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Labor Market Flexibility and FDI Flows: Evidence from Oil-Rich GCC and Middle Income Countries

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Abstract:

In this paper we empirically examine the impact of labor market flexibility on FDI flows to oil-rich GCC and compare it to middle income countries in 2006-2011. We account for potential endogeneity and nonstationarity and adopt system GMM and IV estimation methodologies. Our findings show that in middle income countries overall flexibility increases FDI flows under both system GMM and IV methodologies. In GCC countries overall LMF decreases FDI flows under system GMM methodology. Results also show a positive "GCC region" influence outweighing the negative flexibility influence. Growth potential and infrastructure development matter for both GCC and middle income countries.

Keywords: Labor markets; FDI; GCC; Middle income countries; UAE

JEL classification: F21; J3, J5, J6

1.   Introduction

The GCC countries have embarked on economic diversification, which aims at reducing reliance on natural resources and avoiding the natural resource curse. The natural resource curse can manifest itself in a number of respects: lower growth, lower quality institutions and more conflicts compared to resource-poor economies (Collier and Goderis 2007; Frankel 2012; Mehlum et al. 2006; Sachs and Warner 1995 and 2001). Reliance on natural resources as a major source of income exposes the GCC economies not only to global business cycle and the associated volatility of world oil price in the short run but also to the exhaustion of these resources over the long run.

The oil resource curse can manifest itself in the labor market. Soto and Haouas (2012) identify symptoms of the resource curse in the UAE in terms of low labor productivity growth, massive over-employment, and declining productivity in the public sector. The UAE 2007-2011 growth rate of real GDP per person employed, as a measure of labor productivity growth, amounts to 6 percent.[1] This rate is positive (though low) for Oman (2.1), Qatar (2.0) and Saudi Arabia (0.8), but negative for Bahrain (-4.5) and Kuwait (-0.4).

In addition to the low and negative growth in labor productivity in most GCC countries, Saudi Arabia and the UAE have experienced high unemployment among youth. In Saudi Arabia, the IMF (2013) projects the overall unemployment rate at 5.6 percent in 2013. However, the projected rate for Saudi nationals is more than double this rate amounting to 12 percent. In the UAE, the IMF (2011) estimates unemployment at 4.2 percent in 2009 with youth (20-24 years old) unemployment amounting to 23.9 percent. Unemployment rates in other GCC countries are comparable. In Bahrain, the unemployment rate is estimated at 4.2 percent at the end of February 2014. In Kuwait, the unemployment rate among Kuwaiti nationals was projected at 3.4 percent in 2011. In Qatar, the total unemployment rate amounted to approximately 0.5 percent in 2014. No statistics is available on youth unemployment in Bahrain, Kuwait, and Qatar to the best of our knowledge.

Unemployment among GCC nationals is due to the highly elastic, low-wage labor supply available in Asian and Arab labor markets, high wage rates for nationals in highly protected jobs, and the productivity

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[1] Based on authors' calculation.

differential between expatriate and national labor in favor of the former. These factors have segmented the GCC labor markets into two, one for nationals and another for expatriates.

FDI can be beneficial in the creation of job opportunities and reducing the socially destabilizing youth unemployment problem. FDI has been beneficial in creating job opportunities and reducing the unemployment rate in Latin America (Vacaflores 2011), Central Europe (Radosevic et al. 2003), the Czech Republic (Dinga and Munich 2010), Fiji (Jayarman and Singh 2007) and Italy (Spieza 2004).[2]

Unsurprisingly, policymakers in the GCC countries have provided incentives starting in the early 2000s to attract FDI flows. These include the establishment of regulatory, institutional, and legal frameworks to govern foreign capital inflows under a generally liberal trade regime. In association with such incentives, inward FDI flows to the GCC countries grew at an average annual rate of 37.2 percent between 2000 and 2013 from US $ 391 million to US $ 23.9 billion. Views on whether GCC labor markets characteristics provide additional incentives are mixed. Cammett and Posusney (2010) advocate that, following the 1974 oil price boom, the enacted labor hiring and firing provisions are more flexible compared to those in oil-poor countries. However, labor laws specify severance pay, limit work hours, and guarantee vacation and sick leave. In addition, labor nationalization policies of the early 2000s may paradoxically be counter-productive in combating the high unemployment rate among GCC nationals. Labor nationalization policies aimed at improving the relative attractiveness of private sector jobs by increasing job security and benefits to nationals working in the private sector.[3] However, providing protective labor market institutions may reduce labor market flexibility (LMF) for the private sector, discourage FDI inflows, and thus stifle the reduction in unemployment among nationals. Javorcik and Spatareanu (2005) and Delbecque et al. *(*2007), for example, have shown that rigid labor market institutions increase total labor cost in European countries to the detriment to FDI inflows.

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[2] In Latin America, Vacaflores (2011) finds that inward FDI has a positive and significant effect on the employment generation, mainly due to the effect on male labor force. The positive effect is particularly important in countries with high level of informality and low average FDI inflows. In Central Europe, FDI has contributed to the restructuring of Central European economies and to employment preservation and generation (Radosevic et al 2003). In the Czech Republic, Dinga and Munich (2010) find that FDI reduces the unemployment rate by 1.7 percentage points and increases the employment rate by 3.7 percentage points. In Fiji, Jayaraman and Singh (2007) find that FDI contributes to employment creation and economic growth. FDI may redistribute employment in the economy, which can also be beneficial for the GCC economies.

[3] The gap in employment conditions between private and public sector in favor of the latter is the main reason why GCC nationals prefer working in the public sector.

The extent to which FDI inflows to GCC countries are related to GCC labor market characteristics and policies is the motivation of this research. To the best of our knowledge, this has not been examined in the literature before. To address this challenging issue, we empirically examine the influence of LMF - as a host economy location determinant - on FDI flows per capita to GCC countries in comparison to middle income countries. Using panel data on GCC and middle income countries for the period 2006-2011 and adopting system GMM and IV estimation methodologies, the paper finds that in middle income countries under both methodologies *overall* LMF increases FDI flows per capita while redundancy costs decrease it. In contrast, in GCC countries overall LMF (under system GMM methodology), and pay and productivity and professional management (under IV methodology) reduce FDI inflows per capita. There is a net positive influence of being a GCC country, however.

The paper is organized as follows. Section two provides a description of labor nationalization policies in the UAE, as the second largest GCC economy experiencing high unemployment rate among national youth, and highlights the controversy between labor nationalization (Emiratization) policies and attracting FDI inflows. Section three provides a brief review of the literature on the relationship between LMF and FDI. Section four specifies the empirical model and the data sources. Section five discusses the empirical issues and estimation methodology. Section six presents and discusses the results, section seven provides robustness checks, while section eight concludes.

2. UAE Labor Nationalization Controversy

This section describes the evolution of UAE labor nationalization policy over time and points to the associated potential conflict between reducing unemployment and promoting FDI goals.[4] The section draws on Cammett and Posusney (2010), Koji (2011), and Randeree (2012).

