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A microeconomic analysis of the supply side factors of young women's participation in the labour market

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Abstract

The study examines the supply-side factors of labour force participation among young women in Armenia, against the backdrop of the high gender gap in economic activity compared to other countries in the region, and suggests what policymakers can do to address this issue. Using School-to-Work Transition survey data, the study models the choice of young women and men (aged 15 to 29) to participate in the labour market, conditional on individual and household characteristics, as well as economic well-being and available financial opportunities. The key findings imply that young women face cultural and economic barriers to enter the labour market and participate in paid jobs. In comparison with young male respondents, female respondents are more sensitive to demographic and socioeconomic factors determining economic activity. Family-friendly policies and programs on changing the social norms are recommended, based on global evidence relevant to the region.

Keywords: labour force participation, labour supply, young women, gender-equality, Armenia

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I. Executive Summary

Socio-economic development is often found to be associated with expanding women's potential in the economy, and Armenia is no exception. Systematic constraints such as adverse social norms, gaps in legal protection, failure to recognize and redistribute unpaid household work and care, gender gap in access to financial or other resources contribute to gaps in economic opportunities available to women (UN, 2016). Staying out of the labour force and being left behind at younger ages decreases women's chances to secure employment in the future and utilize their potential to the fullest. Given the market trends such as aging population and high migration of male workforce, the utilization of female labour, is an exigency for economic growth and development of the country.

In Armenia, women are increasingly gaining access to education, however, oftentimes fail to transition from school to work. The current study uses School-to-Work Transition Survey (SWTS) dataset of young individuals aged 15 to 29 to present estimates for labour force participation of young women and men, reveal the supply-side factors that impact female economic activity, and report on how the impact of those factors differ among married, single, urban, and rural populations. A binary logit model is used to estimate the economic activity of youth dependent on various supply-side factors. The study does not limit its estimation to female respondents only but rather uses female and male sub-samples to measure gender-based differences among different characteristics.

The key findings of the study are the following:

- Individual characteristics such as being career-oriented, having completed tertiary education, living in urban area, having worked while studied, have a considerable positive impact on young women's decision to participate in the labour market;
- The family composition factors such as marriage and presence of children affect female labour supply negatively, and prove the existentiality of the breadwinner model;
- The financial well-being and access to financial resources have a crucial impact on the FLFP.

Based on the empirical results and global evidence the following principles are recommended:

- Implement programs aimed at reducing gender discriminatory social norms;
- Extend family-friendly policies: parental leave, child care provisions, flexible work options;
- Provide microfinance products designed for women.

II. Introduction

The labour market of Armenia is characterised by high unemployment rate of youth and low female labour force participation, especially among young women. According to the Statistical Committee of the Republic of Armenia (2018), women comprise 53.5 percent of the working-age population of the country, and more than half of the female labour resource is economically inactive, that is, 614,700 people out of 1,177,100 people. Although Armenia ranks above the world average in human development and gender development, the gender disparities are still salient in the labour market, especially among the youth (UNDP, 2018). Female labour force participation (FLFP hereinafter) is 23.7 percentage points lower than male participation (SCRA, 2018). Meanwhile, the difference in the unemployment rate between men and women is 2.5 percentage points, meaning that the majority of women do not seek work (SCRA, 2018). The vast majority of women out of the labour force are housekeepers and jobless people such as discouraged workers, 43 per cent and 24 per cent respectively (SCRA, 2018). In contrast, among the economically inactive, most men are discouraged workers or other jobless (50 per cent), pensioners and disabled people (27 per cent), and only around 1 percent of men is involved in unpaid work in the household, which indicates the unequal share of family and household responsibilities among men and women (SCRA, 2018).

Youth (15-29 age group), particularly females, are the most vulnerable to unemployment and remaining outside the labour force. In Armenia, the labour resource of youth is approximately 620,000 people, where roughly 320,000 people are inactive (SCRA, 2018). On the other hand, among the economically inactive women, the share of young women is approximately 38 per cent (over 230,000 women), meaning that the vast majority of inactive youth are female (SCRA, 2018). According to the Asian Development Bank (2015), Armenia is one of the few countries in the region with a closed gender gap in health and education, high literacy and education enrollment of women. Although young women exceed men in tertiary education completion, they are more likely to fail to transition into work after school and stay out of the labour market (Honorati, M., et al 2019). The underutilization of youth potential in Armenia, however, is high compared to other countries in the region. In the age group of 15-24, the gender gap in NEET - the difference in the share of young men and women who are not in employment, education or training - is the second highest in Asia, after Turkey (Honorati, M., et al 2019). At a wider age group of 15-29, the NEET in Armenia is as high as being an outlier and exceeding Turkey. Indeed, youth is the most productive period of the life-cycle of a person, with the highest rate of willingness to work. That said, more than half of the youth population in Armenia has been looking for work for longer than 12 months (Serrière, N., 2014).

A woman's decision to supply labour is a complex balance between the opportunity cost of work including housework, childcare, leisure; social costs including mobility and social norms; work environment and ecosystem; wage and non-wage labour market opportunities including decision-making, empowerment and discrimination (Schaner & Das, 2016). Young women are more likely to stay out of the labour force due to the tendency of substituting work with family responsibilities. The main issue here is that inactivity during the most productive period of the life-cycle - youth - decreases women's competitiveness in the job market in the future.

Focusing on the young population of Armenia, the present paper aims to document the gender differentials in the labour market associated with demographic and socio-economic characteristics of young women and men and examine what policymakers may do to address this issue. The study builds on the International Labour Organisation's (ILO) SWTS conducted on the youth, and attempts to answer the following research questions:

1. What supply-side factors affect the probability of young women to participate in the labour market on paid jobs?
2. To what extent do those factors vary depending on the respondents' marital status and geolocation?
3. What are the possible policy solutions that may help increase young women's willingness to work?

