

## REMITTANCES, MIGRATIONS INTENTIONS, AND LABOUR PARTICIPATION IN KOSOVO<sup>3</sup>

*This paper examines the intricate nexus between remittances, migration, and the labour force. It aims to enlighten the interplay of migration and remittances, analyzed in isolation, and their collective impact on the labour market across varying demographical strata. This analysis assumes particular pertinence for Kosovo, characterized by a notable intensity of migration fluxes and remittances. This study uses biprobit techniques to alleviate the endogeneity inherent in remittance and migration to evaluate the correlation between those and the labour force. The empirical data from the Millennium Century Corporation's survey was conducted in Kosovo in 2017. According to the findings, remittances and migration have a significant role in shaping the dynamics of the labour force, affecting inequalities across gender, age, and educational attainment. We surfaced compelling evidence of the disincentivizing ramifications of remittances vis-à-vis the labour force.*

*Keywords: Migration; Remittances; labour Force Participation*

*JEL: F22; J61; O15; R23*

### 1. Introduction

The migration dynamics, precipitating impetuses, and the fiscal significance of remittances matching with labour participation, constitute a central theme of this analysis. This segment functions multiplicatively, enriching the core dissection of this paper, which emphasizes the validity of the domestic purview in representing migration conduct within Kosovo. Initially, this partition foregrounds the salience of the investigative objectives that shall be pursued in successive evaluations. Concomitantly, it provides a foundational environment for constructing rigorous models of migration patterns, thus offering a critical backdrop for considering the eventual findings.

According to the data on migrant movements after 1999, it has been observed that emigration from Kosovo attained its zenith during 2014 and 2015 and was predominantly characterized by its illegal nature (Eurostat, 2019). According to recent data from ASK (2022) and Eurostat

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(2019), there has been a decline in the population of undocumented migrants since 2015; nowadays, migration is predominantly lawful and is motivated by family reunification, employment, and education (Kastrati et al., 2022). Despite Kosovo's consistent economic growth and transition to the upper middle-income, many emigrants from Kosovo desire to leave in search of improved employment opportunities.

Most Kosovan migrants are predominantly in Western European nations, with minor factions residing in other countries. The majority are in Italy (24.4%), Germany (20.3%), and France (15.6%), as per the International Organization for Migration (IOM) 2022 report 'Flow monitoring surveys' report Kosovo'. This distribution resonates with the contractual emigration pattern in the last decade. The 2022 IOM survey reaffirms that Italy, Germany, and France remain the preferred destination countries among Kosovar emigration. This prevailing trend is hardly unexpected, given the likely influence of network effects created by existing migrants (IOM, 2022).

The fiscal contributions induced by transnational labourers via remittances constitute a pivotal revenue stream for Kosovo's economic infrastructure. According to the World Bank's 2022 data, Kosovo witnessed personal remittances of over 1.5 billion US dollars in 2022, accounting for more than 18% of Kosovo's GDP. The World Bank's data further underscores a significant increase of more than 50% in remittances in 2022 compared to 2012. The majority of these remittances are from Germany and Switzerland, compiling to more than 39.2% and 18.9% of the total remittances sent to Kosovo (World Bank, 2022a; World Bank, 2022b; Central Bank of Kosovo, 2021).

From 2012 to 2021, the workforce participation ratio was 39.7% on average, while a mere quarter of the populace of employable age was engaged. Notably, the state of affairs within the labour market has maintained a conspicuous constancy after 2012, an era marked by a proliferation of public expenditure. As of 2021, the three critical labour market indices – workforce participation, employment, and unemployment – have sustained a uniform movement (Kosovo Agency of Statistics (KAS), 2021). Potential determinants precipitating the low participation rates can be addressed with the low levels of female participation, the consequences of which are subsequently, or potential underestimations of the actual rates attributed to the extensive subterranean economy or the enhancement of the minimum wage due to remittances (OECD, 2022).

