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WOMEN EMPOWERMENT IN RURAL ECONOMIES: IMPACTS OF MONETARY POLICY

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ABSTRACT

Purpose- This study integrates economic development and prosperity with rural sociology and women's well-being. It assesses the women's empowerment in rural societies in the global context.

Methodology-- The study posits that women's subjective well-being in rural societies is a consequence of their empowerment, as measured by their participation in major decision-making. The study assesses women's empowerment in rural societies worldwide by analyzing data from 217 countries over 25 years.

Findings- The access and availability of credit to the private sector ensures the availability of cash, which influences households to allow more participation of female members in major family decisions. It was noted that the role of women in businesses is more influential than their role as workers.

Conclusions- The role of monetary policy was validated by the impact of domestic credit in enhancing the participation of females in businesses. It was also noted that higher per capita income improves women's ownership and participation in businesses.

Keywords: Domestic credit, rural sociology, monetary policy, subjective well-being, women in business
JEL codes: E51, I31, Z13

1. INTRODUCTION - WOMEN'S EMPOWERMENT AND SUBJECTIVE WELL-BEING

This study is mainly concerned with women's empowerment, which is an important indicator of women's subjective well-being. This study is important from the economic development and prosperity point of view, because agricultural output is closely integrated with the rural sociology and women's well-being. Assessing subjective well-being is a complicated task because it varies from person to person. It's closely related to personal perceptions. The issue becomes more complicated in the case of subjective well-being in women in rural areas, where the availability of reliable data is another challenging task. For this purpose, the active women's participation in major family decisions was taken as an indicator of the women's well-being.

The study assesses women's empowerment in rural societies in the global context. Women's empowerment in this study is measured through women's participation in major decision-making. In this way, women's empowerment deals with women's subjective well-being in rural societies. While the evaluation and experiences of individuals about their own lives, their perception of satisfaction in their lives, and their emotional reactions to events are referred to as subjective well-being. This type of well-being assesses how well a person feels her life is going in terms of overall satisfaction and emotional state. A high subjective well-being is usually considered a high level of life satisfaction and reflects happiness. This type of well-being will be exclusive to each individual.

Notably, contrary to subjective well-being, objective well-being can be assessed in terms of physical factors, including access and availability of food, clothes, shelter, money, employment, safety, security, education, and health. But measurement of subjective well-being is a difficult task. Various indicators of subjective well-being can be identified for research and operational purposes. The social, psychological, and spiritual factors can be included in these indicators. Healthy human functioning is also considered an important component of human well-being. Park et al (2023) presented a detailed description of the indicators to measure a specific form of subjective well-being. Diener (1984) defined subjective well-being in terms of three indicators: frequent positive effects, infrequent negative effects, and infrequent negative effects. Diener (1999) argued that the various components of subjective well-being indicate different constructs that need to be understood separately. Those constructs are closely related. So, subjective well-being should be considered as a general area of scientific interest rather than a single specific construct.

Different theories describe the causes of subjective well-being. These theories in the literature can be categorised into two classes: Top-down and bottom-up influence theories. Top-down theories suggest that people have a genetic predisposition to be happy or unhappy, and this predisposition determines their subjective well-being setpoints. These theories imply that a person's equilibrium level of subjective well-being is a consequence of hereditary characteristics. According to the bottom-up theories, happiness is created from happy experiences. These theories are based on the idea that there are universal basic human needs and that happiness results from their fulfilment. Another approach related to this topic is the hedonic treadmill theory, which proposes that most people return to a neutral level of subjective well-being (neither happy nor unhappy). The experts have identified various factors of subjective well-being and happiness: Personality and genetics (DeNeve: 1999), social influences (Fan Xiaojun et al: 2019), Wealth and Income (Shigehiro Oishi and colleagues: 2022, and Aknin, Norton, and Dunn: 2009), Health (Diener 2008), Neural characteristics (Sato: 2015 and Kurth: 2014), and Leisure (Hribernik and Mussap: 2010) are included in these factors.

The role of information technology in the expansion of e-commerce and credit to the rural households, women, and other marginalized groups has been studied by Mehar (2023a), Altundag (2025), Pal, Gupta, and Joshi (2022), Hendriks (2019), and Sobhan and Sharmin (2024). These studies explored new evidence and found the significant and effective role of monetary policy in determining e-commerce and empowering marginalized groups. Based on the listed firms of the Dhaka Stock Exchange, Sobhan and Sharmin (2024) found a positive and significant association between corporate social responsibility (CSR) disclosure and earnings management. This study shows how managers can use CSR disclosures as a competitive advantage. In the context of the Indian economy, Pal, Gupta, and Joshi (2022) found that the earning status of women, their participation in financial decision-making, and recipient of social welfare schemes by women have a significant impact on women's empowerment through financial inclusion.

