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Labor migration, remittances, and the economy in the Gulf Cooperation Council region

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Abstract

The massive increase in labor migration to the Middle East during the past three decades has rivaled its historical trends bound to the West. This paper assesses how this growing trend of migration may have helped shape the economic structure and performance across the member countries of the Gulf Cooperation Council. Findings from a descriptive and time series regression analysis of the limited cross-country data show that the experience with labor migration and its linkage with other aspects of the economy are varied. The migration trend coinciding with increasing personal remittances attests to the competitive demand for foreign labor. While labor migration shows mixed association with the key aspects of the economy, the stock of migrant population is negatively associated with economic growth. Albeit seemingly contradictory, the insights from this six-country analysis covering the periods since 1990 are useful to understand the complex nature of relationship between labor migration and economic structure and performance in the region.

Keywords: Labor migration, Remittances, Labor force, Economic growth, Gulf Cooperation Council

Introduction

The member countries of the Gulf Cooperation Council (GCC) including Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and the United Arab Emirates (UAE) have witnessed a massive increase in the number of foreign workers in the past few decades. Whereas the region has relied heavily on foreign expatriates for the oil and service industries historically, the booming oil prices and revenues associated with the 1973–1974 Oil-Shock caused the region's labor force to increase by an average of 7.7 percent between 1975 and 1985, with a 13 percent annual growth in the number of “nonnational” workers (Arnold & Shah, 1984; World Bank, 2004). Despite a shrinking labor force caused by declining oil prices during the late 1980s and strategic shift to “national” workers, data compiled by Baldwin-Edwards (2011) demonstrate that the number of foreign workers increased seven-folds since 1975 to over 11 million in 2008, with their share of the labor force increasing from one-half to two-thirds. The share of foreign workers has fluctuated since with the historical dominance of Saudi Arabia taken over by Qatar during the 2000s

and the UAE during the late 2010s and early 2020s (Baldwin-Edwards, 2011; UNDESA, 2024). The source of foreign workers has also shifted from neighboring Arab countries and East Asia to other developing countries, particularly in South Asia (Aarhi & Sahu, 2021; Arnold & Shah, 1984; Birks et al., 1988; Naufal, 2011; Shah, 2013). But the fact that close to two-thirds of the labor force across the GCC countries comprises foreign workers highlights their reliance on the workers from other developing countries to meet the growing labor demand.

No doubt, the primary reason to employ migrant workers has been to meet the steadily growing labor demands especially in the private sector composed of construction, retail, tourism, and other labor-intensive industries. But how has this massive increase in migrant workers reshaped the economic structure and performance across the GCC countries? Labor migration is partly a policy decision as the degree and process of migration, employment conditions, and remittances once in the host countries follow the extant policy framework and regulations. The policies on labor migration are also evolving in the region, with notable moves toward reforming the employment and migration processes and the mobility and protection of foreign workers.

Analyzing the limited data available for the six countries in the region using descriptive analysis and panel data regressions, the goal of this paper is to understand the connection of labor migration with the labor market and other economic structures within the host countries. Whereas growing labor migration is a policy response to an expanding labor market, this paper seeks to ascertain the degree to which migration has remained an integral part of the changing economic structure and performance over time. Additionally, this paper explores how remittances have interacted with labor migration and other key aspects of the economy. The following three questions form the core of this analysis: 1) How is the core economic structure including income, labor force participation, unemployment, and economic diversification associated with the size of labor migrants?; 2) How is the stock of labor migrants associated with personal remittances?; and 3) How is the stock of labor migrants associated with GDP growth? The overarching hypothesis postulates that, being an integral part of the burgeoning economies of the region with competitive labor markets, labor migration supports labor force participation, employment, and incomes as well as remittances and economic growth. Findings offer insights into how labor migration may have helped reshape the ongoing economic policy strategies in the region. Whereas a growing body of literature has dealt with the policy developments in labor migration across the GCC countries (Aarhi & Sahu, 2021; Bel-Air, 2015; Reda et al., 2023), there is still a relative paucity of research focusing on how this historical reliance on foreign labor may have interacted with the economic structure and performance. Moving away from the historical understanding based on Western experiences, this paper helps researchers and policymakers in the region and beyond rethink the ways policies on labor migration can create greater value not just for the labor migrants themselves but for the host country economies as well.

This paper is organized into six sections. The next section discusses the historical context of the evolving labor migration policies in the region, with section three surveying existing research on the nexus between labor migration and key aspects of the economic structure and performance. Section four discusses the data and analytical methods adopted here, with descriptive and multivariate analyses of labor migration, remittances,

and growth presented in section five. Section six discusses the findings in the larger theoretical and policy contexts and concludes.

Overview of the labor migration policies in the GCC Region

Thanks to the booming economies of the GCC region, its workforce has expanded significantly in the past several decades. While the reliance on foreign workers has been a historical reality in the Gulf region, their presence caters to two separate tiers of the work force: one to fill the low-skill jobs, which national workers are not willing to accept, and another to fill high-skill jobs that are more plentiful than the availability of highly capable national workers. Governments have created policies to regulate the labor market in a way to ensure a steady supply of foreign workers and yet reduce the historical reliance on them by boosting local employment. While most of the discussion of labor market policies in the region focuses on the Kafala system that has been applied historically to address the growing needs for low and semi-skilled workforce, major changes in the past two decades have sought to streamline labor migration and further develop the national workforce.

Conceived during the 1950s with a view to protecting the unskilled national workers in Kuwait, the system of sponsorship applied to migrant workers expanded and became institutionalized in the Gulf region during the 1970s and 1980s (Aarhi & Sahu, 2021). Baldwin-Edwards (2011: 37) summarizes the intent of this system succinctly: “the sponsorship system had the clear objective of providing temporary, rotating labour that could be rapidly brought into the country in economic boom and expelled during less affluent periods.” Having signed a binding document with the Labour Ministry, the sponsor-employer or “*Kafeel*” becomes financially and legally responsible for the worker in this sponsorship-based system (Shah, 2009). Responding to the risk of permanent settlement of migrant workers over time, governments in the region later introduced increasingly restrictive policies of nationalization with hard quota and ceiling on the proportion of foreign workers and systematic efforts at promoting the employment of nationals through job training and incentives for private companies to hire them (Baldwin-Edward, 2011; Shah, 2013). In essence, the Kafala system simplified and decentralized the process and control of migration and employment.

Reducing the historical reliance on the revenue from oil industry, the economic diversification efforts of the 1990s and 2000s centered on the development of finance, tourism, and technology industries, further expanding the labor market needs. Understandably, the Kafala system was introduced to regulate and minimize the labor inflow into the GCC region as foreign workers were sponsored for a specific duration—typically two years (Aarhi & Sahu, 2021; Baldwin-Edwards, 2011; Martin & Malit, 2017; Shah, 2013). But this flexible and privatized system failed to respond to the emerging structural realities of the growing labor market, causing a multitude of problems including fraudulent sponsorship documents, reluctance to expel trained workers, excessive worker dependence on sponsors, and lack of effective enforcement mechanisms (Shaham, 2008).

Recognizing these limitations, governments began incremental reforms, where workers are issued No Objection Certificates (NOC) allowing to change employers (or employees as well) and tasking government agencies to intervene in cases where

employers failed to provide an NOC (Martin & Malit, 2017). Other reforms including wage protection systems, payments through bank transfers, unlimited contract renewals, and creation of a centralized migrant worker database have helped increase worker protections and mobility and create a more expedient system of dispute resolution (Bel-Air, 2015; ILO, 2017; Martin & Malit, 2017; Shah, 2013). Policies seeking to streamline the employment of foreign workers have also included levying direct and indirect taxes and a tighter regulation of foreign worker visas (Shah, 2013).