According to the International Monetary Fund (2023), OECD (2022), and World Bank (2023), to achieve a reduction of the current unemployment in the next ten years, Kosova would need to grow at about 5 % annually and 1.5% annual increase in the labour force participation rate, and growth to productive employment elasticity of 1.2%. Private-sector employment has expanded continuously after the war. The expansion was considerable in hotels, restaurants, and construction industries. As expected, the number of construction enterprises increased by more than 30% from 2013 to 2022, mainly due to the large construction projects financed by the Kosovo government (Kosovo Agency of Statistics, 2022).

The suppressed youth labour force engagement can be traced to various socio-economic determinants. These include the normative cultural values that prescribe domestic and familiar obligations as the primary responsibility of women, the deficiency of affordable and

easily accessible childcare facilities, the reluctance of private sector employers who view training leave as a burdensome financial liability, and the stringent access to opportunities for investment and finance (RCC, 2021).

In light of experiences relating to migration and associated remittance flows controlling Kosovar family units and the enhancements in labour market dynamics, the lack of any perceivable surge in labour market involvement among the youth demographic throughout the last two decades presents a disjuncture. This presents Kosovo as a compelling subject for research, thereby prompting the construction of the research query: ‘How do remittances and migration patterns shape labour market participation, influencing economic transformations within the social structure of Kosovo’.

The structure of the current discourse unfolds as follows: The next section elaborates on the previous empirical research that bears relevance to the study, followed by a rigorous analysis of the dataset and methodological approach in the third section. The next part explores the critical drivers of the labour force disparity, employing the Bivariate probit analysis proposed by Li, Poskitt, and Zhao (2019). Subsequently, this paper presents the findings on the impact of migration movements, remittances, and prevailing social norms on labour force participation. Finally, this paper concludes with an introspective discussion of the essential findings and their policy implications.

## **2. Literature Review**

Given the theoretical ambivalence of the impact of remittances and migration movements on labour forces, it is hardly surprising that empirical evidence remains uncertain. The diverse empirical narratives align predictably with the observed heterogeneity across academic efforts concerning economic modelling, methodological approaches, and the distinct socio-economic and cultural idiosyncrasies of the nations under examination. Recognizing this significant diversity, we have structured our appropriate literature aligned with economic models to furnish a robust basis for our empirical analysis. Our meta-analytic review has divided the inquiries into three categories: those attributing consideration to remittances, migration, and incorporating remittances and migration. We comprehensively evaluate the empirical methodologies within each sector and compare their respective empirical findings. This ongoing study underscores youth economic empowerment and intends to examine the influence of remittances and migration on labour participation.

Considering the income effect, remittances have been presented to wield influence over the minimum wage and the opportunity cost of leisure and productivity. This effect results in a decline in the labour market participation rate. This dynamic is typically identified as the ‘disincentive effect’. Remittances are deemed decoupled from the risk attached to income accrued in one's native country and statistically differentiated from it (Finkelstein Shapiro, Mandelman, 2016; Kotorri, Krasniqi, Dabic, 2020; Cummings, Deeds, Vaaler, 2019; Olney, 2015).

In the realm of interest under scrutiny, Stuart's (2010) deployment of ‘Probability with Replacement’ (PWR) furnishes an analytical approach to grapple with the dilemma of self-

determined migration. This methodological approach sanctions a comparison grounded in observable characteristics, neglecting the endogenous relationship linking remittances and labour participation. This analysis identified empirical substantiation advocating for the influence of remittances broadly and individually for each group. Some studies have unveiled that remittances tend to attenuate labour participation for both sexes while augmenting self-employment rates (Vadean, Randazzo, Piracha, 2019; Dey, 2022; Kalaj, 2013; Maslii et al., 2022).

Furthermore, some research unveiled a significant surge in self-employment opportunities within Tajikistan attributed to the escalating influx of remittances. Based on the empirical evidence from Vadean, Randazzo and Piracha (2019), there is a positive correlation between the remittances received and self-employment. The analysis revealed a significant remittance propensity with an augmented engagement in domestic responsibilities.

