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Hidden Potential: Unpacking the Causes of Labor Force Inactivity in Western Balkan Countries

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ABSTRACT

Labor force participation in the Western Balkans remains uneven, with persistent gender gaps and significant variation across countries. This study investigates the determinants of labor force participation and activity status among men and women in Albania, Bosnia and Herzegovina, Hungary, Montenegro, North Macedonia, Serbia, and Kosovo, highlighting structural, demographic, and cultural factors that shape engagement. Using data from the European Values Survey (EVS) and applying binary logistic regression models, both pooled and country-specific, the analysis examines the effects of gender, age, education, marital status, household composition, parental background, economic conditions, and gender role attitudes on the likelihood of being active (rather than inactive) in the labor market. Results show that men are consistently more likely to participate than women, with female inactivity strongly associated with unpaid caregiving responsibilities and traditional gender norms. Labor force participation generally follows an inverted-U trajectory, peaking in mid-adulthood (ages 36–43) and declining thereafter. Education increases the probability of being active, though more strongly for men, while household factors such as the presence of children and spouse activity exert heterogeneous effects across countries. Parental employment at age 14 of the respondents also influences adult activity status, highlighting intergenerational effects. Country-specific analysis reveals that cultural norms, labor market structures, and social policies mediate these patterns, with Kosovo and Albania showing particularly low female participation, and Hungary exhibiting a narrower gender gap. The findings underscore the need for policies that expand access to childcare, promote flexible work arrangements, and address normative constraints to enhance labor force participation and reduce gender disparities. Overall, labor market outcomes in the region reflect the interplay of demographic, structural, and cultural factors, emphasizing the importance of tailored, context-sensitive interventions.

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Introduction

Labour-force inactivity is a first-order constraint in the Western Balkans and, to a lesser extent, in Hungary. It withdraws human capital from productive use, dampens growth, and concentrates disadvantage in identifiable groups. A persistent gender gap is the central regularity, with women's labor force participation below European Union benchmarks even after recent improvements in headline rates (Regional Cooperation Council, 2022; World Bank & Vienna Institute for International Economic Studies (wiiw), 2020, 2025). The question is practical and policy-relevant: what binds, where, and for whom, once men and women are treated symmetrically in the diagnosis.

The challenge concerns not only levels but also composition that varies across countries and by sex. Inactivity in the region recurs in a small number of categories: unpaid domestic and caregiving work, education, retirement or health limitations, and discouragement. Women in Western Balkan economies are more often inactive because of care; men are more often students, retirees, or health-limited. Hungary is closer to the EU profile, where education and retirement dominate for both sexes and the care component among women is smaller (Eurostat, 2024; World Bank & wiiw, 2020). These compositional differences already indicate where policy traction is likely: where care dominates, time and services bind; where education and retirement dominate, transitions and retention matter; where discouragement is visible, search costs and local demand are central.

Norms shape these outcomes in systematic ways. Evidence from the European Values Study (EVS, 2017–2022) places family at the apex of stated priorities for both sexes, while views on women's roles in the home and on male job priority under scarcity vary across countries and between men and women. Agreement with the statement that "women really want home and children" is higher among men everywhere and is most salient in parts of the Western Balkans; support for the statement that men should have precedence when jobs are scarce is lower in levels but concentrated in a subset of countries. In this study, agreement is defined as "agree" or "agree strongly," the "neither" category is excluded from denominators, and the Kosovo tabulation for the job-priority item is treated as non-comparable. These gradients align with observed inactivity structures: stronger traditional views are associated with more care-driven female inactivity and a greater likelihood of queuing against women in hiring, while weaker views shift the binding constraint toward service availability and job quality (Finance Think, 2024).

The organising frameworks are standard but seldom integrated for this constellation of countries. Human capital and life-cycle models explain education and age profiles of labor force participation; time-allocation models explain the pull of unpaid work when childcare and eldercare are scarce or costly; norms-based explanations account for behavioural differences by sex after conditioning on wages and vacancies (Becker, 1964, 1965; Alesina et al., 2013; Fernández, 2013). In the Western Balkans, the combination of thin care infrastructure, limited flexible work, and persistent gender stereotypes amplifies these frictions relative to the EU comparator.

This paper assembles a unified empirical frame for Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, Kosovo, and Hungary that is explicitly gender-balanced and country-comparable. It documents stylised facts since 2019 for men and women and maps the composition of inactivity by category, links those facts to EVS-based measures of social attitudes, and estimates pooled and country-specific logistic models for labour-market activity with interactions of gender with education and number of children, plus a gender-by-country term. Stylised facts are descriptive and emphasise relative prevalence across common categories; econometric results are reported as odds ratios with standard diagnostics to aid interpretation. Taken together, aligning comparable inactivity profiles with attitudinal measures and a parsimonious interaction design offers a cautious lens for inferring where constraints are most likely to bind in each country, without claiming causal identification.

The remainder of the paper is organised as follows. Section 2 presents stylised facts on participation, unemployment, and the structure of inactivity. Section 3 reviews the literature on human capital, life-cycle, time allocation, and norms. Section 4 describes data and methodology, including the EVS coding choices. Section 5 reports the econometric results (pooled and country-specific). Section 6 discusses policy implications in light of the cross-country patterns. Section 7 concludes.

Stylized Facts: Determinants of Labor Force Participation in Western Balkans

Since 2019, overall activity has improved in parts of the Western Balkans, but gender gaps remain sizable. In 2019 Q2, the inactivity rate among women aged 15–64 stood at 46.3 percent compared with 27.1 percent among men. This shows that both sexes contribute to inactivity, although women contribute more (World Bank & wiiw, 2020). As a result, more than half of working-age women in the region remain outside the labor force, which implies large

untapped human capital (Regional Cooperation Council, 2022). Recent data confirm that the gap has two sides. In 2023, the gender gap in activity in the Western Balkans was 18 percentage points. Female activity still lagged EU levels by about 13 percentage points, while male activity in the Western Balkans was closer to the EU with an average gap of about 5 percentage points. Female activity increased faster than male activity in 2023, with gains of 1.7 percentage points versus 0.6 percentage points, which suggests gradual narrowing from the female side even as absolute gaps persist (World Bank & wiiw, 2025).