As the traditional Kafala system has been abolished, at least in terms of the legal provision, across the GCC countries, governments are having to adapt to the unprecedented technological advancements and respond to growing demographic shifts resulting from decades of labor migration. Their diversifying economies have also met with further tightening up of labor market policies, with a focus on training and employment of national workers. Given the growing competition from foreign workers, for example, the UAE in 2008 made Arabic the official language for federal and government institutions, indirectly benefitting national workers (Naufal, 2015). Governments have also sought to “localize” the labor force by applying a quota on the number of foreign workers that employers can hire, with a system of penalties for violations and subsidies for the employment of native workers (Aarati & Sahu, 2021; Naufal, 2015). The policy measures placed under Kuwaitization and especially Saudization are considered the most binding, with a long history of strict enforcement and documented results on limiting the number of expatriates significantly (Durand-Lasserve, 2022; Aarati & Sahu, 2021).

At the same time, the increasingly competitive landscape and heightened sense of worker vulnerability due to the COVID-19 pandemic have also affected the way recent policies have focused on reforming labor rights, working conditions, worker mobility, and medical coverage, with an eye toward attracting more skilled workers (Aarathi & Sahu, 2021; Bel-Air, 2015; Reda et al., 2023). The goal of these recent policy changes has been to support the labor market in the context of growing and diversifying economies both responsively and sustainably.

Literature review

Migration to the Western world including Australia, Canada, the United Kingdom, and the United States has historically dominated the research on international migration, informing on such key questions as who the immigrants are, how they fare after immigration, and how they impact the labor market and public services in host countries (Borjas, 1989, 1990; Borjas & Cassidy, 2019; Brücker & Jahn, 2011; Fasani et al., 2020; Portes & Böröcz, 1989). While international migration has become a necessity for both migrants and participating countries in the twenty-first century, the ability to maximize the return to migration depends on the match of migrants’ skills and motives with the needs and legal obligations of the destination countries (World Bank, 2023). This is where country-specific analyses are needed to use labor migration as a part of the comprehensive labor market and economic growth strategy at the national level.

The impact of labor migration on host countries bifurcates into the micro level of individual workers and the macro level of labor force and the economy. At the micro level, the welfare effects of labor migration have been discussed widely, with a focus on returns to unskilled labor relative to those to physical or human capital in general, reflecting on

the historical involvement of unskilled workers. In this light, Harris and Todaro (1970) and Ortega (2000) have postulated that immigration may exert negative effects on the employment of native-born populations. Review of a large body of empirical research from the US and other immigrant-receiving countries shows a negligible effect on the employment of native populations, with 10 percent increase in immigrant population likely to reduce natives' wages by less than one percent (Friedberg & Hunt, 1995). This marginal, adverse effect especially of unskilled migrant workers, however, may be more than compensated by the longer-term positive effects, which may increase over time due to growing migration of skilled workers (Dadush, 2014).

Borjas (1989, 1990) has shown how the native-born population benefits from migration so far as migrants offer sufficiently different productive inputs (such as unskilled labor), an observation getting increasingly contested in the US given the declining earnings of native-born low-skill workers. Over time, diversity of the sources of migration to the West has also expanded the human capital of migrants, making the observation of "no significant" differences in earnings less clear due especially to self-selection and other unobservable characteristics (Bauer, Haisken-DeNew, & Schmidt, 2005; Borjas et al., 2019). Since the economic contribution of migrants weighs in with the public services they receive, how they interact with the society also becomes a part of the discussion. Whereas most migrants seek to remit money, their contributions to host countries may bifurcate between permanent migrants, who spend greater portions of their incomes and strengthen public welfare, and temporary migrants, who remit at greater rates as happens with "undocumented" workers in the West and "foreign" workers in the Gulf region (Duleep, 2015; Fasani et al., 2020; Kondoh, 1999; Portes & Böröcz, 1989). But in either case, Benhabib (1996) argues, the native-born population votes on the very policy decisions that determine the physical or human capital requirements that migrants must meet to enter and stay in the host country and remit earnings back home.

At a macro level, how labor migration affects economic growth in the host countries follows the theories of production function that place labor as a primary driver of economic output and growth. Bloom and Williamson's (1998) seminal study shows rising working-age shares in the population to increase per capita income in East Asia, a finding also supported by Bloom et al. (2000) and Bloom and Finlay (2009) for both share of workers and labor force growth across Asia. Because labor migration helps expand the labor force, the growing net labor migration has helped accelerate production and returns to capital, attracting more investment over time in East and Southeast Asia (Walmsley, Aguiar, & Ahmed, 2013). More specifically, Barro and Sala-i-Martin (1995) and Dolado et al. (1994) show the effect of immigration on growth to depend on the skills composition, with more educated and skilled immigrants to positively support growth. Because the gains from migration depend on the ability to capitalize on the skills of migrants, the World Bank (2023) advances the idea of matching migrant skills with host country needs and obligations as a strategy to optimize gains for both sides of the migration equation.

Using longitudinal data from OECD countries, Boubtane et al. (2013) find immigration to be positively related to GDP per capita and negatively related to unemployment rate, suggesting that immigration contributes to the economic prosperity of host countries. Brunow et al. (2015) analysis of longer-term cross-national data

covering 1950 to 2010 also finds net migration to have negligible association with income per-capita growth at a given time and yet to potentially contribute to growth in the subsequent decades. This finding supports the standard neoclassical growth models in which migration can be a catalyst to short-run convergence in real wages across regions and countries, with longer term impacts occurring especially through technological change (Massey, 1990; Massey et al., 1993).

As a general observation, Brunow et al., (2015: 1069) note, “given the weak link between income per-capita growth and net migration, an increasing migration rate overall is unlikely to be an effective long-run growth strategy for a country vis-a-vis investments in education, R&D, infrastructure, institutional reforms, and the like.” Because immigrants are mostly a self-selected group with diverse stocks of human and social capital, their contributions are multifaceted going beyond productivity and economic growth into diversifying the population and socio-cultural fabrics especially in case of urban conglomerates (Cascio & Lewis, 2012; Foley & Kerr, 2011; Putman, 2007). This contribution of migrant population to economic growth and development is recognized across many Western countries including Canada and Norway (Valenta et al., 2017). However, many studies focusing on remittances and growth find this to be less the case for the GCC countries in general (Kaabi, 2016) as well as the specific member states like the UAE (Valenta et al., 2017) and Saudi Arabia (Alkhatlan, 2013). This speaks for the need of comprehensive policies on longer term immigration and immigrant integration in the larger economy and society.

Demographic imbalance is also a common theme in discussing labor migration to the GCC countries, especially given their growing reliance on foreign workers. Whereas less than four percent of the global population is foreign-born (Haas et al., 2019; ILO, 2021), non-nationals represent close to 80 percent of the population in GCC countries, with up to 96 percent of the workforce being foreign-born in some cases (Bel-Air, 2015; Forstenlechner & Rutledge, 2011). The ratio of foreign workers is particularly high (up to 100 percent) in the private sector, with all of those working as “domestic” workers in the GCC countries being foreign-born and increasingly female (Martin & Malit, 2017; Shah, 2013). This impact of migration on the labor force also extends to the larger population, which is expanding significantly given the influx of labor migrants.