The history of reliance on expatriates in the UAE dates back to the discovery of oil. After the discovery and production of oil in the 1950s and 1960s, most companies relied on workers from neighboring countries due to the lack of local human resources. In the 1990s and early 2000s, the UAE followed a

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[4] We do not describe the evolution of labor nationalization policy in GCC countries for brevity. An overview of this policy is provided in Randeree (2012).

relatively *laissez faire* employment policy. In 2004 the UAE population reached 4.5 million, only 20 percent of whom were UAE nationals (Al-Ali 2008). By 2006, slightly more than 90 percent of the 2.4 million labor force was expatriate workers (Schiphorst 2004; Abdelkarim and Haan 2002). Most UAE nationals are employed in the public sector due to its superior employment conditions in comparison to the private sector with higher remuneration, better job security, shorter working hours, and generous vacations.

With heavy reliance on expatriate labor in the private sector, high unemployment among nationals, and a relatively young Emirati population entering the labor force since the mid 2010s, the UAE government has embarked on labor nationalization policy or what is known as Emiratization. The purpose of this policy is to increase the participation of nationals in the private sector. The federal government established in 1999 a specialized agency, TANMIA, the objectives of which are to achieve full employment of nationals, reduce the number of expatriates in the total workforce, and develop and increase the supply of qualified and skilled nationals to meet the labor market needs.[5]

To push Emiratization ahead in the private sector, the government implemented a quota policy by the late 1990s initially targeting the banking sector. In 1999, the UAE Cabinet issued a decree requiring all banks operating in the country to increase recruitment of UAE nationals by 4 percent each year. By 2003, slightly more than one quarter of the employees of the 47 independent banks and 454 branches in operation were Emirati nationals, and nearly three quarters of operating banks achieved their quota targets (TANMIA 2004). A number of banks have recorded increased nationalization, achieving an average Emiratization rate of 34.4 percent across all UAE banks by 2010.

Besides the quota policy which encourages the demand for national workers, other measures have been proposed. Proposed measures have included increasing the job security of nationals in the private sector, the adoption of a two-day weekend system, and increasing holidays in order to increase national labor supply. Setting a minimum wage for Emiratis has also been proposed.[6] However, it would distort the flexibility of the wage setting process and introduce rigidities in the labor market.

Although the quota policy has had a relatively positive impact on Emiratization, it remains a controversial issue between the government and the private sector. The private sector complains about the

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[5] The private sector still faces challenges in hiring qualified Emiratis nevertheless (Forstenlechner et al. 2012).
[6] http://www.uaeinteract.com/docs/Emiratisation_drive_at_full_throttle/53560.htm .

inferior quality of national workers in terms of skills, efficiency, work ethics, and the associated high economic costs (Harry 2007).[7] Accordingly, the private sector advances the reliance on expatriate workers instead. While the government, on the other hand, admits the need to train and develop national labor skills and qualifications, it asserts that the relative cost of hiring expatriate workers is too low thus rendering the competition between expatriates and nationals unfair.

To reduce the gap between expatriate and national workers, a number of suggestions have been proposed, including the imposition of fees and taxes on expatriate workers and expatriate hiring companies. The Federal National Council's Emiratization committee has called on the government to subsidize the difference between low private sector and high government and public sector salaries to encourage hiring of nationals in the private sector.[8]

In summary, in pursuit of reducing unemployment rate of nationals and creating job opportunities for future generations, UAE labor market institutions have shown a movement from flexible institutions towards less flexible ones. National labor quotas and minimum wages, among other policies, may distort hiring decisions, reduce wage determination flexibility, and discourage FDI flows.[9]

3.   Literature Review

Strands of the FDI literature have empirically examined the FDI influence of quality of institutions (Wei 2000; Asiedu 2002; Busse and Hefeker 2007; Benassy-Quere et al. 2007; Daude and Stein 2007; Naudé and Krugell 2007; Mina 2007, 2009 and 2011; Mishra and Daly 2007; Du et al. 2008), intellectual property protection (Javorcik 2004), environmental standards (Keller and Levinson 2002; Javorcik and Wei 2004), and taxation (Hines 1996; Devereux and Griffith 1998). One strand has empirically examined the influence of labor market institutions on FDI (Culem 1988; Cheng and Kwan 2000; Delbecque et al. 2007; Mogab et al. 2013; Lee 2003; Javorcik and Spatareanu 2005; Leibrecht and Scharler 2009; Olney 2011; and Parcon 2008).

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[7] According to the 'Arab Human Capital Challenge' report published by the Sheikh Muhammad bin Rashid Al Maktoum Foundation (MRMF), more than 70 percent of CEOs in the GCC countries think that local hiring plans will not help improve their companies' performance. Al-Ali (2008) reports that the low fluency in English language and low levels of self-confidence are barriers to nationals workforce participation. Additionally Harry (2007) posits that "the formal or informal rights of the nationals compared to alternative candidates cause employers to avoid recruiting them".

[8] http://www.thenational.ae/uae/government/emirati-unemployment-to-be-debated-by-fnc.

[9] Foreign investors are assumed rational profit-seekers.

In analyzing the impact of labor market characteristics on FDI inflows, the academic literature has originally focused on the impact of labor cost as part of the firm's production cost. The conventional assumption is that foreign investors are rational agents seeking to minimize production costs. Studies have mainly used the average wage rate and unit labor cost as measures of labor cost. For instance, Culem (1988) analyzed bilateral flows of direct investments among six industrialized countries (the United States, Germany, France, the United Kingdom, the Netherlands and Belgium) and showed that unit labor cost of the host country is a deterrent to FDI, a result Cheng and Kwan (2000) reached in estimating the determinants of FDI in 29 Chinese regions.[10]

Although wage cost is a direct component of labor cost, other indirect components are influenced by labor market institutions. Labor market institutions refer to the rules and regulations that govern the functioning of labor markets, including employment protection legislation (EPL), trade union activities, and minimum wage legislations. EPL includes the flexibility of dismissal and notice and severance payment. Labor market institutions are considered flexible when labor market outcomes are the result of free market mechanism, without any regulation imposed by the governments or trade unions (Whyman and Baimbridge 2006). They affect both wage and non-wage costs. Specifically, the more protective EPL, the higher the non-wage and labor costs are.

Many studies have analyzed the relationship between labor market institutions characteristics and FDI flows, hypothesizing that rigid institutions would be detrimental to FDI inflows through their effects on increased non-wage cost.[11] Using firm-level data in 14 Western and 5 Central and Eastern European countries,[12] Javorcik and Spatareanu (2005) investigate the influence of the degree of LMF and the difference in LMF in host and home countries on the location of foreign subsidiaries and aggregate firm-level FDI flows, respectively. They find a positive relationship between LMF, whether absolute or in country difference terms, on the one hand and the probability of locating FDI in the host country and FDI inflows on the other. Using panel data on bilateral FDI stocks and employment protection indices for OECD countries, Dewit et al. (2009)

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[10] Interestingly, none of the education variables serving as proxies for labor quality had a significant impact on FDI. This finding seems counter-intuitive. However this result is explained more by South China's preferential policy and geographical proximity to Hong Kong as opposed to higher education attainment.

[11] According to Whyman and Baimbridge (2006) and Moran (1998), a quarter to about one-third of total labor costs in European countries is non-wage costs.