The study conducts binary logistic regression analysis on individual level microdata of youth aged 15 to 19 and constructs models for urban, rural, married, and single female and male samples. The logit models estimate the marginal contributions of various exogenous factors to the probability of staying out of the labour force. Our empirical results confirm the existence of gender differentials in supply-side factors of youth labour. The findings include a significant role of factors such as location, life goal, educational attainment, and working experience during studies, on female LFP rather than male LFP. The factors of family composition such as marriage, children and father's literacy determine the probability of activity among young women and the results prove cultural barriers for women to enter the labour market, in line with an unequal share of family responsibilities in the household. Women's reliance on economic opportunities was proved through the positive association between the use of financial services and FLFP.

The structure of the paper is as follows. Section III represents a summary of previous work on FLFP and its supply-side factors. Section IV implies a descriptive analysis based on the SWTS data,

particularly key demographic and socio-cultural factors based on economic activity and gender. Section V includes an empirical analysis of the key determinants of economic activity among young women and men. Section VI reports the key findings of the quantitative analysis, and last but not least, Section VII includes discussion and recommendations for how the government might improve the FLFP trend among youth, with a review of the global evidence-base on effective policies, with a focus on evidence relevant to the region.

III. Related Literature

Several studies question the relationship of micro-level characteristics with FLFP (Heckman, 1980; Powers, 1972; Mincer, 1962; Becker, 1965), however, only few focus on LFP of young women (Todd, 2005; Barsoum, 2017). For this reason, we will use the existing literature on factors affecting female labour supply and later analyse those in the scope of the young female population of Armenia.

In the neoclassical economic model, female labour supply depends on household income and personal salary (Mincer, 1962; Becker, 1965). According to Mincer's (1962) time series model of female labour supply based on the period of a lifetime, the participation in the labour market depends on the "permanent" wage rates and income. Factors, such as the employment status of the spouse, or the number of children, do not change the volume of the labour supply but rather influence its timing (Mincer, 1962). Becker's (1965) theory of the allocation of time implies that the decision to participate in the labour market depends on the price of the time - wages, and to maximise utility, it can be substituted by household commodities such as consumption of food, childbearing and leisure. Elaborating on the pioneering work, other neoclassical economists find that female labour supply depends on the choice between family and work which is based not only on the opportunity cost of staying at home such as the current earnings in the labour market but also on the loss of future earnings caused by the devaluation of human capital due to economic inactivity (Even, 1987). Another study on OECD countries shows that female labour supply is highly elastic to wages, and participation in paid work is determined by wages if it covers their home production costs (Jaumotte, 2003).

There is sufficient evidence that FLFP is influenced by demographic, economic, and social factors, in particular, age, marital status, children, education, household income and financial state, and family members' characteristics (Hwa, 1980; Fosu, 1990; Baridam, 1996; Cipollone, 2008; Das et. al. 2015).

Among household's characteristics, Powers (1972) finds that the socioeconomic status of the family head is inversely related to female labour supply, nonetheless, for most families, the LFP of other family members is necessary to obtain middle-level status. In the scope of married women, husband's

income and non-labour family income (interest, dividend, rent, social security) have also been found to negatively affect FLFP (Fosu, 1990). Given that “leisure” is a normal good, an increase in available income through the partner’s income increases the likelihood of choosing leisure over LFP (Fosu, 1990). Also, the author mentions that any non-wage income availability has an income effect on the household, including women (Fosu, 1990). Other studies, however, find that the spouse’s income does not necessarily affect FLFP in case of high educational attainment among women and mating by education (Mare, 1991; Schwartz & Mare, 2005).

Among personal characteristics, educational attainment is a key determinant of female participation in paid jobs, as it affects an individual's wage rate, which in turn, affects the decision of labour market participation (Geraint, 1999). Nicolas Serrière (2014), however, argues that young women in Armenia face a gap in wages irrespective of educational attainment. Based on SWTS data, where young women exceed young men in education, yet stand behind them in LFP, the author emphasizes that the utility of educational investment falls due to labour market entry barriers faced by university graduates. The study reveals that the youth with secondary level education earn higher wages than those with tertiary level, meaning that the level of education does not necessarily determine wages or affect participation in the labour market.

Studies have used different methods to find the supply side factors affecting female labour. Most commonly logit and probit models have been used when dealing with individual data of binomial distribution (Hill, 1983; Cipollone, 2008; Das, 2015; Tabarraei, 2019). Hill used the logit model to measure FLFP as a binary variable with three choices: work on paid jobs in the formal sector, work on paid jobs in the informal sector, and work on unpaid jobs (1983). Similarly, an IMF study by Tabarraei (2019) analysed the determinants of women’s labour supply in Armenia using logistic regression on the microdata from Household Integrating Living Conditions Survey (ILCS). As our data is similar to that studied by Tabarraei, a logit regression is used in the present study for the empirical analysis. The key contributions of this paper are to study the youth labour force of Armenia, concentrating on young women, find the link of personal and economic characteristics of young women to the willingness to participate in the labour force and support the scaling up of innovative programs and successful policies to facilitate women’s access to the labour market.

IV. Data

Individual and household characteristics play a significant role in shaping gender differences in LFP. The present paper investigates young women’s probability of being active in the labour market using the ILO’s School-to-work Transition Survey (SWTS), a national level survey that documents economic

activities and perceptions of youth. The survey was conducted by the Statistical Committee of Armenia and is a representative sample of the Armenian youth population in 2014. We explore correlations between female economic activity and individual characteristics, household structure and wealth, and market opportunities. We extend our analysis to individuals with completed education and use demographic and labour supply information on 1513 young Armenian women and 1197 young men, aged 15 to 29.

According to ILO definitions, individuals are classified into different economic activity levels during specific time-reference periods. The activity status that is based on one day or one week is categorized as current activity (CA) status of a person, and the activity based on a reference period of one year is categorized as usual activity (UA) status of a person. The latter, in turn, is classified into usual principal activity status (UPS) and usual secondary activity status (USS), which imply longer (principal) and shorter (secondary) activity times spent in the period of one year. In this paper, we measure FLFP through UPS which implies an economic activity of at least 30 days during the reference period of one year. We prefer UPS as a more stable measure for a study of long-term labour participation patterns among women.