Research has also explored how growing migration has affected the labor market and native attitudes in the Middle East in general and GCC countries more specifically. According to Naufal (2015: 1603), “the GCC countries face a perfectly horizontal supply of unskilled labour where an almost infinite number of workers are willing to work in the region.” But the nature of their labor force has changed in the past few decades with the reliance for workers shifting from neighboring Arab countries—such as Egypt, Jordan, Libya, Morocco, Palestine, and Tunisia—to other East and South Asian countries (Jaeck, 2022). Not only do the GCC countries have social and political reservations about workers from neighboring countries, because of or despite having a similar language and culture, they find Asian and especially South Asian migrants to be willing to “work hard” at lower wages (Gardner, 2011; Naufal, 2011, 2015; Shah, 2004). This shift has also eased the tension arising from the tendency of Arab workers to bring their immediate family members.

In the context of growing economic diversification where the GCC economies are moving away from the historical dependence on revenues from oil or hydrocarbons, Mehlum and Østenstad (2016) theorize about the complicated policy interests the different sections of native populations have on migrant workers and remittances. Whereas workers or wage earners tend to lose out of labor migration and remittances due to competition and lower wages, capitalists and “oil rent earners” can benefit from them as the price of “non-traded” and locally consumed goods can decline. Because remittances depress economic activities and depreciate the real exchange rate, the impact on capitalists and oil-rent earners can bifurcate—the former to lose and the latter to gain. Although policies on migrant workers and remittances depend on the clout of voting constituencies (Benhabib, 1996), the unitary form of decision-making prevalent in the GCC countries further elevates these stakes.

Finally, using data from the Arab Barometer and World Values Survey, Reda et al. (2023) find the consequential roles of the Kafala system to continue when it comes to native attitudes toward immigrants even beyond its direct implementation or termination. It is logical for lower class natives to be more tolerant of immigrants who face significant employment and social restrictions in the Kafala system, which understandably reverses in the non-Kafala system. But Reda et al. (2023) theorize that the sense of “status enhancement” encourages wealthier natives to consider low-skill foreign workers as inferior even beyond termination of the Kafala system. While demonstrating some elements of perceived threat especially in the case of lower-class natives from non-Kafala countries, the idea of threat to jobs or dominant culture, social norms, and traditions applied to democratic countries of the West may not be the prime driving force in the unique Middle Eastern context (Gusciute et al., 2021; Kunovich, 2017; Wright et al., 2016).

Data and methods

This is a cross-country analysis of macro-level data on the six GCC member countries. Most of the basic economic data such as per capita GDP, labor force participation, economic growth, and economic diversification as well as personal remittances and population growth are derived from the World Development Indicators Database (World Bank, 2024). Data on the composition of labor migrants are derived from the Gulf Labor Markets and Migration (GLMM) dataset compiled by the Gulf Research Center (2024) using government sources. These data are available in a time-series format covering 1990 to 2022 for all GCC countries. Since the migration estimates contain missing values, however, the effective dataset presents interrupted time-series, further limiting the coverage period.¹ The estimates on personal remittances, moreover, are not available for the UAE entirely, effectively removing it for a part of the analysis. While most economic indicators are generally available for all six countries, parts of the analysis on

¹ For a limited number of years for Kuwait, Qatar, and the UAE, missing values are interpolated by establishing trends out of the values at two opposite ends. To maintain the given structure, accuracy, and consistency, however, no attempt has been made at extrapolating missing values at the beginning or end of the period. Qatar is an exception for which recent data from the Qatar Planning and Statistics Authority (2022) are used to complete the missing values between 2016 and 2020.

remittances focus on two to seven years of data per country. Given these data limitations, findings need to be taken more as indicative rather than definitive.

This analysis uses cross-sectional time-series data, where variations both across countries and over time help sort out the macro-level trends and changes. A part of the analysis is descriptive helping to understand the landscapes of migration, remittances, and the economy. Further analysis is conducted using OLS and panel data regressions controlling for the fixed and/or random effects as relevant. The following generic model applies:

$$Y_{it} = \beta_0 + \beta_1 x_{it} + \beta_2 z_{it} + \delta_{it} + \gamma_{it} + \varepsilon_{it}$$

where, Y takes on the share of migrant population, per capita remittance, or GDP growth depending on the variable in question; x is the vector of applicable independent variables of interest including share of migrant population, GDP growth and per capita, labor force participation, unemployment, and fuel exports relative to merchandize exports; and Z is population growth² as a control variable. The symbols γ , δ , and ε represent the effects of country-specific, time-specific, and other idiosyncratic variations as appropriate.

Different model variations are estimated using the fixed and/or random effects estimator to optimize consistency and efficiency (Wooldridge, 2010, 2012). Because remittances depend in part on the prevalence of migrant population, something determined by policy decisions responding to the emerging economic realities endogenously, the model predicting remittances is also estimated in the instrumental variables framework using labor force participation and GDP per capita as exogenous variables. While what variable combinations and model specifications to use depends on both the theoretical underpinnings and data availability, the goal here is to gain consistent results through an appropriate sensitivity analysis.

Analysis and results

The analysis begins with a descriptive exercise, showing the magnitude of labor migration relative to total population to average around 50 percent across the GCC countries (Fig. 1). The UAE and Qatar have led in hosting international labor migrants relative to their population, with Oman and Saudi Arabia maintaining a more measured approach. Almost every country has witnessed growing labor migration, with its share in the population swelling from 25 to 76 percent during the 1990s to 36 to 88 percent during the early 2020s. While most of the labor migrants are considered temporary workers in the GCC context, this compares with a miniscule proportion elsewhere—under 4 percent globally, 13 percent in the US, and 20 percent across OECD countries (Haas et al., 2019; ILO; OECD, 2022). The fact that up to 91 percent of the population is foreign-born can have enormous implications for the economy and society in the GCC region.

The availability of jobs and prospect of remittances that help improve living standards and reduce impoverishments back home are the primary reasons why labor migrants have been concentrated in the GCC region (Naufal, 2011; Shah, 2013; Wagle, 2012, 2016;

² Although population growth excluding non-nationals would be ideal to include, its consistent estimates are not available.

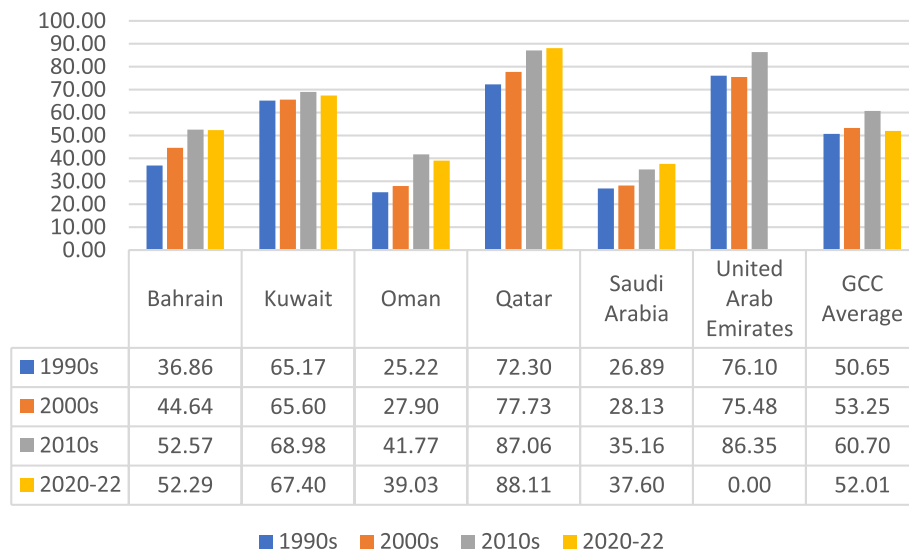


Fig. 1 Stock of migrant population (%)