[12] The focus on European countries reflects the chronic labor market institutions rigidity many countries in the region suffer from.

find that for a given level of employment protection in the home country, a higher level of employment protection in the host country discourages home country firms from investing abroad. The absolute level of employment protection in the home country is also negatively correlated with outward FDI, exhibiting an "anchorage effect." In addition, a strong union density has a negative impact on inward FDI. Similar to Javorcik and Spatareanu (2005), Olney (2011) examines the influence of EPL on U.S. outward investment in 26 OECD countries, and finds that a reduction in EPL increases FDI. Delbecque et al. (2007) analyze French firms' expansion strategies in 77 countries during 1992-2001 and find that stringent EPL and a generous unemployment benefit system in the host country negatively impact firms' location decisions. The effect of EPL is modest however compared to the impact of market potential. Analyzing FDI flows from Japan to 29 OECD countries using annual data for the period 1989-2000, Lee (2003) finds that EPL has a negative impact on Japanese FDI shares in host countries.[13] Surprisingly, his study demonstrated that countries exhibiting a centralized bargaining structure attract more Japanese FDI than countries with a more decentralized one.

While the above studies find a negative relationship between rigid labor market institutions and FDI, other studies fail to reach a similar conclusion on the basis that rigid institutions increase labor productivity or are less important to foreign investor's objective of overcoming trade barriers. Using International Labor Organization labor market standards and World Bank's labor market regulatory indicators, Parcon (2008) analyzes FDI flows to 195 countries during 1990-2005 and finds evidence that labor market standards exert negative and positive impact on FDI flows. Labor market standards increase firms' total variable costs and thus decrease FDI inflows – a cost channel. On the other hand, they decrease firm's marginal costs and increase productivity – a productivity channel. She also finds that some labor market standards promote human capital development reinforcing the productivity channel and enhance political and social stability. Both effects encourage FDI inflows.

More recently, Mogab et al. (2013) examine the effects of labor market rigidities on FDI flows using firm-level data for European Multinational Enterprises investment in 41 European countries during 2005-2008. They focus on the influence of three labor market indicators: the rigidity of hours' index, the firing costs, and the difficulty of hiring index. They find that the rigidity of working hours indicator is negatively

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[13] Note also that, focusing on the effect of the quality of institutions, Benassy-Quere et al. (2007) confirm the findings of these papers by showing negative relationship between employment protection and inward FDI.

correlated to FDI inflows for all countries taken together. However, when controlling for country classification, they find that the indicator of rigidity in firing is unexpectedly positively related to FDI inflows in non-transition economies for three of the four years studied. Interestingly, when taking all European countries together, they find that increased rigidity in the labor market hiring indicator increased the probability of FDI inflows. These results suggest that foreign investors may have different objectives for investing in host countries, such as avoiding trade barriers or reducing production costs compared to the home country, and that flexible labor market institutions may not necessarily attract more FDI.

4. Empirical Model and Data

The empirical model adopted in this paper builds conceptually on the FDI location determinants of Dunning's (1981) ownership-location-internalization (OLI) paradigm. According to the OLI paradigm, a firm produces abroad building on three types of advantages: ownership (O), location (L), and internalization (I). A firm's ownership advantages arise from its possession of intangible assets, such as technology, patents, and skilled management. The firm itself does not possess location advantages but rather the host economy it invests in. For example, the host economy may enjoy attractive macroeconomic factors (large market size and potential, openness to trade and capital flows, developed financial markets and infrastructure) as well as microeconomic factors (cheap skilled labor, friendly business environment and labor market institutions). The internalization advantage emanates from the firm's own engagement in production abroad rather than relying on the market, in the form of licensing or subcontracting for example, because of the higher transaction costs of the latter.

Accordingly, the empirical model is expressed as:[14]

$$FDI_{i,t} = \beta_0 + \beta_1\, FDI_{i,t-1} + \beta_2\, GROWTH_{i,t} + \beta_3\, TRADE_{i,t} + \beta_4\, FINANCE_{i,t} + \beta_5\, INFRASTRUCTURE_{i,t} + \beta_6$$

$$INSTITUTIONS_{i,t} + \beta_7\, LABOR_{i,t} + \varepsilon_{i,t} \qquad \textbf{(1)}$$

where *FDI* is FDI inflows in per capita terms. FDI (aggregate) flows data are used for two purposes. First, aggregate flows compared to stock data would tend to be relatively closer to bilateral or sectorial FDI data, and therefore may better reflect the influence of labor market institutions on them. Second, flows are used to

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[14] This is similar to Mina (2014).

reduce the problem of non-stationarity associated with FDI stock data, which can result in spurious correlation. In addition FDI is expressed in per capita terms, and not relative to GDP, to isolate potential reversal causality.[15]

GROWTH is market potential as measured by real GDP growth rate. Rapidly growing economies provide foreign investors with better opportunities for making profit compared to slowly growing economies (Chakrabarti 2001). Chakrabarti (2001) reports positive influence of growth on FDI flows in Bandera and White (1968), Lunn (1980), Schneider and Frey (1985), Culem (1988), Billington (1999), and Choe (2003). *GROWTH* is therefore expected to have a positive influence on FDI flows.

TRADE is trade openness as measured by the sum of imports and exports as a percentage of GDP. Asiedu (2002), Janicki and Wunnava (2004), Ang (2008), Majocchi and Strange (2007), Al Nasser and Gomez (2009), Vijayakumar et al. (2010), and Zhang and Daly (2011) find that trade openness has a positive influence on FDI. *TRADE* is therefore expected to have positive influence on FDI flows.

FINANCE is the degree of financial development as measured by the total value of stocks traded as a percentage of GDP. Ang (2008; 2009a), Al Nasser and Gomez (2009), and Agbloyor et al. (2013) find a positive relationship between the degree of financial development and FDI in Malaysia and Thailand. While not examining the effect of financial development on FDI, Alfaro et al. (2004; 2009; 2010) find that well-developed financial markets enhance the efficiency of FDI and boost economic growth, a result that Durham (2004), Choong et al. (2005), Ang (2009b), Lee and Chang (2009), Wang and Wong (2009) and Choong (2012) also reach. Given that few studies examined the influence of financial development on FDI, we cannot expect *a priori* the coefficient sign.

INFRASTRUCTURE is the degree of infrastructure development as measured by the number of mobile subscriptions per 100 people. The positive relationship between infrastructure development and FDI is found in Cheng and Kwan (2000), Urata and Kawai (2000), Zhang (2001), Asiedu (2002), Roberto (2004), Dupasquier and Osakwe (2006), Mollick et al. (2006), Majocchi and Strange (2007), Demekas et al. (2007), Kang and Lee (2007), Mina (2007), Ang (2008), Pantelidis and Nikolopoulos (2008), Bellak et al. (2008),

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[15] Granger causality test shows no bi-directional causality between FDI flows and population size for middle income and GCC countries.

Kinda (2010), and Jimenez (2011). We expect a positive relationship between infrastructure development and FDI.