In this divergent empirical analysis, Charbonneau (2012), Ullah, Akhtar and Zaefarian (2018) and Mannan and Fredericks (2015) improve the endogeneity dilemma by applying a fixed effects methodology to panel data. The implications of the investigation underscore that females in households receiving remittances exhibit an increased propensity to participate in on-farm endeavours. While exhibiting adverse tendencies, the male demographic remains statistically inconsequential. The researcher has found that remittances precipitate detrimental effects exclusively within male self-employment. However, it is worth noting that these studies acknowledge panel analysis's constraints. While this technique proves efficacious in addressing the unobserved heterogeneity that is essentially time-varying within the confines of a household, it neglects to account for the corresponding time-varying unobserved heterogeneity factors potentially affiliated with the dynamics of labour supply.

Several economic theorists utilize a refined model of remittance effects and benefit responses to tackle the inherent endogeneity issue, a methodological advancement diverging from earlier studies. In examining the empirical findings, remittances predispose single individuals to part-time employment. A finding stratified based on gender revealed that the probability of participation decreases with the receipt of remittances for males and females. Nonetheless, this impact is exclusively among females who inhabit economically deprived households (Jadotte, 2009; Rivers, 2011; Petreski, 2019; Rapoport, 2016).

Merla (2013), Du, Park and Wang (2005), Fresnoza-Flot (2014), Carletto and Mendola (2009) argue that migration patterns could incite modifications in allocating obligations and the concentration of decision-making authority within family structures. This could precipitate a transmutation in labour force dynamics, increasing economic agency among young affiliates. Consequently, in the circumstances characterized by male diaspora, female constituents may find themselves compelled to recalibrate their time between vocation and providing care for their family. This realignment may enhance their discretion over familial resources, potentially accruing tangible advantages. In this context, female members would be further allowed to strategize optimizing returns on their labour investments. In particular, this phenomenon may be more pronounced when decision-making is non-cooperative due to insufficient oversight by migrant members and in societal structures that adhere steadfastly to conventional norms (Murard, 2021; Carletto and Mendola, 2009).

Studies employing the methodology of propensity score matching have produced diverse results. Through their study, Agasty and Patra (2014) demonstrated that when the sample was constrained to Odisha, Indian women, there was an increase in the likelihood of gainful employment for these women across urban and rural areas, a phenomenon attributable to male migration. Moreover, it was clarified by the researchers that women who are domiciled in households characterized by migration, especially those located in rural environs, display a high propensity towards involvement in labour force orientation, but their probability of engagement in such subsistence tasks exhibits a relative diminution within rural landscapes.

The findings persist as ambivalent even within studies that adopt the instrumental variable technique. In line with these studies, the effects of residence within migrant households in rural areas appear inconsequential concerning the probability of male and female participation in activities outside of farming (Taylor, Lopez-Feldman, 2020; Halliday, 2021). Further, these studies found an upsurge in female commitment to agricultural tasks and increased involvement of males in domestic labour due to migration. Agasty and Patra (2014) utilised a set of Odisha Indian women as their sample and implemented parametric and non-parametric instrumental variable methodologies. Their study suggested a favourable correlation between migration and the likelihood of subsistence labour within urban locales whilst presenting a positive impact on the propensity for uncompensated labour within rural areas.

The extant literature characterized by an empirical exploration into intra-group and inter-group dynamics presents ambiguous results, which may be attributed to disparities in economic paradigms, econometric procedures, and geographical entities. This research thoroughly investigates the abovementioned subject, focusing specifically on data procured from MCC Kosovo 2017. By doing so, it offers substantial enrichment to the existing corpus of knowledge concerning the import of migration and remittances about labour force involvement through multiple channels. Another feature of this study involves the application of the Bivariate Probit model to analyse the relationship between labour force participation, remittances, and migration. This study represents the inaugural effort to surmount the restrictions endemic to Instrumental Variables, Probit, Ordinary Least Squares, and Fixed Effect Panel data methodologies confronting the quandary of endogeneity of the three variables. In the next part, this study incorporates metrics for subjective constituents that delineate the ramifications of individual dispositions towards the disparities in decision-making authority within domestic environments on labour force involvement. The research underscores the function of migration and remittances in expediting economic transformations for their bearing on labour force participation.

