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Financial Inclusion - A Driving Force for Women's Entrepreneurship Development

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A B S T R A C T

The financial inclusion of women has become an important issue for the academic community and policymakers as it is one of the crucial factors for the development of women's entrepreneurship. This study examines the impact of socio-demographic factors on women's financial inclusion in the Western Balkans (Albania, Bosnia and Herzegovina, Croatia, North Macedonia and Serbia). The data from the Global Findex Database 2021 were used. Financial inclusion is measured by the financial inclusion index modified by the inclusion of digital

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payments variable. The sample consisted of 2,683 women from the Western Balkans region. Multiple linear regression was used to examine the influence of age, education, employment status and income on financial inclusion. The results indicate that education, employment status and income have a positive influence on women's financial inclusion. However, an inverted U-shaped relationship was found between age and financial inclusion, suggesting that inclusion increases up to a certain point and then decreases.

KEYWORDS: *financial inclusion, digital financial inclusion, women's entrepreneurship, Global Findex Database 2021, Western Balkan Region, financial inclusion index*

Introduction

The financial inclusion issue represents a crucial concern for the scientific community and decision-makers (Cabeza-García et al., 2019). The significance of financial inclusion is reflected in contributing to a country's economic performance (Pavón Cuéllar, 2021; Demirgüç-Kunt et al., 2017) and reducing wealth inequality (Omar & Inaba, 2020). Additionally, improvement in financial inclusion can strengthen women's economic empowerment and reduce their poverty (Peterlechner, 2021). However, since 2011, despite the overall enhancement, the financial inclusion gender gap has remained unaltered (Trivelli et al., 2018). Antonijević et al. (2021) affirmed the existence of a significant gender gap on a global level by examining data for 2017. Despite women's significant role in managing household income, according to the Organisation for Economic Co-operation and Development-OECD (2018) and Deléchat et al. (2018), they have limited financial access compared to men. The possible reasons could be that women face discrimination, especially those living in developing countries (Achakpa & Radović-Marković, 2018), have limited access to financial funds (Botrić & Broz, 2017; Bogdanović, 2017), or possess a lesser degree of financial literacy (Hasler & Lusardi, 2017) and digital competencies (Kuroda et al., 2019). Due to their dependence on men in terms of obtaining approval to be a part of the labor market, women face challenges in earning financial resources (World Bank Group, 2018). Also, it is considered that men dominate in making household decisions, and women participate to a lower extent in income, exposing them to a higher poverty risk (Asaduzzaman et al., 2017). The importance of focusing on

women in financial inclusion policies is highlighted by Asuming et al. (2019).

Numerous authors have investigated the impact of factors such as age (Shabir & Ali, 2022; Balliester Reis, T., 2022; Abdu & Adem, 2021; Rashdan & Eissa; 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015), education (Shabir & Ali, 2022; Balliester Reis, T., 2022; Bakhshi & Agarwal, 2020; Rashdan & Eissa; 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015), employment status (Shabir & Ali, 2022; Balliester Reis, T., 2022; Soumaré et al., 2016), and income (Shabir & Ali, 2022; Balliester Reis, T., 2022; Abdu & Adem, 2021; Rashdan & Eissa; 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015) on financial inclusion. However, none of the previous studies have analyzed the influence of the mentioned factors in the Western Balkans region using the latest available data and an appropriate measure of financial inclusion.

Considering all the above, this study aims to identify the statistically significant socio-demographic factors for financial inclusion in the Western Balkans region. According to the World Bank's classification, all countries in this region belong to the group of middle-income countries (i.e., developing countries), except Croatia, which is a high-income country (i.e., a developed country). These countries share many similarities, in terms of history and culture, considering that - except Albania - they were part of the former Yugoslavia. In this context, it is important to analyze and identify in depth the main social and demographic factors that influence women's financial inclusion. The significance of this research lies in its pioneering examination of how the socio-demographic characteristics of women affect financial inclusion in the Western Balkans region. Additionally, the study introduces a new methodology for measuring financial inclusion.