Aziz, Sheikh, and Shah (2022) found that in nations where religious restrictions limit women’s willingness to work are less likely than males to own a bank account.

Based on the annual data of 217 countries for 25 years, Mehar (2025b) assessed the role of the monetary policy through financial inclusion, while a significant positive effect of financial inclusion on women's empowerment was ascertained. It was further noted in his ascertainments that the use of information technology facilitates access to banks and financial institutions. However, the direct intervention of monetary authorities is required to channelize the lending from commercial banks to employment creation in marginalized groups, women, and rural households.

The scope of this study is limited to covering the subjective well-being of women and their relation to the rural economy. Its core concern is to examine the effects of monetary policy on women's empowerment and the rural economy. The study is divided into 6 sections. The next section covers the economic factors of subjective well-being in economic literature. Section 3 establishes the model to explain the relations between monetary policy, rural population, female employment, and women's empowerment. Section 4 explains the data and statistical methodology. The results and empirical findings are explained in Section 5, while Section 6 highlights some policy implications and limitations of the study.

2. FACTORS OF SUBJECTIVE WELL-BEING IN ECONOMIC LITERATURE

The importance of economic conditions in determining socioeconomic prosperity and well-being has been discussed in various studies in the economic literature. Behera, Padmaja, and Dash (2024) established the relations between socioeconomic factors and happiness. Their study was based on empirical evidence. Mehar (2010) inferred that per capita income, subsidies and taxes play an instrumental role in creating the economic miseries in an economy. Mehar (2009) explained the economic factors of women's empowerment and noted that ownership of immovable properties, particularly agricultural farm houses and crop lands, is the most significant factor of women's empowerment in rural areas. The effect of women's employment is not as powerful as the ownership of business assets.

Microeconomics infers that an individual maximises the utility of his available resources through consumption. Microeconomic theory influences the thinking behind researching the relationship between social well-being and consumption. In discussion on the factors of economic well-being, Komlos (2023) have established the relationship between neurology, economics and human welfare. He (Komlos, 2023) introduced the concept of 'Human Economics' to cover the social and psychological factors in economics.

The role of monetary policy and financial institutions in determining the economic prosperity, well-being and women's empowerment is an important area of discussion in economic literature. There is a disagreement in the economic literature on the role of financial institutions in the determination of socioeconomic conditions. One school of thought emphasises the mechanism of monetary policy transformation to create a balance between GDP growth and inflation, while GDP growth ensures employment growth (Stein: 1982). The other school of thought emphasises the intervention by specialised financial institutions, including rural banks, non-banking financial institutions, and non-government organisations (NGOs), for creating employment opportunities and poverty alleviation. In establishing the relations between financial development and human welfare, Mehar (2024) identified 3 controversial issues: (1) Monetary policies focus on improving GDP growth and controlling

inflation, but their impacts do not trickle down to lower-income groups. (2) The second controversial issue is the role of wealth concentration. Some experts favour wealth concentration because it builds new business empires, which contribute to growth and employment opportunities in a country, while another school of thought considers that these concentrations discourage the entry of new businesses. (3) The third issue covers the role of the financial system and institutions. Other than wealth accumulation, domestic credit to the private sector, interest rate spread, the magnitude of financial inclusion, structure and types of financial institutions, composition of borrowers, and external financing are also included in the vital components of the financial system. This system can create a blockage in the trickle-down effects of economic growth. The financial institutions can remove this blockage by transferring the benefits of macroeconomic growth to middle and lower-income groups through their lending policies. It was concluded that financial institutions, through their credit policies, can play an important role in the determination of employment conditions and business opportunities. The traditional approach of the trickle-down effects of the benefits of economic growth is not enough for the common people. Even the improvement in the banks' ability to lend, lower rates of interest, and allocation of credit to priority sectors cannot ensure the transfer of benefits of monetary and credit policies to the poor and vulnerable population. The inclusion of women, lower-income households, and the rural population in the financial system reflects the fairness and egalitarianism in the system, which is more important. The higher number of borrowers from banks and financial institutions improves the creation of new business entities, alleviates poverty, and reduces vulnerable employment. Mehar (2025) is concerned with the role of financial institutions in the supply of credit facilities to improve socioeconomic conditions. According to Mehar (2023), the more use of credit cards plays a very positive and significant role in developing the perception that people can arrange money within 30 days in case of financial emergencies. The more use of electronic payments and credit cards improves people's perception that they can manage money during the crisis. Similarly, in the determination of the people's perception that their top-most financial problem is to arrange money in case of a medical emergency due to a critical disease or accident, the availability of credit facilities is a significant factor. The role and mechanism of various types of financial institutions, including commercial banks has been explained by Mehar (2024a). He noted that all kinds of lending institutions, including banks and non-banking financial institutions, have similar attitudes toward lending to startups. However, the financial institutions owned by charitable organizations and philanthropists play a greater role in lending to the poor, women, and deprived people.