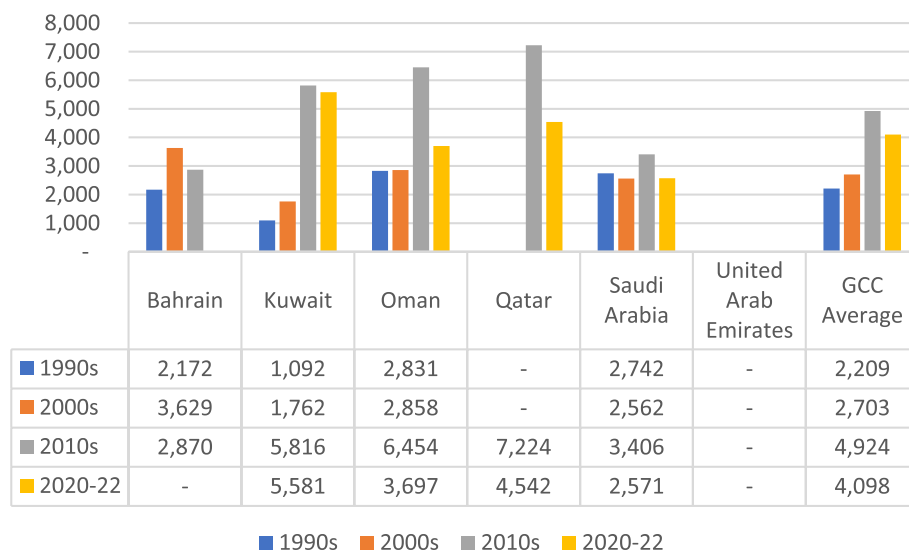


Fig. 2 Personal remittances per capita (in current US\$)

Wagle & Devkota, 2018). Figure 2 shows that data on personal remittances are partially available for Bahrain and Qatar and not at all available for the UAE. But remittances per capita from these countries averaged just over US\$2,000 during the 1990s, a figure that both increased significantly and got more dispersed over time. Starting with the lowest amounts of remittances during the 1990s, Kuwait advanced to the place of highest per capita remitter by the early 2020s. The declining value of remittances during the early 2020s partly reflects the impact of COVID-19 pandemic, during which economic activities were significantly curtailed globally. Yet, remittances have fluctuated sizably in Oman and Qatar, with Kuwait witnessing a steady increase over the entire period.

Table 1 GDP per capita and growth rates (averaged by decades)

Country	GDP per capita (in 2017 PPP \$)				Annual GDP growth (%)			
	1990s	2000s	2010s	2020–22	1990s	2000s	2010s	2020–22
Bahrain	42,588	46,516	48,257	49,697	5.52	5.47	3.44	0.72
Kuwait	56,853	66,891	54,791	46,661	7.46	5.50	1.62	0.00
Oman	33,292	38,277	35,986	34,243	4.13	3.52	3.05	1.34
Qatar		86,797	101,672	92,813		12.81	5.69	0.72
Saudi Arabia	42,953	40,902	45,379	45,806	3.65	3.52	3.47	2.32
United Arab Emirates	98,667	86,692	65,295	68,701	5.46	4.89	3.80	2.27
GCC Average	54,788	61,012	58,563	56,150	5.10	5.84	3.51	1.30

What were the patterns and variations in the key economic structure and performance? Table 1 summarizes data on the economic performance in the region, showing that the average per capita GDP (in PPP 2017 dollars) ranged from just over \$33,000 in Oman to around \$100,000 in Qatar and the UAE, with a regional average of around \$60,000. Whereas the values range quite sizably, they have also fluctuated with more declines and stagnations than increases over time. Measured at the national level without any impact of changes in population, the rate of GDP growth from year to year has also remained positive and quite robust for most of the period. The rate of GDP growth remained relatively high in Kuwait and especially Qatar, which understandably slowed down across all countries because of the COVID-19 pandemic. Interestingly, thanks to labor migration, the period witnessed declining GDP per capita in Kuwait and the UAE, the latter quite sizably, when in fact the average GDP growth remained positive.

Table 2 summarizes data on the broader economic structures of the GCC countries. For example, the size of the labor force has expanded significantly across countries—except for the early 2020s, again due to the COVID-19 pandemic. Oman and Saudi Arabia registered the lowest labor force participation rates (under 50%), with the UAE and Qatar consistently surpassing 60 and 70 percent respectively. Because foreign workers make up most of the labor force cross-nationally, the growing proportion of labor migrants remains at the center of this expansion in the entire region.

The unemployment rate is tricky in case of the GCC countries, as labor migrants cannot afford to remain employed for the most part, suggesting an overwhelming majority of the unemployed may have been the nationals.³ The unemployment rate in the GCC region also remains quite low at less than three percent from the international perspective as the advanced economies and those from Europe had it close to five percent or higher for 2023 (IME, 2024). There are significant variations in the unemployment rates across countries, however, with Saudi Arabia experiencing the most at around six percent. The lowest unemployment rates apply to Bahrain and Qatar at around one percent. Changes over time are also diverse, with Oman and Qatar boasting declining rates and the rest witnessing marginal increases.

³ The lack of consistent disaggregated data makes it impossible to separate the unemployment rates for nationals and foreign workers.

Table 2 Labor force, unemployment, and economic diversification (averaged by decades)

Country	Size of labor force (% of total population)				Unemployment rate (%)				Fuel exports relative to merchandise export (%)			
	1990s	2000s	2010s	2020-22	1990s	2000s	2010s	2020-22	1990s	2000s	2010s	2020-22
Bahrain	44.12	50.97	57.12	56.71	1.11	1.12	1.18	1.60	36.23	66.16	57.72	14.93
Kuwait	43.61	50.19	56.07	55.85	0.74	1.34	2.26	3.07	92.08	94.51	93.46	94.46
Oman	33.83	37.69	51.82	48.61	4.05	4.16	3.16	2.73	79.88	84.28	77.73	48.61
Qatar	60.38	66.70	74.67	74.27	0.82	0.71	0.26	0.15	84.05	88.55	88.22	84.50
Saudi Arabia	31.45	34.78	40.44	44.57	5.92	5.43	5.69	6.58	89.59	90.22	83.42	72.56
United Arab Emirates	54.42	61.92	68.79	69.56	1.94	2.74	2.13	3.42	29.50	63.32	50.90	71.63
GCC Average	44.63	50.38	58.15	58.26	2.43	2.58	2.45	3.0167	77.57	80.95	74.93	65.21

Table 3 Regressions of the stock of migrant population^a (standard errors in parentheses)

Variables	OLS regression	Panel regressions	
		Fixed effects	Random effects ^b
Labor force participation rate, %	0.898*** (0.031)	0.898*** (0.031)	0.931*** (0.086)
Unemployment rate, %	-1.379*** (0.305)	-1.379*** (0.305)	-1.480*** (0.440)
GDP per capita (2017 PPP\$)	< 0.001** (< 0.001)	< 0.001** (< 0.001)	< 0.001*** (< 0.001)
Fuel exports relative to merchandize exports, %	-0.029** (0.014)	-0.029** (0.014)	0.040 (0.030)
Population growth, %	-0.109** (0.052)	-0.109** (0.052)	-0.146 (0.168)
Countries (reference: Bahrain)			
Kuwait	22.018*** (0.830)		
Oman	-0.300 (1.073)		
Qatar	17.303*** (1.446)		
Saudi Arabia	5.645*** (1.606)		
United Arab Emirates	23.442*** (1.119)		
Constant	-10.310*** (0.692)	0.146 (0.188)	0.542 (0.592)
N	154	154	154
Groups	-	6	6
R-squared	0.990	0.844	0.893
VIF (\leq)	11.320	3.59	3.59

^a All variables are demeaned

^b Hausman test: $p = 0.226$

* $p \leq 0.1$

** $p \leq 0.05$

*** $p \leq 0.01$

The last component of the economic structure is economic diversification measured in terms of the degree of dependency on fuel exports relative to merchandize exports, which the GCC countries are seeking to contain. Specifically, fuel exports have remained quite high historically, with Kuwait, Oman, Qatar, and Saudi Arabia with rates close to or above 80 percent. The 2020s, however, witnessed a slight downturn in the reliance on fuel exports, except for the UAE where it increased even further. On average, fuel exports increased slightly between the 1990s and 2000s, demonstrating a pattern of continuing decline since.

