Do Remittances Compensate for the Labor Market Gaps Created by Emigration?

Fadai Mardanli Mehman[1], Vildan Zahidkizi Rizayeva[2]

[1,2] Azerbaijan State University of Economics (UNEC), Baku, Azerbaijan
ORCID ID: 0009-0001-4044-8649; Mardanli.Fadai.Mehman.2023@unec.edu.az
ORCID ID: 0000-0002-6893-4227; Vildan_Rizayeva@unec.edu.az

https://doi.org/10.30546/jestp.2026.85.01.0106

Received: November 14, 2025; accepted April 24; published online June 05, 2026

ABSTRACT

Emigration reduces labor supply in the country of origin, causing imbalances in labor market outcomes in terms of employment, sectoral skills, and wages. This paper assesses the impact of migrant remittances on the mitigation of such effects in Kyrgyzstan, Moldova, Nepal, and Tajikistan over the period 2002-2024. World Bank data was used and a descriptive, correlation and regression analyses were performed to understand the effect of remittances to GDP ratio on the unemployment rate, used as a proxy for labor market mismatch. Results show the labor market impact of remittances is heterogeneous across countries. In Kyrgyzstan, remittance inflows correlate with lower unemployment, suggesting that emigration and remittance income helped to absorb labor surpluses. In Moldova and Tajikistan, higher remittance inflows correlate with higher unemployment or lower labor force participation, suggesting that remittance income reduces the incentive to work at home in these countries. These results imply that remittances are mainly used to compensate for the lost income, rather than to replace the lost productive labor force. In Nepal, there is no net effect on unemployment. Respective domestic job creation, productive investment, and economic development in migrant-sending areas remain imperative for long-term adjustment.

Keywords: remittances, emigration, labor market gaps, unemployment, economic development.

JEL Classification: F22, F24, J61, O15, E24

1. INTRODUCTION

Labour market impacts of emigration can take place if the sending country suffers a high emigration rate of working age individuals. Sectoral labour shortages, unemployment, labour force participation and wage effects are some of the possible consequences for the sending country of large scale emigration and working age individuals going to work abroad. At the same time, emigrants send home some of their earnings as remittances, which in many developing countries have over time formed a

large source of household income and external development aid. There remains a counter-question as to the extent to which remittance inflows can replace the labor loss.

On the sending end, remittances can in fact be of considerable size. In Tajikistan, which is one of the countries studied in this article, personal remittances were around 45% of GDP in 2024 (World Bank, 2025). Such flows can also provide households with income, consumption, and the ability to reduce poverty in origin countries (Carare et al., 2024). More recently available evidence suggests that this remittance-driven growth led to a 9% decline in poverty in Tajikistan in 2024 (World Bank, 2024). Likewise, in Nepal, as remittances have now exceeded one-quarter of GDP, rural households improved their standards of living (Dhakal & Paudel, 2023). Remittances also stabilise demand: from the demand side, remittances may attenuate the income effects of labour outmigration through sustaining domestic demand and indirectly stimulating local economies (Chami et al., 2012).

Beyond that, remittances cannot replace human capital, skills and productive capacity that have been lost due to emigration. Labor market gaps also result from loss of skills, exit of working-age individuals from domestic labor markets, or where households are no longer dependent on local income sources. Sending countries see a decline in productivity growth and long-term economic growth potential following the emigration of skilled workers and entrepreneurs (Buchar, 2020). Likewise, remittances may disincentivize household members to work or search for employment, reducing the labor supply in the sending country (Borjas, 2020). Remittances may compensate for lost household income, but will not substitute for lost employment and productivity.

We study emigration, remittance flows and labor market impacts for four countries in which important out-migration took place in the past two decades: Kyrgyzstan, Moldova, Nepal and Tajikistan. All four countries are highly remittance-dependent economies (Barajas et al., 2018) and we want to understand the impact of remittances on the economy. Unemployment rates are the most common indicator of employment. Falling unemployment rates may be evidence that the labor market pressure has been relieved by out-migration and/or by the demand for labor stimulated by remittance-financed consumption.

The following section will show the theoretical and empirical literature on the effect of remittances and emigration on labor supply, employment and the unemployment rate. The next section will describe the data and methodology, including the World Bank indicators and analysis with SPSS. The resulting results and discussion section describes the descriptive statistics, correlation analysis and regression estimates for the two countries and the final section addresses the question of whether remittances reduce the labor market impact of emigration and the implications for sending countries.

2. LITERATURE REVIEW

Numerous articles have focused on the impact of remittances on the labor market of the sending countries. Many of these studies use a labor-leisure choice model, which states that an increase of non-labor income leads to a preference for leisure (Borjas, 2020). When households receive income from abroad with no conditions, such as the number of hours worked, members of the household may choose to reduce their working hours or quit their job entirely since remittances alone enable the household to achieve its desired income. This is known as the work disincentive effect. A large body of empirical evidence suggests that remittances lower labor force participation rates. Some evidence exists for a differential effect by gender. Murakami et al. (2021) find remittance-receiving households in Tajikistan to have much lower rates of labor force participation than non-remittance-receiving households. In fact, in their study, remittances correspond to a 10+ percentage point reduction in labor force participation rates. Similar results are found in Latin America: Sousa and Garca-Suaza (2018) document that households receiving remittances in El Salvador, Guatemala and Honduras were less likely to participate in the labor force than non-receiving counterparts. In other developing countries such as Ghana (Asiedu & Chimbar, 2020) and Ethiopia (Ademe Ayalew & Mohanty, 2022) there is also evidence for the labor supply effect of remittances, indicating that remittance incomes could be used to withdraw some household members from the labor market. Several studies have found that this employment effect is heterogeneous across the household. For example, Karamba et al. (2019) find that the labor supply effect is larger for women as well as households that have very young or old adults compared to prime age males. These facts are consistent with findings of remittances enabling secondary earners (mostly women and youth) in the family to stop searching for work or stay out of the labor market longer to produce in the household, study, or engage in leisure. Similar results for the impact of the post-migration period and the remittance period on the economic restructuring and adaptive resilience of job growth were reported in Azerbaijan (Kazimov, 2025; Niftiyev, 2020).

Alternatively, remittances create demand and spur investment, which can help the economy achieve a higher level of employment. Increased demand for goods and services may result in employment creation (particularly within retail and construction sectors) and a reduction in the rate of unemployment (Chami et al., 2012). Examining developing countries, Azizi (2018) found that remittances had a small decrease in labor participation. She estimated that a 10% increase of remittances to GDP is associated with a 0.17% decrease in labor participation on average. The impact of remittances on male labor force participation was not statistically meaningful. Remittances were found to have small negative impacts on female labor force

participation. There is limited evidence that remittances can stimulate self-employment and entrepreneurship. Households may invest remittance income in self-employment or entrepreneurship, including businesses and on-farm improvements. These investments may create job opportunities for family members or within the community (Nguyen & Purnamasari, 2019). However, they often have a smaller impact on formal sector employment than is suggested, as investments are often made in informal or subsistence businesses.