In establishing the relations between neurology, human well-being, and economic policies, Komlos (2023) advocates a new paradigm: Capitalism with a human face. He differentiated humanistic and mainstream economics based on their basic properties. Humanistic economics uses inductive logic (not deductive as in the case of mainstream economics). Humanistic economics implies that more just capitalism is possible, which enables people to live their daily lives with less anxiety, less conflict, less inequality, less insecurity, less manipulation, less pain, less poverty, less stress, less uncertainty, no unemployment, and less fear that their lives could spiral out of control in the next recession. This capitalism with a human face would also increase ethical behaviour, increase educational attainment, improve the health of the population, increase intellectual satisfaction, allow more leisure time, enable people to love and respect one another, improve social relationships, and enable the attainment of a moral life more easily. A wider definition of freedom was introduced by Komlos (2023). According to him, freedom is more than the absence of legal restraint to act. It includes the ability to live without the anxiety generated by a high-stress economy, so we should not have to worry about our jobs or pensions disappearing, being defrauded, or paying medical bills or college tuition. Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, medical care, and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. The markets should enable individuals to exercise their creativity, autonomy, and individuality without psychological manipulation or coercion. Mehar (2025a) described that families in extreme poverty have to sacrifice various kinds of freedom: Freedom to choose a profession, freedom to live in a favourite city, and freedom to learn are included in the list of those sacrifices. Even freedom of speech, freedom of religion, and freedom to develop social relations are closely associated with economic status. In tribal and rural societies and privately owned businesses, whole families are employed by the same employer. The nature of their jobs, residential status, location of work, and even political associations are associated with the employer's wishes. Such vulnerable employment is not considered unemployment in economic literature, though it affects human life miserably. Some studies define it as 'Modern Slavery'. Unfortunately, this new type of 'slavery' is not recognised in economic literature and policy-making circles. The relations between inflation, health expenditures, poverty, vulnerable employment, and death by suicide attempts have been noted in economic literature. The World Health Organisation has highlighted that more people die as a result of suicide than HIV, malaria, breast cancer, war, or homicide. Strangely, one in every 100 deaths is by suicide. Financial stress and job loss are included among the major factors of suicide. Poverty and financial stress may be a consequence of a flawed economic system and weak or exploitative economic policies. The consequences of a flawed economic system, ill planning, inefficiencies, and corruption of policymakers and economic managers should not be transferred to those who are not responsible for this.

In discussions on the impacts of economic factors, one should understand the difference between rural and urban sociology. The emotional attachment to the land, local culture, traditions and customs, and more limited economic resources compared to the urban areas are the usual characteristics of rural sociology. The participation of family members in business, unpaid workers, and the role of women in farm management and cropping are also included in the specialised characteristics of the rural economy. Another considerable point is the flow of income in the rural economy. The duration of the crop season determines the inflow of income of the rural households. The decisions regarding the purchase of assets, repayment of debts, dates of marriages, and travelling plans are connected with the crop seasons. The weather and environmental conditions also play an important role in the rural economy. These factors determine the role and participation of the female members in households, which is certainly different from that of urban societies.

3. RELATIONS BETWEEN MONETARY POLICY, FEMALE LABOUR PARTICIPATION, AND WOMEN'S EMPOWERMENT

This study examines the effectiveness of monetary policy in determining women's empowerment, particularly in rural societies. The incidence of monetary policy was measured through the magnitude of the credit to the private sector in the economy, while the empowerment was applied as an indicator of women's subjective well-being. In this study, women's empowerment was measured by the participation of a woman in 3 major decisions in their household (The households in which they usually live with their spouse and children, with or without others):

1) Decision about her health care,
2) Decisions about major household purchases, and
3) Decision about visiting family

The study establishes the simultaneity between the women's participation in businesses, availability of credit from banks and financial institutions, size of rural economy, and the women's participation in major family decisions. It is hypothesised that the size of the rural population, levies of taxes, and subsidies impact women's participation in businesses. In this background, the following hypotheses are established to test the effects of explanatory variables on the women's participation in major decisions:

1) Women's participation in business improves women's participation in major decision-making in households.
2) The size of the domestic credit to the private sector improves women's participation in major decision-making in households.
3) The size of the domestic credit to the private sector enhances women's participation in businesses.
4) The higher per capita income improves women's participation in major decision-making in households.
5) The higher per capita income improves women's participation in businesses.
6) The higher per capita income improves women's participation in the labour market.
7) The share of the rural population has dropped due to an increase in per capita income.
8) The share of the agriculture sector in gross domestic product (GDP) determines the women's participation in businesses.
9) The higher share of the agriculture sector in gross domestic product (GDP) improves the share of the rural population.
10) The size of the rural population affects women's participation in businesses.
11) The size of the rural population affects women's participation in the labour market.
12) The women's participation in the labour market improves their participation in businesses.
13) Employment in the agriculture sector improves women's participation in the labour market.
14) The size of crop land improves the share of the rural population.

The impact of monetary policy on women's empowerment was tested through the incidence of domestic credit in the economy. The target variable in this study is women's participation in family decisions. This is a widely accepted universal indicator of women's empowerment, because the ability of women to make decisions that affect their circumstances is an essential element of their empowerment and serves as an important contributor to their overall development. Participating in major decisions is affected by the access and availability of credit from banks and financial institutions, while it is indirectly affected by women's participation in businesses. This relation is mathematically expressed in the following equation:

$$\frac{dWOMDEC}{dDCPSG} = \frac{\partial WOMDEC}{\partial DCPSG} + \frac{\partial WOMDEC}{\partial WOMBUS} . \frac{\partial WOMBUS}{\partial DCPSG}$$

Where WOMDEC indicates women's participation (%) in major households' decisions, WOMBUS indicates women's ownership or share in business entities (%), and DCPSG is domestic credit to the private sector as a % of GDP. To identify the significant factors of women's participation in family decisions (WOMDEC), and the share of women in businesses (WOMBUS), the following equations have been established:

$$WOMDEC_{it} = \propto_i + \beta_1 WOMBUS_{it} + \beta_2 DCPSG_{it} + \beta_3 PCI_{it} + \beta_4 INFL_{it} + \varepsilon_{it} \quad (1)$$

$$WOMBUS_{it} = \propto_i + \beta_1 DCPSG_{it} + \beta_2 PCI_{it} + \beta_3 INFL_{it} + \beta_4 AGRGDP_{it} + \beta_5 RURPOP_{it} + \beta_6 LABFTM_{it} + \beta_7 SUBSD_{it} + \beta_8 TXTGDP_{it} + \varepsilon_{it} \quad (2)$$

$$LABFTM_{it} = \propto_i + \beta_1 PCI_{it} + \beta_2 INFL_{it} + \beta_3 RURPOP_{it} + \beta_4 SUBSD_{it} + \beta_5 TXTGDP_{it} + \beta_6 EMPAGR_{it} + \beta_7 PVTMTL_{it} + \varepsilon_{it} \quad (3)$$

$$RURPOPR_{it} = \propto_i + \beta_1 DCPSG_{it} + \beta_2 PCI_{it} + \beta_3 AGRGDP_{it} + \beta_4 SUBSD_{it} + \beta_5 CRPLND_{it} + \varepsilon_{it} \quad (4)$$

Where, PCI is per capita income, INFL is the rate of inflation, AGRGDP is the share of the agriculture sector in GDP, RURPOP is rural population, LABFTM is the female to male ratio of labour participation rates, SUBSD is subsidies to the private sector, TXTGDP is the tax to GDP ratio, EMPAGR is the share of domestic employment in the agriculture sector, PVTMLT is the multidimensional poverty headcount ratio, and CRPLND is the size of crop land in a country. While ε_{it} is a stochastic disturbance term. The descriptions of these variables are presented in Table 1, while a simplified picture of the interaction among these variables is shown in Figure 1.

4. METHODOLOGY

The above-mentioned hypotheses are tested through empirical analysis, based on the annual data of 217 countries for 25 years (from 2000 to 2024), which provides 5425 observations. The data for this analysis were taken from the World Bank (2025), which covers women participating in the above-mentioned 3 decisions in percentage terms: own health care, major household purchases, and visiting family (% of women age 15-49). Women in business indicates the women's ownership or participation in business (%).

Tables 2 and 3 present the descriptive statistics and correlation matrix of the variables in this study. The panel least squares (PLS) technique was applied to quantify the impacts of explanatory variables. The appropriateness of the panel least-squares technique (PLS) and the selection of its associated methods (fixed effect model, FEM or random effect model) have been determined by the Lagrange Multiplier Tests (Breusch-Pagan, Honda, King-Wu, and Hausman Test). The model selection criteria are based on the Akaike information criterion, Schwarz criterion, and Hannan-Quinn criterion.