Table 1 shows the distribution of women among the individual, household, and economic factors, as well as illustrates the number of active young women and men across those factor groups, and measures the gender gap in LFP which is the difference of female and male participation rates. Overall, women comprise more than 55 per cent of the sample, and slightly more than 41 per cent of women are economically active, with a total gender gap of 20.5 per cent. The distribution by age groups shows that at the age group of 15 to 19 the frequency of female respondents is low. Considering that this age group is mainly currently in education, we are confident to limit our further analysis to the respondents with completed education. The location characteristics' distribution shows that women concentrate in urban areas, whilst the gender gap in LFP is higher in rural areas rather than urban areas. It can be observed that the distribution of active women exceeds men in tertiary educational attainment and father's tertiary educational attainment, however, the gender gap in those subcategories are prevalent. The largest gender gaps are observed among married youth and youth with children, meaning that in these subcategories women lack labour participation. For more detailed illustration of variables, the definitions, and summary statistics, follow the Table A2 and Table A3 in appendices.

Table 1. Distribution of Women and Estimated Gender LFP Gap by Characteristics

	% Women	2014 active youth (freq.)		2014 activity rate (%)		Gender LFP Gap
		Men	Women	Men	Women	
Total	55.83%	746	633	62.32%	41.84%	20.49%
Age						
15-19	34.70%	64	47	15.84%	8.95%	6.89%
20-24	33.71%	336	260	78.87%	50.98%	27.89%
25-29	31.59%	346	326	94.28%	68.20%	26.08%
Location						
Urban	68.14%	498	462	62.72%	44.81%	17.91%
Rural	31.86%	248	171	61.54%	35.48%	26.06%
Educational Attainment						
Primary or less	4.73%	63	13	72.41%	30.95%	41.46%
Secondary	32.77%	284	116	85.54%	39.86%	45.68%
Tertiary	62.50%	272	423	93.79%	76.22%	17.58%
Work-study						
No	10.02%	526	466	85.53%	58.32%	27.21%
Yes	89.98%	93	86	98.94%	96.63%	2.31%
Goal						
Family-oriented	66.04%	323	422	72.58%	42.71%	29.87%
Career-oriented	33.96%	401	201	55.77%	39.57%	16.20%
Disabilities						
Level 0	88.17%	666	556	63.31%	41.68%	21.63%
Level 1	9.98%	52	64	54.74%	42.38%	12.35%
Level 2	1.26%	23	8	65.71%	42.11%	23.61%
Level 3	0.53%	3	4	75.00%	50.00%	25.00%
Level 4	0.07%	2	1	18.18%	-	-
Marital Status						
Single	61.67%	525	345	54.80%	36.98%	17.82%
Married	38.33%	221	288	92.47%	49.66%	42.81%
Children						
No Child	68.01%	577	401	56.62%	38.97%	17.65%
Presence of Child	31.99%	169	232	94.94%	47.93%	47.01%
Father Education						
Primary or less	2.18%	17	12	73.91%	36.36%	37.55%
Lower-secondary	4.23%	39	19	68.42%	29.69%	38.73%
Upper-secondary	43.09%	328	236	64.44%	36.20%	28.24%
Tertiary	50.50%	362	366	59.54%	47.91%	11.63%
Relationship with Head						
First Level	58.23%	634	391	66.67%	44.38%	22.29%
Second Level	14.28%	102	53	45.74%	24.54%	21.20%
Third Level	27.50%	10	189	43.48%	45.43%	-1.95%
Financial Situation						
Poor	22.87%	189	155	66.32%	44.80%	21.52%
Above National Average	50.76%	376	324	63.84%	42.19%	21.65%
Well off	26.37%	181	154	56.04%	38.60%	17.44%
Financial Services						
Not Using	73.69%	431	357	50.95%	32.02%	18.93%
Personally Using	26.31%	315	276	89.74%	69.35%	20.40%

Note: The gender gap is calculated by subtracting the female rate from the male rate; 15–29 age group.

Source: Author's elaboration on SWTS-Armenia data.

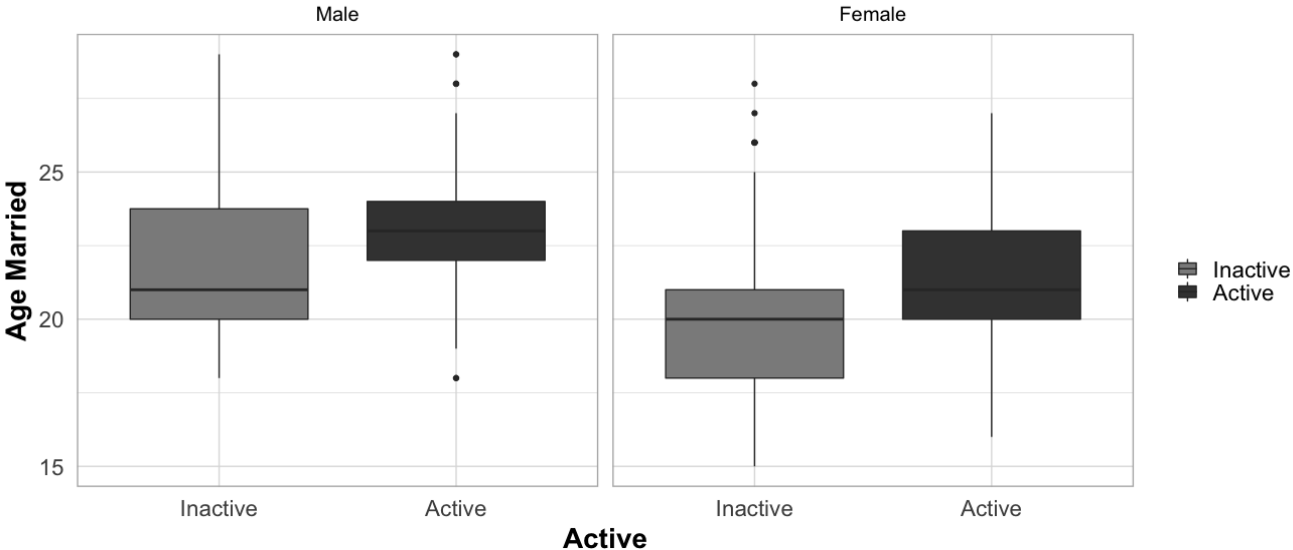
Stylized figures on SWTS-Armenia data:

The following figures are unconditional associations of various explanatory variables and the dependent variable - economic activity.