The relationship between remittances and unemployment is likewise heterogeneous, as labor market indicators are connected, intersecting with psychological insecurity and sectoral shifts related to the multidimensional nature of unemployment dynamics in transition countries like Azerbaijan (Kazimov, 2025; Niftiyev, 2020). Chami et al. (2012) argue that remittances may reduce unemployment in labor-surplus countries, because of the ability to export unemployment through out-migration or the influence on the growth of low-skill service sectors. They find that remittance flows into low and middle income countries contribute positively to employment in non-tradeable sectors (local services and construction). However there are negative effects on employment in tradeable sectors, as labor shifts away from high-productivity occupations to less productive jobs with lower barriers to entry to meet local demand. On the other hand, in some studies, higher remittance flows were also associated with higher unemployment, perhaps as the income from the remittances raises the reservation wage, and as workers become more selective to only work if they can find a very good job (Amuedo-Dorantes & Pozo, 2006). Jackman (2014) found, in Latin America and Caribbean, that low remittances were associated with a slight increase in unemployment (a slight disincentive to work) while higher remittances were associated with lower unemployment, perhaps as a positive stimulus effect on labor demand dominates the disincentive for workers, e.g. above 3-4% of GDP in Jackman (2014). This suggests that remittance impacts may not be linear and may depend on the scale of remittance inflows, as well as their usage.

The emigration process itself also changes the labor market in the home country, including lower unemployment as people who would have been unemployed leave the country (the 'migration panacea' for unemployment during large outflows for some Eastern European countries, which offset underemployment by out-migrating many of their unemployed, particularly to Western Europe (Boubtane et al., 2013)). Carare et al. (2024), in an IMF overview of labor migration in Latin America and the Caribbean, find that emigration has a negative effect on labor force participation and growth in origin countries and that labor force participation is lower in the origin country at the time that emigration rises, potentially because of the outflows and the

discouragement of the domestic labor force. Moreover, Carare et al. (2024) find that remittances only partially offset the above negative effects: while remittances raise GDP-growth, the net effect of emigration and remittances results in a very small negative average effect on labor force participation. This effect is most pronounced for the population cohort aged 15 to 24 years. This may indicate that the youth are more likely to give up their job search or delay their entry into the labor market if a family member abroad sends remittances. It correlates with evidence in Tunisia (Jardoui, 2020) and other North African countries that younger workers prefer to wait for migration or live on remittance income than accept less-skilled, poorly paid domestic jobs, which may raise the youth unemployment rate in these countries as remittances grow.

In summary, most research suggests that remittances have mixed effects on labor markets. Remittances may reduce poverty and jump-start economic activity, providing jobs that reduce unemployment in the short run. In contrast, remittances may promote lower labor force participation (or reduced working hours) among recipients, reflected in lower labor force participation, or higher unemployment, of the donors. Whether or not the remittances fill the labor shortage opened by migration depends on whether the positive or negative impact is larger. When remittances are used for productive purposes that increase output and employment, the negative impact of migration on labor supply can be compensated by its positive impact on labor productivity. If remittances do not lead to more output, if they are consumed instead of invested, or if they are used for leisure, then the shortage of labor may persist or even increase (Böhme et al., 2015). Whether this is the case or not, is an empirical question, which we next try to answer for our target countries using recent data and econometric analysis.

3. DATA AND METHODOLOGY

Data Sources and Variables

The analysis reported here is based on annual data from 2002 to 2024 for Kyrgyzstan (KGZ), Moldova (MDA), Nepal (NPL) and Tajikistan (TJK) which have been selected on the basis of their high levels of emigration and high levels of remittances to GDP. These data were collected mainly from the World Bank's World Development Indicators (World Bank, 2025), although national data were used for recent years where necessary.

Personal Remittances Received (% of GDP) is the total remittance inflow as a share of GDP, and thus a measure of the importance of remittances for the economy. The higher the ratio, the larger is the remittance economy. This is common for many countries with substantial diaspora. Among the countries in our sample, the ratio peaked in mid-2010s at over 40% in Tajikistan, one of the largest in the world, and

remained around 45% in 2024. The ratio has been historically high in Kyrgyzstan and Nepal, often 25-30% in the case of Nepal and above 30% in the case of Kyrgyzstan (before 2015). The ratio was historically very high in Moldova (between 30 and 35% in the mid-2000s), and has remained high even if lower (15% more recently).

Unemployment Rate (% of labor force) refers to share of labor force that is unemployed but actively seeking employment. For consistency across countries, we use the International Labour Organization (ILO) modelled estimate (World Bank, 2025). It is common to use the unemployment rate as a measure of labor market slack: a higher unemployment rate suggests that labor resources are under-utilised relative to the number of jobs available. On the other hand, low unemployment rates also imply tighter conditions, or labor shortages. The alternate that involves changes in unemployment rates is also found, especially in the case of high emigration. For example, if emigration alleviates tightness in the labor market, unemployment may decrease as emigration occurs (to the extent that decreased unemployment corresponds to fewer job-seekers), whereas if remittances dissuade participation in the labor market, then non-participation or unemployment may increase among those who did not emigrate. In any case, unemployment does not capture discouraged workers who are no longer part of the labor force; we will interpret the results with caution. In some countries official unemployment rates are very low (in the case of Kyrgyzstan and Moldova 2-5% in official statistics) for definitional reasons and because labor out-migration rates are high. In other countries (e.g., Nepal, Tajikistan) unemployment is high (10-12%) by official definitions.

We also collected qualitative data on labor force participation rates, demographic factors, and other contextual variables. For example, Tajikistan has a very low labor force participation rate (~44% in recent years) (World Bank, 2024), and thus a large share of the working age population neither works nor actively seeks work. This may result from discouragement or informal subsistence activities, which also can help explain the unemployment data.

All figures (remittances, GDP, percentages) are annual. Since the sample is from 2002 to 2024, we can observe the evolution of the economy before and after large events like the Great Recession of the 2008-09 global financial crisis (which caused an initial dip in remittances and subsequent growth) and the COVID-19 shock of 2020 (which stalled migration and remittances). To ensure we reflect recent trends, we include data until 2024, for example, the 2022-2023 Central Asia inflow, driven by geopolitical shifts and economic recovery. Data for each country is a time series. With data for four countries we have a panel (pooled cross-section time series). Individual country time series span ~19-22 years depending on what year the data is available from.

Table 1 provides summary statistics of the remittance and unemployment variables, by country, over the study period. These summary statistics give an idea of the average remittance and unemployment by country, in addition to the variation over time in these variables.

Table 1: Descriptive statistics (2002–2024)

Country	Average remittances (% of GDP)	Std. dev. of remittances	Average unemployment (%)	Std. dev. of unemployment
Kyrgyzstan	20.5	11.3	5.6	1.8
Moldova	22.8	7.6	5.1	1.3
Nepal	20.6	7.8	10.6	0.7
Tajikistan	27.9	11.9	11.5	1.0
Overall	22.9	10.3	8.2	3.1

Source: World Bank (2025) and author's calculations.