Figure 1: Impact of Domestic Credit on Women's Empowerment (Simultaneity in the Model)

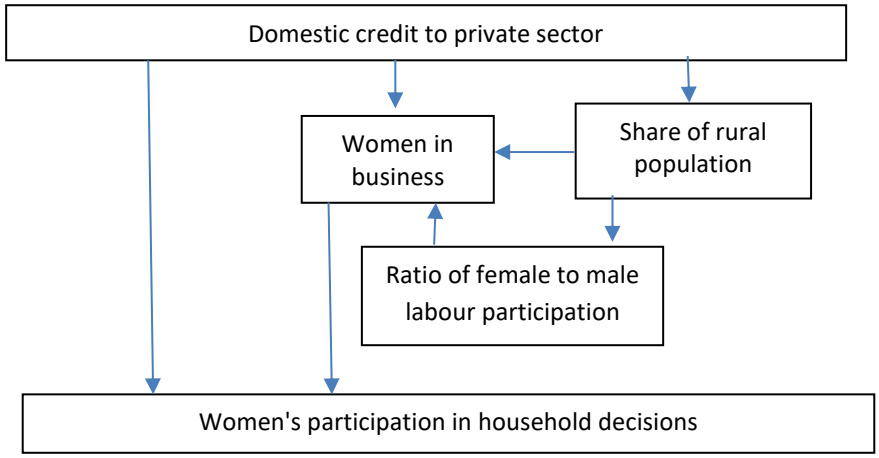

Table 1: List of Variables

Variable	Description
AGRGDP	Value added of agriculture, forestry, and fishing (% of GDP)
CRPLND	Permanent cropland (% of land area)
DCPSG	Domestic credit to private sector (% of GDP)
EMPLAGR	Employment in agriculture (% of total employment)
INFLCPI	Rate of inflation (%) based on the Consumer Price Index
LABRFTM	Ratio of female to male labour force participation rate (%) estimated by the ILO model
PCI	GDP per capita (USD)
PVRTMLT	Multidimensional poverty headcount ratio (% of population)
RURPOP	Rural population
RURPOPR	Rural population (% of total population)
SUBSD	Subsidies and other transfers (% of public expenditures)

TXTGDP	Tax revenue (% of GDP)
WOMBUS	Women's ownership or participation in Businesses
WOMDEC	Women (age 15-49 years) participating in the three decisions: own health care, major household purchases, and visiting family (%)

Source: Author's presentation based on World Bank (2025)

Table 2: Descriptive Statistics

Statistics\ Variable	DCPSG	RURPOP	EMPLAGR	AGRGDP	TXTGDP	PCI	INFLCPI	SUBSD	CRPLND	RURPOPR	WOMDEC	WOMBUS	PVRTMLT	LABRFTM
Mean	50.7	15784243	26.2	10.9	17.0	15929	6.6	39.1	4.5	41.1	49.1	69.7	8.8	70.9
Median	37.9	1895336	18.9	7.2	16.4	5364	3.5	37.6	1.5	40.9	50.6	73.1	2.0	76.5
Standard Deviation	44.4	75463640	22.9	10.7	7.6	24707	19.6	19.9	7.8	24.2	22.3	18.6	17.2	19.7
Minimum	0.0	0	0.1	0.0	0.0	110	-16.9	0.1	0.0	0.0	6.3	23.8	0.0	7.3
Maximum	304.6	915129968	91.9	79.0	147.6	256581	557.2	85.7	66.7	91.8	92.8	100.0	88.3	106.2

Table 3: Correlation Matrix

Variable	DCPSG	RURPOP	EMPLAGR	AGRGDP	TXTGDP	PCI	INFLCPI	SUBSD	CRPLND	RURPOPR	WOMDEC	WOMBUS	PVRTMLT	LABRFTM
DCPSG	1.000													
RURPOP	0.067	1.000												
EMPLAGR	-0.547	0.137	1.000											
AGRGDP	-0.521	0.092	0.790	1.000										
TXTGDP	0.274	-0.163	-0.299	-0.291	1.000									
PCI	0.626	-0.092	-0.584	-0.499	0.261	1.000								
INFLCPI	-0.151	0.006	0.122	0.107	-0.071	-0.123	1.000							
SUBSD	0.382	0.008	-0.411	-0.370	0.135	0.388	-0.060	1.000						
CRPLND	-0.057	-0.024	0.078	0.169	-0.041	-0.186	-0.034	-0.270	1.000					
RURPOPR	-0.487	0.134	0.752	0.661	-0.164	-0.453	0.087	-0.392	0.094	1.000				
WOMDEC	0.386	0.054	-0.290	-0.333	0.159	0.410	0.014	0.335	0.160	-0.300	1.000			
WOMBUS	0.445	-0.035	-0.293	-0.330	0.359	0.385	-0.099	0.495	-0.117	-0.254	0.402	1.000		
PVRTMLT	-0.407	0.224	0.727	0.770	-0.226	-0.365	0.199	-0.343	0.114	0.594	-0.680	-0.411	1.000	
LABRFTM	0.089	-0.102	0.195	0.084	0.216	0.172	-0.002	0.188	-0.037	0.095	-0.001	0.493	0.047	1.000