INSTITUTIONS is the quality of domestic institutions as measured by the rule of law. In the FDI literature it is found that better domestic institutional functions encourage FDI (Wei 2000; Asiedu 2006; Busse and Hefeker 2007; Benassy-Quere et al. 2007; Daude and Stein 2007; Naudé and Krugell 2007; Mina 2007, 2009 and 2011; Mishra and Daly 2007; Du et al. 2008). We expect a positive relationship between quality of domestic institutions and FDI.

LABOR is the degree of flexibility of labor market institutions, as measured by the labor market efficiency pillar indicators of the World Economic Forum's Global Competitiveness Index. The Global Competitiveness Index's labor market efficiency pillar includes indicators which reflect LMF. The labor market efficiency indicators include: a) cooperation in labor-employer relations, b) flexibility of wage determination, c) hiring and firing practices, d) redundancy costs, e) pay and productivity, and g) reliance on professional management.

Cooperation in labor-employer relations refers to the nature of relation between the two whether it is cooperative (7) or confrontational (1). The flexibility of wage determination refers to the wage determination mechanism. Wages could be set at the company level (7) or through a centralized bargaining process (1). Hiring and firing procedures refer to whether these procedures are flexibly determined by employers (7) or impeded by regulations (1). Redundancy costs estimate the cost of advance notice requirements, severance payments, and penalties due when terminating a redundant worker, expressed in weekly wages. Pay and productivity refers to the extent pay is related to productivity; they would be strongly related (7) or unrelated (1). Reliance on professional management refers to how senior management is selected. Positions can be selected based on merit and qualifications (7) or kinship and friendship (1).

Rule of law is obtained from the World Bank's World Governance Indicators. This measure captures "perceptions" about "the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence". Higher values indicate better rule of law performance.

Data on FDI inflows are obtained from UNCTADSTAT database. Data on market potential, trade openness, financial development, and the degree of infrastructure development are obtained from the World Bank's WDI. Data on rule of law are obtained from the World Bank's World Governance Indicators.

With availability of labor market efficiency pillar data only for the period 2006-2011, the number of observations on GCC countries is relatively limited, thus increasing the likelihood of sampling error. We therefore decided to also include 46 middle income countries to expand the sample, as discussed below.[16] The included middle income countries, as a group, are similar to GCC countries in terms of the percentage of FDI flows to GDP. Average FDI flows over the sample period amount to 4.4 percent of GDP in the sample middle income countries compared to 4.3 percent for GCC countries. However, the inclusion of middle income countries individually, potentially introduces heterogeneity, which is dealt with using the system GMM estimator as discussed in the next section.

Accordingly the modified empirical model is now expressed as:

$$FDI_{i,t}= \beta_0 + \beta_1\,FDI_{i,t-1} + \beta_2\,GROWTH_{i,t} + \beta_3\,TRADE_{i,t} + \beta_4\,FINANCE_{i,t} + \beta_5\,INFRASTRUCTURE_{i,t} + \beta_6$$

$$INSTITUTIONS_{i,t} + \beta_7\,LABOR_{i,t} + \beta_8\,GCC_i + \beta_9\,GCCLABOR_{i,t} + \varepsilon_{i,t} \qquad \textbf{(1A)}$$

where *GCC* and *GCCLABOR* are the GCC country dummy and the interaction of *GCC* and *LABOR* variables, respectively.

Of the 46 middle income countries, six are from East Asia and Pacific (China, Indonesia, Malaysia, Philippines, Thailand, and Vietnam), 10 from Europe and Central Asia (Armenia, Bulgaria, Kazakhstan, Latvia, Lithuania, Moldova, Russian Federation, Serbia, Turkey, and Ukraine), 14 from Latin America and Caribbean (Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Jamaica, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela), six from Middle East and North Africa (Egypt, Iran, Jordan, Lebanon, Morocco, and Tunisia), three from South Asia (India, Pakistan, Sri Lanka), and seven are from Sub-Saharan Africa (Botswana, Cote d'Ivoire, Ghana, Namibia, Nigeria, South Africa, and Zambia). These countries are classified as middle income by the World Bank in July 2012. The six GCC countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE.

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[16] Countries are classified as middle income based on 2012 World Bank classification. Selection of these middle income countries is based on data series availability. In estimation 40 countries are used, however.

5. Empirical Issues and Estimation Methodology

The empirical issues we address in this paper are potential endogeneity arising from the presence of unobserved country specific effects and the presence of panel unit roots. Endogeneity, defined as the correlation between the explanatory variables and the error term, could result in inconsistent ordinary least squares (OLS) estimates. Endogeneity may result from the presence of unobservable country specific effects, omitted variables, or reverse causality. FDI host countries may have unique features, such as strong relations and alliances with FDI home countries, unobservable country specific effects, which influence FDI flows. Multinational corporations may have also ownership advantages, such as technological know-how, input suppliers network, or management expertise which are not accounted for in the empirical model given the aggregate FDI flows data used. Reverse causality may result from the influence of FDI on growth (*GROWTH*), trade (*TRADE*), financial development (*FINANCE*), infrastructure development (*INFRASTRUCTURE*), quality of institutions (*INSTITUTIONS*), and LMF (*LABOR*). To detect reverse causality, Granger causality test will be implemented. To deal with potential endogeneity, we use system GMM estimation methodology.

To detect the second main empirical issue – the presence of panel unit roots, we use battery of individual unit root tests: the Im, Pesaran, and Shin (IPS), the augmented Dickey Fuller-Fisher (ADF-Fisher), and Phillip-Perron (PP). We make the decision about the presence or absence of panel unit root tests based on the test statistics of two of three unit root tests.

System rather than difference GMM estimation is used as the latter suffers weak instrument problem, affecting its asymptotic properties (Arellano and Bover 1995; Blundell and Bond 1998), and consequently both point estimates and hypothesis tests become unreliable. For system GMM, lagged differences of explanatory variables are used as instruments, assuming the absence of serial correlation in the error term, and between these instruments and the error term. We use the Arellano-Bond test to test the lack of second-order serial correlation and the Hansen/Sargan tests of over-identifying restrictions to test for instrument validity.

We also collapse the instruments to avoid the instrument proliferation issue and finite sample bias. Instrument proliferation can become an issue with the growth in time dimension. The Hansen instrument orthogonality test under system GMM might suffer notable size distortion, which results in poor detection of orthogonality violation (Che et al. 2013). Roodman (2009) suggests collapsing the instruments to overcome this problem and also mitigate the finite sample bias.

6. Empirical Results

To get a flavor of the labor market performance in the different regions, Table 1 provides the means of the selected labor market efficiency indicators for the different middle income regions. Comparing the performance of middle income countries among themselves, the table shows East Asia and Pacific having the highest scores on cooperation in labor-employer relations, and pay and productivity, while Europe and Central Asia countries have the highest scores on overall flexibility, wage determination flexibility, hiring and firing practices, and redundancy costs (i.e. lowest).[17] Sub-Saharan Africa has the highest score on reliance on professional management. When comparing GCC countries to other regions, the GCC countries have outperformed them with respect to flexibility, cooperation in labor-employer relations, wage determination flexibility, and hiring and firing practices.