According to Table 1, Tajikistan has the highest average remittance-to-GDP ratio (~28%) and average unemployment rate (~11.5%), while remittances in Nepal were worth about 21% of GDP. Nepal's unemployment rate was the highest of the four (~10.6%), and even Kyrgyzstan and Moldova have lower unemployment and slightly lower remittance shares (around 20-23% on average). The standard deviation of remittances is relatively high because the remittances share fluctuated between single digits at the turn of the century and over 30% at the peak in Moldova. Kyrgyzstan and Tajikistan had remittance booms from 2005 to 2013, but in later years the remittances share declined in these two countries. Unemployment rates were steadier over time. In some instances, unemployment may not change much over many years. For instance, in Nepal, unemployment was around 10 for decades, except in 2020, when it temporarily spiked.

4. METHODOLOGY

We use a descriptive analysis and an econometric analysis to answer the research question. Our approach is relatively straightforward as in a student project: we want it to be clear and strong rather than complex.

Descriptive and trend analysis

First, we plot and inspect the time series of remittances and unemployment for each country. In particular, we want to know whether unemployment falls as remittances rise. Are there any breakpoints and trends? We also consider basic correlations. Using the bivariate correlation function in SPSS, we find the Pearson correlation between the remittance to GDP ratio and the unemployment rate for each country and the pooled sample. This gives us a first idea of the relationship: a positive correlation would mean that higher levels of remittances are associated with higher unemployment, whereas a negative correlation would be the reverse. We may well say that correlation is not causation; but it is generally a good place to start.

Regression analysis

To control for time trends and unobserved country-level factors, we estimate linear regression models of the unemployment rate, with remittances (as a percentage of GDP) as the independent variable of interest. We estimated individual country models and a pooled model with all the data. All analyses were conducted using SPSS version 26. The data are panel data, and while a pooled OLS regression may violate some independence assumptions, we use it for our exploratory approach and to control for the unobserved differences across countries by including country fixed effects. In concrete terms, the following models are run:

Separate country regressions:

$UnemploymentRate = \alpha + \beta \times Remittances + \varepsilon$

Where UnemploymentRate is the unemployment rate, Remittances is the share of personal remittances in GDP, α is the constant of the regression, β is the slope coefficient showing how remittances affect the unemployment rate, and ε is an error term. The functional form is estimated separately for four countries (Kyrgyzstan, Moldova, Nepal, Tajikistan) because remittances affect unemployment differently in each country.

Pooled regression with fixed effects:

$UnemploymentRate = \alpha + \beta \times Remittances + \gamma_1 \times D\_MDA + \gamma_2 \times D\_NPL + \gamma_3 \times D\_TJK + u.$

UnemploymentRate is the dependent variable, while Remittances is the ratio of remittances to GDP. D_MDA, D_NPL, and D_TJK are dummy variables for Moldova, Nepal and Tajikistan, respectively. Kyrgyzstan serves as the base category. This means no dummy variable is needed for the Kyrgyzstan. The resulting equation is $\alpha + \beta Remittances + \gamma_1 + \gamma_2 + \gamma_3 + u$, where α is the intercept for Kyrgyzstan, β is the slope on Remittances for all countries, γ_1, γ_2, and γ_3 are the fixed effects, and u is the error term. This only specifies the model appropriately by controlling for country intercepts so that differences in baseline unemployment do not bias our estimate of β, which measures the correlation between remittances and unemployment conditional on country fixed effects (i.e. the average unemployment of a given country). Alternatively, it tells us the correlation between the level of remittances and the level of unemployment in a country in a given year (the specification does not include a time trend or year fixed effects). This is because it is a cross-country regression, and the sample of four countries does not allow many fixed effects. However, we treat β as only a partial correlation indicator, and do not imply that the estimate is causal.

We do not, for example, control for GDP growth or educational level in the main regression as no sufficient data were available. Alternatively, one could control for the business cycle or structural breaks. For example, higher GDP growth could decrease unemployment and, at the same time, increase remittances (if exchange rates change or the emigrant diaspora's incomes increase). These problems are potential sources of endogeneity. There are several business cycles in the period we cover. The long panel with fixed effects reduces the bias. However, because we do not control for everything, we must be clear that our regression results are associations consistent with theory, rather than conclusive causal evidence.

SPSS Procedure

The panel data is entered in SPSS in long format (with the variables country, year, remittance%, and unemployment% for each year-country pair). As shown in Table 1, Frequencies/Descriptives functions were used to calculate the means and standard deviations of each variable. The Bivariate Correlation dialog was used to obtain correlation statistics, and the Linear Regression dialog was used to obtain regression statistics. Using the filtered datasets for each individual country, we estimated the regression of unemployment on remittances. For the pooled model, we created dummy variables for each country, and included these dummies plus remittances as independent variables. We checked at each stage of our analysis, for example using residual plots, for the residuals to behave normally: none of these were considerably heterogeneous, which is partly because we aggregated the data by year for this model. Because our data are annual and there are a limited number of observations per country, we rely on substantive effect sizes and consistency with our theoretical expectations.

Following the reporting of the results of the analyses in tables, we will report the correlation coefficients, regression coefficients and importance levels, below the relevant tables which will make the visualisation and interpretation of the results easier. We will not overly round the results, reporting two or three decimal places when appropriate. Statistical importance was evaluated using standard conventions, noting whether p-values were below the 0.05 threshold for statistical importance.

Each of these three methods of analysis (descriptive, correlation and regression) could be used to determine if remittances offset or compensate the labor market effects of emigration in those countries. They would compensate the labor market if the countries that receive most remittances have low or decreasing unemployment. If these regressions were successful, the relationship would be statistically negative. Otherwise, if remittances are high, and even possibly increasing, unemployment might be high (or increasing), resulting in a zero or positive correlation of remittances to unemployment. This leads to the multi-country approach to see how countries could

differ, such as Kyrgyzstan vs. There are parallels with two similar Central Asian economies, Tajikistan and Uzbekistan, which experience high levels of emigration.

5. RESULTS AND DISCUSSION

We first present the simple correlations between remittances as a share of GDP and the unemployment rate, followed by our preferred regression analysis whereby we control for other country specific factors that affect unemployment, and finally discuss the differences between the two countries.

Correlation analysis

Table 2 reports the Pearson correlation coefficients between the remittances to GDP ratio and the unemployment rate for each country, as well as for the pooled sample (all years and countries) providing an initial sense of the direction and strength of association in each case.

Table 2: Correlation between remittances (% GDP) and unemployment rate

	Pearson r (Overall)	**Pearson r (Kyrgyzstan)**	**Pearson r (Moldova)**	**Pearson r (Nepal)**	**Pearson r (Tajikistan)**
Remittances vs unemployment	0.148 (n.s.)	-0.866 ($p < 0.001$)	0.754 ($p < 0.001$)	0.065 (n.s.)	0.639 ($p = 0.003$)

Note: "n.s." indicates not statistically significant ($p > 0.05$). Significant correlations are in bold with p-values.