### **3. Methodology Framework**

The empirical evidence of this analysis is extracted from the labour Force and Time Use Survey (LFTUS) 2017. This study selected 5520 individuals who engaged in comprehensive discursive interactions. Guided by the objectives of the research inquiry, the empirical analysis was bounded to these individuals who offered input into the extended interview. The evaluation of the survey's quality is inherently contingent upon the number of residential

units engaging in the research and their capacity to faithfully represent the broader populace regarding geographical distribution, degree of urbanization, ethnic constitution, gender, and other significant individual characteristics.

The empirical framework of this study is predominantly structured around two primary measures: the incidence of labour force participation and the categorization of employment status. The first measure is represented as binary data, which indicates that roughly 51.89% of the survey participants are involved in labour activities. Concurrently, the second measure transforms from a categorical to a binary construct indicative of the specified employment category.

The domains of remittances and migration are extrapolated from two salient areas of inquiry: the incidence of the respondents' receipt of remittances over the preceding year and their migration aspirations. The ensuing results divulge that approximately 22.28% of the 5520 respondents have been recipients of remittances, and a subset equivalent to 14.60% possess migration prospects soon (see Table 1).

**Table 1. Descriptive Statistics**

Variables	Observation	Mean	Standard Deviation	Min	Max
sdls n	29195	0.519	0.5	0	1
rc rem tot	5520	0.223	0.416	0	1
rem abr f	5520	0.146	0.353	0	1
rc ps age	29195	40.098	18.481	15	86
ps sex	26127	0.502	0.5	0	1
ea ur	29195	0.6	0.49	0	1
ps student	29195	0.172	0.378	0	1
rc income hh	5520	5547.642	5984.904	0	52503
rc ed highest nfps	29195	0.051	0.22	0	1
rc ed highest pe	29195	0.072	0.258	0	1
rc ed highest lse	29195	0.338	0.473	0	1
rc ed highest usg	29195	0.152	0.359	0	1
rc ed highest usv	29195	0.257	0.437	0	1
rc ed highest psv	29195	0.028	0.164	0	1
rc ed highest ter	29195	0.086	0.281	0	1
rc ed highest pgd	29195	0.016	0.127	0	1

Source: Millennium Century Corporation, *Kosovo labour Force and Time Use Study Research Report*.

The present analysis elucidates the role of social paradigms in modulating labour force participation. We found that approximately 44.07% of the participants were male employees, compared to around 13.15% of female employees. Among the many implications, this demographic distribution presents the existence of patriarchal ideologies profoundly shaping the social fabric of Kosovo, notwithstanding the notable strides made over the past two decades. The examination unveiled that the average age for both genders stood at 40 years. Female participants constituted a proportionate share of the total sample, while a significant majority of the respondents, about 60.01%, resided in rural areas.

Analysing the educational attainment, this scholar uses four binary variables reflecting an individual's accomplishment of upper secondary general education, upper secondary vocational education, post-secondary vocational education, and education at the tertiary or

doctoral level. Women demonstrate a comparatively diminished education attainment compared to males, with a mere fraction of 7.7% of women holding tertiary qualifications compared to approximately 9.2% of men who have reached this academic zenith. However, the highlighted disparities seem to attenuate among young people, particularly those under 30 (see Appendix for more information on the variables).

The scholarly literature articulates arguments about the simultaneous determination of remittances and migration intentions concerning an individual's choice to partake in the labour market. The methodology in this paper is addressed by applying a bivariate probit model (biprobit), as it exclusively manages the endogeneity of two variables. The deployment of biprobit is solely directed towards ensuring the commensurability of the results with those gleaned from other scholarly pursuits.

The biprobit analytical approach estimates two distinct models, each composed of a pair of equations. *Model 1* encapsulates the decision of an individual to engage in the labour market and to receive remittances. *Model 2* addresses the individual's decision to join the labour market while planning to migrate. These models comprise dual equations wherein the binary dependent variables evaluate the probability of an individual's labour market involvement on one facet and the potentiality of receiving remittances in *Model 1* and migrating in *Model 2*. The implementation of the biprobit methodology finds its rationale in the binomial nature of the intertwined dependent variables. This approach mitigates complications associated with unobserved endogeneity, demonstrating its efficiency and appropriateness within the scope of the current analytical framework.