TABLE 1
Labor Market Efficiency Indicators (Period Average)

Region	F	C	WF	H&F	R	P&P	PM
East Asia & Pacific	4.5	4.8	5.0	4.1	85.1	4.7	4.7
Europe & Central Asia	4.6	4.2	5.5	4.2	25.9	4.4	4.0
GCC	5.2	4.9	5.8	4.2	55.0	4.5	4.7
Latin America & Caribbean	4.1	4.3	4.8	3.4	62.9	3.7	4.3
Middle East & North Africa	4.4	4.3	5.1	3.8	60.8	4.0	3.9
South Asia	4.2	4.4	5.0	3.7	111.3	4.1	4.7
Sub-Saharan Africa	4.5	4.2	4.7	3.8	81.7	3.5	4.9

Notes: F: Flexibility. C: Cooperation in labor-employer relations. WF: Wage determination flexibility. H&F: Hiring and firing practices. R: Redundancy costs (weeks of salary). P&P: Pay and productivity. PM: Reliance on professional management.

Figure 1 shows the relationship between FDI inflows (as a percentage of GDP) and LMF in the different regions during the sample period 2006-2011. Excluding outlier observations, graphs suggest a positive relationship in all regions, except for GCC countries where the relationship is surprisingly negative, suggesting that less LMF encourage more FDI inflows to the region.

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[17] Wage setting in publicly listed companies in China had been reformed in the ninth five year plan of 1996–2000 (Yueh 2004). Wages now have fixed and variable components. The fixed component includes the basic wage, seniority wage, insurance (medical, unemployment and pensions) and a housing fund, while the variable component includes bonuses, based on both *individual productivity* and enterprise profitability.

The positive and negative relationship with overall LMF in middle income and GCC countries, respectively, is also confirmed with correlation coefficients (Table 2). FDI inflows (per capita) show highest positive and negative correlation with overall LMF and redundancy costs, respectively, in middle income countries. In GCC countries the (positive) correlation is highest with professional management.

Figure 1
Correlation between FDI Inflows and Labor Market Flexibility

Graphs by region_classification
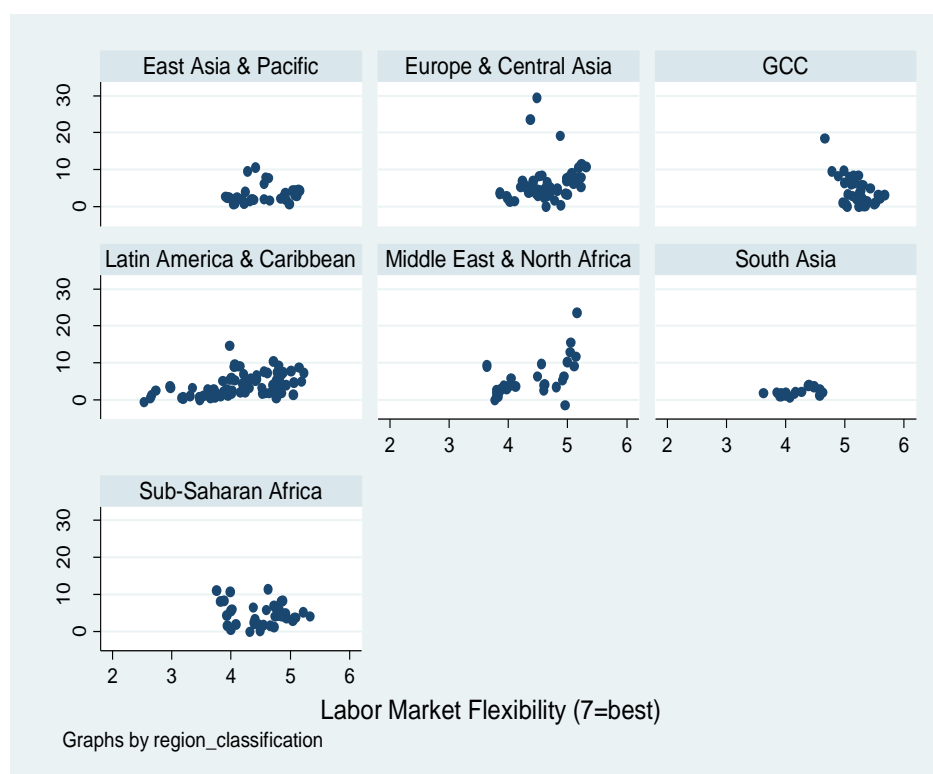
TABLE 2
Correlation between FDI Flows per Capita and Labor Market Efficiency Indicators

	Middle Income	**GCC**
F	**0.349**	-0.293
C	0.084	0.027
WF	**0.207**	0.298
H&F	0.045	0.170
R	**-0.462**	0.294
P&P	**0.223**	0.277
PM	0.020	**0.420**

Notes: F: Flexibility. C: Cooperation in labor-employer relations. WF: Wage determination flexibility. H&F: Hiring and firing practices. R: Redundancy costs (weeks of salary). P&P: Pay and productivity. PM: Reliance on professional management. Bold fonts indicate statistical significance at the 5 percent level.

Reverse causality, between *FDI* on the one hand and GDP growth rate, trade openness, financial development, labor market efficiency and the quality of domestic institutions on the other hand, is a potential source of endogeneity and a concern in this paper. Granger causality tests reject the null hypothesis that FDI does not Granger-cause trade openness and flexibility at the 5 percent significance level suggesting potential endogeneity (Table 3).

TABLE 3
Granger Causality between the Dependent and Explanatory Variables

	Obs.	F-Statistic	Prob.	Obs.	F-Statistic	Prob.
	Middle Income Countries			Middle Income and GCC Countries		
	FDI per Capita					
GROWTH	183	2.327	0.101	207	2.066	0.129
TRADE	**178**	**3.870**	**0.023**	202	0.829	0.438
INFRASTRUCTURE	186	1.746	0.177	210	0.060	0.942
FINANCE	165	0.135	0.874	189	0.885	0.414
INSTITUTIONS	186	2.363	0.097	210	2.503	0.084
LABOR						
F	**166**	**3.092**	**0.048**	188	1.814	0.166
C	166	0.431	0.650	188	2.522	0.083
H&F	166	0.057	0.945	188	1.177	0.310
WF	166	0.074	0.929	188	0.564	0.570
P&P	166	0.314	0.731	188	2.901	0.058
PM	166	0.886	0.414	188	1.773	0.173
R	158	0.165	0.848	174	0.103	0.903

Notes: "H_0: The dependent variable does not Granger-cause the explanatory variable. Test is based on 2 lags. F: Flexibility. C: Cooperation in labor-employer relations. H&F: Hiring and firing practices. WF: Wage determination flexibility. P&P: Pay and productivity. PM: Reliance on professional management. R: Redundancy costs (weeks of salary).

Table 4 presents the results of IPS, ADF-Fisher, and PP tests for individual unit roots for middle income countries and for both middle income and GCC countries together. The decision on the presence or absence of panel unit roots is based on the results of at least two tests. Test results support the presence of panel unit root tests for *FDI*; *TRADE*; *INSTITUTIONS*; and flexibility, cooperation in labor-employer relations, hiring and firing, redundancy costs, pay and productivity, professional management, and redundancy costs as *LABOR* indicators.