- *Female labour force participation varies depending on what age one got married (Figure 1)*

Female economic activity is higher if one got married at an older age, particularly, if married after age 21, the likelihood of being economically active increases. Male activity, however, is not correlated with the age of marriage. Although men tend to marry at an older age (from 22 to 24 age), the number of active and inactive observations is equal at that age group.

Figure 1. The relationship between age married and LFP of young women and men

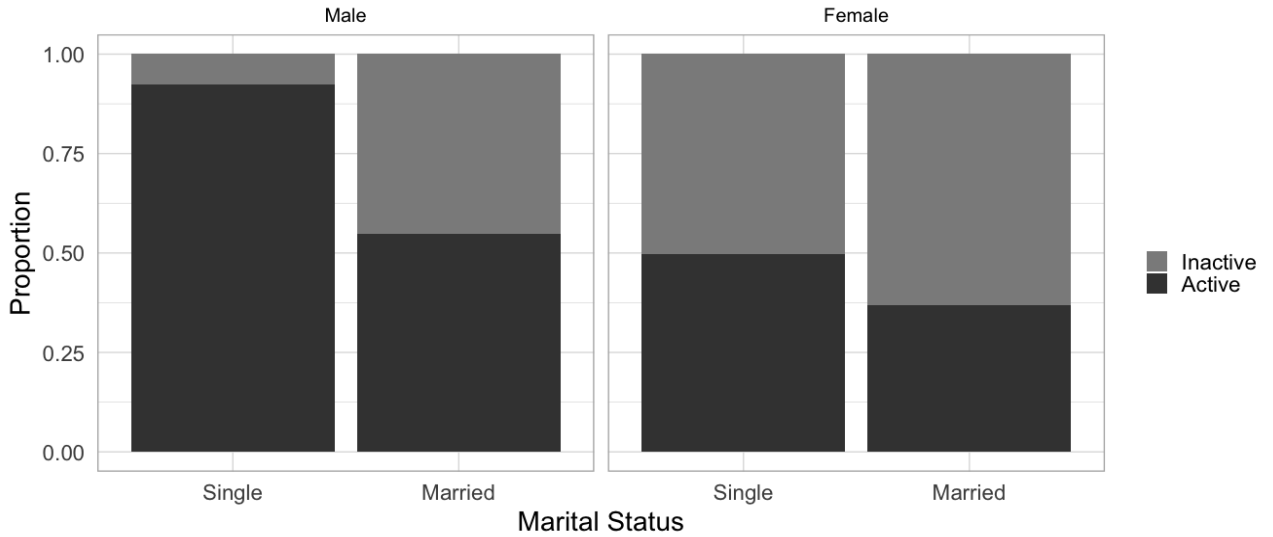


Source: Author’s elaboration on SWTS-Armenia data, 2014

- *Youth LFP is negatively associated with the state of being married (Figure 2)*

The economic activity of both sexes is higher among single respondents in comparison with married ones. As for married youth, the proportion of married men is significantly higher than the proportion of married women. When comparing genders, it is observed that the difference in economic activity of married and single men exceeds that of women by three times, especially evident among singles.

Figure 2. Youth LFP by Marital Status and Gender

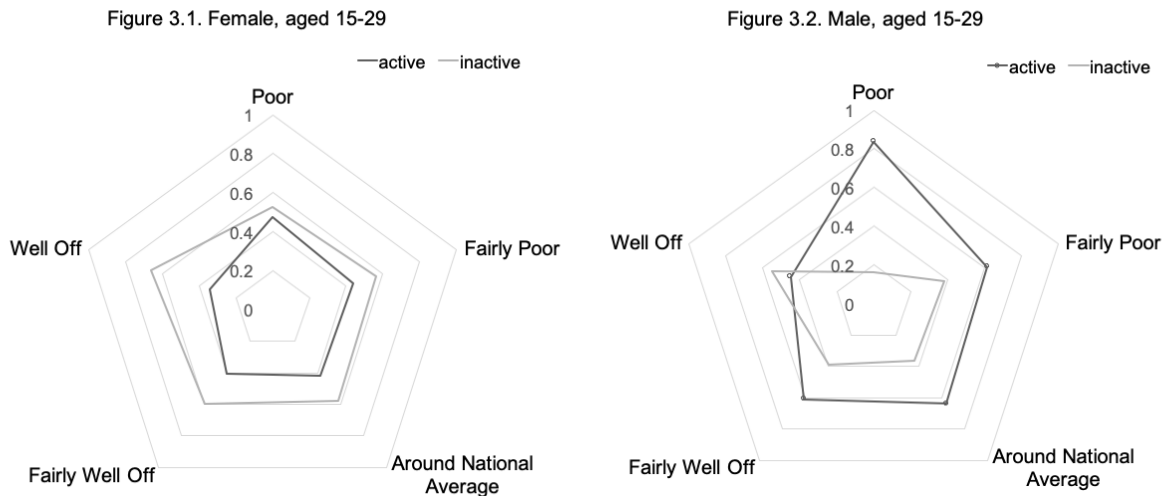


Source: Author's elaboration on SWTS-Armenia data, 2014

- Youth LFP is negatively affected by the household's financial well-being (Figure 3)

Unsurprisingly, the proportion of active youth in wealthier households is lower for both sexes. In poor households, both women and men have the highest economic activity, more than 50 per cent and 80 per cent, respectively. Though, even among the poor, the proportion of inactive women exceeds active ones.