Figure 1 provides the broader cross-country context for these gaps. It shows that, over 2014–2024, labour force participation in the Western Balkans remains below both the Euro Area and Hungary, although it has trended upward in recent years. The Western Balkan average exhibits slower improvements and a temporary decline around 2020, while Hungary records higher and more steadily rising participation. Taken together with the gender figures discussed above, the chart indicates that the regional gap reflects both lower overall participation and a disproportionately higher rate of female inactivity.

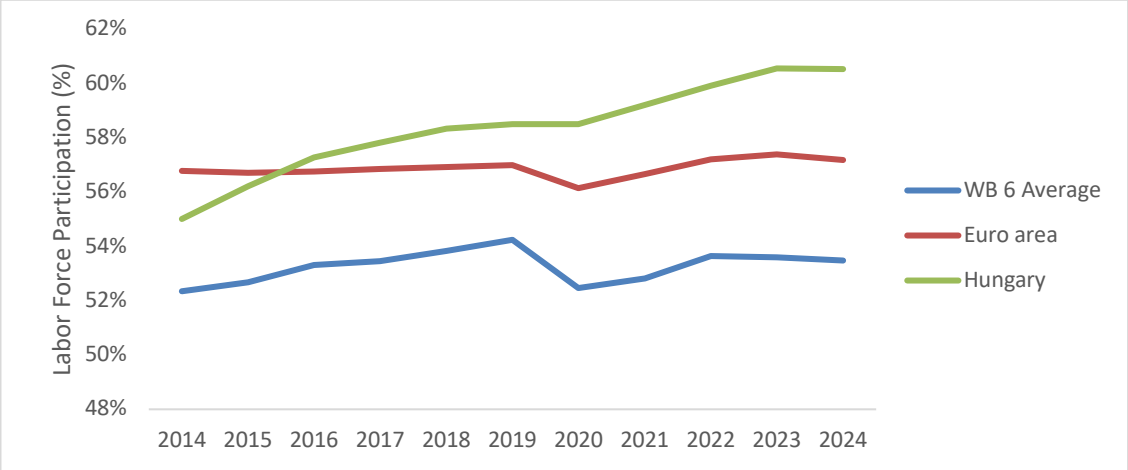

Figure 1. Labor force participation rate (%) – WB6, Euro Area and Hungary

Country differences are marked for both sexes. Kosovo is an outlier for women with female participation below 20 percent, which is the lowest in Europe. Kosovo also shows relatively weak male attachment to the labor market with male activity around 58 percent in 2023, which is far below the EU male benchmark (International Monetary Fund, 2025; World Bank & wiiw, 2025). Hungary is a useful regional comparator. In 2024, female labor force participation was 53.9 percent and male participation was 67.9 percent for ages 15 and older, which implies a narrower gender gap than in most Western Balkan economies (World Bank, 2024). Male and female contrasts also appear in unemployment outcomes. In 2023, female unemployment exceeded male unemployment across the Western Balkans, 12.2 percent versus 10.5 percent. There are exceptions. In North Macedonia, male unemployment was higher than female unemployment, 14.4 percent versus 11.4 percent, which indicates specific contexts of male disadvantage within the overall pattern (World Bank & wiiw, 2025). Youth outcomes remain weak for both sexes. Youth participation for ages 15–24 is below the EU, and NEET rates are elevated, which points to early-career attachment challenges among young men and young women alike (World Bank & wiiw, 2025).

Taken together, the Western Balkans show persistent and gender-differentiated labor market gaps. Women face structurally higher inactivity. Men are closer to EU benchmarks on average, yet some countries show pockets of male vulnerability, including higher male unemployment in specific cases and weak youth attachment. The policy reading is two-handed. Activation for women requires childcare and elder-care capacity, supportive norms, and flexible work. Targeted measures for men require stronger school-to-work transitions, upskilling and reskilling, and retention policies for prime-age men. The common goal is to raise participation for both sexes.

Structure of the inactive population

Inactivity in the Western Balkans and Hungary is not a single phenomenon but a composition of a few recurrent

groups. Three account for most of the stock. Women who are out due to unpaid domestic and caregiving work. Youths who are outside the labour force because they are enrolled in education. Older or health-limited adults who have exited employment. A fourth group, the discouraged, is smaller yet policy relevant because it reflects willing labour supply that is not searching (World Bank & wiiw, 2020).

Across the Western Balkans, care is the modal reason among inactive women, while men rarely cite care and are more frequently students, retirees or health limited. In North Macedonia, administrative and survey evidence document the salience of housewife status; valuing it at the minimum wage yields an imputed output near 8 percent of GDP, and broader unpaid domestic and care work for women approaches one quarter of GDP (Finance Think, 2024). Similar profiles are visible in Albania, Bosnia and Herzegovina and Kosovo. Hungary aligns more closely with the EU pattern, where inactivity for both sexes concentrate in education and retirement and the care component among women is smaller in relative terms (Eurostat, 2024; World Bank & wiiw, 2020).

Formal care supply shapes these outcomes. In North Macedonia there are 43 elder-care centres that reach roughly 6 percent of older persons. Provision is mostly private and concentrated in Skopje, which raises affordability concerns and produces geographic disparities. Unmet needs are absorbed by households and, in practice, by working-age women (Ministry of Social Policy and Labour, 2023). Where services are thin, women's inactivity via the care channel rises. Youth inactivity reflects schooling and weak transitions. Many individuals aged 15 to 24 remain in secondary or tertiary education, and NEET rates are elevated in several economies. Large student shares are visible in North Macedonia and Serbia. Kosovo and Montenegro combine high youth inactivity with high NEET incidence. Hungary follows the EU profile where education drives youth inactivity for both sexes and care plays a smaller role for young women (World Bank & wiiw, 2020; United Nations in North Macedonia, 2022).