The estimation results for middle income countries and the combined middle income and GCC countries are presented in tables 5 and 6, respectively. In table 5, the lagged dependent variable, *GROWTH*,

INFRASTRUCTURE, and *INSTITUTIONS* all have positive influence on FDI flows, as expected. A one percentage point increase in the real growth rate increases FDI inflows per capita between about US$11.5 in specification 3 to about US$14.5 in specification 5. Similarly, an increase in the number of mobile subscriptions per 100 people by 1, increases FDI flows per capita between US$1.2 in specification 4 to US$1.5 in specification 1. The influence of institutional quality on FDI is of much higher magnitude compared to *GROWTH* and *INFRASTRUCTURE*; an improvement in the perception about the rule of law quality by 1 point increases FDI flows per capita between US$83 in specification 3 to US$105 in specification 5. These results are consistent with earlier studies mentioned in section IV. In contrast to *GROWTH*, *INFRASTRUCTURE*, and *INSTITUTIONS*, the influence of *FINANCE* is surprisingly negative, likely suggesting that stock market development boosts domestic investment at the expense of FDI.[18] The influence of *TRADE* is similarly negative and of limited economic magnitude, but statistically insignificant.

TABLE 4
Panel Unit Root Tests

	IPS	ADF	PP	IPS	ADF	PP
	Middle Income Countries			Middle Income and GCC Countries		
FDI (per Capita)	0.376	0.407	0.027	0.427	0.497	0.029
D.*FDI* (per Capita)	**0.000**	**0.002**	**0.000**	**0.000**	**0.002**	**0.000**
GROWTH	**0.015**	**0.009**	**0.000**	**0.014**	**0.008**	**0.000**
TRADE	0.622	0.539	0.119	0.635	0.597	0.168
D.*TRADE*	**0.002**	0.112	**0.025**	**0.002**	0.122	**0.022**
INFRASTRUCTURE	0.601	**0.000**	**0.000**	0.495	**0.000**	**0.000**
FINANCE	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
INSTITUTIONS	0.753	0.607	0.032	0.671	0.511	0.025
D.*INSTITUTIONS*	**0.001**	**0.055**	**0.008**	**0.000**	**0.027**	**0.001**
LABOR						
F	0.666	0.844	0.026	0.464	0.635	0.007
D.F	**0.000**	**0.050**	**0.001**	**0.000**	**0.031**	**0.000**
C	0.063	**0.038**	**0.000**	0.098	0.063	**0.000**
D.C				**0.000**	**0.007**	**0.000**
H&F	0.389	0.562	0.088	0.286	0.390	0.021
D.*H&F**	**0.000**	**0.018**	**0.000**	**0.000**	**0.006**	**0.000**
WF	**0.003**	**0.002**	**0.000**	**0.001**	**0.001**	**0.000**

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[18] For future research, alternative measures of the degree of financial development can be used. Čihák et al. (2012) identify a number of financial markets depth measures. These include, in addition to the value of stocks traded (percentage of GDP) adopted in this paper, stock market capitalization plus outstanding domestic private debt securities (percentage of GDP), private debt securities (percentage of GDP), public debt securities (percentage of GDP), international debt securities (percentage of GDP), and stock market capitalization (percentage of GDP).

	IPS	ADF	PP	IPS	ADF	PP
P&P	0.765	0.870	0.249	0.706	0.755	0.072
D.*P&P*	**0.000**	**0.006**	**0.000**	**0.000**	**0.005**	**0.000**
PM	0.416	0.690	0.076	0.433	0.726	0.083
D.*PM*	**0.001**	0.111	**0.002**	**0.000**	0.172	**0.003**
R	0.904	0.997	0.865	0.905	0.998	0.857
D.*R**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Notes: IPS, ADF, PP are Im, Pesaran and Shin, Augmented Dickey Fuller, and Philip Perron tests, respectively. *p* values are reported. The null hypothesis is the presence of unit roots. Bold fonts indicate rejection of the null hypothesis. F: Flexibility. C: Cooperation in labor-employer relations. WF: Wage determination flexibility. H&F: Hiring and firing practices. R: Redundancy costs (weeks of salary). P&P: Pay and productivity. PM: Reliance on professional management. D is first difference and includes only intercept in test equation. * Includes intercept and trend in test equation.

TABLE 5
Labor Market Efficiency and FDI Flows in Middle Income Countries
Dependent Variable: FDI Net Inflows per Capita (System GMM Estimation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	F	C	WF	H&F	R	P&P	PM
L.*FDI*	**0.486a**	**0.583a**	**0.583a**	**0.590a**	**0.420a**	**0.548a**	**0.593a**
	(0.093)	(0.097)	(0.101)	(0.098)	(0.088)	(0.095)	(0.102)
GROWTH	**12.935a**	**12.596a**	**11.400b**	**12.879a**	**14.477a**	**11.737b**	**12.317a**
	(4.491)	(4.784)	(4.558)	(4.855)	(4.662)	(4.984)	(4.740)
TRADE	-0.311	-0.079	-0.061	-0.045	-0.227	-0.271	-0.034
	(0.552)	(0.318)	(0.300)	(0.340)	(0.455)	(0.488)	(0.313)
FINANCE	**-0.470b**	**-0.579b**	-0.481	**-0.655b**	**-0.933a**	**-0.649c**	**-0.634b**
	(0.229)	(0.273)	(0.328)	(0.311)	(0.288)	(0.359)	(0.306)
INFRASTRUCTURE	**1.494a**	**1.262a**	**1.257a**	**1.238a**	0.803	**1.367a**	**1.316a**
	(0.392)	(0.360)	(0.339)	(0.404)	(0.492)	(0.386)	(0.394)
LABOR	**83.855c**	3.974	24.201	0.998	**-1.121a**	41.543	15.479
	(45.806)	(30.501)	(25.459)	(19.477)	(0.374)	(33.292)	(25.841)
INSTITUTIONS	**91.419b**	**84.005c**	**83.098c**	**96.067c**	**105.157c**	**85.354c**	76.371
	(45.426)	(44.636)	(48.424)	(49.627)	(57.453)	(51.170)	(52.090)
Constant	-395.599b	-52.184	-155.516	-41.344	138.440c	-183.418	-116.330
	(190.808)	(138.753)	(131.920)	(114.603)	(75.456)	(135.154)	(151.847)
Obs.	146	146	146	146	146	146	146
Countries	40	40	40	40	40	40	40
Instruments	37	34	34	34	31	34	34
Wald test	95.9	175.7	149	178	93.1	134.8	166.4
A-B (AR2) test	0.149	0.211	0.177	0.215	0.145	0.175	0.217
Hansen test	0.304	0.220	0.233	0.267	0.170	0.184	0.210

Notes: Robust errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. F: Flexibility. C: Cooperation in labor-employer relations. WF: Wage determination flexibility. H&F: Hiring and firing practices. R: Redundancy costs (weeks of salary). P&P: Pay and productivity. PM: Reliance on professional management. Instruments are collapsed. Figures for Wald, A-B (AR2) and Hansen tests are *p* values.

The influence of LMF on FDI flows is positive though statistically insignificant in most specifications. Overall LMF has the highest positive influence on FDI flows though marginally significant. An increase in overall flexibility by 1 point increases FDI flows per capita by US$84. The increase in labor redundancy costs, a dimension of LMF, discourages FDI inflows per capita though with a limited magnitude of slightly above US$1.