The multivariate part of the analysis begins with results from the models of the stock of migrant population relative to total population (Table 3). The first two columns vary in that the ordinary least squares model includes country-specific fixed effects for each country whereas the fixed effects model incorporates them within the panel regression

Table 4 Panel data regressions of remittances per capita^a (standard errors in parentheses)

Variables	Fixed effects regression		Fixed effects IV regression ^b	
	Remittances (\$)	Remittances (\$, log)	Remittances (\$)	Remittances (\$, log)
Stock of migrant population, %	33.931 (41.423)	0.009 (0.013)	93.978** (45.439)	0.026* (0.014)
GDP growth, %	-241.403** (91.038)	-0.071** (0.028)		
Unemployment, %	18.325 (391.711)	0.010 (0.120)	647.131* (366.029)	0.196* (0.111)
Fuel exports relative to merchandise exports, %	-31.509* (14.938)	-0.008* (0.005)	-38.147** (17.511)	-0.010* (0.005)
Population growth, %	505.543*** (101.721)	0.124** (0.031)	359.451*** (100.988)	0.081** (0.031)
Constant	3953.013*** (455.575)	8.169*** (0.140)	4533.610*** (506.059)	8.333** (0.153)
N	24	24	24	24
Groups	5	5	5	5
R-squared	0.495	0.461	0.396	0.334

^a All independent variables are demeaned and VIF ≤ 3.01 for all models

^b Stock of migrant population instrumented using GDP per capita (2017 PPP\$) and labor force participation rate

* $p \leq 0.1$

** $p \leq 0.05$

*** $p \leq 0.01$

directly. In fact, rest of the model estimates are alike, except for the fit indices, supporting their internal consistency.⁴ The third column reports results from the random effects model which, despite lacking systematic differences in coefficients ($p = 0.226$), do not add further efficiency. But as detailed in the first column, the country-specific coefficients are significant for all other countries than Oman, capturing higher stocks of their migrant population. Relative to Bahrain, the size of migrant population is higher by 17 percent in Qatar, 22 percent in Kuwait, and 23 percent in the UAE, when other factors are held constant.

Most of the variables representing economic structures including per capita GDP show a significant association with the size of migrant population. Given that the growing presence of migrant population has been a response to the growing labor market needs, its positive association with labor force participation and negative association with unemployment are just as expected cross-nationally. The coefficients of population growth, however, are bit surprising: Whereas labor migrants help enhance population

⁴ Any potential multicollinearity issue is addressed by demeaning all variables, which lead to the Variance Inflation Factors (VIFs) at or below 3.59, except for the OLS model which has higher VIFs for the country-specific dummy variables. More specifically, demeaning the stock of migrant population has improved the p-value associated with the Im-Pesaran-Shin (1997) test designed for unbalanced panel data from 0.999 to 0.008, helping to reject the hypothesis that all panels contain unit roots.

growth by design, countries and years with greater rates of population growth may see lower levels of migrant population.

The second part of the multivariate analysis focuses on the association of economic structure and growth with personal remittances. Reported in Table 4 are results from the fixed effects regressions outside and within the instrumental variables (IV) framework, focusing on the size of personal remittances measured in (current) dollars and their natural log values. Again, all independent variables are demeaned to avoid potential multicollinearity ($VIF \leq 3.01$), and whereas the data are even more limited on remittances ($n=24$), the random effects option does not yield more efficient coefficients (Hausman test $p < 0.14$). But the use of IV regression helps sort out the potential endogeneity issue given the policy decisions involved in determining the size of migrant population.⁵ Model specifications also change slightly for the IV regressions as the GDP growth is removed for its potential correlation with per capita GDP even at the broader scale.

Results are highly consistent between the models using the dollar values and their natural logs. They are partially consistent across the models in and outside of the IV framework, with those from the former helping to detect greater levels of significance in some cases. More substantively, however, the coefficient of the stock of migration population becomes significant in the IV framework. Specifically, whereas the positive association of the dollar measure of remittances is significant at five percent level, that of its natural log is significant at 10 percent level, with other factors held constant. Results also show that many of the economic structure and growth variables are significantly associated with remittances. While unemployment is weakly associated, the negative association of economic growth is more significant. Additionally, growing economic diversification and population growth both contribute to remittances, the latter highly significantly. This makes a qualified case for economic diversification as countries achieving lower reliance on fuel exports—i.e., expanding merchandize exports—can add values to their migrant workers. The highly significant and positive association of population growth supports the point that countries with expanding population, which for the most part occurs through labor migration, witness greater payoffs for migrants as well.

The final part of this analysis explores the association of labor migration and other economic structures with economic performance. Table 5 reports results from the random effects models of GDP growth. While coefficients from fixed effects models are consistent by design, the associated Hausman test results ($p \geq 0.652$) show that the more efficient coefficients from these random effects models are not significantly different. Assuming the presence of growing migrant population may contribute to future, rather than current, economic growth, five different model variations are estimated with up to four-year lags. All independent variables are also demeaned to remove potential multicollinearity ($VIF \leq 5.22$).

Whereas migrant population is the only variable to change across the model variations, the resulting coefficients and standard errors remain largely consistent. The coefficients

⁵ Migrant population is instrumented using GDP per capita (in 2017 PPP \$) and labor force participation rate as exogenous variables. While the policy decisions about the size of labor migrants depends on many factors including the expanding labor market and the need for specific types of workers, incorporating them here is impossible because of data unavailability. The first stage-regressions including these two exogenous variables also yield highly significant fit indices ($F[5, 14] = 48.92$; $\text{Prob} > F = 0.000$).

Table 5 Random Effects Regressions of GDP growth^a (standard errors in parentheses)

Variables	Lags of the stock of migrant population				
	None	One	Two	Three	Four
Stock of migrant population, %	-0.120*** (0.043)	-0.127*** (0.042)	-0.130*** (0.041)	-0.121*** (0.040)	-0.167*** (0.033)
Unemployment, %	-0.703** (0.311)	-0.720** (0.304)	-0.813*** (0.300)	-0.778** (0.306)	-0.701*** (0.255)
GDP per capita (2017 PPP\$)	<0.001*** (<0.001)	<0.001*** (<0.001)	<0.001*** (<0.001)	<0.001*** (<0.001)	<0.001*** (<0.001)
Fuel exports relative to merchandise exports, %	0.037* (0.021)	0.035* (0.020)	0.027 (0.021)	0.025 (0.022)	<0.001 (0.020)
Population growth, %	0.403*** (0.126)	0.392*** (0.121)	0.373*** (0.118)	0.359*** (0.119)	0.361*** (0.100)
Constant	4.187*** (0.415)	4.129*** (0.406)	4.037*** (0.424)	3.970*** (0.402)	3.721*** (0.341)
N	152	154	153	151	147
Groups	6	6	6	6	6
R-squared	0.213	0.222	0.257	0.254	0.354
Hausman test <i>p</i> -value	0.910	0.856	0.727	0.798	0.652

^a All independent variables are demeaned and VIF ≤ 5.22 for all models

* $p \leq 0.1$

** $p \leq 0.05$

*** $p \leq 0.01$

of GDP per capita (2017 PPP \$) and population growth, for example, are positive and significant at the 99 percent level, suggesting their growth-supporting relationships. The consistently negative and significant coefficients ($p \leq 0.05\%$) highlight the growth-supporting role of employment. The consistency and significance (at 99% level) of the coefficient of the stock of migrant population gives further credence to the expectation that the presence of migrant workers is directly associated with the way GCC countries have performed in economic growth. The consistently negative association even to the point of lagging by four years, however, paints a picture where, after controlling for other economic factors, growing stock of migrant population may coincide with lower, and not higher, economic growth. This clearly goes against the growth-supporting hypothesis of labor migration as increasing migration may not coincide with higher growth even up to four years later. This result may point to the fact that the models estimated here do not capture the complicated system that is responsible for economic growth. But this in part underscores the reality in which the relationship between migration and growth is highly volatile in the region as depicted in the two-way graph (Fig. 3). Any seeming change in GDP growth associated with increases in the stock of migrant population is not fully clear as the values move in both directions.