Looking at the overall sample, the correlation coefficient between unemployment and remittances is +0.148, which does not reach statistical importance. This means that if one looks at all four economies pooled across all years, there is no linear relation between the two: the high remittance economies are no more likely to be high unemployment economies than the low remittance economies. This alone suggests that remittances do not have straightforward positive or negative effects on labor market outcomes.

The picture becomes much clearer when we look at the countries themselves.

In Kyrgyzstan, the negative correlation between remittances and unemployment is very strong ($r = -0.866$) and statistically meaningful at the 0.1% level. The negative sign therefore shows that the years when Kyrgyzstan's remittances ratio (% of GDP) was higher were also years when Kyrgyzstan's unemployment rate was lower. Kyrgyzstan has gone from having a remittance to GDP ratio of less than 2% in 2002 through to more than 30% in 2020 at the same time as reducing its unemployment rate from 8% to 3%. This negative correlation is consistent with the idea that remittances in Kyrgyzstan dampened unemployment or are correlated with improvements in labor market conditions. This is understandable since waves of labor migration in the 2000s to Russia and Kazakhstan would have reduced the number of job seekers in

Kyrgyzstan while remittances could themselves fund some employment. Kyrgyzstan therefore exported much of its unemployment to Russia, and any cash remittances by these workers may have allowed the non-migrant population in Kyrgyzstan to take up the jobs that were vacated by the migrants, or start their own businesses.

Surprisingly, this correlation is strong and positive ($r = +0.754$) and statistically meaningful in Moldova meaning that the years in which Moldovans remitted a higher share of GDP also correspond to years with higher unemployment in the country. Moldovan remittances peaked at ~31-34% of GDP in 2006-2007 with an unemployment rate of ~6-7%, while in 2020 remittances fell to ~15% and unemployment to ~3-4%. Since remittances and the unemployment rate are positively correlated, and have both been in decline since 2008, remittances cannot be said to have been the direct cause of improved Moldovan unemployment. The effect of the remittance shock correcting itself may simply have arisen through a shrinking labor force (the Moldovan population and labor force have both been in decline) or, perhaps, people simply giving up their search for work. An alternative hypothesis is that during the high remittance years, it was optimal for a portion of the local population to remain unemployed (or informally employed), and workers were willing to take the available jobs only once remittances went down, leading to a drop in unemployment. Qualitatively, it has been noted that in Moldova, migration and remittance flows contributed to labor shortages in some sectors, as well as to high unemployment among people who were not or could not migrate (Kupets, 2012). However, the Moldovan labor market is influenced by so many other factors, including migration opportunities to the EU and domestic policies, that this cannot be counted as a causal link.

In Nepal, however, no association was found ($r \approx +0.065$, $p = 0.43$). Even as remittances soared from ~2% of GDP in the early 1990s to ~25% to 30% in the 2010s, unemployment was remarkably stable (10% to 11% for decades). It seems the additional income did not have much impact on the unemployment rate, as this is an urban, educated rate, and most of the labor force is in the informal agricultural sector, and is either underemployed or has migrated to work abroad. Even in Nepal, remittances increased household income and decreased poverty, but did not change labor demand or supply considerably (Pant, 2011). The remittances have not caused a large withdrawal of labor supply from the measured labor force because the labor force participation rate, particularly of women, is low, and cultural factors determine labor force participation. Remittances have not considerably helped or harmed Nepal's unemployment situation. The labour market wear and tear of millions of Nepalis abroad, however, are reflected in other indices (eg, migrant workers from abroad fill labour gaps in construction, agriculture or industry sectors or low female

participation) rather than the unemployment rate. The economy, with a large share financed by remittances (currently about a third of GDP with a record 33% in 2024), has been strengthened by the economic activity and domestic demand these remittances generate. The cyclical structural unemployment/underemployment has not vanished, however.

Tajikistan has a positive correlation ($r = +0.639$, $p < 0.01$), and is the biggest remittance recipient. The share of Tajikistan's remittances to GDP fluctuates between 40 and 50%, and it has high unemployment and under-employment. Since the correlation is positive, this means that in the mid-2000s or the early-2010s, when remittances were high in Tajikistan, unemployment was also high and when there was a fall in remittances, as in 2009 or around 2015, unemployment tended to decrease. The disincentive effect is one explanation for this, as remittances were keeping many Tajiks of working-age in rural areas from taking up employment as long as they received remittances from abroad. Tajikistan also saw similar shocks, as tens of thousands of migrant workers returned during the 2009 Russian crisis and the 2015-2016 Russian recession, temporarily increasing the labor supply without providing sufficient opportunities to absorb it, increasing unemployment (Kireyev et al., 2017). Where increased local labor supply has been driven by the economy or policy, such as by temporary declines in remittances or travel restrictions during the 2020 coronavirus pandemic, unemployment statistics have decreased (1) because migrants abroad were not classified as unemployed, and/or (2) some returnees may leave the labor force or take informal jobs. In any case, the positive correlation is evidence against the idea that remittances have compensated for a labor shortage in Tajikistan. If this were the case, we would expect to see a much higher level of domestic labor market participation in Tajikistan, which currently has the lowest participation rate in Central Asia. While this is consistent with the literature regarding remittances reducing labor supply and increasing dependency (Kartošnja & Rahmon, 2020), this does not mean that remittances are the answer for Tajikistan. Despite the huge volumes of remittance over several years, underemployment is still a major issue facing Tajikistan.

In summary, one country (Kyrgyzstan) has a strong evidence of remittances and labor market outcomes being positively correlated (lower unemployment), while two others (Tajikistan and Moldova) have a negative correlation between remittances and labor market outcomes (higher unemployment). Analysis for Nepal did not confirm the correlation. The comparison between the three countries suggests that country-level factors such as demographics, domestic policy, and the purpose/locations of migration are key determinants of its sign. The effect of remittances on the labor

market wage is, however, not self-obvious. Hence, we also use a regression model controlling for country-level unobservable effects to study these relations.

6. REGRESSION ANALYSIS

We used linear regressions to model the relationship between unemployment and remittances, separately by country, and pooled with country fixed effects. The regression framework allows us to control for the initial level of country unemployment and eliminate the possibility that our results are merely due to differences in unemployment rates between countries. We first show the result of running the regressions separately for each country, and then the pooled regressions with fixed effects.

Table 3 shows the output of four separate simple linear regressions (one regression for each country) that predict the unemployment rate on the independent variable remittances (% of GDP). The constant (intercept) and slope can be read off of the output. The estimated constant (intercept) of the regression model should be interpreted as the predicted value of unemployment when remittances take a value of 0 (that is, the case when there are no remittances). We interpret these slopes as the change in the unemployment rate in percentage points following a one percentage point change in the remittances-to-GDP ratio. In terms of the proportion of the variations in unemployment rates explained by remittances, we report the R-squared statistic for each specification.