Table 6 reports the estimation results for the combined middle income and GCC countries sample. The results for the lagged dependent variable, *GROWTH* and *INFRATSRUCTURE* are similar to those of table 5. The influence of *INSTITUTIONS*, however, becomes statistically insignificant in all but one specification. The coefficient of *FINANCE* also becomes statistically insignificant. The coefficient of *TRADE* becomes positive, as one would expect, though statistically insignificant. In addition, the influence of overall LMF becomes statistically insignificant. The negative influence of labor redundancy costs is robust to the inclusion of the GCC countries in the sample, however.

Being a GCC country increases FDI flows per capita by more than US$4,000 in specification 1. This GCC regional advantage, compared to other middle income countries, does not hold in the remaining specifications however. In specification 1, LMF in GCC countries reduces FDI inflows by nearly US$750. The net effect of being a GCC country on FDI inflows per capita is about US$208 (evaluated at the period mean).

7.   Robustness Checks

We undertook robustness check of the estimation methodology. Instead of using system GMM approach, we adopted an instrumental variables approach instrumenting for *TRADE* and the overall LMF dimension of *LABOR*. We also accounted for heteroskedasticity associated with the use of middle income countries and autocorrelation in the time series. The results for the middle income countries are reported in table 7. In all specifications the model is identified, and the instruments are valid and the excluded instruments are correctly excluded (at the 5 percent significance level).

LABOR estimates are similar to those of table 5. Overall LMF statistical significance (at 5 percent statistical significance) has increased though the magnitude of the coefficient decreased. Redundancy costs continue to reduce FDI inflows per capita though with lower coefficient magnitude. Professional management

has a positive influence on FDI inflows. Unlike the results of table 5, *TRADE* coefficients though continue to be negative are now statistically significant.

The results for the combined middle income and GCC countries are reported in table 8. In all specifications but one (specification 6) the model is identified, the instruments are valid and the excluded instruments are correctly excluded (at the 5 percent significance level). Compared to table 6, the influence of overall LMF becomes statistically significant similar to the one for middle income countries sample of table 5, while the significance of the coefficients of the GCC variables (in the same specification) disappears. In specification 7, professional management exerts a negative influence on FDI inflows to the GCC countries. However, being a GCC country has a positive net influence of FDI inflows of nearly US$160 per capita (evaluated at the period mean).

TABLE 6
Labor Market Efficiency and FDI Flows in Middle Income and GCC Countries
Dependent Variable: FDI Net Inflows per Capita (System GMM Estimation)

VARIABLES	(1) F	(2) C	(3) WF	(4) H&F	(5) R	(6) P&P	(7) PM
L.*FDI*	**0.370a**	**0.410a**	**0.441a**	**0.420a**	**0.388a**	**0.396a**	**0.434a**
	(0.056)	(0.049)	(0.049)	(0.048)	(0.067)	(0.066)	(0.036)
GROWTH	**11.785a**	**10.851b**	**10.642b**	**11.121b**	**12.711a**	**12.701a**	**12.371a**
	(3.847)	(4.641)	(4.325)	(4.571)	(4.651)	(4.262)	(4.436)
TRADE	0.229	0.731	0.471	0.282	0.122	0.234	0.443
	(0.765)	(0.704)	(0.589)	(0.607)	(0.352)	(0.859)	(0.651)
FINANCE	-0.368	-0.336	-0.147	-0.212	-0.777b	-0.153	0.004
	(0.498)	(0.585)	(0.676)	(0.639)	(0.383)	(0.579)	(0.660)
INFRASTRUCTURE	**1.357b**	**1.067c**	1.105	**1.195c**	0.540	**1.417b**	**1.105c**
	(0.612)	(0.638)	(0.694)	(0.724)	(0.629)	(0.720)	(0.671)
LABOR	78.734	-27.486	31.206	-7.668	**-1.321a**	33.211	-13.194
	(56.398)	(50.777)	(32.213)	(28.237)	(0.380)	(48.181)	(37.567)
GCC	**4,113.920c**	2,648.334	1,978.807	-350.477	-47.221	-477.619	574.997
	(2,233.722)	(2,580.281)	(1,988.348)	(1,416.241)	(148.434)	(2,927.628)	(1,277.867)
*GCC*LABOR*	**-750.992c**	-487.859	-316.270	126.526	**5.516b**	145.770	-80.941
	(412.696)	(499.841)	(341.773)	(327.981)	(2.276)	(652.955)	(263.357)
INSTITUTIONS	90.230	85.219	90.599	**100.905c**	83.842	79.287	94.379
	(64.864)	(60.380)	(59.302)	(61.155)	(54.968)	(72.159)	(63.410)
Constant	-384.696	63.708	-201.271	-5.009	140.971c	-181.811	3.563
	(254.503)	(195.064)	(192.382)	(158.008)	(84.878)	(181.928)	(187.796)
Obs.	162	162	162	162	162	162	162
Countries	46	46	46	46	46	46	46

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Instruments	40	36	36	36	33	41	36
Wald test	436.6	964.0	1178.8	1700.0	287.9	784.3	802.9
A-B (AR2) test	0.153	0.202	0.323	0.655	0.242	0.444	0.233
Hansen test	0.302	0.144	0.195	0.19	0.31	0.202	0.117

Notes: Robust errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. F: Flexibility. C: Cooperation in labor-employer relations. WF: Wage determination flexibility. H&F: Hiring and firing practices. R: Redundancy costs (weeks of salary). P&P: Pay and productivity. PM: Reliance on professional management. Instruments are collapsed. Figures for Wald, A-B (AR2) and Hansen tests are *p* values.

TABLE 7
Labor Market Efficiency and FDI Flows in Middle Income Countries
Dependent Variable: FDI Net Inflows per Capita (IV Estimation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	F	C	WF	H&F	R	P&P	PM
L.*FDI*	**0.761a**	**0.803a**	**0.814a**	**0.804a**	**0.737a**	**0.803a**	**0.812a**
	(0.073)	(0.078)	(0.078)	(0.078)	(0.078)	(0.078)	(0.076)
GROWTH	**13.342a**	**11.205a**	**11.428a**	**11.147a**	**15.430a**	**11.098a**	**11.871a**
	(3.532)	(3.210)	(3.189)	(3.232)	(3.316)	(3.222)	(3.269)
TRADE	**-0.904a**	**-0.746b**	**-0.652b**	**-0.697b**	**-0.643b**	**-0.708b**	**-0.754a**
	(0.296)	(0.304)	(0.290)	(0.275)	(0.266)	(0.294)	(0.269)
FINANCE	-0.290	-0.202	-0.224	-0.232	**-0.463b**	-0.180	**-0.383c**
	(0.201)	(0.198)	(0.189)	(0.191)	(0.208)	(0.230)	(0.213)
INFRASTRUCTURE	**1.472a**	**1.413a**	**1.335a**	**1.358a**	**1.063a**	**1.396a**	**1.581a**
	(0.294)	(0.306)	(0.283)	(0.279)	(0.294)	(0.282)	(0.300)
LABOR	**53.304b**	5.978	-16.742	-10.932	**-0.576a**	-5.877	**35.963c**
	(23.863)	(20.108)	(13.040)	(12.453)	(0.222)	(15.622)	(19.210)
INSTITUTIONS	**53.770b**	**57.029b**	**55.520b**	**56.451b**	**54.773b**	**60.896b**	38.732
	(25.214)	(25.539)	(27.058)	(26.486)	(25.201)	(25.766)	(27.978)
Constant	-289.395a	-89.133	16.782	-19.374	2.958	-39.784	-241.032b
	(103.553)	(92.345)	(63.720)	(56.668)	(44.696)	(56.642)	(100.787)
Obs.	154	154	154	154	154	154	154
R-squared	0.781	0.775	0.777	0.774	0.790	0.774	0.776
LR statistic	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hansen *J* Statistic	0.187	0.070	0.081	0.074	0.112	0.072	0.074