At older ages, retirement and health limitations explain meaningful shares of inactivity. Women in Western Balkan settings are also more likely than men to remain out due to elder-care responsibilities when services are scarce, while men's inactivity at these ages is more concentrated in retirement and health channels. Albania, Bosnia and Herzegovina and Serbia display these patterns. Hungary resembles the EU composition, with retirement dominant for both sexes and a smaller care component among women (World Bank & wiiw, 2020; Eurostat, 2024). Discouragement cuts across these channels. It is present where local demand is weak, search costs are high or care constraints bind. In Kosovo, family responsibilities dominate women's reasons for inactivity and discouragement adds a further barrier. Albania reports a visible discouraged share within the inactive stock. Diagnostics for Montenegro and Bosnia and Herzegovina also note discouragement for both sexes. In Serbia, discouraged workers appear in labour-force profiles. Men are more often discouraged for demand-side reasons. Women are more often constrained by the combination of care and search costs (International Monetary Fund, 2025; World Bank, 2024).

Policy follows from composition. Where care-driven female inactivity is prevalent, the highest activation returns come from affordable childcare and elder-care, flexible work, and incentives for men's participation in care. Where inactivity skews toward education and retirement, as in Hungary, priorities are school-to-work links and older-worker retention. Where discouragement is material, vacancy matching and local demand support complement care and transition measures (World Bank & wiiw, 2020; Eurostat, 2024; IMF, 2025).

Cultural Norms and Values

Cultural norms and values remain deeply ingrained in Western Balkan countries and shape labor market outcomes. For example, Figure 2 based on the most recent European Value Survey (EVS, 2019) shows that across the six countries, family sits at the apex of stated priorities: the share rating family as very important is above 85 percent everywhere and above 90 percent in most cases, with women generally higher than men; Kosovo is the lone exception, where men edge women. Work salience is more heterogeneous. Albania and Montenegro lead on work very important for both sexes; in most countries' men exceed women on this measure, while Serbia and Hungary are notable reversals where women meet or slightly exceed men. Friends and leisure provide the clearest discrimination across settings. Kosovo records strikingly low very important shares for both domains across both sexes. Hungary shows a sizable male lead on leisure, unlike the Western Balkan pattern where either woman lead or the gap is small. Albania stands out with very low leisure time, very important for both sexes. When responses are broadened to very or quite important, the gaps compress markedly. For work and family, the combined shares exceed 90 percent for men and women in every country,

which implies that gender differences relate more to intensity at the top of the scale than to overall valuation.

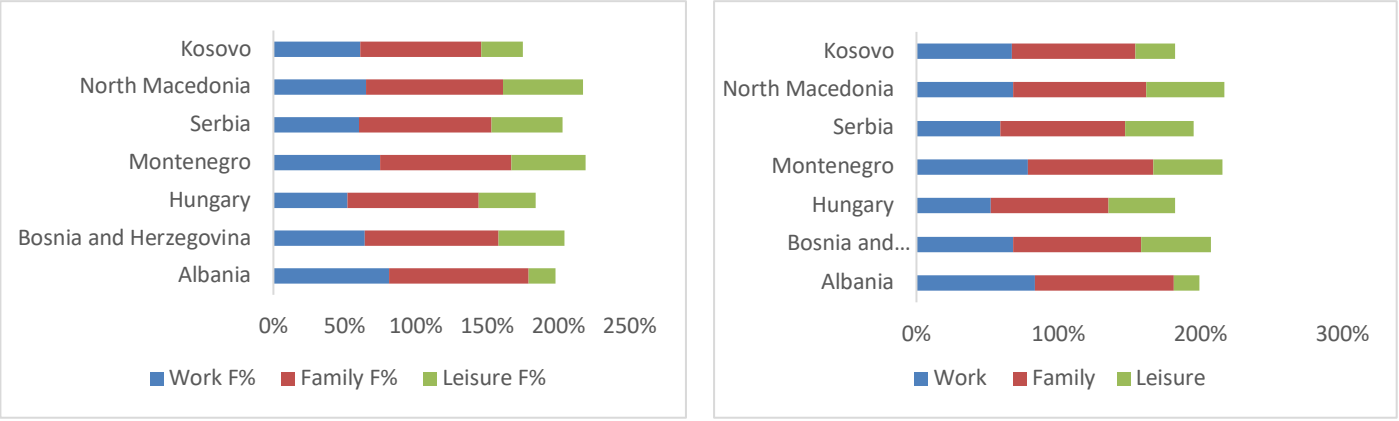

Figure 2. Household views on importance of work, family and friends (male left, female right)

When looking into responses from EVS on "Women really want home and children" (Q25B) and "When jobs are scarce, men should have more right to a job than women" (Q26B), three patterns stand out. Agreement with Q25B is higher among men than women in every country, but the level and the gender gap differ by context. Agreement is highest in Kosovo and Montenegro, moderate in North Macedonia and Bosnia and Herzegovina, and lowest in Serbia and Hungary. The male minus female gap is small in Kosovo and Hungary, moderate in Bosnia and Herzegovina and Montenegro, and larger in Albania and North Macedonia. Agreement with Q26B is lower than with Q25B in all comparable cases and again higher among men than women. Endorsement of male job priority is highest in Montenegro and Bosnia and Herzegovina. Serbia exhibits a particularly sharp gender asymmetry because male agreement is moderate while female agreement is very low. Hungary and North Macedonia sit toward the low end for both sexes. These patterns point to a consistent ordering: traditionalism around the home and children is widespread in parts of the Western Balkans, while explicit support for male job priority concentrates in a subset of countries and is weaker in the EU comparator.

Interpretation for labour-market inactivity

Figure 3, the Q25B gradient captures the social acceptability of a family model in which women primarily allocate time to home and children. Where this agreement is high for both sexes, as in Montenegro and Kosovo, the expected pull into unpaid care and household production is stronger, which aligns with descriptive labour-force evidence that a large share of inactive women report family responsibilities as their main status or reason for non-participation. While Figure 4, the Q26B gradient captures explicit queuing preferences that favour men under job scarcity.