Table 3: Country-specific regression of unemployment on remittances

Country	Intercept (α)	Slope β (Remittances effect)	R^2	Sig. of β
Kyrgyzstan	8.723 (***)	-0.1371 (***) per 1% remittances	0.750	$p < 0.001$
Moldova	1.753 (***)	+0.1548 (***) per 1% remittances	0.569	$p < 0.001$
Nepal	10.488 (***)	+0.0069 (n.s.) per 1% remittances	0.005	$p = 0.79$
Tajikistan	10.321 (***)	+0.0430 (**) per 1% remittances	0.409	$p = 0.003$

$p < 0.001$, $p < 0.01$, n.s. = not significant. Coefficients are unstandardized. Each row is an independent regression for that country. R^2 is the coefficient of determination.*

The unemployment-remittances relationship varies greatly for each country, as shown in Table 3. Kyrgyzstan's average unemployment rate is negatively related to remittances, and is statistically meaningful with a β of -0.1371. Importantly, our results imply a 0.137 percentage points decline in the unemployment rate for every 1 percentage points increase in remittances as a share of GDP. Therefore, using our estimated effect to extrapolate on a larger remittances growth (for example, from 10% of GDP to a 30% of GDP), we may estimate a decrease of 2.74 percentage points in unemployment rate. An intercept coefficient of 8.723 implies that the unemployment rate would be around 8.7% if remittances were zero. The model was then run, and it found that when remittance levels are 32% of GDP, it would predict an unemployment

rate of around 4.3%. However, this plateaus at around this level. An R^2 of 0.750 means that the variation in the level of remittances over time could explain 75% of the variation in Kyrgyzstan's unemployment rate over the same period. These results confirm the inverse relationship between unemployment and remittances: emigration eased excess supply, while consumption supported the domestic economy through remittances. Nevertheless, this outcome should not be seen as a sustainable development model as it relies on a constant emigration of the working-age population.

The estimated coefficient for the case of Moldova is positive and statistically meaningful ($\beta = +0.1548$). A 1 percent increase in remittance GDP is associated with an increase of 0.155 percentage points in the unemployment rate. The R^2 value of 0.569 means approximately 57 percent of the variation in unemployment can be explained by remittance dynamics. The finding is consistent with the correlation results above that times of higher remittance inflows did not lead to a proportional increase in employment. The data show that in a period where remittances were approximately 30% of GDP, unemployment was around 7%, but as remittances dropped to perhaps 15% of GDP, unemployment fell to 3-4%. Such patterns could be explained by long-term labor market dislocations, high reservation wages or labor market detachment of some households. However, analysis of remittances in Moldova found that, while remitting was associated with positive household outcomes, it was also associated with lesser attachment to the labor market, especially in rural areas (Meyer & Shera, 2017). Though the low intercept of 1.753 should be taken with caution, the positive coefficient suggests that remittances did not incentivize employment within Moldova, but instead reinforced Moldova's reliance on remittance income.

Thus, even if we include remittances in Nepal, the estimated coefficient is still very small and statistically indistinguishable from zero ($\beta = +0.0069$). In other words, remittances, if present, had no statistically meaningful effect on the unemployment rate during this period in this country. The R^2, again almost zero, shows that remittances had virtually no effect on the unemployment rate in Nepal. The intercept of 10.488 is also very close to the mean unemployment of Nepal. This implies that the regression line almost has a zero slope concerning remittances. Indeed, even though remittance as a percentage of GDP increased from around 11% in 2002 to 27% in 2016 and even higher in 2024, the unemployment rate remained almost unchanged. Remittances in Nepal seem to have compensated for the shock to household income but not employment from workers' emigration, even though important external resources have been injected into Nepal. Underemployment, a low female labor force participation rate, and lack of job creation in the domestic labor market remain structural issues (Shrestha, 2017). The findings support the view that remittances alone are not sufficient

to generate broad-based employment benefits, unless they are channelled to productive investment in a conducive business environment (Sapkota, 2013).

In Tajikistan, a 1 percentage point increase in remittances as share of GDP results in a 0.043 percentage point increase in unemployment (regression coefficient is positive and statistically meaningful, $\beta = +0.0430$). Although the coefficient is small, the effects are large as remittances are not constant across the time period. If remittances increase by 30 percentage points, this model predicts that unemployment will increase by 1.3 percentage points. Given that unemployment rates in these surveys were between 10% and 12%, this seems reasonable. The intercept term of around 10.32 indicates that the unemployment rate is expected to be around 10%, while remittance levels at 40% of GDP would be predicted to increase that to around 12%. The model's R2 of 0.409 indicates that changes in remittances can explain approximately 41% of changes in unemployment. The positive relationship indicates that remittances did not create sufficient employment opportunities. Also, in the labor market, a possible reason for the lack of large decline in labor supply is Dutch disease resulting from large remittance inflows, which can lead to an appreciation in the real exchange rate that makes labor-using tradable sectors less competitive (Mahmood, 2019). Households receiving remittance income may be less willing to take up low-paid domestic jobs (Atoev, 2020).

The country regressions together suggest that remittances do not necessarily have negative effects on employment rates. In Kyrgyzstan, the only country where an effect of remittances on unemployment is found, emigration and remittance inflows helped to defuse pressure on existing labor market conditions. In Moldova and Tajikistan, the reverse relationship was observed where remittances failed to absorb excess labor supply and even discouraged labor supply as unemployment rose along with remittances. In Nepal, where remittances grew considerably, unemployment did not change much, suggesting a less clear link between remittances and labor supply.

These variations are likely due to differences in demographic characteristics, migration, domestic production returns and labor market institutions. In Kyrgyzstan, for example, the bulk of an underemployed labor market may have emigrated while remittance-financed spending may be fuelling domestic demand. Although Tajikistan's population was growing and relatively young, thus continuing to place pressure on the economy, depopulation and outmigration helped to decrease unemployment in Moldova once the labor force began to shrink. In either case, high unemployment during this period may be the result of a combination of the skills of the labor force and structural imperfections in the labor market. According to this comparison, lower labor supply does not imply full employment, because this

depends on who will migrate, how remittances will be used, and whether productive employment can be created in the country of origin based on migration income.

Pooled fixed-effects regression

Table 4 shows the pooled regression analysis across the entire sample. Dummy variables for Moldova, Nepal and Tajikistan are included in the estimation, with Kyrgyzstan acting as the reference category. This model asks whether variation of remittances within a country is associated with variation of unemployment, holding fixed country effects.

Table 4: Pooled regression with country fixed effects

Variable	Coefficient (B)	Std. Error	t-statistic	Significance
Constant (baseline for KGZ)	5.782	0.429	13.476	$p < 0.001$
Remittances (% of GDP)	-0.0071	0.015	-0.464	$p = 0.644$
Dummy for Moldova	-0.253	0.357	-0.708	$p = 0.481$
Dummy for Nepal	4.997	0.358	13.957	$p < 0.001$
Dummy for Tajikistan	6.045	0.374	16.142	$p < 0.001$

Model $R^2 = 0.877$, Adj $R^2 = 0.870$, $F(4,71) = 126.6$, Sig F < 0.001

Note: Reference category for dummies is Kyrgyzstan; thus the constant 5.782 represents

The unemployment level in Kyrgyzstan when remittances and interactions are at 0. The dummies indicate what the intercept is for each country relative to Kyrgyzstan. The remittances coefficient is the same for all countries in this fixed-effects model.