Literature Review

Financial inclusion refers to the access to financial products and services by individuals provided conscientiously and sustainably (World Bank, n.d.). It is stated that the usage of digital financial services can enhance financial inclusion (Kumar et al., 2019), especially in developing countries (Antonijević & Domazet, 2024). According to Pazarbasioglu et al. (2020), digital financial services (DFS) can be defined as services whose functioning is based on digital technologies. The digital channels through

which individuals execute digital financial activities include the following: electronic and mobile banking, mobile as a wallet, payment of bills, and transfer of money via ATM, POS terminals, etc. (Kambale, 2017). The availability of the Internet, technological improvements, and the modern lifestyle, which involves the use of computers and mobile devices (smartphones and tablets), are the key factors driving individuals to meet their financial needs through digital channels. However, if individuals face difficulties in meeting existential needs, it can be assumed that they won't be able to afford modern devices which entail certain costs and skills to use them. To perform any digital service, it's important to possess an adequate level of digital competencies (Domazet & Marjanović, 2024; Ivanović et al., 2021; Lazić et al., 2023; Jevtić et al., 2023; Lazić et al., 2022; Bradić-Martinović & Banović, 2018). They are crucial in the digital transformation process and represent a vital driver for a country's digitalization development, so national strategies should be prepared according to the required skills trends (International Telecommunication Union - ITU, n.d.).

The results of previous studies suggest that age is an important predictor of financial inclusion (Shabir & Ali, 2022; Asuming et al., 2019; Tuesta et al., 2015), including the use of digital financial services (Shankar et al., 2020; Onyia & Tagg, 2011). However, the results vary in terms of the type of influence. Rashdan and Eissa (2020) found that the older population is more financially included. Sanderson et al. (2018) also confirmed this finding. Contrasting research findings suggest that in the case of digital financial inclusion, the typical users are young (Prompattanapakdee, 2009) and the number of users decreases with age, indicating the negative influence of age (Jiménez & Díaz, 2019; Szopiński, 2016). Szopiński (2016) also highlighted that most users of digital financial services belong to the 25-34 and 34-44 age groups. However, Chaudhary et al. (2022) found that there is no significant correlation between age and the use of digital financial services. It is claimed that financial inclusion increases with age up to a certain level, after which it begins to decline (Balliester Reis, 2022; Abdu & Adem, 2021). One possible reason for this could be the lower level of financial knowledge in the younger phase. After the initial phase, in which young people are generally excluded (Zins & Weill, 2016), people become better informed and begin to use financial services. It can be assumed that interest in financial services will decline after retirement. Based on the previous findings, the following hypothesis is defined:

H1: There is an inverted U-shaped relationship between age and financial inclusion.

In general, marginalized populations, such as women, tend to lack skills and appropriate education (International Telecommunication Union - ITU, n.d.). Individuals with low levels of education are particularly affected during periods of crisis due to their worsened position in the labor market (Institute of Economic Sciences, 2022). Many researchers stated that education is an important determinant of financial inclusion (Marjanović et al., 2023; Shabir & Ali, 2022; Bakhshi & Agarwal, 2020; Rashdan & Eissa, 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015). In the context of digital financial services such as e-banking and m-banking, the typical users are those who are highly educated (Jebarajakirthy & Shankar, 2021; Shankar et al., 2020; Jiménez & Díaz, 2019; Szopiński, 2016; Onyia & Tagg, 2011; Prompattanapakdee, 2009; Domazet et al., 2023). Contrary to these findings, Chaudhary et al. (2022) pointed out that there is no association between educational level and usage of online banking services. Considering all the above, the following hypothesis is formulated:

H2: Education has a significant positive influence on women's financial inclusion.

Botrić and Broz (2017) argue that there is an association between financial exclusion and workforce exclusion. A higher probability of women's financial exclusion exists in countries where women's participation in the labor market is limited and state-owned banks hold a high market share (Morsy, 2020). Employment status is considered a determining factor that has a positive impact on financial inclusion (Balliester Reis, 2022; Shabir & Ali, 2022, Soumaré et al., 2016), particularly in the context of digital financial services (Onyia & Tagg, 2011). Moreover, Jiménez and Díaz (2019) state the higher usage of online banking by those who are self-employed. Therefore, hypothesis three is defined as follows:

H3: Employment status has a significant positive influence on women's financial inclusion.