Figure 3. Youth LFP by Household Financial Situation



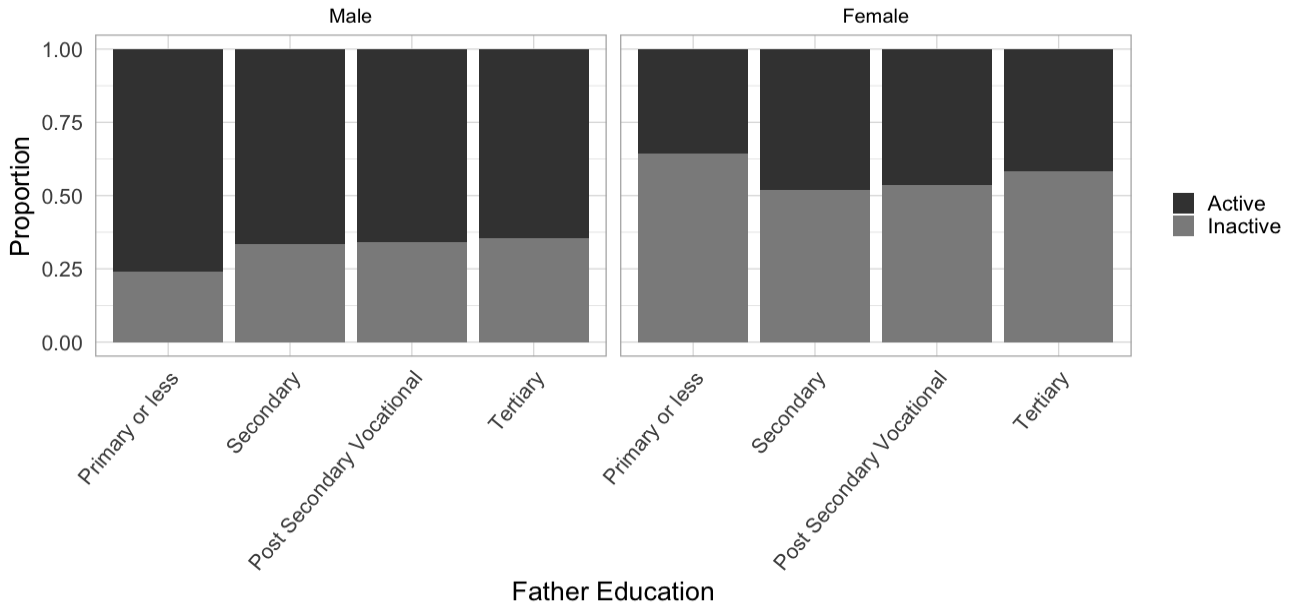
Note: Household financial situation categories are based on the self-assessment of the respondents.

Source: Author's elaboration on SWTS-Armenia data, 2014

- *The labour participation of young women decreases as father education increases (Figure 4)*

The women's participation rate in the labour market depends on their father's education. As the primary or less education is not frequent in the sample, we will make conclusions on educational attainment that is higher than primary. As for women, the higher the fathers' education the more inactivity is observed, which is unexpected, and will be further examined in the models to find similar patterns.

Figure 4. Youth LFP by Father Educational Attainment



Source: Author's elaboration on SWTS-Armenia data, 2014

V. Econometric Specification

The decision of labour force participation among young women is traditionally estimated through a static labour supply model which implies the individual's choice between two mutually exclusive states: participation in paid work (p), and participation in unpaid work or nonparticipation (n). Either alternative is chosen through utility maximisation, subject to the budget constraint (Waddoups, 1997).

$$y_i^* = v_{ip} - v_{in}$$

Here, y_i^* is the difference between the maximum utility gained from participating in the labour force (v_{ip}) and the maximum utility gained from not participating in the labour force (v_{in}). The following is the LFP model with y_i^* latent variable:

$$y_i^* = x_i' \beta + \varepsilon_i$$

where x_i is a vector of covariates and β is a vector of regression coefficients, and ϵ_i is the vector of independent and identically distributed errors.

$$y_i = \begin{cases} 1 & \text{if } y^* > 0 \text{ (} i^{\text{th}} \text{ woman chooses to participate in the labour force)} \\ 0 & \text{if } y^* \leq 0 \text{ (otherwise)} \end{cases}$$

where y_i is the indicator variable which estimates observed LFP.

In the present paper, to assess the drivers of youth female labour participation, we conduct binomial logit analysis.

$$P(\text{active}_i = 1 | x) = \frac{\exp(\beta' x)}{1 + \exp(\beta' x)}$$

where P is the probability function which implies the probability of the individual to be economically active; active_i is the binary response variable, assuming only two values: 1 if the person participates in the labour force, 0 otherwise; x_i is a vector of covariates and β is a vector of regression coefficients.

By transforming the response variable into a log odds ratio, we get the following labour force decision equation:

$$\log\left(\frac{P}{1-P}\right) = x_i' \beta + v_i$$

The logit model is estimated using the maximum likelihood method. The outcome is reported in marginal effects: the percentage change in log odds ratios.

VI. Results

The estimation of factors determining labour supply is conducted on three main samples, that is, gender, marital status, and the living area - whether they live in urban or rural areas. The factor variables used in the models are interpreted relative to their base (for a better illustration see Table A2 in appendices). Table 2 reports the economic activity of married and single men (last two columns), women (second two columns), and total youth (first two columns), dependent on the demographic and socio-economic characteristics of the respondents.

The key findings from the empirical analysis are the following:

Young women have higher chances of activity if being career-oriented, whilst the probability of young men to be active is higher if being family-oriented. In particular, we find that married women with a career-oriented life goal, are 16 per cent more likely to be active than those with a family-oriented life goal. As for men, however, the career goal is negatively associated with labour force participation, meaning that those with a career goal are less likely to be active than those with family goals. Given that the respondents' perception of their life goal is not affected by their employment status (Table A4 in appendices), the negative relationship of male LFP and career goal is consistent with the male breadwinner model, that is, the more family-oriented is a married man the higher chances of him to participate in the labour market, whilst for women, it is completely the opposite.

