0.717***	0.000	D(lnEMP-1)	0.179**	0.012
D(lnFDI)	-0.019***	0.000	D(lnFDI)	0.040***	0.002
D(lnCK)	0.348***	0.000	D(lnCK)	0.244**	0.047
D(lnGDP)	-0.163***	0.001	D(lnGDP)	0.120**	0.010
D(lnTRADE)	-0.064***	0.000	D(lnTRADE)	-0.245***	0.001
Constant	-0.066***	0.000	Constant	-0.290***	0.000
SAUDI ARABIA			UNITED ARAB EMIRATES		
ECT	-0.279***	0.000	ECT	-0.153***	0.000
D(lnEMP ₋₁)	0.329***	0.000	D(lnEMP-1)	0.727***	0.000

D(lnFDI)	-0.057***	0.000	D(lnFDI)	-0.010***	0.000
D(lnCK)	-1.601***	0.003	D(lnCK)	1.082***	0.009
D(lnGDP)	0.357***	0.000	D(lnGDP)	0.176***	0.000
D(lnTRADE)	-0.018***	0.002	D(lnTRADE)	-0.182***	0.000
Constant	-0.341**	0.017	Constant	-0.355***	0.000

***, **, * denote the statistical significance at 1, 5 and 10%, respectively.

The impact of FDI on employment is also characterized by significant heterogeneity regarding the sign and magnitude of coefficients. Indeed, FDI has a positive and significant coefficient only in Bahrain and Qatar, while the coefficient is negative in Kuwait, Oman, Saudi Arabia, and the United Arab Emirates. These results show that FDI boosts employment in Bahrain and Qatar in the short-run while it reduces it in Kuwait, Oman, Saudi Arabia, and the United Arab Emirates. Indeed, a rise in FDI flows by 1% induces an increase in employment by 0.006% and 0.040% in Bahrain and Qatar, respectively. However, the same increase in FDI flows is associated with a decline in employment by 0.010%, 0.019%, 0.031%, and 0.057% in the United Arab Emirates, Oman, Kuwait and Saudi Arabia, respectively. These results are expected, as FDI flows may create more new employment opportunities in host countries by creating new firms that did not exist previously. At the same time, FDI flows might result in a reduction in employment when domestic firms encounter increased competition from international firms in the short-run. This may be temporary until the local firms become more productive and therefore, the effects become positive, as shown in Table 5. Indeed, FDI flows may affect employment opportunities indirectly by generating prospects for local firms and improving their productivity (Dao et al., 2023). It is important to mention that results in Table 6 show that short-run effects of FDI flows are not statistically significant for the full sample. In Table 7, it is shown that there is some heterogeneity in the impact of FDI flows, which may explain the results reported in Table 6.

Regarding the control variables, the table suggests the presence of heterogeneous effects. The capital stock is positive in Oman, Qatar, and the United Arab Emirates, negative in Saudi Arabia, and not significant in Bahrain and Kuwait. These findings suggest a complementarity between capital stock and employment in Oman, Qatar, and the United Arab Emirates. Therefore, a rise in capital stock induces a rise in investment levels and employment opportunities in these countries. In Saudi Arabia, there is a substitution between capital stock and employment. Consequently the increase in stock capital has a negative effect on employment in the short-run. Moreover, the table suggests that GDP has a positive impact on employment in Qatar, Saudi Arabia and the United Arab Emirates, negative in Oman, and no effects in Bahrain and Kuwait. Therefore, there is a lack of evidence on the importance of GDP in creating more jobs for all countries, despite the long-term effects being positive, as reported in Table 5. Finally, the results suggest that trade openness has a negative and statistically significant impact on employment for all countries in the short-run. These results are in line with those in Table 6, which suggested a negative association between trade and employment for the full sample. However, the long-run effects of trade openness are positive. Therefore, these results imply that while international trade may be harmful to job creation, it becomes positive in the long-run, when domestic companies become more competitive.

Conclusions and Policy Recommendations

This paper analyzed the short-run and long-run effects of FDI on employment in GCC countries during the period 1990 and 2019. The empirical specification includes, in addition to FDI flows, some control variables, namely GDP, capital stock, and international trade. To do that, we used the PMG-ARDL model, which allows accounting for cross-section dependence in the data. In addition, the PMG-ARDL model allows for estimating the country-by-country short-run effects of FDI on employment.

The results of the empirical study may be summarized as follows. First, the analysis suggests the presence of cross-section dependence for all variables, which may be explained by the presence of strong connections between GCC countries. In addition, the stationarity examination shows that all variables are integrated at

levels of first differences. Therefore, one could employ the PMG-ARDL model to estimate the short-run and long-run impacts of FDI and other variables on employment. The analysis shows that FDI flows have a positive effect on employment in the long-run. More specifically, an increase in FDI flows by 1% induces a rise in employment by 0.194% in the long-run. The findings also show that international trade, capital stock, and GDP have positive effects on employment in the long-run. More specifically, GDP has the highest impact in the long-run. Moving to the short-run analysis, the estimation reveals that FDI flows have no significant effects on employment in the short-run. On the other hand, it has been observed that GDP positively influences employment, whereas international trade has a detrimental effect on employment. The final stage of the empirical analysis estimates the short-run country-specific effects. The analysis confirms the presence of long-run cointegrating relationships between the different variables for all countries. The estimation also suggests that FDI flows increase employment in Bahrain and Qatar in the short-run while it reduces it in Kuwait, Oman, Saudi Arabia, and the United Arab Emirates.

The results of this study have important implications for policymakers in GCC countries. Indeed, the results show that FDI flows have a positive impact on employment in the long-run, while the effects are not significant in the short-run. Therefore, many actions may be taken. First, this could be done by investing in high-quality human capital, which is essential for developing knowledge-based societies. Education is a crucial factor that can increase labor productivity and attract more FDI in the short term. In addition, policymakers may be interested in developing the private sector, which could play an important role in making partnerships with international firms and attracting more foreign capital. Finally, tax incentives may be granted to foreign companies during the initial years of operation in GCC countries. This could help foreign companies create more jobs and employment opportunities in the short-term.

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