Pal et al. (2022) found that women's earnings promote their empowerment in the context of financial inclusion. In addition, many authors emphasize income as an important driver of financial inclusion (Balliester Reis, 2022; Shabir & Ali, 2022; Rashdan & Eissa, 2020;

Asuming et al, 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015). This is particularly emphasized due to the positive impact on the use of digital financial services (Szopiński, 2016; Jiménez & Díaz, 2019; Prompattanapakdee, 2009; Shankar et al., 2020). However, Onyia and Tagg (2011) found that there is no significant correlation between income and the use of digital financial services. In contrast to the previous findings, Abdu and Adem (2021) pointed out the negative relationship between income and financial inclusion. As a possible reason, the authors mentioned that individuals lacking funds may resort to taking out a loan and opening an account for their earnings. Based on all of the aforementioned previous findings, the following hypothesis is formulated:

H4: Income has a significant positive influence on women's financial inclusion.

The next section provides a detailed overview of the variables, data sources, and implemented statistical methods used to examine the relationships between variables.

Methodology

To examine the influence of socio-demographic factors on financial inclusion, the data were obtained from the latest Global Findex database 2021. The database includes responses from individuals aged 15+ regarding their payments, savings, and lending habits. This research has been conducted triennially, starting in 2011, with the support of the Bill & Melinda Gates Foundation. In this study, five countries belonging to the Western Balkans region were observed, namely Albania, Bosnia and Herzegovina, Croatia, North Macedonia, and Serbia. Montenegro was not analyzed since data for 2021 were not available.

To measure the level of financial inclusion, the authors developed the Financial Inclusion Index (FII) based on the relevant previous studies (Eze & Alugbuo, 2021; Zhang & Posso, 2019; Awaworyi Churchill et al., 2020; Obiora & Ozili, 2024), with some modifications. In these studies, account ownership, savings and borrowing habits, and credit/debit card ownership are considered core variables of financial inclusion. Contrary to previous studies, this study incorporated digital payments into the index, considering that financial inclusion can be enhanced through digital financial services (Kumar et al., 2019). Based on the previous literature and with some

modifications, the following five indicators were used to construct the FII: 1. Financial institution account ownership; 2. Debit card ownership; 3. Borrowed money from a financial institution; 4. Saved money at a financial institution; 5. Any digital payment.

The variables were weighted differently depending on their importance. In some previous studies, all variables forming the index were given equal importance (Eze & Alugbuo, 2021; Zhang & Posso, 2019). Obiora and Ozili (2024) assigned the highest value (0.33) to the account ownership variable, while other variables such as borrowing and saving habits (formal and informal) and debit/credit card ownership were weighted at 0.1. The thresholds of previous studies indicating whether a person is financially included are 0.4 (Eze & Alugbuo, 2021) and 0.5 (Zhang & Posso, 2019; Awaworyi Churchill et al., 2020). Therefore, the person is considered financially excluded if the index is below these values. The weights in this study are 0.3 for financial institution account ownership, 0.1 for debit card ownership, saved at a financial institution and borrowed from a financial institution, and 0.4 for any digital payment. The highest weight (0.4) is assigned to the variable "any digital payment" considering that digital financial services can improve financial inclusion (Kumar et al., 2019) and given the benefits digital financial services provide their users, such as time and location-independent availability, time savings, easy access to financial services, low transaction costs, etc. (Chavali & Kumar, 2018). The variable financial institution account ownership is assigned a slightly lower weight (0.3), considering that having an account is one of the basic and key prerequisites for using banking services.

The formula based on which the financial inclusion index is calculated is as follows:

$$FII = w_1 * V_1 + w_2 * V_2 + \cdots + w_d * V_d \,, \qquad (1)$$

where FII_i, i=1, ..., n, represents the financial inclusion index for n respondents; w_d, d=1, …, x, represents the weights, and V_d, d=1, …, x, represents variables that construct the index. The sum of all weights is equal to 1 (equation 2).

$$\sum_{d=1}^{x} w_d = 1 \qquad (2)$$

Therefore, the financial inclusion index in this research is calculated as:

$$FII = 0.3 * account\ ownership + 0.1 * debit\ card\ ownership + 0.1 * borrowed\ from\ a\ financial\ institution + 0.1 * saved\ at\ a\ financial\ institution + 0.4 * any\ digital\ payment \quad (3)$$

A detailed overview of the observed variables and measures is presented in Table 1.