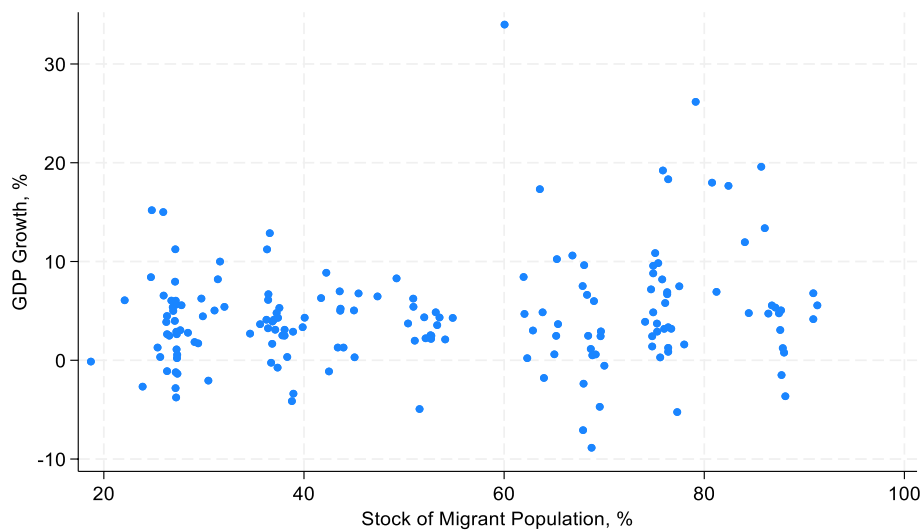


Fig. 3 GDP growth and stock of migrant population across the GCC countries (1990–2022)

Discussions and conclusion

This analysis has teased out the limited cross-national data since 1990 to gain valuable insights into the relationship of growing labor migration with the economy in the GCC region. In a context where international labor migration has been the prime source of labor force, it is important to understand the degree to which this migratory influx has been used to not just respond to the current labor demand reactively but to sustain the national growth strategy more comprehensively. This analysis has sought to contribute to this theoretical and policy discourse through both contextually situated descriptive insights and inferential observations. It is important to underscore the fact that the limited data used here do not allow for application of generalized linear models or other advanced econometric techniques (Wooldridge, 2010) typically demanded by these often interrelated and evolving topics. Yet, this exercise offers three key insights.

First, the enormous growth in labor migration in the GCC region has catapulted its labor force and population with far reaching implications. With two-thirds of the entire population being foreign born, led by Qatar (88%) and the UAE (91%), the region's experience with foreign workers has been truly unprecedented. While the region has relied on foreign workers to meet its labor force needs especially in the private sector, the share of labor migrants increased over 15 percentage points between the 1990s and early 2020s in four of the six GCC countries. There is nothing out of the ordinary about growing economies attracting foreign workers especially in such fast growing sectors as construction, technology, tourism, and retail as the political instability, massive unemployment, and lack of earning prospects for the growing youth in Asia and especially South Asia have led to an unprecedented interest in foreign employment (Aarthi & Sahu, 2021; Birks et al., 1988; Shah, 2013; Wagle, 2012, 2016; Wagle & Devkota, 2018). This supports the neoclassical theories of labor migration that suggest increasing labor demand and the associated high wage potentials to cause movement of workers from, among other things, low-income to higher-income countries (Harris & Todaro, 1970; Lewis, 1954; Massey, 1990; Massey et al., 1993).

What is more notable, however, is how the changes in labor migration have coincided with the key economic changes in this region. Whereas the size of migrant population has increased by over 40 percent since the 1990s, the labor force relative to population has increased by 30 percent. Since very few migrants can afford to stay unemployed, the increasing rates of unemployment especially in Kuwait, Saudi Arabia, and the UAE may capture the condition of their nationals. Not reported in this analysis is also the fact that most of the labor migrants are concentrated in urban areas, with majority of them being men, causing the urban population to swell and the share of women in the larger population perhaps to decrease over time (Baldwin-Edwards, 2011; Martin & Malit, 2017; Shah, 2013). These and many related structural changes may have caused the labor force to enter an uncharted territory, showing vulnerability to any major internal or external shocks.

This unique experience may go beyond the attempt to diversify economies, expand GDP per capita, and lower unemployment. While the region has experienced robust GDP growth, low unemployment, and somewhat declining dependence on fuel exports, the experience varies widely without a unified pattern in the cross-national context. If any significant pattern emerges, Kuwait and the UAE have greater stocks of migrant population, with increasing labor force participation and declining population growth contributing to labor migration. Whereas studies of migration have focused on the skills-needs match and longer-term benefits (Borjas, 1989, 1990; Brunow et al., 2015; Dadush, 2014; World Bank, 2023), this observation may go against the hypothesis about governments' ability to integrate labor migration into their broader economic development strategy.

Second, amidst the varying levels of remittances, growing labor migration has allowed workers to earn higher wages and remit increasingly more to their families back home. No doubt, low-income developing countries particularly in South Asia are the prime source of migrant workers given their willingness to accept comparatively lower wages (Arnold & Shah, 1984; Jaeck, 2022; Naufal, 2011, 2015; Shah, 2004). But in a region with the per capita income (PPP, 2017 \$) averaging close to \$60,000, the substantially lower pay garnered by typical migrant workers is still comparatively higher than the earning potentials in their home countries (Borjas, 1989, 1990; Friedberg & Hunt, 1995; Massey, 1990; Massey et al., 1993). Whereas migrant workers make up two-thirds of the region's population, the per capita remittances averaging between four and eight percent of the GDP per capita tells the story of a relatively weak prospect for remittance.

Not all contexts are equal when it comes to migrant workers' wages and remittances, however. The competitive nature of labor demand pushes wages up whereas the inelastic labor supply from low-income countries pushes it down (Naufal, 2015). Similar pressures apply to the prospect of remittances directly, with higher living expenses, fluctuating exchange rates, and more stringent remittance laws making it more difficult to remit money (Mehlum & Østenstad, 2016; Valenta, 2022). The finding that per capita remittances are positively associated with the stock of migrant population supports the idea of competitive labor demand where the labor market encourages remittance. Arguments about the inelastic labor supply increasing competition among workers in the region (Naufal, 2015) or increasing labor migration leading to sentiments and policies against migration and remittances (Mehlum & Østenstad, 2016; Reda et al., 2023) may be partly

operational given the very low wages and remittances. But the finding also supports the idea that the ongoing reform with added labor support, protections, and mobility may have helped both streamline migration and increase the values of remittances outflow simultaneously.