5. RESULTS AND EMPIRICAL ANALYSIS

The results of statistical analysis are presented in Tables 4 to 7. The significance of parameters has been tested through t-statistics, and the overall significance of the equation is measured through adjusted R-squares and their associated F-statistics. These parameters have also been reported in the concerned tables. To improve the reliability of results, some falsification tests have been applied in the regression analysis. For this purpose, some additional explanatory variables have been added. The consistency in the signs and negligible changes in the magnitudes of the betas associated with the main variables confirm the robustness and reliability of the results.

The appropriateness of the panel least-squares technique (PLS) and the selection of its associated methods (fixed effect model or random effect model), and the information losses in panel data have also been reported in Tables 4 to 7.

According to the statistical inferences, women's participation in family decisions is significantly improved by their ownership or participation in business. A woman in business ownership will be more powerful in household decisions than a woman without business ownership. The most important conclusion of this study belongs to the effectiveness of monetary policy, while the incidence of monetary policy in the economy was measured through the size of domestic credit to the private sector as a percentage of GDP. The credit to the private sector provides the lending facilities for the creation of new businesses and expansion in existing businesses. This provides bridge financing for business activities and supports working capital management. It was noted that expansion in domestic credit empowers women in multiple ways. First, it directly improves women's participation in household decision-making. The availability of cash makes it easy to make decisions. Second, it provides an opportunity for women to establish business entities. The participation or ownership of a business entity improves women's participation in household decision-making. The third important aspect of domestic credit is the encouragement of urbanisation. The higher domestic credit adversely affects the share of the rural population, while the statistical evidence in this study shows that a higher magnitude of rural population is associated with more women in businesses. These findings are statistically significant and robust.

Based on empirical analysis, it was also noted that higher per capita income improves women's family decisions and women's ownership and participation in businesses. It is also positively associated with the ratio of female to male labour force participation rate. However, it negatively impacts the share of the rural population in the total population, which implies that higher per capita income encourages urbanisation.

The size of crop land in a country and the share of agriculture in GDP boost the share of the rural population in a country; however higher share of agriculture in GDP discourages women's ownership in businesses. This reflects the male domination

in the ownership of farmhouses and agricultural land. Contrary to this, the higher share of agriculture in GDP improves the ratio of female to male labour force participation rate, which indicates the higher participation of women in the agriculture sector. Another important finding is the association of poverty with female labour participation. The higher magnitude of poverty leads to a higher female-to-male labour force participation rate.

Table 4: Dependent Variable: Women Participating in Major Decisions (WOMDEC)

Method: Panel EGLS (Cross-section random effects) ##
Sample: 1 5425; Periods included: 63; Cross-sections included: 24
Total panel (unbalanced) observations: 166

Variable	Coefficient (t-Statistic) #	Coefficient (t-Statistic) #	Coefficient (t-Statistic) #
Constant	7.396 (0.767)	4.741 (0.447)	-0.516 (-0.036)
WOMBUS: Women's ownership or participation in Businesses	0.480*** (4.676)	0.441*** (3.641)	0.450*** (2.706)
RURPOPR: Rural population (% of total population)	-0.056 (-0.553)	-0.056 (-0.550)	0.003 (0.023)
DCPSG: Domestic credit to private sector (% of GDP)	0.309*** (3.965)	0.337*** (3.744)	0.319** (2.397)
PCI: GDP per capita (USD)	0.003** (2.326)	0.003** (2.387)	0.003* (1.906)
LABRFTM: Ratio of female to male labour force participation rate (%) estimated by the ILO model		0.059 (0.614)	0.001 (0.006)
INFLCPI: Rate of inflation (%) based on the Consumer Price Index			0.697** (2.130)
TXTGDP: Tax revenue (% of GDP)			0.301 (1.615)
Overall Significance			
R-squared	0.343	0.344	0.323
Adjusted R-squared	0.326	0.324	0.275
F-statistic	20.972	16.800	6.733
Testing for Fixed/ Random Effect			
Lagrange Multiplier Test: Breusch-Pagan	271.656***	256.854***	105.481***
Lagrange Multiplier Test: Honda	9.918***	9.553***	5.738**
Lagrange Multiplier Test: King-Wu	6.425**	6.144**	3.863*
Hausman Test (Cross-section random Chi-Square)	1.570	1.957	0.429
Durbin Watson Statistics	3.664	3.551	2.251