Married young women with secondary educational attainment are less likely to be active than the ones with primary or less education. Although tertiary education positively affects women's activity, the low activity of married women with secondary education shows that other alternatives, such as family responsibilities or leisure activities bear higher prospects than the available job positions. As the relationship between education and LFP is positive for single women, we can state that the work of married women is mostly being substituted with family responsibilities and child rearing. Apparently, married young women with secondary education happen to be the most vulnerable group in terms of the lack of economic activity, which shows that they have much less incentives to work in comparison to women with higher education and women with primary (or less) education, who may be either paid more or in higher need of job, respectively.

Individuals who had worked while studying (referring to the ones with completed education) ***have very high chances of economic activity.*** Although this tendency is true for all women despite their marital status or geolocation, we can notice that the significance and the magnitude of the coefficient for married women is higher than that of single women or men, which again signals the role of women in the family as a caregiver and unequal share of family responsibilities.

Young women with children have lower chances of economic activity, while the presence of a child in the family increases the probability of young men to be active in the labour market. To be more precise, if the woman has a child, the probability of her being active is almost 19 per cent lower than if she has no child. In contrast, men with children are around 3 percent more likely to be active than the ones without children. It is important to notice that the estimation on urban and rural samples of youth, verifies the findings of the first estimation on married and single samples, indicating that not only the presence of children but also marriage has a negative association with FLFP, whilst both of those family composition factors have positive effect on the probability of MLFP. These results are consistent with the breadwinner model, where men earn the family income and women are responsible for domestic unpaid work.

Marriage at a later age is not a significant determinant of economic activity among young women.

As the factor of marriage is negatively associated with FLFP, it is crucial to measure the effect of the age married on FLFP. Although the variable is significant for the total youth, where with each additional year in age married, married youth is 2.6 percent more likely to be active, the effect is much weaker when measured for men and women separately. Given that the government has a goal to improve the demographic situation of the country, the later marriage in this case is not a significant enough variable to consider in terms of boosting FLFP in the country.

Married women are more probable to be active in a financially well-off household, whilst for other samples including single women, married and single men, the financial well-being of the household is negatively associated with the economic activity of the respondent. Given that the financial stability variable in the survey is exceptionally based on the individuals' perception and feeling, we can state that the more financially well-off a married woman perceives her the more is the willingness to work and be active.

Economically, these patterns can be explained by the fact that the poorer the household the higher is the need for men or single women to work, however, married women, in that case, are more likely to be involved in unpaid domestic work. On the other hand, if the household is well off, married women have better access to childcare facilities and higher living standards, that enable them to participate in the labour market.

Young women living in urban areas have a higher probability of LFP rather than the ones living in rural areas. The geolocation of the respondents plays a considerable role in determining their willingness to participate in the labour market. When looking at separate samples, we observe that in comparison to urban women, the economic activity of rural women is more affected by their life goals, work experience while studying, and tertiary educational attainment. Given that the survey is based on

respondents' perceptions and includes framework or other unregistered work, we may state that the young women in rural areas are more vulnerable in terms of remaining out of the labour force.

The educational attainment has positive association with FLFP and negative association with MLFP. When estimating educational attainment of young women and men on rural and urban samples, we observe that the economic activity of young women is more probable at higher levels of education, whilst the activity of young men is more probable at primary or less educational levels. The intuition behind this is that men face fewer entry barriers to the labour market than women. Thus, the educational attainment for men may be substituted with paid jobs, whilst for women, higher education is a competitive advantage and crucial factor for entering the job market.

Higher educational attainment of fathers is associated with lower labour force participation rates of young women. This is particularly relevant for married young women and women living in urban areas, where the probability of FLFP is lower in case of secondary or higher educational attainment of the father, rather than in case of primary or less educational attainment of the father. This proves that in the latter specifications, the cultural factors outweigh formal education of fathers. However, when estimating the impact of father's education on the total sample of young women, the pattern is true at the lower-secondary education level of father but not at upper-secondary or tertiary education levels. As a result, we observe that, in general, the traditions are prevalent among less literate households, as well as particularly relevant for married women.

Married young women and women living in urban areas have higher chances of economic activity in the case of accessibility of financial services. Whilst, the FLFP of singles and in rural areas is not significantly affected by the usage of financial services such as business loans, consumption loans, savings or other banking services, insurance, money transfer services, etc. These results confirm that single women have better chances of LFP while married women are highly sensitive towards market opportunities, in this case, measured by accessibility of financial services.

Table 2. Determinants of LFP by Gender and Marital Status: Logit Estimation (marginal effects)*Dependent variable = 1 if active*