The coefficients for the country dummies for Nepal and Tajikistan in the last column of Table 4 are both meaningful, which implies that rates of unemployment in these two countries are much higher than Kyrgyz unemployment (the baseline). The constant term recorded in the same column indicates that Kyrgyz unemployment was around 5.8%, without remittances. The Moldova dummy of -0.253 (not important) indicates that but for remittances Moldova should have a natural unemployment rate 0.25 points lower than Kyrgyzstan's. Thus Moldova and Kyrgyzstan have similar unemployment rates. The dummy for Nepal is 4.997, indicating a natural unemployment rate 5 percentage points higher than Kyrgyzstan (Kyrgyzstan ~5%, Nepal ~10%). So the coefficient for Tajikistan's dummy is +6.045, about 6 points higher than Kyrgyzstan's base level (consistent with KGZ ~5% TJK ~11%). Regardless of remittance levels, labor underutilization is projected to be higher in Tajikistan and Nepal than in Kyrgyzstan and Moldova, due to structural characteristics in these labor markets.

The most relevant result is the one for Remittances, B=-0.0071 and p=0.644. This suggests that once average cross-country differences are excluded remittances do not appear to have any systematic statistical effect in the unemployment of these countries, either positive or negative. In other words, controlling for cross-country

variation, remittances do not have a consistent influence on a country's unemployment rate; for some countries remittances reduce unemployment, for others they actually cause unemployment to increase. In the aggregate, however, the net effect is negligible, which is hardly surprising given that remittances are unlikely to be an unequivocal means to plug labor market gaps and the effects are likely to vary by context. This model has a high R^2 (0.877) because it captures large between-country variation. However, the model shows remittance does not do much of this once we include country FE. This is important. You cannot really generalise that remittances will always decrease or increase unemployment. The effect in a particular country on its labor market or something else is specific to the country, and the remittances may have other effects that are country-specific.

The pooled results suggest remittances do not automatically fill reductions in labor supply. In the case of Kyrgyzstan, they did, in the case of Nepal, they did not, and in the case of Tajikistan and Moldova, the opposite occurred. This means that unless country-fixed effects are accounted for, an increase in remittances of one country cannot be expected to always reduce unemployment in that country. The findings of Carare et al. (2024) are consistent with remittances being a partial offset to unemployment created by emigration: differences in country unemployment rates are explained by characteristics of a country (demographics, economic diversification, governance) which determine the potential amount of labor that a country can absorb (captured by country-fixed effects). Remittances are a secondary factor which are sometimes helpful and at other times neither helpful nor harmful.

In Table 5, we summarise the main findings of the correlation and regression analyses for each country and relate them to the notion of 'labor market gap compensation'.

Unemployment is not the only gap in the labor market, and in some countries, such as Nepal and Tajikistan, it is not the largest. In this way, remittances allow the underemployed to remain underemployed instead of unemployed. For example, since the underemployed person is not unemployed because they work a few hours on the family farm, remittances might keep that person working informally on the family farm if not working formally in the labor market. In that sense, remittances may be hiding, rather than closing, the labor gap, however.

Table 5. Summary of remittance impact on labor market by country

Country	Effect of remittances on unemployment	Interpretation in terms of labor gap compensation
Kyrgyzstan	**Negative effect:** higher remittances → lower unemployment (significant)	Remittances *helped compensate* for labor loss; emigration reduced surplus labor and remittances boosted domestic jobs somewhat.
Moldova	**Positive effect:** higher remittances → higher unemployment (significant)	Remittances did **not** fill the labor gap; possibly worsened it by encouraging withdrawal from work or not creating jobs.
Nepal	**No clear effect:** remittances ↑ with no change in unemployment (not significant)	Remittances compensated incomes but *not labor gaps*; unemployment remained unchanged, indicating no impact on job availability.
Tajikistan	**Positive effect:** higher remittances → higher unemployment (significant)	Remittances did **not** compensate labor loss; labor utilization stayed low or even declined as remittance income grew.

In accord with published comparative research, these results suggest that remittances cannot resolve structural labor market problems. In the best-performing case (Kyrgyzstan), remittances have at least absorbed the open unemployment generated during the transition. In the end, productive jobs that remove incentives to emigrate in the first place are essential. In Tajikistan, this leads to disincentivization of entering the domestic labor market and investing in human capital. In this worst-case scenario the bulk of working age adults are economically inactive, even though the remittance receipts amount to billions of dollars.

If the government wants to upgrade remittances into better labor market positions, it needs additional policies to use remittances to invest in firms (i.e., to make firms more productive), to stimulate structural change by shifting the economy from consumption to production, to train labor to work in new industries when they return or remain on the home front, etc. Otherwise remittances will be spent on consumption, fill the foreign exchange gap, and be a form of insurance for the individual household, but little more.

7. DISCUSSION: DO REMITTANCES COMPENSATE FOR EMIGRATION'S LABOR GAPS?

Overall, it appears that the answer is, however, only partially, and not uniformly, yes. Remittances do bring capital to the emigrants' home countries, with clear effects on poverty. They also lead to indirect employment. For example, in Kyrgyzstan, mass emigration and large inflows of remittances were associated with a sharp drop in unemployment. In that narrow sense remittances (in the form of exported unemployed labor and sent back home money) compensated for the lack of jobs domestically, i.e.,

jobs were found abroad but money was sent home. However, this is a short-term solution to an underlying imbalance in labor demand and supply. Kyrgyzstan has historically had low unemployment, but some labor shortages have been expressed in specific sectors, and reliance on remittances as a source of GDP growth and rural household income (World Bank, 2020). In other words, the labor gap isn't necessarily unemployment, but a lack of available workers in the local economy which can cut growth.

This is also the case in Nepal and Tajikistan, where recent studies show low labor-force participation rates and wide-ranging reliance by families on their remittances. However, we found that remittances did not lead to lower unemployment or more people re-entering the labor force back home. Indeed, remittances seem to have sustained the labor gap without bringing local economies to abject poverty. Remittances help maintain families in countries where opportunities for domestic employment are rare. This can also reduce pressure on governments to invest in job creation domestically (a negative because the status quo of exporting labor is maintained) but it has the positive effect of preventing extreme poverty. Tajikistan's remittance/GDP ratio is one of the highest in the world (over 45% in 2024) and one of the lowest employment to working age population ratios in the world, with fewer than half of the working age population employed or searching for work (World Bank, 2024). This is further evidence of a weak domestic labor market, although they are not able to make up for human capital loss.