A reduced-form equation presents the basic specification of the bivariate probit model:

$$Y^* = X'\beta_Y + D_\alpha + \varepsilon_1, \quad Y = \mathbb{I}(Y^* > 0); \quad (1)$$

$$D^* = X'\beta_D + Z'\gamma + \varepsilon_2, \quad D = \mathbb{I}(D^* > 0); \quad (2)$$

where  $\mathbb{I}(\cdot)$  signifies the indicator function. From the equations above,  $X$  encompasses the shared covariates while  $Z$  houses the instrumental variables. The fundamental continuous latent variables, denoted as  $Y^*$  and  $D^*$ , are transformed into the discernible outcome  $Y$  and the observed (potentially endogenous) regressor  $D$  through threshold-crossing conditions. Consequently, the joint distribution of  $Y$  and  $D$ , conditioned on  $X$  and  $Z$ , denoted as  $P = (Y = y, D = d | X = x, Z = z)$  – which, for the sake of notational simplicity, is abbreviated to  $P^{y^d}$  comprises four components:

$$P^{11} = P(\varepsilon_1 > -x'\beta_Y - \alpha, \varepsilon_2 > -x'\beta_D - z'\gamma), \quad (3)$$

$$P^{10} = P(\varepsilon_1 > -x'\beta_Y - \alpha, \varepsilon_2 < -x'\beta_D - z'\gamma), \quad (4)$$

$$P^{01} = P(\varepsilon_1 < -x'\beta_Y - \alpha, \varepsilon_2 > -x'\beta_D - z'\gamma), \quad (5)$$

$$P^{00} = P(\varepsilon_1 < -x'\beta_Y - \alpha, \varepsilon_2 < -x'\beta_D - z'\gamma), \quad (6)$$

The probabilities articulated in these equations are conclusively defined once a joint distribution for  $\varepsilon_1$  and  $\varepsilon_2$  has been delineated. Subsequently, in possession of a dataset comprising  $N$  observations denoted as  $(y_i, d_i, x'_i, z'_i)$  for  $i = 1, \dots, N$ , the log-likelihood function can be computed accordingly.

$$L(\theta) = \sum_{i=1}^N \log P^{y_i d_i}(\theta) \quad (6)$$

Wherein  $P^{y_i d_i}(\theta)$  denotes the probabilities evaluated at the coordinates  $(y_i, d_i, x'_i, z'_i)$ . This highlights the dependencies of the probabilities on the parameter  $\theta$ , which encapsulates the coefficients  $\beta_D$ ,  $\beta_y$ ,  $\gamma$  and  $\alpha$  in addition to other undisclosed parameters of the joint distribution of  $\varepsilon_1, \varepsilon_2$  that necessitates estimation from the provided data.

The methodology above implements the biprobit approach by simultaneously tackling endogeneity in remittances and migration within the parameters of a single, unified model, as presented by Li, Poskitt and Zhao (2019). A composite model of these equations is subsequently calculated wherein the individual makes contemporaneous decisions about labour market participation, the receipt of remittances, and the intention to migrate. The study integrates three intertwined binary response variables designed to assess the probability of an individual's engagement in the labour market, the receipt of remittances, and the predisposition towards migration.

#### 4. Findings

This part provided the results of biprobit analytical techniques within the empirical examination. The conclusions will be delineated distinctly for each variable used, and findings derived from the analysis will be elucidated in the ensuing discourse.

##### 4.1. The bivariate probit model

Examine the theoretical propositions pertinent to the endogenous interpretation of migration and remittances within the structures of labour market outcomes; we can see from *Table 2* the findings extracted from the biprobit estimations. *Model 1* corresponds to the circumstance where the decision regarding labour force engagement transpires simultaneously with the receipt of remittances. *Model 2* aligns with the situation wherein choosing to partake in the labour force is implemented with migration plans. The results posit that their mental constructs and societal attitudes significantly sway Kosovans' labour supply determinations. Empirical data provides substantiation for the discouragement effect of remittances. However, the results are non-definitive concerning the impact of migration intentions. The findings from *Model 1* will be meticulously scrutinized in conjunction with the results of *Model 2* only in circumstances where significant variances are discernible. Moreover, gender-specific biprobit analyses will be periodically referenced throughout the text.