Third, the labor migration policies in the region are mostly reactive and driven by the current labor force needs in specific industries, with the increasing presence of labor migrants perhaps not contributing significantly to the overall economic growth performance. It is logical to adopt flexible labor migration policies responding to the ongoing labor market needs. The largely decentralized migration system with employers sponsoring foreign workers directly underscores the flexibility where the labor force can be squeezed at times of decreasing labor demand (Aarthi & Sahu, 2021; Baldwin-Edwards, 2011; Birks et al., 1988; Shah, 2013). The fact that an overwhelming majority of the low-skill migrant workers are concentrated in the private sector also suggests that the more specialized labor force especially in the public sector may not be overly dependent on foreign workers (Martin & Malit, 2017; Shah, 2013).

But what is the potential role of labor migration in economic growth? Despite variations across countries, a cross-country analysis is expected to highlight any commonalities on the way labor migration helps determine economic growth. While factors such as per capita GDP (PPP, 2017 \$), employment, and population growth demonstrate a positive relationship with growth, this relationship may not hold for migrant population. Going against the growth-supporting hypothesis, results paint a consistent picture where growing migration may help explain a declining trajectory of economic growth, when key aspects of the economy are held constant.

Admittedly, data limitations make the exact nature of this relationship difficult to explain in the region (Alkhatlan, 2013; Kaabi, 2016; Valenta et al., 2017). But the negative relationship between labor migration and economic growth may have emanated for multiple reasons including relatively small wages paid to migrant workers, resulting in average remittances of a mere seven percent of the per capita GDP between 2020–2022, where the costs of especially unskilled labor do not figure high in the national GDP (Gardner, 2011; Naufal, 2015; Shah, 2004). The potential increase in non-working migrant population may also be a factor (Gadner, 2011). While changes in unemployment are not very helpful given the focus mostly on the nationals, the key takeaway may be that the GCC countries are using labor migration to respond reactively to their growing labor demands especially for low-skill workers. This underscores the need to strategically rethink labor migration that some current national development plans leave out entirely (Saudi Arabia CEDA, n.d.; UAE PMO, 2023) or mention in terms of the need to curb it (Qatar MDPS, 2018). Whereas the nationalistic thinking has led some countries to expand skills and employment for their national workers and limit the inflow of migrant labor (Baldwin-Edward, 2011; Shah, 2013), this still does not allay the need to align labor migration policies with the longer-term economic goals.

The insights from this analysis help researchers and policymakers understand the dynamics of labor migration in a region that has increasingly relied on foreign workers to meet its overwhelming labor force needs. The growth in labor migration has coincided with major changes in the economic structures of countries in the region including on labor force participation, employment, economic diversification, and per capita

income. Labor migration also has a significant association with per capita remittances, suggesting that the GCC countries have been able to attract labor migrants as wages, albeit low compared to the per capita GDP, compare favorably against their earnings prospects back home. The GCC countries have also introduced many reform measures addressing shortcomings of the historically prevalent sponsorship-based labor migration system. Yet, the temporary nature of work and stay for most migrant workers makes the region's economies vulnerable to major international shocks like the pandemic, global recession, or opportunities in workers' home countries. More specifically, governments and policymakers in the region ought to move away from using migrant labor as a stop-gap measure to meet the ongoing labor market needs reactively and toward incorporating it in the larger framework of longer-term economic development.

Future studies are expected to use more consistent and comprehensive data in the region and explore not just the nature of their dependence on temporary foreign workers but their impact on the economy and society overall. Quantitative and qualitative studies of how migrant workers have been treated and incorporated into the economy and society and how their economic contributions are placed in the national development agenda can be particularly insightful.

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References

- Aarthi, S., & Sahu, M. (2021). Migration policy in the gulf cooperation council (GCC) states: a critical analysis. *Contemporary Review of the Middle East*, 8(4), 410–434.
- Alkhathlan, K. A. (2013). The nexus between remittance outflows and growth: a study of Saudi Arabia. *Economic Modeling*, 33, 695–700.
- Arnold, F., & Shah, N. M. (1984). Aian labor migration to the Middle East. *International Migration Review*, 18(12), 294–318.
- Baldwin-Edward, M. (2011). *Labour immigration and labour markets in the GCC countries: National patterns and trends*. London School of Economics Global Governance paper # 15.
- Barro, R., & Sala-i-Martin, X. (1995). *Economic Growth*. McGraw-Hill.
- Bauer, T. K., Schmidt, J. P., & Schmidt, C. M. (2005). *International labor migration, economic growth and labor markers: the current state of affairs*. RWI Discussion Papers # 20.
- Bel-Air, F. D. (2015). *Demography, migration, and the labour market in the UAE*. Gulf Labour Markets and Migration Explanatory Note 7/2015.
- Benhabib, J. (1996). On the political economy of immigration. *European Economic Review*, 40, 1737–1743.
- Birks, J. S., Seccombe, I. J., & Sinclair, C. A. (1988). Labour migration in the Arab gulf states: patterns, trends, and prospects. *International Migration*, 26(3), 267–286.
- Bloom, D., & Finley, J. (2009). Demographic change and economic growth in Asia. *Asian Economic Policy Review*, 4(1), 45–64.
- Bloom, D. E., & Williamson, J. G. (1998). Demographic transitions and economic miracles in emerging Asia. *World Bank Economic Review*, 12, 419–455.
- Bloom, D. E., Canning, D., & Malaney, P. (2000). Population dynamics and growth in Asia. *Population and Development Review*, 26, 257–290.