Table 1: Variables and measures

Variable	Description	Coding
Independent variables		
Age	Respondent's age (in years)	/
Age squared	Squared value of the respondent's age (in years)	/
Education	Level of education	1= primary school or less 2= secondary school 3= tertiary education or more
Employment	The respondent's employment status	1 = Employed 0 = Unemployed
Income quintile	Respondents belonging to a specific group based on income level	1=20% of the population with the lowest income (values from 0 to 20%) 2= values from 20 to 40% 3=values from 40 to 60% 4=values from 60 to 80% 5=20% of the population with the highest income (values from 80 to 100%)
Dependent variables that construct the Financial Inclusion Index (FII)		
Financial Institution Account	Owning an account at a financial institution	1 = Have an account 0 = Don't have an account
Debit card ownership	Has a debit card	1 = Has an ATM/debit card 0 = Don't have an ATM/debit card
Saved money at a financial institution	The respondent personally reserved or put aside funds during the last year	1 = Saved in the last year 0 = Didn't save in the last year

Variable	Description	Coding
Borrowed money from a financial institution	The individual, either alone or in collaboration with another person, obtained a loan within the last year	1 = Borrowed in the last year 0 = Didn't borrow in the last year
Any digital payment*	Made or received a digital payment in the last year	1 = Made a digital payment in the last year 0 = Didn't make a digital payment in the last year

*Notes: * If the respondent used mobile money, a debit/credit card, or a mobile phone for payments or made online/in-store purchases in the past year. This also includes those who received payments for agricultural products, government transfers, wages, or pensions in the past year.*

Source: Adapted from Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2022). The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19. World Bank Publications.

After excluding "I don't know" answers and cases where respondents refused to answer, the total sample of 2,683 women was used for further analysis. A detailed overview of the structure of the sample is presented in Table 2.

Table 2: Sample structure

Country	Sample size	Age (average)	Education		Employment status		Income	
Albania	576	53.20	1	56.08	1	35.07	1	14.24
							2	25.80
			2	28.12			3	19.44
					0	64.93	4	27.08
			3	15.80			5	23.44
Bosnia and Herzegovina	499	42.74	1	13.83	1	59.12	1	14.43
							2	18.24
			2	55.51			3	23.65
					0	40.88	4	21.44
			3	30.66			5	22.24

Country	Sample size	Age (average)	Education		Employment status		Income	
Croatia	582	50.58	1	11.34	1	57.04	1	12.54
							2	19.07
			2	47.25			3	22.17
					0	42.96	4	22.85
			3	41.41			5	23.37
North Macedonia	515	44.67	1	26.80	1	52.23	1	13.98
							2	16.70
			2	46.60			3	21.75
					0	47.77	4	22.91
			3	26.60			5	24.66
Serbia	511	42.26	1	11.55	1	58.32	1	15.07
							2	17.61
			2	60.08			3	19.37
					0	41.68	4	24.07
			3	28.37			5	23.88
TOTAL	2,683	46.97	1	24.41	1	52.03	1	14.01
							2	17.48
			2	47.00			3	21.25
					0	47.97	4	23.74
			3	28.59			5	23.52

Source: Authors' calculation. Note: Coding corresponds with the data from Table 1.

The highest average age is identified in Albania, while the lowest is recorded in Serbia. In each country, most respondents completed secondary school, except Albania, where most individuals completed primary school or less. Most Albanian and Serbian respondents belong to the fourth, while Croatian and North Macedonian respondents are dominantly from the fifth income quintile group. Individuals from Bosnia and Herzegovina are mostly from the third income quintile group. The share of those who are employed dominates in all countries except Albania.

The authors used multiple regression analysis to examine the influence of independent variables i.e., socio-demographic factors, on financial inclusion measured by financial inclusion index. Considering the possible presence of a non-linear relationship between age and financial inclusion, the squared value of age is included in the analysis as in the study conducted by Rashdan and Eissa (2020). The analysis incorporates control variables,

namely each country, to examine its unique characteristics. The country of interest is coded as 1, while all other countries are coded as 0.

Results and Discussion

The data presented in Table 3 show that Albania has the lowest proportion of women who have an account at a financial institution, have a debit card, save at a financial institution, and make or receive digital payments. That's four out of five indicators of financial inclusion, suggesting that Albanian women struggle with formal financial inclusion.