**Table 2. Bivariate Probit Model Regression Results for labour Force Participation**

Variables	Model 1		Model 2	
	Labor Force Participation and Remittances		Labor Force Participation and Migration Plans	
	sdls n	rc rem tot	sdls n	rem abr f
rc_ps_age	-0.044*** (0.002)	0.004** (0.002)	-0.044*** (0.002)	-0.033*** (0.002)
ps_sex	-1.495*** (0.048)	-0.051 (0.042)	-1.494*** (0.048)	-0.446*** (0.048)
ea_ur	-0.130*** (0.042)	0.151*** (0.040)	-0.130*** (0.042)	-0.011 (0.046)
ps_student	-1.457*** (0.467)	0.276 (0.509)	-1.463*** (0.465)	0.836* (0.491)
rc_ed_highest_pe	0.303* (0.155)	-0.126 (0.133)	0.305** (0.155)	0.011 (0.190)
rc_ed_highest_lse	0.418*** (0.138)	-0.118 (0.116)	0.418*** (0.137)	0.151 (0.164)
rc_ed_highest_usg	0.722*** (0.148)	-0.231* (0.129)	0.721*** (0.148)	0.084 (0.175)
rc_ed_highest_usv	0.985*** (0.142)	-0.192 (0.120)	0.980*** (0.141)	0.151 (0.167)
rc_ed_highest_psv	0.881*** (0.167)	-0.358** (0.155)	0.882*** (0.166)	-0.105 (0.216)
rc_ed_highest_ter	1.410*** (0.159)	-0.407*** (0.136)	1.407*** (0.159)	-0.105 (0.184)
rc_ed_highest_pgd	1.723*** (0.269)	-0.310 (0.204)	1.720*** (0.269)	0.026 (0.244)
rc_income_hh	0.001 (0.000)	0.001*** (0.000)	0.001 (0.000)	-0.001** (0.000)
Constant	2.427*** (0.176)	-0.881*** (0.149)	2.419*** (0.176)	0.521*** (0.192)
rho		-0.062 (0.028)		0.190 (0.033)
Likelihood-ratio test of rho=0; chi2 (1)=		4.892**		31.554***
Observations	5,519	5,519	5,519	5,519

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The labour supply's response to remittances is inherently unclear in its determination. The empirical results bolster the hypothesis, postulating a small effect in alignment with most scrutinized scholarly research. This signifies that remittances' reception results in an augmentation of the minimum wage among Kosovar individuals, thereby precipitating a diminished probability of their engagement in the workforce. Nevertheless, it is significant to highlight that the statistical pertinence of the coefficient about remittances is detectable exclusively within the framework of *Model 1*. The deductions derived from the gender-focused inquiry insinuate that remittances might induce a discordant influence on women, simultaneously functioning as a stimulant for men. Notwithstanding, it is incumbent upon us to remark that the coefficients do not demonstrate statistical robustness. *Model 1* offers substantiation supporting the disruptive effect hypothesis applicable to both genders, albeit with statistical relevance manifested solely in the male demographic.

Per the insights derived from *Model 2*, Kosovar individuals who have migration aspirations demonstrate a heightened propensity to participate in the labour market. This insinuates their inclination to enrich their human capital through vocational experience, potentially enhancing their likelihood of obtaining overseas employment. Despite the contradictory implications suggested by the results of *Model 2*, the associated coefficient fails to demonstrate any statistical robustness. The empirical investigation specifically targeting migration intentions elucidates a remarkable dichotomy concerning the repercussions of such plans. Specifically, the exploration unveils a positive influence on women and a detrimental effect on men, with statistical relevance discernible in both instances. The findings of *Model 2* display a divergence from those of *Model 1* in terms of the impact, which is deleterious for both genders, notwithstanding the statistical significance being exclusively confined to females (See *Table 2*).