	Total		Female		Male	
	Married	Single	Married	Single	Married	Single
<i>Individual characteristics</i>						
Age	0.193*	0.152***	0.232	-0.054	-0.09	0.180**
	(0.111)	(0.047)	(0.151)	(0.117)	(0.130)	(0.083)
Age Squared	-0.003	-0.003**	-0.004	0.002	0.002	-0.003*
	(0.002)	(0.001)	(0.003)	(0.003)	(0.003)	(0.002)
Urban	0.005	0.063**	0.05	0.112**	0.003	0.021
	(0.031)	(0.027)	(0.042)	(0.048)	(0.027)	(0.029)
Career goal	0.164***	0.038	0.160***	0.032	-0.053**	-0.005
	(0.040)	(0.024)	(0.052)	(0.052)	(0.026)	(0.033)
Secondary Educational Attainment	-0.083	0.004	-0.025	0.11		-0.024
	(0.068)	(0.047)	(0.133)	(0.268)		(0.052)
Tertiary Educational Attainment	-0.017	0.094*	0.125	0.402		0.007
	(0.071)	(0.050)	(0.138)	(0.249)		(0.061)
Worked while studied	0.348***	0.150***	0.456***	0.077		0.148***
	(0.033)	(0.021)	(0.051)	(0.047)		(0.022)
Disability Level = 1 (base: level 0)	-0.067	-0.045	-0.052	0.077	-0.032	-0.186**
	(0.063)	(0.052)	(0.086)	(0.058)	(0.060)	(0.079)
Disability Level = 2 (base: level 0)	0.033	-0.042	0.047	-0.368**	0.042	0.041
	(0.155)	(0.090)	(0.222)	(0.153)	(0.035)	(0.075)
Disability Level = 3 (base: level 0)	-0.075	-0.023	-0.105			-0.013
	(0.100)	(0.071)	(0.115)			(0.077)
<i>Measures of Family Composition</i>						
Age Married	0.026***		0.009		0.002	
	(0.007)		(0.010)		(0.007)	
Presence of Child	-0.109**		-0.189***		0.026	
	(0.046)		(0.061)		(0.041)	
Relationship with Head = 2 (base: 1)	0.019	-0.077**	-0.06	-0.079	-0.038	-0.085**
	(0.093)	(0.034)	(0.198)	(0.067)	(0.048)	(0.039)
Relationship with Head = 3 (base: 1)	-0.177***	-0.042	-0.049	-0.125	-0.734***	
	(0.036)	(0.076)	(0.043)	(0.104)	(0.104)	
Lower-secondary Father Education	-0.161	0.037	-0.203	0.201		
	(0.123)	(0.128)	(0.181)	(0.255)		
Upper-secondary Father Education	-0.106	0.078	-0.109	0.331		
	(0.094)	(0.124)	(0.154)	(0.206)		
Tertiary Father Education	-0.082	0.05	-0.078	0.273		
	(0.098)	(0.125)	(0.155)	(0.203)		
<i>Economic well-being and Access to opportunities</i>						
Financial Situation Above Average	0.015	-0.018	0.003	-0.049	-0.081***	-0.002
	(0.037)	(0.025)	(0.052)	(0.048)	(0.022)	(0.034)
Financial Situation Well off	0.035	-0.043	0.046	-0.091	-0.093***	-0.011
	(0.042)	(0.036)	(0.060)	(0.065)	(0.033)	(0.048)
Financial Services Used	0.131***	0.083***	0.138***	0.048	0.050*	0.101***
	(0.030)	(0.029)	(0.042)	(0.052)	(0.029)	(0.037)
Observations	763	796	548	326	235	467
McFadden's R-squared	0.299	0.287	0.234	0.398	0.525	0.349

Notes: Bootstrap standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculations.

Table 3. Determinants of LFP by Gender and Location: Logit Estimation (marginal effects)*Dependent variable = 1 if active*

	Female			Male		
	Total	Urban	Rural	Total	Urban	Rural
<i>Individual characteristics</i>						
Age	0.089 (0.068)	-0.024 (0.089)	0.339*** (0.128)	0.145*** (0.045)	0.097 (0.065)	0.196 (0.145)
Age Squared	-0.001 (0.001)	0.001 (0.002)	-0.006** (0.003)	-0.003*** (0.001)	-0.002 (0.001)	-0.004 (0.003)
Urban	0.078*** (0.030)			0.019 (0.025)		
Career goal	0.111*** (0.036)	0.084** (0.043)	0.177** (0.076)	-0.013 (0.027)	0.012 (0.024)	-0.045 (0.055)
Secondary Educational Attainment	0.064 (0.094)	0.121 (0.122)	0.048 (0.186)	-0.024 (0.035)	-0.013 (0.033)	-0.053 (0.060)
Tertiary Educational Attainment	0.243** (0.097)	0.270** (0.126)	0.276 (0.198)	-0.024 (0.044)	-0.009 (0.051)	-0.055 (0.078)
Worked while studied	0.333*** (0.039)	0.281*** (0.033)	0.424*** (0.072)	0.117*** (0.018)		0.123*** (0.030)
Disability Level = 1 (base: level 0)	0.008 (0.053)	0.018 (0.062)	-0.05 (0.101)	-0.138** (0.066)	-0.106 (0.071)	-0.104 (0.103)
Disability Level = 2 (base: level 0)	-0.278 (0.179)	-0.188 (0.236)		0.041 (0.046)	0.059 (0.038)	-0.004 (0.100)
Disability Level = 3 (base: level 0)	-0.065 (0.112)		-0.03 (0.120)	-0.013 (0.057)	-0.036 (0.067)	
<i>Measures of Family Composition</i>						
Married	-0.218*** (0.053)	-0.250*** (0.059)	-0.172 (0.122)	0.015 (0.224)	0.044 (0.352)	-0.06 (0.410)
Presence of Child	-0.165*** (0.053)	-0.138** (0.059)	-0.182* (0.108)	-0.014 (0.259)	-0.085 (0.620)	0.088 (0.301)
Relationship with Head = 2 (base: 1)	-0.081 (0.074)	-0.005 (0.108)	-0.186* (0.103)	-0.074** (0.030)	-0.063** (0.028)	-0.096 (0.066)
Relationship with Head = 3 (base: 1)	-0.04 (0.035)	-0.038 (0.042)	-0.073 (0.080)	-0.464** (0.184)	-0.629** (0.263)	-0.391 (0.498)
Lower-secondary Father Education	-0.092 (0.137)	-0.201 (0.126)	0.141 (0.225)			
Upper-secondary Father Education	0.022 (0.125)	-0.108 (0.087)	0.309* (0.180)			
Tertiary Father Education	0.023 (0.123)	-0.082 (0.090)	0.275 (0.180)			
<i>Economic well-being and Access to opportunities</i>						
Financial Situation Above Average	-0.02 (0.036)	-0.005 (0.044)	-0.049 (0.063)	-0.013 (0.021)	-0.018 (0.022)	-0.022 (0.041)
Financial Situation Well Off	-0.005 (0.043)	-0.039 (0.053)	0.045 (0.082)	-0.029 (0.034)	-0.048 (0.030)	0.02 (0.071)
Financial Services Used	0.108*** (0.032)	0.144*** (0.035)	0.038 (0.060)	0.074*** (0.025)	0.045 (0.030)	0.137** (0.058)
Observations	876	576	296	683	420	263
McFadden's R-squared	0.309	0.313	0.33	0.356	0.36	0.342

Notes: Bootstrap standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1,

Source: Author's calculations.