Table 3: Account ownership, debit card ownership, saved at a financial institution, borrowed from a financial institution, and digital payments in Western Balkan countries in 2021(% of respondents)

Country	Account ownership		Debit card ownership		Saved at a financial institution		Borrowed from a financial institution		Any digital payment	
Albania	**1**	41.84	**1**	24.30	**1**	7.12	**1**	9.20	**1**	30.90
	0	58.16	**0**	75.70	**0**	92.88	**0**	90.80	**0**	69.10
Croatia	**1**	81.76	**1**	67.13	**1**	20.64	**1**	15.63	**1**	71.34
	0	18.24	**0**	32.87	**0**	79.36	**0**	84.37	**0**	28.66
Bosnia and Herzegovina	**1**	94.16	**1**	76.29	**1**	30.41	**1**	8.42	**1**	90.89
	0	5.84	**0**	23.71	**0**	69.59	**0**	91.58	**0**	9.11
North Macedonia	**1**	84.85	**1**	55.53	**1**	17.48	**1**	10.29	**1**	75.34
	0	15.15	**0**	44.47	**0**	82.52	**0**	89.71	**0**	24.66
Serbia	**1**	93.15	**1**	70.45	**1**	18.00	**1**	14.68	**1**	91.98
	0	6.85	**0**	29.55	**0**	82.00	**0**	85.32	**0**	8.02
Total	**1**	78.64	**1**	58.33	**1**	18.75	**1**	11.48	**1**	71.60
	0	21.36	**0**	41.67	**0**	81.25	**0**	88.52	**0**	28.40

Source: Authors' calculation based on the Global Findex database 2021

Note: Coding (1, 0) corresponds with the data from Table 1.

In contrast, Croatia, one of the high-income countries, has the highest participation of women in terms of three indicators, i.e. account ownership, debit card ownership, and savings at a financial institution, while the lowest percentage of women borrowed from a financial institution. Bosnia and Herzegovina has the highest percentage of women who borrowed money from a financial institution, while Serbian women dominate in making or receiving digital payments compared to women in other Western Balkans countries.

The results of the multiple regression models are presented below (Table 4).

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.524	.275	.273	.29103
2	.650	.422	.420	.25995

Source: Authors' calculation

The models without and with control variables explain 27% and 42% of the variance, respectively. This means that in addition to the characteristics of the countries, other factors also explain the variability of the variable financial inclusion. Table 5 provides a detailed overview of the coefficients.

Table 5: Results of the multiple linear regression analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.014	.043		.331	.740
Age	.005	.002	.281	2.956	.003
Age squared	-5.473E-5	.000	-.279	-2.860	.004
Education	.171	.009	.364	19.184	.000
Employment status	.140	.014	.205	10.309	.000
Income	.019	.004	.076	4.297	.000
2 (Constant)	.212	.041		5.211	.000
Age	.005	.002	.286	3.365	.001
Age squared	-5.180E-5	.000	-.264	-3.019	.003
Education	.105	.008	.223	12.387	.000
Employment status	.128	.012	.187	10.534	.000
Income	.033	.004	.132	8.216	.000
Albania	-.368	.016	-.443	-22.590	.000
Bosnia and Herzegovina	-.110	.016	-.125	-6.816	.000
North Macedonia	-.083	.016	-.096	-5.145	.000
Serbia	.008	.016	.009	.505	.614

Source: Authors' calculation

The results demonstrated an inverted U-shaped relationship between financial inclusion and age. This means that the level of financial inclusion rises to a certain point, and after that, falls. The findings are consistent with

Balliester Reis (2022) and Abdu and Adem (2021), but contrary to Zins and Weill (2016). Thus, young people are excluded in the initial stage due to the lack of information and financial funds, while after retirement, their interest in financial services declines.

The results show that education significantly positively influences financial inclusion. The findings are in line with the previous studies (Shabir & Ali, 2022; Bakhshi & Agarwal, 2020; Rashdan & Eissa, 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015; Jebarajakirthy & Shankar, 2021; Shankar et al., 2020; Jiménez & Díaz, 2019; Szopiński, 2016; Onyia & Tagg, 2011; Prompattanapakdee, 2009), but contrary to Chaudhary et al. (2022) who found that there is no significant relationship between educational level and digital banking services usage.