The elucidations drawn from both specifications signal the presence of a discrepancy in labour force participation. The regression coefficient tethered to the variable symbolic of gender showcases a negative correlation, one bearing statistical significance. This suggests a lesser inclination among females towards involvement in the labour force than their male counterparts.

As anticipated, the deductions emanating from the research illustrate a significant imprint of variables pertinent to individual psychological frameworks on their labour supply decisions within the Kosovar context. The gleaned insights harmonize with the forecasted implications, indicating that individuals who perceive themselves as endowed with a decision-making role within the familial setup and those possessing a less orthodox viewpoint are more predisposed towards labour force participation. More educated individuals are likelier to participate in the labour market but are less interested in migrating perspectives. Furthermore, males are more interested in labour market participation, sending remittances, and migrating than females. Being a student diminishes the likelihood of labour force participation but increases the likelihood of migrating. The older you are, the less likely you will migrate, but if you are already a foreign worker, the results show that more remittances are sent with age. Lastly, income diminishes migration; the more you have, the fewer your chances of migrating.

Contrary to the antecedent conjecture, the main research postulation concerning the simultaneous determination of decisions fails to find empirical support. The insubstantial statistical pertinence in the correlation coefficient ( $\rho$ ) related to the error terms of the two equations discernible in both *Model 1* ( $\rho=-0.062$ , not significant) and *Model 2* ( $\rho=0.190$ , not significant), points to the nonexistence of mutual dependence between the choice to partake in labour activity and the acquisition of remittances or migration intent (See *Table 2*). Hence, one can deduce that the pair of equations exhibits self-sufficiency and can be assessed as separate probit equations (Xu and Craig, 2010). However, one should approach the interpretation of the procured empirical indications with caution, as the biprobit model employed in the current exploration neglects endogeneity within migration schemata. Consequently, the approximated interdependence between the potentiality of labour force involvement and the acceptance of remittances might be prone to distortion. Therefore, the ensuing discourse shall propose a more advanced methodology, specifically multivariate probit, anticipated to counteract the limitations imposed by the biprobit model.

## 5. Conclusion and Policy Applications

This paper examines the impact of remittances and migration on the dynamics of labour force participation, where we adopted meticulous techniques to underscore the profound relevance of social and behavioural patterns. To tackle the predicament of endogeneity inherent in the complex interplay of remittances and migration within the theoretical constructs of labour force participation, we have applied the biprobit statistical model as a sophisticated stratagem to surmount these inherent obstacles.

The findings of this study are consistent with prior research, suggesting that remittances exert a disincentive effect on labour force participation. However, it is essential to highlight that this impact demonstrates statistical significance solely for the entire sample when analyzed using biprobit *Model 2*. The statistical significance of this impact is confined to the males, as evidenced by the biprobit model. The hypothesis concerning the influence of migration prospects on individuals' investment in work experience has produced mixed results. The empirical evidence indicates a gender and age disparity in the labour force participation of Kosovan migrants. Specifically, women intending to migrate exhibit a higher likelihood of labour force engagement, as suggested by biprobit *Model 1*. Conversely, men with migration plans demonstrate a reduced propensity for labour force participation.

The conclusions in this study investigation substantiate empirical substantiation, advocating for the existence of gender and age incongruities within workforce participation stratifications. Distinctively, it is observed that the female demographic within the Kosovar societal construct exhibits a diminutive predilection towards involvement in economically productive pursuits. Further, domicile within a familial setting that includes geriatric dependents attenuates the probability of active engagement within the labour force. It is of particular note that this identified phenomenon engenders adverse implications for both genders. However, it illustrates statistical prominence mainly in males. This intimates the potential advent of migration strategies, potentially triggered by intra-household contractual obligations, wherein remaining males and females acquiesce to the exigency of shouldering the caretaking responsibilities for senior household members after the departure of another constituent.

In the circumstances delineated by a lack of labour participation, it is incumbent upon policymakers to recognize and harness the prospective yields of channelling remittances towards self-reliant employment and entrepreneurial exploits. To stimulate gender equilibrium and fortify youth agency the exigency arises to fabricate policy paradigms with an exclusive mandate to address the idiosyncratic requisitions and obstructions inherent in labour force incongruities. Concurrently, it is propounded to endow potential emigrants with capacity-building enterprises tailored to amplify their competitive advantage within extraterritorial domains.