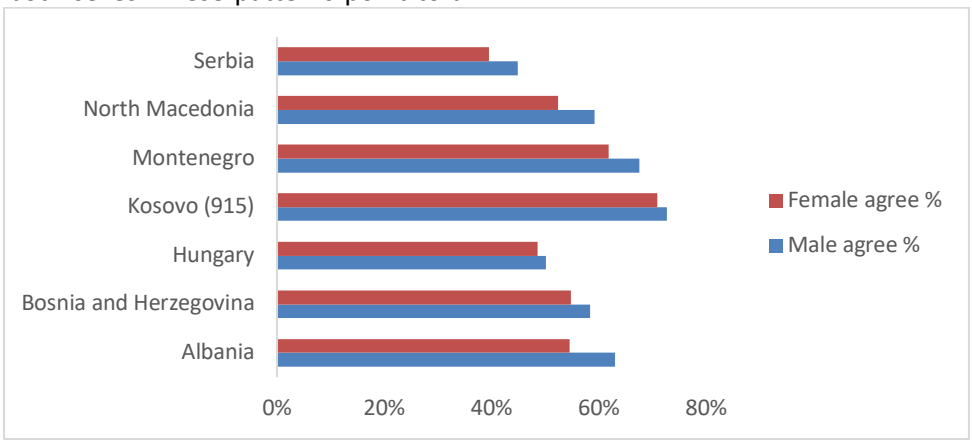

Figure 3. Q25B, Responses to "Women really want home and children".

Where endorsement of male priority is higher, as in Montenegro and Bosnia and Herzegovina, women face a double hurdle that combines norms inside the household with norms in the market. By contrast, in settings with lower endorsement of Q26B, such as Hungary and North Macedonia, the binding constraints on women's activation are more likely to be affordability and availability of care services and the quality of jobs, rather than widespread social acceptance of male job precedence.

Men consistently display higher agreement on both items, which indicates that male attitudes are an important part of the constraint set. At the same time, women's agreement levels are not negligible, which suggests that gender norms are partly internalised by women themselves. Prior analytical work for North Macedonia links more traditional attitudes to a higher probability of female inactivity, after conditioning on observables, and identifies caregiving expectations as a central channel through which norms operate (Finance Think, 2024).

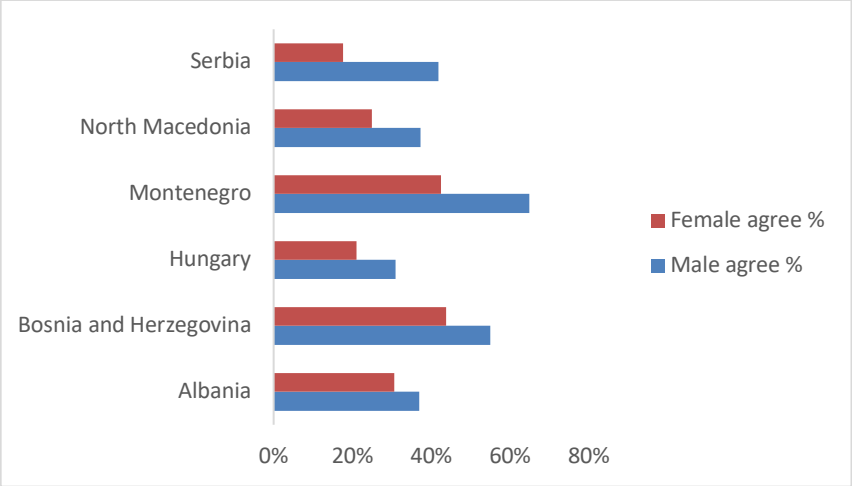

Figure 4. Q26B, Responses to "When jobs are scarce, men should have more right to a job than women".

Overall, country differences appear to arise more from the relative prevalence of the same attitudes than from qualitatively different attitudes. Where Q25B agreement is high and the care system is thin, policies that reduce the shadow price of time for caregivers are likely to deliver the largest activation gains, for example expansion of affordable childcare and elder care, family-friendly scheduling, and incentives for men's participation in care. Where Q26B endorsement is also high, equal-opportunity enforcement, transparency in hiring, and active-labour-market measures that connect women to vacancies can help offset discriminatory queuing. In lower-endorsement settings such as Hungary and North Macedonia, the emphasis should fall on service provision, flexible work, and job quality, since social resistance is weaker but practical barriers remain.

Literature Review

An increasing number of studies have undertaken the Sisyphean task of unpacking the determinants of labor market inactivity across various demographic, economic, and institutional settings (Bhaduri-Kanjilal & Pastore, 2018; Jaumotte, 2003; Tsani et al., 2013). Contingent on contextual specificities, i.e., levels of economic development, prevailing gender norms, public infrastructure, and the policy environment, the literature identifies three broad domains that influence inactivity: demographic characteristics (e.g., education, age, marital status), structural constraints (e.g., lack of childcare or flexible work), and cultural norms rooted in gender roles (Abazi & Atanasovska, 2016; Cojocaru, 2017; Fernández, 2013; Mojsoska-Blazevski et al., 2017).

1. Human Capital Theory and Education

Among the most frequently employed frameworks in explaining labor market inactivity is Becker's (1964) Human Capital Theory. It posits that individuals allocate time and resources toward education and skills acquisition in pursuit of improved productivity and labor market earnings. In this

framework, labor market participation becomes a function of expected returns relative to the opportunity cost of time spent outside the formal economy; in the case of women, this trade-off frequently extends beyond market considerations, incorporating the value of unpaid work in the household i.e., childcare and elderly care. While the theory predicts increased participation in response to higher wages (substitution effect) and potential withdrawal as income rises (income effect), it remains limited in its ability to capture the full spectrum of constraints faced by women. In fact, economists (England & Browne, 1992; Folbre, 2001) argue that structural and normative frictions such as gendered care responsibilities, occupational segregation, and social expectations dampen the wage elasticity of female labor supply and suppress activation independently of human capital levels. Related household-specialization dynamics can also affect men's participation decisions (e.g., when one partner's market work is prioritized over the other's), albeit typically with smaller care-related penalties for men.