- Borjas, G. (1989). Economic theory and international migration. *International Migration Review*, 23(3), 457–485.
- Borjas, G. (1990). Friends or strangers: The impact of immigrants on the U.S. economy. Basic Books.
- Borjas, G., & Cassidy, H. (2019). The wage penalty to undocumented immigration. *Labour Economics*, 61, 101757.
- Borjas, G. J., Kauppinen, I., & Poutvaara, P. (2019). Self-selection of emigrants: Theory and evidence on stochastic dominance in observable and unobservable characteristics. *The Economic Journal*, 129, 143–171.
- Boubtane, R., Coulibaly, D., & Rault, C. (2013). Immigration, growth, and unemployment: Panel VAR evidence from OECD countries. *Labour*, 27(4), 399–420.
- Brücker, H., & Jahn, E. (2011). Migration and wage-setting: Reassessing the labor market effects of migration. *Scandinavian Journal of Economics*, 113(2), 286–317.
- Brunow, S., Nijkamp, P., & Poot, J. (2015). The impact of international migration on economic growth in the global economy. In B. Chiswick & P. Miller (Eds.), *Handbook of the economics of international migration* (Vol. 1B, pp. 1027–75). Elsevier.
- Cascio, E. U., & Lewis, E. G. (2012). Cracks in the melting pot: Immigration, school choice, and segregation. *American Economic Journal: Economic Policy*, 4, 91–117.
- Dadush, U. (2014). *The effect of low-skilled labor migration on the host economy*. Global Knowledge Partnership on Migration and Development (KNOMAD) Working Paper # 1.
- Dolado, J., Goría, A., & Ichino, A. (1994). Immigration, human capital and growth in the host country: Evidence from pooled country data. *Journal of Population Economics*, 7, 193–215.
- Duleep, H. O. (2015). The adjustment of immigrants in the labor market. In B. Chiswick & P. Miller (Eds.), *Handbook of the economics of international migration* (Vol. 1B, pp. 105–82). Elsevier.
- Durand-Lasserre, D. (2022). Nationalization of the private sector labor force, quotas, matching and public jobs, an illustration with Saudi Arabia. *Quarterly Review of Economics and Finance*, 86, 98–117.
- Fasani, F., Llull, J., & Tealdi, C. (2020). The economics of migration: Labour market impacts and immigration policies. *Labour Economics*, 67, 101929.
- Foley, C.F. & Kerr, W.R., (2011). *Ethnic innovation and US multinational firm activity*. National Bureau of Economic Research Working Paper # 17336.
- Forstenlechner, I., & Rutledge, E. J. (2011). The GCC's "demographic imbalance": Perceptions, realities, and policy options. *Middle East Policy*, XVIII, 4, 25–43.
- Friedberg, R. M., & Hunt, J. (1995). The impact of immigrants on host country wages, employment and growth. *Journal of Economic Perspectives*, 9(2), 23–44.
- Gardner, A. M. (2011). Gulf migration and the family. *Journal of Arabian Studies*, 1(1), 3–25.
- Gulf Research Center. (2024). Gulf Labor Markets and Migration (GLMM) dataset. <https://gulfmigration.grc.net/>
- Gusciute, E., Mühlau, P., & Layte, R. (2021). One hundred thousand welcomes? Economic threat and sentiment in Ireland. *Ethnic and Racial Studies*, 45(5), 829–850.
- Haas, H. D., Czaika, M., Flahaux, M.-L., Mahendra, E., Natter, K., Vezzoli, S., & Villares-Varela, M. (2019). International migration: Trends, determinants, and policy effects. *Population and Development Review*, 45(4), 885–922.
- Harris, J., & Todaro, M. (1970). Migration, unemployment and development: a two-sector analysis. *American Economic Review*, 60, 126–142.
- ILO. (2017). *Employer-migrant worker relationships in the Middle East: Exploring scope for internal labour market mobility and fair migration (white paper)*. International Labour Organization, Regional Office for Arab States.
- ILO. (2021). *Global estimates on international migrant workers (3rd edition)*. International Labour Organization.
- Im, K. S., Pesaran, M. H., & Shin, Y. (1997). *Testing for unit roots in heterogeneous panels*. University of Cambridge.
- IMF. (2024). World Economic Outlook: April 2024. International Monetary Fund. <https://www.imf.org/external/datamapper/datasets/WEO>
- Jaeck, L. (2022). Political economy of immigration policy in GCC countries. *Economics & Politics*, 34(3), 444–464.
- Kaabi, F. A. (2016). The nexus between remittance outflows and GCC growth and inflation. *Journal of International Business and Economics*, 4(1), 76–85.
- Kondoh, K. (1999). Permanent migrants and cross-border workers: The effects on the host country. *Journal of Regional Science*, 39, 467–478.
- Kunovich, R. M. (2017). Labour market competition and immigration attitudes in an established gateway. *Ethnic and Racial Studies*, 40(11), 1961–1980.
- Lewis, W. (1954). Economic development with unlimited supplies of labor. *The Manchester School of Economic and Social Studies*, 22, 139–191.
- Martin, P. L., & Malit, F. (2017). A new era of labour migration in the GCC? *Migration Letters*, 14(1), 113–126.
- Massey, D. (1990). Social structure, household strategies, and the cumulative causation of migration. *Population Index*, 56(1), 3–26.
- Massey, D., Arango, J., Hugo, G., Kouaouci, A., Pellegrino, A., & Taylor, J. (1993). Theories of international migration: A review and appraisal. *Population and Development Review*, 19(3), 431–466.
- Mehlum, H., & Østenstad, G. (2016). The political economy of migration policies in oil-rich Gulf countries. *Oxford Economic Papers*, 68(4), 1062–1083.
- Naufal, G. (2011). Labor migration and remittances in the GCC. *Labor History*, 52(3), 307–322.
- Naufal, G. (2015). The economics of migration in the Gulf cooperation council countries. In B. Chiswick & P. Miller (Eds.), *Handbook of the economics of international migration (Volume 1B)* (pp. 1597–1640). Elsevier.
- OECD. (2022). *International migration outlook 2022*. Organization for Economic Cooperation and Development.
- Ortega, F. (2000). Pareto improving immigration in an economy with equilibrium unemployment. *The Economic Journal*, 110, 92–112.
- Portes, A., & Böröcz, J. (1989). Contemporary immigration: Theoretical perspectives on its determinants and modes of incorporation. *International Migration Review*, 23(3), 606–630.
- Putnam, R. D. (2007). E Pluribus Unum, diversity and community in the twenty-first century: The 2006 Johan Skytte Prize Lecture. *Scandinavian Political Studies*, 30, 137–174.

- Qatar Planning and Statistics Authority (2022). Population, 2010–2020. <https://www.psa.gov.qa/en/statistics1/StatisticsSite/Census/census2020/results/Pages/default.aspx>
- Qatar MDPS. (2018). Qatar second national development strategy 2018–2022. Qatar Ministry of Development Planning and Statistics.
- Reda, A. A., Fraser, N. A., & Khattab, A. (2023). Does social mobility matter: the kafala system and anti-immigrant sentiment. *Political Studies Review*. <https://doi.org/10.1177/14789299221130901>(firstpublishedonlineFebruary7)
- Saudi Arabia CEDA. (n.d.). Saudi vision 2030. Saudi Arabia Council of Economic and Development Affairs.
- Shah, N. M. (2013). Labour migration from Asian to GCC countries: Trends, patterns, and policies. *Middle East Law and Governance*, 5(1–2), 36–70.
- Shah, N.M., (2004). Arab migration patterns in the Gulf. In Arab migration in a globalized world (pp. 91–113). International Organization for Migration.
- Shah, N.M., (2009). The management of irregular migration and its consequence for development: Gulf Cooperation Council. International Labour Organization Working Papers.
- Shaham, D. (2008). Foreign labor in the Arab Gulf: Challenges to nationalization. *al Nakhlah*, Fall, 1–14. (https://ciaotest.columbia.edu/journals/aln/v2008i10/f_0013109_10677.pdf)
- UNDESA. (2024). International migration database. United Nations Department of Economic and Social Affairs. (<https://www.un.org/development/desa>)
- UAE PMO. (2023). We the UAE 2031: Towards new peaks. UAE Prime Minister's Office.
- Valenta, M. (2022). The drivers and trajectories of Nepalese multiple migrations to the Arab Gulf. *South Asian Diaspora*, 14(1), 21–37.
- Valenta, M., Strabac, Z., Jakobsen, J., Reitz, J., & Awad, M. A. (2017). Labour migrations to resource-rich countries: comparative perspectives on migrants' rights in Canada, Norway, and the United Arab Emirates. *International Journal on Minority and Group Rights*, 24(2), 150–173.
- Wagle, U. (2012). Socioeconomic implications of the increasing foreign remittances to Nepal: Evidence from the Nepal living standard survey. *International Migration*, 50(4), 186–207.
- Wagle, U. (2016). The role of remittances in determining economic security and poverty in Myanmar. *European Journal of Development Research*, 28(4), 536–554.
- Wagle, U., & Devkota, S. (2018). The impact of foreign remittances on poverty in Nepal: A panel study of household survey data, 1996–2011. *World Development*, 110, 38–50.
- Walmsley, T., Aguiar, A., & Ahmed, S. A. (2013). *Labor migration and economic growth in East and Southeast Asia*. World Bank Policy Research Working Paper # 6643.
- Wooldridge, J. M. (2010). *Econometric analysis of cross-sectional and panel data* (2nd ed.). MIT Press.
- Wooldridge, J. M. (2012). *Introductory econometrics: A modern approach* (5th edition). Cengage.
- World Bank. (2004). *Unlocking the employment potential in the Middle East and North Africa*. The World Bank.
- World Bank. (2023). *World development report 2023: Migrants, refugees, and societies*. The World Bank.
- World Bank. (2024). *World development indicators database*. <https://databank.worldbank.org>
- Wright, M., Levy, M., & Citrin, J. (2016). Public attitudes toward immigration policy across the legal/illegal divide: The role of categorical and attribute-based decision-making. *Political Behavior*, 38(1), 229–253.

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