Notes: Robust errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. F: Flexibility. C: Cooperation in labor-employer relations. WF: Wage determination flexibility. H&F: Hiring and firing practices. R: Redundancy costs (weeks of salary). P&P: Pay and productivity. PM: Reliance on professional management. Instruments are collapsed. The LR statistic is for the Anderson canonical correlations likelihood-ratio test of whether the equation is identified, i.e., that the excluded instruments are relevant. The statistic provides a measure of instrument relevance, and rejection of the null indicates that the model is identified. The Hansen test is a test of overidentifying restrictions. H_0 is instruments are valid instruments and the excluded instruments are correctly excluded from the estimated equation. Figures for the LR and Hansen *J* statistic are *p* values.

TABLE 8
Labor Market Efficiency and FDI Flows in Middle Income and GCC Countries
Dependent Variable: FDI Net Inflows per Capita (IV Estimation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	F	C	WF	H&F	R	P&P	PM
L.*FDI*	**0.610a**	**0.663a**	**0.649a**	**0.691a**	**0.558a**	**0.798a**	**0.685a**
	(0.098)	(0.102)	(0.098)	(0.101)	(0.095)	(0.126)	(0.099)
GROWTH	**12.432a**	**12.543a**	**11.925a**	**12.916a**	**12.652a**	**11.833a**	**11.981a**
	(3.103)	(2.833)	(2.799)	(2.894)	(3.170)	(3.839)	(2.924)
TRADE	-0.633	-0.376	-0.326	-0.367	-0.245	-0.089	-0.383
	(0.465)	(0.427)	(0.429)	(0.419)	(0.408)	(0.584)	(0.418)
FINANCE	-0.330	-0.180	-0.114	-0.171	-0.608c	0.003	-0.320
	(0.311)	(0.296)	(0.275)	(0.305)	(0.332)	(0.318)	(0.291)
INFRASTRUCTURE	**1.518a**	**1.350b**	**1.348a**	**1.413a**	**1.016b**	**1.329b**	**1.628a**
	(0.491)	(0.539)	(0.488)	(0.495)	(0.471)	(0.631)	(0.466)
LABOR	**78.268b**	-1.842	-7.277	-10.879	**-0.867a**	**63.745b**	29.342
	(32.671)	(25.793)	(24.137)	(18.020)	(0.259)	(32.320)	(19.999)
GCC	779.686	1,079.726	1,367.629	1,173.476	-74.967	**10,404.32b**	**2,038.44b**
	(1,763.0)	(1,908.4)	(2,450.7)	(1,016.6)	(119.3)	(4,072.01)	(927.56)
*GCC*LABOR*	-167.024	-221.576	-249.083	-280.840	1.674	**-2,341.38b**	**-451.828b**
	(335.175)	(385.987)	(432.494)	(240.067)	(1.672)	(930.127)	(210.402)
INSTITUTIONS	**82.096b**	**86.680b**	**88.211b**	**73.283c**	**82.353b**	3.277	**62.719c**
	(36.519)	(39.255)	(39.480)	(41.635)	(38.815)	(42.138)	(37.800)
Constant	-378.213a	-47.237	-17.690	-29.766	56.303	-382.049a	-212.704b
	(136.492)	(121.686)	(117.563)	(82.995)	(54.130)	(147.887)	(107.448)
Obs.	170	170	170	170	170	170	170
R-squared	0.526	0.496	0.524	0.484	0.553	0.112	0.559
LR statistic	0.000	0.000	0.000	0.000	0.000	0.116	0.000
Hansen *J* Statistic	0.264	0.100	0.073	0.152	0.305	0.756	0.077

Notes: Robust errors in parentheses. a, b, c significant at 1%, 5%, 10% level, respectively. F: Flexibility. C: Cooperation in labor-employer relations. WF: Wage determination flexibility. H&F: Hiring and firing practices. R: Redundancy costs (weeks of salary). P&P: Pay and productivity. PM: Reliance on professional management. Instruments are collapsed. The LR statistic is for the Anderson canonical correlations likelihood-ratio test of whether the equation is identified, i.e., that the excluded instruments are relevant. The statistic provides a measure of instrument relevance, and rejection of the null indicates that the model is identified. The Hansen test is a test of overidentifying restrictions. H_0 is instruments are valid instruments and the excluded instruments are correctly excluded from the estimated equation. Figures for the LR and Hansen *J* statistic are *p* values.

8. Concluding Remarks

This paper has been motivated by the policy controversy over the liberalization of labor market institutions in GCC countries and its potential conflict with labor nationalization policies. This controversy is supported by the casual observation of a peculiar negative relationship between flexible LMI and FDI inflows to GCC countries, unlike the same positive relationship for other regions.

The paper undertakes an empirical examination of the influence of LMF on FDI in GCC countries and comparator sample of middle income countries using 2006-2011 panel data. The paper robustly finds in the comparator middle income countries that overall LMF increases FDI flows per capita economically significantly while redundancy costs decrease it insignificantly. In contrast in GCC countries, overall LMF (under system GMM estimation methodology) and professional management (under IV estimation methodology) reduce FDI inflows per capita supporting the casually observed negative relationship. The negative influence of LMI is outweighed by positive "GCC region" influence, resulting in a net positive GCC influence.

Given the current controversy regarding labor nationalization policies in GCC countries, the main implication of our results is that a shift towards labor force nationalization and the likely reduction in LMF is not necessarily a deterrent to FDI flows. Our results lend support to other perhaps more important determinants of FDI flows, such as market potential and infrastructure development consistent with Mina (2007). The positive influence of these determinants more than overcomes the negative influence of the increase in non-wage costs associated with less flexible labor market institutions. In this respect, our interpretation is similar to that of Mogab et al. (2013) who suggest that foreign investors are more driven by gaining market access as opposed to minimizing total labor cost.

As our result seems to suggest that more rigidity of labor market institutions would attract FDI in GCC countries, further investigation of the effect of government intervention is needed. In that respect, analyzing the behavior of foreign investors from a political economy standpoint, where the latter compare the benefits of regulation in terms of increased productivity and human capital development as suggested by Parcon (2008) and their associated wage and non-wage cost, would be promising. Similarly, the other counter-

intuitive result suggesting that more professional management distracts FDI calls for investigating the political economy factors affecting FDI flows.

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