In this context, education is a robust predictor of labor force participation for both women and men. The literature finds that it facilitates employability, increases expected earnings, and strengthens intra-household bargaining power, thereby mitigating the influence of restrictive gender norms (Bhaduri-Kanjilal & Pastore, 2018; Ince, 2010).In the Western Balkans, these effects are empirically visible. For example, in Macedonia, each additional level of education increases the likelihood of labor market participation by 9.5 percent (Abazi & Atanasovska, 2016); in Albania, by 12 percent (Regional Research Promotion Programme, 2016). Evidence from country studies also indicates that returns to education on activity are positive for men, though the slope often differs by sex and over the life cycle. At higher education levels, gaps in participation frequently narrow for both sexes, often disappearing among tertiary-educated groups (World Bank, 2015). However, gender participation gaps appear to be education-level contingent i.e., often disappearing altogether among tertiary-educated groups (World Bank, 2015). Yet, education alone does not guarantee activation. Skill mismatches, particularly for women with general secondary education, continue to hinder successful school-to-work transitions (Cedefop, 2013). Moreover, vocational education and training (VET) systems remain weak and misaligned with labor market needs, reducing their ability to close gender gaps in employment. Additionally, publicly available active labor market programs (ALMPs), such as public works schemes, retraining, and internships, have shown promise in boosting female employment in both Latin America and Eastern Europe (Galasso & Ravallion, 2004; Rodríguez-Planas & Jacob, 2010). In the Western Balkans, however, their limited funding and lack of gender targeting have curtailed their effectiveness.

2. Age and Life-Cycle

The life-cycle approach provides an additional lens through which labor market inactivity, particularly among women, can be understood. Rooted in neoclassical labor supply theory, this perspective emphasizes the timing of life events, such as fertility, child-rearing, and marital transitions, as key to understanding labor market behavior over time (Eckstein & Wolpin, 1989). Within this theory, participation typically follows an inverted U-shaped trajectory for both sexes: higher among young adults, declining during prime childbearing and caregiving years, and rising again as domestic responsibilities subside in midlife, though the timing and slope may differ by gender and country context, including EU comparators such as Hungary (Balleer et al., 2009; Mojsoska-Blazevski et al., 2016).

The fertility–participation trade-off is a recurrent theme in empirical research. Mothers of young children are significantly less likely to engage in paid work, particularly in contexts where external childcare options are scarce or culturally discouraged. Studies have shown that the presence of children under the age of seven reduces women's probability of labor market participation by up to 3 percentage points per child in Macedonia (World Bank, 2008). Similar constraints are observed across the region: in Kosovo, over half of inactive women cite caregiving responsibilities as the main reason for not seeking employment (Cojocaru, 2017); in Bosnia and Herzegovina, limited access to childcare forces many women to remain at home until children reach school age (Somun-Krupalija, 2011). For men, parenthood effects on participation are generally smaller or work in the opposite direction (consistent with breadwinner notion), but they can vary with policy design and local labor demand.

In a similar vein, age also emerges as a significant determinant. In multiple studies from the Western Balkans and Hungary participation tends to rise with age until the mid-to-late 30s, after which it declines, either due to extended caregiving burdens, including for elderly parents, or the discouraged worker effect, particularly among women facing cumulative labor market exclusion

(Mojsoska-Blazevski et al., 2017; Regional Research Promotion Programme, 2016). In Albania and Serbia, the relationship between age and participation similarly follows an inverted U-shape, peaking around the late 30s before declining (Garcia-Pereiro et al., 2025)

Lastly, the effect of marital status on labor force participation is more nuanced and highly context-specific. In traditional household models, marriage is often associated with reduced female labor supply due to gendered division of household labor and assumptions that men serve as primary earners. Indeed, studies from Bosnia and Kosovo find that marriage correlates negatively with female participation (Gashi & Rizvanolli, 2015). Yet, in lower-income contexts where dual income is necessary to sustain household consumption, the relationship may reverse. Abazi and Atanasovska (2016) find that in Macedonia, married women are 10 percent more likely to participate in the labor force than unmarried women, a result they attribute to financial pressures and rising household needs.

3. Time Allocation and Unpaid Work

Another instrumental framework often employed in understanding labor market inactivity, particularly among women is Becker's (1965) Time Allocation Model. It posits that individuals allocate limited time among paid work, unpaid domestic production, and leisure, with labor supply decisions shaped by the trade-offs among these uses. For women, as bearers of unpaid domestic responsibilities, the opportunity cost of market work is often high, especially when caregiving duties are involved. Empirical evidence demonstrates this trade-off quite well. Globally, women spend three to five times more time than men on unpaid care work (International Labour Organization, 2018), and each additional child amplifies this burden (Ferrant et al., 2014). For men, time-allocation frictions typically operate through longer market hours and specialization patterns that limit take-up of care, although the magnitude varies across policy and cultural contexts.

In the Western Balkans, these patterns are acute: over half of inactive women in North Macedonia and Kosovo cite household or caregiving duties as their main reason for non-participation (Cojocaru, 2017; World Bank, 2008). The lack of affordable childcare in Bosnia and Herzegovina adds to the constraint (Somun-Krupalija, 2011). These challenges are compounded for ethnic minorities and older women, who often face heightened caregiving expectations and limited flexibility (Mojsoska-Blazevski et al., 2017; Petreski et al., 2025). At the same time, flexible work options remain scarce across the region Macedonia has one of the lowest rates of part-time employment in Europe making formal employment inaccessible for many. Patterns in EU comparators, including Hungary, are subject to the same time-allocation mechanisms, even where service coverage is broader. Time-use data confirm enduring gender asymmetries. Women in the region spend up to 11 times more time on unpaid work than men (UN Women, 2023), and caregiving expectations are rarely shared equally within households.

4. Cultural Norms and Gender Stereotypes

Standard labor supply models, while analytically robust, often fall short in capturing the embedded influence of cultural norms on women's labor market decisions. A growing strand of empirical and sociological research underscores that female labor force participation (FLFP) is not merely a function of wage incentives or opportunity costs, but is shaped by socially constructed roles around parenting, employment, and household responsibilities (Gauri et al., 2019). These gendered expectations internalized early through socialization are further reinforced by institutional, legal, and at times religious frameworks (Alesina et al., 2013; Fernández, 2013).