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## Appendix

**Table 3. Describing the Depended Variables**

Variables	Description	Values	Transformed Values
<i>sdl_s_n</i>	During the last week in which of the following categories would (the surveyee) classify him/herself?	1- Employed, including self-employment, unpaid work for a family business or farm, or an apprenticeship or paid traineeship, etc. 2- Unemployed 3- Pupil, student, further training, unpaid work experience 4- In retirement or early retirement 5- Permanently disabled 6- Fulfilling domestic tasks 7- Other (specify)	1- Individual participate in labour market This category is formed form: • Employed, including self-employment, unpaid work for a family business or farm, or an apprenticeship or paid traineeship, etc. • Unemployed 0- Individual NOT participates in labour market This category is formed form: • Pupil, student, further training, unpaid work experience • In retirement or early retirement • Permanently disabled • Fulfilling domestic tasks • Other (specify))
<i>rc_rem_tot</i>	Over the past 12 months, what is the total amount of foreign remittances that you have received (€)?	Continuous variable	0- No Remittances (0 € Remittances) 1- Getting remittances (from 1€ and as much as they can get)
<i>rem_abr_f</i>	In the next 12 months, do you plan to work outside of Kosovo?	0- No 1- Yes	0- No 1- Yes

Source: Millennium Century Corporation, Kosovo labour Force and Time Use Study Research Report.

**Table 4. Describing the Social Behavior Variables**

Variables	Description	Values	Transformed Values
<i>rc_ps_age</i>	What is (the surveyee) age in years?	Continuous variable	Continuous variable
<i>ps_sex</i>	What is (the surveyee) sex?	0- Male 1- Female	0- Male 1- Femle
<i>ea_ur</i>	Whether the Enumeration Area (EA) is urban or rural	0- Urban 1- Rural	0- Urban 1- Rural
<i>ps_student</i>	Is (the surveyee) a full-time student?	0- No 1- Yes	0- No 1- Yes
<i>rc_income_hh</i>	What is the total ANNUAL income in Euros (€) of all the members of your household (including remittances), including your income, as one combined figure?	Continuous variable	Continuous variable

Source: Millennium Century Corporation, Kosovo labour Force and Time Use Study Research Report.

**Table 5. Describing the Transformed Variable**

<i>Variables</i>	<i>Description</i>	<i>Values</i>	<i>Transformed Values</i>
<i>rc_ed_highest</i>	What is the highest level of education completed by (the surveyee)?	1- Did not finish primary school (Omitted category) 2- Primary education 3- Lower secondary education 4- Upper secondary – general 5- Upper secondary – vocational 6- Post secondary – vocational 7- Tertiary 8- Post graduate or Doctorate	For each category a Dummy variable has been created: 1-rc_ed_highest_nfps (Omitted Category) 2-rc_ed_highest_pe 3-rc_ed_highest_lse 4-rc_ed_highest_usg 5-rc_ed_highest_usv 6-rc_ed_highest_psv 7-rc_ed_highest_ter 8-rc_ed_highest_pgd
<i>rc_ed_highest_nfps</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual Did not finish primary school 0- Otherwise
<i>rc_ed_highest_pe</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual has Primary education 0- Otherwise
<i>rc_ed_highest_lse</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual has Lower secondary education 0- Otherwise
<i>rc_ed_highest_usg</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual has Upper secondary – general 0- Otherwise
<i>rc_ed_highest_usv</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual has Upper secondary – vocational education 0- Otherwise
<i>rc_ed_highest_psv</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual has Post secondary – vocational education 0- Otherwise
<i>rc_ed_highest_ter</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual has Tertiary education 0- Otherwise
<i>rc_ed_highest_pgd</i>	Created from the original variable <i>rc_ed_highest</i>	Dummy Variable	1- The Individual has Post graduate or Doctorate 0- Otherwise

Source: Millennium Century Corporation, Kosovo labour Force and Time Use Study Research Report