#T-Statistics in parenthesis
##: Swamy and Arora estimator of component variances
*p < 0.1; **p < 0.05; ***p < 0.01

Table 5: Dependent Variable: Women's Ownership or Participation in Businesses (WOMBUS)

Method: Panel Least Squares (Fixed Effect)
Sample: 1 5425; Periods included: 176; Cross-sections included: 24
Total panel (unbalanced) observations: 3567

Variable	Coefficient (t-Statistic) #	Coefficient (t-Statistic) #	Coefficient (t-Statistic) #
Constant	37.353*** (39.495)	36.341*** (27.974)	33.201*** (25.180)
PCI: GDP per capita (USD)	2.48E-05 (1.470)	7.28E-05*** (4.185)	6.87E-05*** (4.073)
DCPSG: Domestic credit to private sector (% of GDP)	0.107*** (15.136)	0.041*** (5.426)	0.037*** (4.970)
RURPOP: Rural population	1.85E-09 (0.679)	1.11E-08*** (3.158)	1.28E-08*** (3.781)
LABRFTM: Ratio of female to male labour force participation rate (%) estimated by the ILO model	0.452*** (35.823)	0.432*** (26.688)	0.400*** (25.215)
AGRGDP: Value added of agriculture, forestry, and fishing (% of GDP)	-0.391*** (-14.458)	-0.399*** (-10.172)	-0.364*** (-9.520)
INFLCPI: Rate of inflation (%) based on consumer prices index		-0.085*** (-4.630)	-0.078*** (-4.389)

SUBSD: Subsidies and other transfers (% of public expenditures)		0.216*** (14.576)	0.220*** (15.294)
TXTGDP: Tax revenue (% of GDP)			0.318*** (9.415)
Overall Significance			
R-squared	0.483	0.551	0.579
Adjusted R-squared	0.479	0.545	0.573
F-statistic	118.131	91.700	97.757
Testing for Fixed/ Random Effect			
Lagrange Multiplier Test: Breusch-Pagan	24500.890***	12075.810***	12016.280***
Lagrange Multiplier Test: Honda	130.911***	88.410***	87.928***
Lagrange Multiplier Test: King-Wu	83.071***	56.974***	56.616***
Hausman Test (Cross-section random Chi-Square)	289.981***	174.944***	168.562***
Durbin Watson Statistics	2.251	2.116	2.199
Criteria for Model Selection			
Akaike info criterion	8.094	7.809	7.739
Schwarz criterion	8.144	7.887	7.821
Hannan-Quinn criterion	8.111	7.837	7.769
#T-Statistics in parentheses *p < 0.1; **p < 0.05; ***p < 0.01			

Table 6: Dependent Variable: Rural Population as % of Total Population (RURPOPR)

Method: Panel Least Squares (Fixed Effect)
Sample: 1 5425; Periods included: 185; Cross-sections included: 23
Total panel (unbalanced) observations: 3916

Variable	**Coefficient (t-Statistic) #**	**Coefficient (t-Statistic) #**	**Coefficient (t-Statistic) #**
Constant	35.679*** (64.788)	36.963*** (51.028)	40.569*** (35.706)
PCI: GDP per capita (USD)	-3.80E-04*** (-23.272)	-3.33E-04*** (-16.514)	-1.98E-04*** (-8.906)
INFLCPI: Rate of inflation (%) based on the Consumer Price Index	-6.85E-04 (-0.050)	9.31E-03 (0.596)	-4.21E-02* (-1.817)
AGRGDP: Value added of agriculture, forestry, and fishing (% of GDP)	1.094*** (39.702)	1.052*** (33.762)	1.266*** (26.737
CRPLND: Permanent cropland (% of land area)	0.135*** (3.200)	0.247*** (5.079)	0.217*** (3.198)
DCPSG: Domestic credit to private sector (% of GDP)		-0.031*** (-3.785)	-0.033*** (-3.395)
SUBSD: Subsidies and other transfers (% of public expenditures)			-0.170*** (-9.060)
Overall Significance			
R-squared	0.536	0.532	0.560
Adjusted R-squared	0.533	0.528	0.554
F-statistic	173.374	142.857	99.854
Testing for Fixed/ Random Effect			
Lagrange Multiplier Test: Breusch-Pagan	33937.240***	29094.030***	16686.660***
Lagrange Multiplier Test: Honda	129.946***	119.303***	89.743***
Lagrange Multiplier Test: King-Wu	60.604***	55.908***	46.647***
Hausman Test (Cross-section random Chi-Square)	9.700***	6.053**	7.388***
Durbin Watson Statistics	1.995	1.958	1.851
Criteria for Model Selection			
Akaike info criterion	8.341	8.372	8.258
Schwarz criterion	8.384	8.423	8.333
Hannan-Quinn criterion	8.356	8.390	8.286
#T-Statistics in parentheses *p < 0.1; **p < 0.05; ***p < 0.01			