Two key conceptual lines emerge. The first relates FLFP to structural transformation. Participation is high in agrarian economies due to the nature of subsistence farming, declines during early industrialization, and increases again in post-industrial economies with service sector expansion and falling fertility (Jayachandran, 2021; Sinha, 1965). However, in contexts with historically limited female agricultural involvement, such as parts of the Middle East and North Africa, this U-shaped pattern fails to materialize, likely due to persistent patriarchal norms (Alesina et al., 2013).

The second line focuses on labor market discrimination rooted in gender norms. These can manifest through hiring practices, occupational segmentation, wage penalties, and limited mobility. Experimental and observational studies confirm that women face systematic disadvantage in male-dominated sectors or when employers anticipate future maternity leave (Bertrand & Mullainathan, 2004; Carlsson, 2011). Minority status or religious affiliation further amplifies exclusion, producing an intersectional disadvantage (Weichselbaumer, 2020).

In the Western Balkans, such patterns have resurfaced with

the rollback of socialist-era gender equality policies. In North Macedonia, participation gaps persist among ethnic minority women, partly due to conservative household expectations (Mojsoska-Blazevski et al., 2017). In Kosovo, survey data show that more than 40 percent of respondents support gendered caregiving roles, with daughters expected to assume elder care responsibilities (World Bank, 2015a). Women, especially those in rural areas or with lower education, report internalized beliefs about social sanctions, family disapproval, or reputational risk when seeking formal employment, particularly in non-traditional occupations (Petreski et al., 2025). Comparable mechanisms are observed in EU comparators; for instance, in Hungary, attitudinal constraints coexist with broader service coverage, shaping both women's and men's choices at the margin.

Method

This paper investigates the determinants of labor market activity among men and women in selected European countries. The analysis is based on data from the European Values Survey (EVS), a large-scale cross-national research program that collects information on values, beliefs, attitudes, and socioeconomic conditions of individuals. For this research, we use the integrated dataset for Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia, Hungary, and Kosovo. These countries were selected due to their geographical and socioeconomic proximity and because previous research has indicated both similarities and differences in the labor market activity and inactivity of women across these contexts.

To examine the determinants of labor market activity, a binary logistic regression model is employed, given that the dependent variable, activity, is dichotomous (0 = inactive, 1 = active). The model is estimated both on the pooled dataset and separately by country to capture heterogeneity across the seven Western Balkan and Central European cases included in the sample (Albania, Bosnia and Herzegovina, Hungary, Montenegro, Serbia, North Macedonia, and Kosovo).The baseline specification takes the following form:

$$\text{logit}(P(\text{Activity}_i=1))=\beta_0+\beta_1\text{Gender}_i+\beta_2\text{Age}_i+\beta_3\text{Age}_i^2+\beta_4\text{Education}_i+\beta_5\text{Income}_i+\beta_6\text{MaritalStatus}_i+\beta_7\text{Household}_i+\beta_8\text{Parents}_i+\beta_9\text{Country}_j+\epsilon_i$$

where i indexes individuals and j represents the country of residence. The model controls for socio-demographic characteristics (gender, age, marital status), human capital indicators (educational attainment, spouse's education), household characteristics (number of children, co-residence with parents), and economic conditions (monthly net income, spouse's labor market activity).

To evaluate whether the effect of key predictors varies across groups, several interaction terms are introduced. These include Gender × Education (to test if educational attainment affects men and women differently), Gender × Marital Status (to capture the potential interaction between marriage and labor market activity by gender), and Gender × Number of Children (to examine how family responsibilities interact with gender in shaping activity). In addition to the pooled analysis, separate regressions are run for each country. This two-step strategy allows the estimation of a general regional model, while also highlighting country-specific effects that may be masked in results from the pooled sample.

Model fit is assessed using the Hosmer-Lemeshow test and classification tables. The regression coefficients are presented as odds ratios (Exp(β)), accompanied by confidence intervals, to facilitate interpretation in terms of relative likelihood of being active in the labor market

In the following section key socio-demographic and household characteristics of respondents are summarized, including gender, age, education, marital status, household income, and parental background. These descriptive insights not only provide context for the subsequent econometric analysis but also illustrate the extent of cross-country variation in labor market activity and related determinants.

The sample consists of 9,502 respondents, from which approximately 64% are active in the labor market, while 36% are inactive. The gender distribution is relatively balanced, with women representing about 55% of the sample and men 45%. A majority of respondents are married (58%), while the remainder are single, divorced, or widowed.

In the pooled sample, most respondents have completed at least a medium level of education (27% primary or less, 67% completed secondary education and 6% tertiary or above). The mean monthly net household income is €1,100, though with considerable variation across individuals (standard deviation = €841), reflecting wide economic disparities within the region.

Household structure also shows important patterns: 29% of respondents live with their parents, and the average number of children per household is slightly above one (1.06), although the maximum reaches up to nine children in some cases. Overall, the descriptive statistics point to a

heterogeneous sample in terms of family arrangements and economic status, which is consistent with the socio-economic diversity of the countries under study.

Table 1 highlights cross-country variation in socio-economic and household characteristics relevant to labor market participation. Labor market participation varies across the countries, with the lowest activity observed in Albania (56%) and the highest in North Macedonia (72%) and Serbia (70%). Other countries, including Hungary, Montenegro, and Kosovo, report moderate participation levels ranging from 61% to 66%.