The case of Moldova is similar and it was flooded by remittances in the 2000s. Few industrial enterprises survived the Soviet Union's collapse, and the rural economy depended on remittances and subsistence agriculture. Unemployment was relatively high until later reforms and continued emigration reduced the size of the labor force. Although unemployment fell, this was mostly because so many Moldovans of working age had left or given up looking for work. However, while remittances raised consumption and living standards (Miklós, 2019), they did not generate enough demand for local job creation or domestic business investment. Only recently, in tandem with the opportunities of European integration and foreign investment, Moldova has sought to attract some of the diaspora back for the IT and services industries.

In summary, then, remittances do not necessarily provide a surplus of labor to replace the workers who leave with their labor they have lost. Remittances do provide a surplus of cash for households (more money to spend in the household), but not a surplus of labor in the labor market (i.e. fewer workers producing goods and services locally or remaining workers without a sufficient number of jobs). A subtlety is that the net joint effect of emigration and remittances on labor force participation is slightly negative (Carare et al., 2024) because emigration takes people out of the labor

force and remittances induce others to work less. The net effect of remittances on the unemployment rate is ambiguous (decrease/stay the same/increase) because of the uncertainty of who is emigrating (the unemployed or the employed) and the labor supply of those at home.

As we have seen above, even with this simplified SPSS, there is no single universal pattern. Policymakers in high-emigration countries should not assume that their work is finished when high volumes of remittances begin to arrive. They also enter the "remittance trap", wherein a country's economy becomes so reliant on labor exports and remittances that a competitive labor market does not develop (Abdih et al., 2012). If remittances fall, for example during a recession at the receiving end, or if migrants do not remit home anymore later on, then the country that did not develop itself will find itself with its labor supply diminished by emigration and a big, sudden negative shock to its income due to the fall in remittances. Thus, fixing the labor market gap would require remittances to be used to build human capital and industries (invest in areas such as education, small businesses, and other infrastructure) in the host countries, which does not happen automatically but can be encouraged through the right policies (Giuliano & Ruiz-Arranz, 2009).

Finally, there is the human perspective. This should not be lost in the numbers. Families in the main study countries may have ambivalent feelings about family members abroad. While family abroad are sometimes a source of pride, this may result in the separation of family and the loss of skills and opportunities. The labor market gap is large and visible (empty villages with mostly old people and children, sectors that lack certain professionals) and remittances keep them alive, partly compensating for the humanitarian toll of having so many people leave. However, it can obstruct development of those localities (Wadsworth, 2018).

In conclusion, our evidence shows that remittances do some compensating, but are insufficient to cover the labor market gap that emigration leaves in its wake. They do help pay some of the bills, and can alleviate unemployment under certain conditions, but will not replace a functioning domestic labor market. In terms of labor market stabilisation, remittance-based policies can only be a partial band-aid at best: the only way to ensure that any remittances are truly an optimum solution is to transform their potential (skills, savings, networks and remittances) into job creation and growth at home, thus reducing the need to migrate.

CONCLUSION

In many cases, large-scale emigration from developing countries may cause labor market problems in the home country, such as so-called "labor market gaps": jobs that cannot be filled due to the loss of emigrated workers. One important question is whether remittances can fill these gaps. We examine the impact of remittances on the labor market over the last twenty years within four remittance-dependent countries (Kyrgyzstan, Moldova, Nepal and Tajikistan). Our estimation suggests that, whilst remittances may support the economy, they are not sufficient to replace the loss of labor in the economy caused by migration.

The only country where the impact of large rates of remittance flows on the labor market can be said to be clearly positive (in terms of reduced unemployment) is Kyrgyzstan. It appears that emigration in the case of Kyrgyzstan absorbed excess labor supply and that remittances helped to stimulate enough economic activity to employ those still left in Kyrgyzstan; where remittances do indeed seem to have somewhat "filled the gap." Still, remittances did help to drive Kyrgyzstan into extreme dependence on foreign income, and exclusion of many potential workers.

In the other two case studies, the more common outcomes are observed. In Nepal, unemployment was low, as it was before the boom in remittances. In Tajikistan and Moldova, unemployment/high labour non-participation rates coincided with the spike in remittances. This indicates that neither the 'pull' effect nor the vacancy effect materialised. Rather, remittances appear to have loosened the domestic supply of labour. People sometimes rejected undesirable jobs back home because they could afford it through remittances. The labour market gap created by migration whether a surplus of youth, labour shortages among skilled workers or general underemployment was not bridged by remittances. Instead, the income flows papered over the gaps, even as the structural weaknesses remained dormant yet real.

These findings, from a macro or aggregate perspective, echo what has been said about remittances in development economics in general: remittances are an important source of household resilience and macroeconomic stability, but do not substitute structural reform in weak labor markets (Ratha 2013). Remittances are used to increase consumption and balance of payments. Millions of households also use remittances to improve housing, education, and health outcomes with the additional income. However, it does not replace the country's human capital. The country cannot simply "import" development via remittances, and development in the country can only happen when human capital is used.

So what are the implications of these findings for policy and research? For policy-makers in high-emigration countries, the challenge is to use remittances to create more opportunities at home so that work abroad is a choice, not a necessity. These may include remittance-receiving entrepreneurship incentives (ie small business loans, matching investment programs), place-based incentives to make the business environment more amenable to diaspora investments, training for human capital development, encouraging returnees, or increasing workplace opportunities for those who stay behind (ie if skills shortages exist) (Guiliano & Ruiz-Arranz, 2009). Labor market policies may be warranted where waiting for remittances means individuals exit the labor force. Part-time work programs, or community development work schemes widely appealing to remittance-receiving families, might help prevent a loss of work culture and the use of worker skills (Guiliano & Ruiz-Arranz, 2009).

More fine-grained data on labor underemployment and participation would be useful: Nepal is again a case in point that low unemployment is not always a good indicator, as it masked high outflows and decreasing participation rates. Another potential avenue for further work would be to focus on the direct relationship between remittances and labor market outcomes, at a more disaggregated level. Micro-level applications (household surveys) show for instance that remittance-receiving households tend to reduce their input into labor-intensive farming (as they can afford not to) allowing for the scaling up of findings in the micro-level domain to gain understanding into the national effect on labor use (Azizi, 2018).

To summarise, remittances do not replace the labor that has left a country, but they do cushion the labor-migration process, and are associated with many positive development factors (including reduced poverty, higher standards of living, and even macroeconomic stability). However, it is often found that there are still gaps in the labor market (missing professions or youth sitting at home, waiting for a chance to join those going abroad). Emigration and remittances should create a virtuous cycle, whereby migrants return with new skills and savings, and invest in and start up businesses in the origin country. The home economy grows and the families of migrants build up their human capital. Even in our countries, that cycle is only weakly in motion. Kyrgyzstan, Moldova, Nepal, and Tajikistan have also made progress, but none has done so in a manner that even comes close to replacing the labor it has sent abroad.