Table 7: Dependent Variable: Ratio of Female to Male Labour Force Participation Rate (LABRFTM)

Method: Panel Least Squares (Fixed Effect)
Sample: 1 5425; Periods included: 143; Cross-sections included: 15
Total panel (unbalanced) observations: 904

Variable	Coefficient (t-Statistic) #	Coefficient (t-Statistic) #	Coefficient (t-Statistic) #
Constant	66.969*** (64.356)	67.932*** (62.589)	59.529*** (29.840)
CRPLND: Permanent cropland (% of land area)	-0.103 (-1.022)	-0.111 (-1.085)	-0.524*** (-5.682)
RURPOP: Rural population	-1.79E-07*** (-8.618)	-1.78E-07*** (-8.569)	-1.68E-07*** (-5.917)
PVRTMLT: Multidimensional poverty headcount ratio (% of population)	0.145*** (4.027)	0.152*** (4.180)	0.245*** (6.961)
EMPLAGR: Employment in agriculture (% of total employment)	0.132*** (3.197)	0.135*** (3.233)	0.123*** (3.483)
PCI: GDP per capita (USD)	2.73E-04*** (12.625)	2.62E-04*** (11.930)	1.53E-04*** (8.313)
INFLCPI: Rate of inflation (%) based on the Consumer Price Index		-0.168*** (-4.443)	-0.260*** (-3.427)
TXTGDP: Tax revenue (% of GDP)			0.228*** (3.234)
SUBSD: Subsidies and other transfers (% of public expenditures)			0.183*** (8.287)
Overall Significance			
R-squared	0.254	0.268	0.375
Adjusted R-squared	0.238	0.251	0.356
F-statistic	15.819	15.913	20.204
Testing for Fixed/ Random Effect			
Lagrange Multiplier Test: Breusch-Pagan	2039.722***	1874.678***	1443.820***
Lagrange Multiplier Test: Honda	32.406***	31.122***	28.523***
Lagrange Multiplier Test: King-Wu	17.367***	16.836***	17.660***
Hausman Test (Cross-section random Chi-Square)	7.843***	9.074***	13.129***
Durbin Watson Statistics	2.179	2.103	1.508
Criteria for Model Selection			
Akaike info criterion	7.941	7.935	7.376
Schwarz criterion	8.048	8.048	7.515
Hannan-Quinn criterion	7.982	7.978	7.429
#T-Statistics in parentheses *p < 0.1; **p < 0.05; ***p < 0.01			

6. POLICY IMPLICATIONS AND LIMITATIONS

The effectiveness of monetary policy through enhancing domestic credit to the private sector is validated in this study. From the policy point of view, it is important that the intervention of monetary authorities can improve women's empowerment in two different ways. First, the access and availability of credit to the private sector ensures the availability of cash, which influences households to allow more participation of female members in major family decisions. Second, the availability of credit facilities encourages the participation of females in businesses. The participation in businesses is also a significant factor in the improvement of women's empowerment. The higher labour participation of females in rural economies indicates their role in farm houses, cropping and harvesting activities. It may be an effect of the higher incidence of poverty in rural areas. But the important point is the higher impact of women in businesses on women's participation in family decisions. The role of women in businesses is more influential than that of women in employment as workers.

Despite the importance of this empirical analysis for policy formulation, the study has some limitations. It is based on macro-level data of the countries. It does not capture the cross-cultural differences and variations in the rural sociology of different regions and countries. The role of religions and ethnicities is important in assessing women's empowerment and its consequent subjective well-being. Another important aspect of the assessment of women's empowerment is the effects of education. The level of education certainly empowers women, though sometimes this effect can be channelled through women's participation in businesses. The migration, cultural adaptability, and technological changes can also affect women's empowerment. These factors can be included in future studies. A micro-level study, which is based on household analysis, can provide further details and highlight the hidden aspects of subjective well-being.

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