Table 1: Cross-country variation in socio-economic and household characteristics

	Albania	Bosnia and Herzegovina	Hungary	Montenegro	Serbia	North Macedonia	Kosovo
Country distribution (%)	14,6	17,5	15	10,2	15,4	11,2	16,1
Activity (%)	56,35	61,33	60,88	64,84	70,36	72	66,58
Gender (females) %	64	57	56	50	54	50	50
Marital status (%)	78,25	56,71	48,81	55,33	51,57	62,44	53,55
Average monthly net income (in euro)	801,6268	1194,3553	1621,8263	1171,0715	1178,6238	1653,4539	426,9674
% of respondents living with parents	40,14	24,8	22,24	22,72	32,25	48,6	0
Average number of children in household	1,22	0,75	0,53	1,18	0,76	1,17	2,6

Gender distribution is relatively balanced in most countries, although Albania has a higher proportion of women (64%), while Montenegro, Hungary, Kosovo, and North Macedonia show nearly equal shares of men and women. Marital status also differs by country, with Albania exhibiting the highest proportion of married respondents (78%) and Hungary the lowest (49%). North Macedonia and Montenegro display intermediate marriage rates of 62% and 55%, respectively.

Household income shows substantial variation, with Hungary (1,622€) and North Macedonia (1,653€) reporting the highest averages, and Kosovo the lowest (427€). Co-residence with parents is most common in North Macedonia (49%) and Albania (40%), while it is insignificant in Kosovo and relatively low in other countries. Household size, measured by the number of children, is highest in Kosovo (2.6 children on average) and lowest in Hungary (0.53) and Bosnia and Herzegovina (0.75), with Albania, Montenegro, and North Macedonia averaging around one child per household.

The descriptive analysis reveals substantial variation across the seven countries in labor market participation, household composition, and socio-economic characteristics. Labor market activity is generally higher in North Macedonia and Serbia, while Albania and Kosovo show lower participation rates. Household structures, including co-residence with parents and number of children, differ markedly, reflecting cultural and demographic differences. These patterns provide important context for understanding the factors that influence labor market activity and guide the subsequent

regression analysis.

Results

Building on the descriptive statistics, the logistic regression analysis examines the determinants of labor market activity across the seven countries. The models estimate the effects of individual characteristics (such as age, gender, education, and health), household factors (including spouse's employment and education, income, and number of children), parental background, and motivational or cultural variables (e.g., gender role attitudes) on the probability of being active in the labor market. Both pooled and country-specific models are estimated, with interaction terms between gender and country included to capture potential cross-country differences in the gender gap. The following sections present the main regression results, highlighting significant predictors and illustrating how structural, household, and cultural factors jointly shape labor market participation in the region.

The model was statistically significant (Chi-square = 1800.07, df = 21, $p < 0.001$) and demonstrated good explanatory power, with pseudo-R^2 values of 38.3% (Cox and Snell) and 53.4% (Nagelkerke). The classification accuracy was high: the model correctly predicted 82.8% of all cases, including 92.3% of active individuals and 63.2% of inactive individuals.

1. Main Effects

Gender emerged as the strongest predictor of activity. Men were 37 times more likely to be active compared to women (Exp(β) = 37.143, $p < 0.001$). Age also had a significant non-linear effect: while each additional year of age increased the odds of activity by 36.9% (Exp(β) = 1.369, $p < 0.001$), the negative quadratic term (Age^2, Exp(β) = 0.996, $p < 0.001$) indicates that activity probability rises until a certain age and then declines. the predicted probability of labor market activity is highest at approximately age 39, indicating that mid-adulthood is the period of maximum labor force participation."

Education was positively associated with activity. Each additional year of completed education increased the odds of being active by 3.1% (Exp(β) = 1.031, p = 0.006). Marital status, however, was not significant in the pooled model.

Household and family characteristics also played an important role. Having an active spouse significantly reduced an individual's likelihood of being active (Exp(β) = 0.339, $p < 0.001$). The number of children in the household had the opposite effect: each additional child increased the odds of activity by 37.8% (Exp(β) = 1.378, $p < 0.001$). Living with parents was not significant, but parental background mattered: if parents were employed when the respondent was 14, the odds of being active were 36% lower (Exp(β) = 0.643, $p < 0.001$).

Economic and attitudinal factors were also significant. Monthly net income was statistically significant (p = 0.001), though the coefficient was small when measured per unit. More traditional gender role attitudes increased the odds of being active by 22.8% (Exp(β) = 1.228, p = 0.043). Finally, self-reported health was not a significant predictor.

2. Interaction Effects

Several interaction terms were introduced to explore whether the relationship between gender and activity was conditioned by other factors. The results show:

- Gender × Education: The interaction was strong and significant (Exp(β) = 2.448, $p < 0.001$). This indicates that the positive effect of education on activity is substantially stronger for men than for women.
- Gender × Number of Children: This interaction was also significant (Exp(β) = 0.628, $p < 0.001$). Having more children reduces women's likelihood of being active relative to men.
- Gender × Country: The interaction was significant (Exp(β) = 1.336, $p < 0.001$), highlighting that the gender gap in activity varies across countries.
- Gender × Marital Status: This interaction was not statistically significant (p = 0.344), suggesting that marriage does not differentially affect men's and women's activity status in the pooled sample.

Overall, pooled analysis emphasizes the central role of gender in explaining activity in the Western Balkans. Men are more likely to participate in the labor market than women, but this gap is shaped by education, number of children, and national context. Education increases men's chances more strongly, while childbearing is a heavier constraint for women. The significance of the gender-country interaction further suggests that country-level institutional, cultural, or policy factors mediate these gender differences, pointing to the need for separate country-level models in subsequent analysis.

3. Cross country specific effects

The Hosmer and Lemeshow goodness-of-fit test indicates that the country-specific logistic regression models generally fit the data well. For most countries, including Bosnia and Herzegovina, Montenegro, Serbia, North Macedonia, and Kosovo, the non-significant p-values ($p > 0.05$) suggest that the models adequately capture the observed patterns of labor market activity. Hungary also shows an acceptable fit ($p = 0.073$), while Albania exhibits a marginally significant result ($p = 0.031$), indicating some potential lack of fit. Despite this, the overall classification accuracy and consistency of the estimated coefficients across countries provide confidence in the reliability of the findings. These results support the robustness of the analysis and allow for meaningful interpretation of the effects of individual, household, parental, and cultural factors on labor market activity in each national context.