The answer is simple: remittances can only go so far in compensating for labor market failures. They can act as a safety net but cannot substitute for good domestic economic management and the creation of decent jobs in the recipient country. However, countries that experience labor emigration must ultimately provide stable employment

opportunities in their own country, which is what remittances can help build, but not what they are guaranteed to provide.

Author Contributions

Conceptualization, F.M.M. and V.Z.R.; methodology, F.M.M. and V.Z.R.; software, F.M.M.; validation, F.M.M. and V.Z.R.; formal analysis, F.M.M.; investigation, F.M.M. and V.Z.R.; resources, F.M.M. and V.Z.R.; data curation, F.M.M.; writing, original draft preparation, F.M.M.; writing, review and editing, V.Z.R.; visualization, F.M.M.; supervision, V.Z.R.; project administration, F.M.M. and V.Z.R. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

REFERENCES

Abdih, Y., Barajas, A., Chami, R., & Garg, A. (2012). Remittances and institutions: Are remittances a curse? World Development, 40(4), 657-666. //dx.doi.org/10.1016/j.worlddev.2011.09.014

Amuedo-Dorantes, C., & Pozo, S. (2006). Migration, remittances, and male and female employment patterns. American Economic Review, 96(2), 222-226.

Asiedu, E., & Chimbar, N. (2020). Impact of remittances on male and female labor force participation patterns in Africa: Quasi-experimental evidence from Ghana. Review of Development Economics, 24(3), 1009-1026. //dx.doi.org/10.1111/rode.12668

Azizi, S. (2018). The impacts of workers' remittances on human capital and labor supply in developing countries. Economic Modelling, 75, 377-396. //dx.doi.org/10.1016/j.econmod.2018.07.011

Ademe Ayalew, H., & Mohanty, P. C. (2022). Do remittances affect labour participation decisions and hours worked? Evidence from Ethiopia. Cogent Economics & Finance, 10(1), 2093821. //doi.org/10.1080/23322039.2022.2093821

Barajas, A., Chami, R., Fullenkamp, C., Gapen, M., & Montiel, P. (2018). The Global Financial Crisis and workers' remittances to Africa: What's the damage? (IMF Working Paper 10/24). //dx.doi.org/10.5325/jafrideve.12.1.0073

Borjas, G. J., & Cassidy, H. (2020). The adverse effect of the COVID-19 labor market shock on immigrant employment (No. w27243). National Bureau of Economic Research.

Boubtane, E., Coulibaly, D., & Rault, C. (2013). Immigration, growth, and unemployment: Panel VAR evidence from OECD countries. Labour, 27(4), 399-420. //dx.doi.org/10.1111/labr.12017

Carare, M. A., Baratas, A. F., Kilembe, J., Hadzi-Vaskov, M., & Zhang, W. (2024). The Joint Effect of Emigration and Remittances on Economic Growth and Labor Force Participation in Latin America and the Caribbean. International Monetary Fund.

Chami, R., Hakura, D. S., & Montiel, P. J. (2012). Do worker remittances reduce output volatility in developing countries?. Journal of globalization and Development, 3(1), 1-25. //dx.doi.org/10.1515/1948-1837.1151

Dhakal, S. C., & Paudel, A. (2023). Remittance in Nepal: Status, trend and economic impacts. Malaysian Journal of Sustainable Environment, 2(1), 52-60. //dx.doi.org/10.26480/bedc.02.2023.82.90

Giuliano, P., & Ruiz-Arranz, M. (2009). Remittances, financial development, and growth. Journal of Development Economics, 90(1), 144-152.

Kazimov, S. E. (2025). More than just unemployment: How the fear of not finding a job shapes life satisfaction in Azerbaijan. The Journal of Economic Sciences: Theory and Practice, 82(1), 52–69. //doi.org/10.30546/jestp.2025.82.01.061

Niftiyev, I. (2020). Descriptive analysis of employment in Azerbaijan: Possibilities of the Dutch disease. The Journal of Economic Sciences: Theory and Practice, 77(1), 100–112.

Guiliano, P., & Ruiz-Arranz, M. (2009). Remittances and the problem of dependence. Economic Inquiry, 47(1), 111-119.

Jackman, M. (2014). Remote returns: The impact of remittances on labor supply and employment in the Caribbean. International Migration, 52(6), 104-118.

Jardoui, O. (2020). Do remittances reduce labor force participation in Tunisia? Middle East Development Journal, 12(2), 262-282.

Karamba, W., Quiñones, E., & Winters, P. (2019). Migration and food consumption patterns in Ghana. Food Policy, 83, 138-150. //dx.doi.org/10.1016/j.foodpol.2010.11.003

Kartošnja, J., & Rahmon, S. (2020). Remittances and labor supply in Tajikistan. Transition Studies Review, 27(2), 217-234.

Kireyev, A., Leonovich, M., & Pivneva, E. (2017). Remittances in the CIS: Responding to the downturn. European Bank for Reconstruction and Development Working Paper.

Kupets, O. (2012). The development and the side effects of remittances in the CIS countries: The case of Moldova. CARIM-East Research Report 2012/02.

Mahmood, T. (2019). Remittances, Dutch disease and competition: A case study of Tajikistan. Transition Studies Review, 26(1), 3-16.

Meyer, D., & Shera, A. (2017). The impact of remittances on economic growth: An econometric model. EconomiA, 18(2), 147-155.

Miklós, R. (2019). Labour migration and remittances: Moldova's trade-off. Eastern Journal of European Studies, 10(2), 257-276.

Nguyen, M. C., & Purnamasari, R. (2019). Impacts of international migration and remittances on child outcomes and labor supply in Indonesia: How does gender matter? World Development, 65, 146-160.

Nwokoye, E., & Solanke, O. (2020). Do remittances alter labor force participation in Nigeria? Journal of Economics and Business, 72, 103-121.

Pant, B. (2011). Harnessing remittances for productive use in Nepal. NRB Working Paper. //dx.doi.org/10.3126/nrber.v23i1.52747

Ratha, D. (2013). The impact of remittances on economic growth and poverty reduction. Migration Policy Institute.
Sapkota, C. (2013). Remittances in Nepal: Boon or bane? Journal of Development Studies, 49(10), 1316-1331. //dx.doi.org/10.1080/00220388.2013.812196

Shrestha, M. (2017). The impact of large-scale migration on poverty, expenditures, and labor market outcomes in Nepal. World Bank Policy Research Working Paper No. 8232. //dx.doi.org/10.1596/1813-9450-8232

Sousa, J., & García-Suaza, A. (2018). Remittances and labor force participation in Colombia. Revista Desarrollo y Sociedad, 80, 13-45.

Wadsworth, A. (2018). Left-behind communities: How emigration is reshaping rural societies. In Migration and Development (pp. 225-242). Springer.

World Bank (2020). Kyrgyz Republic: Labor Mobility and Skills. Report No. 155444-KG.

World Bank (2024). Tajikistan: Country Economic Update – Summer 2024. Washington, DC: World Bank.

World Bank (2025). World Development Indicators. Washington, DC: World Bank.