The findings suggest that income significantly positively impacts financial inclusion, supporting the conclusions of the studies conducted by many authors (Pal et al., 2022; Balliester Reis, 2022; Shabir & Ali, 2022; Rashdan & Eissa, 2020; Asuming et al., 2019; Sanderson et al., 2018; Soumaré et al., 2016; Tuesta et al., 2015; Szopiński 2016; Jiménez & Díaz, 2019; Prompattanapakdee, 2009; Shankar et al., 2020). Thus, income contributes to women's financial stability and increases their ability to be desirable customers of financial services. The results contradict those of Onyia and Tagg (2011), who argue that there is no significant association between income and the usage of financial services.

The findings of the study indicate that employment status has a significant positive impact on financial inclusion as demonstrated by Balliester Reis (2022), Shabir and Ali (2022), Soumaré et al. (2016), and Onyia and Tagg (2011). Therefore, women in the workforce have a source of income, and their need for financial services is greater compared to those who are unemployed. Thus, employed women are more likely to have an account, debit card, access to loans, and other financial products/services.

The results of the model, which incorporates control variables, suggest that there is a difference in women's financial inclusion between countries. This indicates that specific country-specific factors, such as development, habits, attitudes, lifestyle, and others, play a significant role.

Despite contributing to the expansion of knowledge on women's financial inclusion in the literature, this paper has several limitations. First, it only analyzes the behavior and characteristics of women from the Western Balkans region. Further studies should examine the habits of those women

living in lower-middle-income and low-income countries. Second, this study focuses only on women. Future research should investigate the behavior of men and compare the results. Third, this paper analyzes the impact of four socio-demographic characteristics i.e., education, age, employment status, and income, while the model explains 42% of the variance. Further studies should include additional variables such as marital status, residential area (urban/rural), religion, and race in the analysis. The summary of hypothesis testing is presented in Table 6.

Table 6: Summary of hypothesis testing

Hypothesis	Path	Result
H1	Age → Financial Inclusion (inverted U-shape)	**Supported**
H2	Education → Financial Inclusion	**Supported**
H3	Employment status → Financial Inclusion	**Supported**
H4	Income → Financial Inclusion	**Supported**

Source: Authors' calculation

Women's financial inclusion is a relevant topic as it can foster their empowerment through starting and expanding their businesses, allocating resources to education and healthcare, and, consequently, higher participation in economic activities. Additionally, improving women's well-being and gender equality regarding barriers they face in accessing and controlling financial resources leads to the achievement of their financial independence. This study, besides theoretical, has practical implications considering that relevant bodies of the observed countries should pay more attention to marginalized women in terms of education, employment, and income.

Conclusion

The academic community and policymakers recognize women's financial inclusion as a crucial area of interest. Given the challenges women face regarding education, household position, and labor market participation, it is significant to identify the key factors influencing their access to financial products and services. Numerous studies have examined the impact of socio-demographic factors such as education, age, employment status, and income on financial inclusion. Nevertheless, none

of the previous studies have examined the impact of these factors in the Western Balkans region, analyzing the most recent available data and using an appropriate measure of financial inclusion.

This study aims to examine how education, age, employment status, and income affect women's financial inclusion in the Western Balkans region, including the following countries: Albania, Bosnia and Herzegovina, Croatia, North Macedonia, and Serbia. Financial inclusion is measured using the financial inclusion index, which is developed based on previous studies and modified by incorporating digital payments. The analysis was conducted using the latest data available from the Global Findex Database 2021. Multiple linear regression is employed to assess the impact of age, education, employment status, and income on financial inclusion. The findings of this study highlight the significant positive roles of education, income, and employment as predictors of financial inclusion. The relationship between financial inclusion and age is inversely U-shaped, meaning that the level of financial inclusion increases up to a certain age, and starts to decline after that point.

Women's financial inclusion is a relevant issue as it has the potential to empower women by enabling them to start and expand businesses, allocate resources, and increase their involvement in economic activities. Sherwani et al. (2023) and Yang et al. (2022) also demonstrate that financial inclusion plays a crucial role for women entrepreneurs, as it not only fosters entrepreneurship but also opens up substantial economic opportunities for them. Furthermore, addressing the obstacles they face in accessing and managing financial resources can enhance their well-being and lead to achieving financial independence. This research suggests that relevant bodies should prioritize women who confront education, employment, and income difficulties, especially the younger population.

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