The logistic regression analyses for seven Western Balkan countries—Albania, Bosnia and Herzegovina, Hungary, Montenegro, Serbia, North Macedonia, and Kosovo—reveal both common patterns and notable country-specific differences in factors associated with labor market activity. Across all countries, the dependent variable is labor market activity (1 = active, 0 = inactive).

Age appears as a strong predictor of labor market activity. In most countries: Albania, Hungary, Serbia, North Macedonia, and Kosovo—age has a positive effect (Albania: $B = 0.418$, $\text{Exp}(\beta) = 1.52$, $p < 0.001$), while Age^2 is negative, producing the classical inverted-U life-cycle pattern. Activity rises in early and middle adulthood, then declines at older ages. Peak age ranges from 36 years in North Macedonia to 43 years in Hungary. Montenegro presents an unusual negative linear effect ($\beta = –0.172$, $\text{Exp}(\beta) = 0.842$, $p = 0.026$) with a non-significant Age^2, suggesting that labor force participation declines gradually with age rather than peaking in mid-adulthood.

The role of education varies across the region. Years of completed education positively influence activity in Serbia ($\beta = 0.225$, $\text{Exp}(\beta) = 1.253$, $p = 0.002$) and shows marginal effects in Kosovo ($\beta = 0.083$, $p = 0.060$). Albania exhibits a strong interaction between gender and education ($\beta = 1.062$, $\text{Exp}(\beta) = 2.893$, $p = 0.002$), indicating that higher education particularly increases female participation.

Spouse activity consistently exerts a negative influence on respondents' labor market participation, reflecting household specialization. In Hungary, the effect is particularly strong ($\beta = –1.516$, $\text{Exp}(\beta) = 0.220$, $p = 0.002$), and similar patterns are observed in Albania, Bosnia and Herzegovina, Serbia, and North Macedonia. Montenegro shows a marginal effect ($\beta = –0.521$, $p = 0.075$).

The presence of children shows divergent effects. In Albania, Hungary, and North Macedonia, interactions between gender and number of children in the household reveal a strong negative effect for women (Albania: $\beta = –0.414$, $\text{Exp}(\beta) = 0.661$, $p = 0.032$; Hungary: $\beta = –1.458$, $\text{Exp}(\beta) = 0.233$, $p = 0.011$), reflecting traditional childcare responsibilities. On the other hand, in Bosnia and Herzegovina, North Macedonia, and Kosovo, the number of children is associated with increased activity, suggesting that larger households may drive labor participation out of economic necessity, confirming the traditional role of man as breadwinners.

Parental employment at age 14 of the respondents shows unexpected negative associations with labor market activity in Albania ($\beta = –0.531$, $\text{Exp}(\beta) = 0.588$, $p = 0.007$), Hungary ($\beta = –0.965$, $\text{Exp}(\beta) = 0.381$, $p = 0.041$), North Macedonia ($\beta = –0.968$, $\text{Exp}(\beta) = 0.380$, $p = 0.056$), and Kosovo ($\beta = –0.887$, $\text{Exp}(\beta) = 0.412$, $p = 0.010$). This suggests that respondents from households with employed parents may have delayed labor market entry or extended reliance on family support. In Bosnia and Herzegovina, experiencing parental financial difficulties at age 14 increases the likelihood of being active as an adult ($\beta = 0.635$, $\text{Exp}(\beta) = 1.887$, $p = 0.010$), indicating intergenerational determination of labor force engagement due to economic necessity.

Care duties for parents, traditional gender role attitudes, and health generally show weak or non-significant effects, with some marginal effects in Montenegro and North Macedonia. Household income shows a tiny positive effect only in Bosnia and Herzegovina ($\beta \approx 0$, $p = 0.010$).

Overall, the findings underscore the importance of considering age, gender interactions, household composition, and historical family context in understanding labor market activity in the Western Balkans. While some structural patterns (life-cycle effects, household specialization) are consistent, gendered and intergenerational influences vary significantly across countries, reflecting differences in social norms, labor market structures, and economic pressures.

Conclusion

This paper explored the determinants of labor force participation in the Western Balkans, highlighting persistent gender gaps, life-cycle patterns, household

influences, and the role of cultural norms. The findings reveal that men are generally more active in the labor market than women, but the gender gap varies across countries and is shaped by education, family responsibilities, and social norms. Women's labor market participation remains constrained by unpaid caregiving duties, particularly in contexts where formal childcare and eldercare services are limited, whereas men's activity is more strongly tied to age, education, and economic necessity.

Age follows an inverted-U trajectory in most countries, with labor market activity peaking in mid-adulthood (ages 36–43), reflecting the combined effects of career progression, child-rearing responsibilities, and later-life retirement. Exceptions exist, such as Montenegro, where participation declines gradually with age, suggesting country-specific labor market dynamics. Education consistently increases the likelihood of participation, but its effect is stronger for men, and interactions with gender and number of children reveal that caregiving responsibilities disproportionately reduce women's labor force engagement. Household composition and parental background further shape labor market activity, with larger households or disadvantaged childhood conditions sometimes prompting higher participation for economic survival.

Cultural norms and gender role attitudes remain deeply embedded in the region, influencing both the distribution of unpaid work and the prioritization of employment. Traditional beliefs regarding caregiving and male breadwinning continue to depress female labor supply, while country-specific variations highlight the mediating role of institutional and policy environments. Countries with relatively higher female participation, such as Hungary, exhibit lower care-related constraints and a smaller gender gap, suggesting that supportive policies and cultural shifts can significantly improve labor market inclusion.

Overall, the study underscores the need for multi-dimensional policy approaches that address structural, economic, and cultural barriers to labor force participation. Enhancing access to affordable childcare and eldercare, promoting flexible work arrangements, strengthening education and training opportunities, and fostering gender-equal social norms are key measures to raise participation among women, while targeted interventions for youth and men can improve early-career attachment and labor market resilience. By addressing these interrelated factors, the Western Balkans can unlock significant untapped human capital and reduce persistent labor market disparities across gender, age, and household lines.

COMPETING INTERESTS

The author has no competing interests to declare.

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