VII. Discussion and Recommendations

At the state level, the Republic of Armenia is committed to integrating national policies with gender equality principles and international requirements in the field. The legal framework and policies of the country are aimed at ensuring women empowerment in political, social, and economic spheres. Yet, the issue of low economic activity of women remains existential, especially among the youth. For the improvement of FLFP in the country, it is crucial to track young women's economic potential and ensure labour utilization. Indeed, the growth and development at younger ages, both professionally and personally, increases the chances of securing a spot in the labour market for women in the future. The present study reveals that women have difficulty reconciling family and work, women face traditions and cultural stereotypes on their role in the economy, and also women highly depend on market opportunities and empowerment. That said, the government is challenged to transform the assumptions regarding women's role and value in the society, as well as provide a favorable ecosystem and opportunities for young women to enter the labour market. The global evidence shows that a set of cost-effective policies and programs with long-term vision can guarantee an increasing trend in economic activity of women. Based on the empirical evidence and global practices we suggest policies to be built around the following principles:

Reducing gender-biased social norms

Changing norms regarding gender equality and gender roles in care may facilitate the redistribution of family responsibilities and increase the willingness and ability of women to work. Programs that combat stereotypes need to target not only women but also men separately, and children.

- In India, a country with high gender discriminatory norms, the “Gender Equity Movements in School” program helped to boost equality norms among boys and girls by involving them in role-plays, debates, discussions on gender violence, marriage, and sharing family responsibilities. Improvements were documented in gender roles and privileges such as increased support for girls to attain higher education, increased opposing views on gender violence, etc. (Achyut, P., et. al., 2011).

Promoting gender-transformative parental leave policies

Changing the design of leave policies may promote a more egalitarian distribution of unpaid childcare between parents, and encourage the model where both males and females are breadwinners and caregivers. Also, increasing the take-up rates of parental leave among men may not only increase FLFP but also have long-term social benefit and child development through father-child interactions.

- In France, upon the reform of parental leave scheme in 2014, the parent with one child is eligible to add another 6 months leave to the previous 6 months if only the other co-parent is

the beneficiary. The leave is valid for 3 years even in case of the second child birth in that reference period. This reform was intended to increase men's take-up rates of the leave from 18,000 to 100,000 in 3 year period (ILO, 2014)

- In Estonia, the change in paternity leave policy implying “leave benefits at 100 percent of previous earnings financed by general taxation”, increased men's uptake of paternity leave from 14 to 50 percent in 2008. (ILO, 2016)

Providing affordable and accessible childcare

With women being the main caregivers in the family, investment in childcare services would directly affect labour supply of women, as well as produce long-term benefits such as creating more jobs in the care sector and promoting the development of children.

- In Estonia, the government implemented a childcare program “Kindergartens Available for Each and Every Child!” to finance the provision of more childcare places to help reconcile family and work life. Having childcare provision under the full responsibility of the local government, the government reached high enrollment rates of children, particularly, over 10% enrollment among 1 year old children, around 60% and 85% enrollment at the ages of 2 and 3 respectively, and over 90% in the age group of 4 to 6 (UNECE, 2010).

Improving access to microfinance products

Providing access to financial services such as loans, credit, saving schemes, would be beneficial for women entrepreneurs, self-employed women, and small-scale farmers. Access to microfinance can both support women's economic security as well as be a bridge to start their start-up or maintain a business (UN, 2016).

- In India, the microfinance program of Self Employed Women's Association (SEWA) provided loans, ATM cards and other banking services to its members and had outstanding involvement of women, in particular, 400,000 bank accounts opened and 25,000 loans granted (SEWA, 2013).

Promoting good quality part-time work

To ensure that women are wholly engaged in the labour force and do not face trade-offs, private as well as public workplaces should promote the ability for women to request flexible working hours, ensure the availability of remote work and provide the opportunity to shift from part-time to full-time and vice versa. The latter will ease the process for parents going and returning from maternity leave.

- In France, Germany, Poland and the Netherlands, according to the national laws for employees, part-time workers have the right to shift to full-time work after they have requested to move to part-time schedule (ILO, 2016).

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Appendices

Table A1. Term Definitions

Term	Definition
<i>Labour resources/ Working-age population</i>	the sum of the labour force (both employed and unemployed persons) and population not in the labour force (neither in employment nor in unemployment (not having a job and not searching for a job))
<i>Economically active population/ Labour force/ Labour supply</i>	all employed and unemployed population, who develop the labour market for the production of goods and services, during a specified time-reference period.
<i>Economically inactive population /Population out of the labour force</i>	the share of population not in the labour force to the total number of the working-age population
<i>Youth</i>	a person aged between 15 and 24, for the purpose of the School-to-Work Transition Survey (SWTS) and related reports, the upper age limit is extended to 29 years of age.
<i>Youth not in education and not in employment (NEET)</i>	the population of age 15-29 who were neither engaged in any profitable economic activity nor engaged in formal education during the four weeks preceding the survey.
<i>Gender gap in labour force participation</i>	the difference between male and female participation in the labour market
<i>Human Development Index (HDI)</i>	a measure of average achievement in key dimensions of human development: a long/ healthy life, being literate and having a decent living standard.
<i>Gender Development Index (GDI)</i>	measures differences between male and female achievements in three basic dimensions of human development: health, education and command over economic resources.

Sources: SCRA, ILO, UNDP.

Table A2: Variable Definitions

Variable	Definition
<i>Active (dependent variable)</i>	Economic activity status in a reference period of one year, 1 = active, 0 = inactive
<i>Urban</i>	1 = urban, 0 = rural
<i>Educational Attainment</i>	Highest level of completed formal education/ training, 1 = primary or less, 2 = secondary, 3 = tertiary
<i>Work-study</i>	1 = worked while studied, 0 = otherwise
<i>Career Goal</i>	The most important goal in the respondent's life, 1 = being successful in work or making a contribution to society or having lots of money, 0 = having a good family life
<i>Disability Level</i>	The level of difficulty in seeing, hearing, walking, remembering, dressing or communicating, calculated as the total of any difficulties and divided into subgroups of low to high difficulty level, 0 = no difficulty, 1 = yes, some difficulty, 3 = yes, a lot of difficulties, 4 = cannot do it at all
<i>Married</i>	Marital status, 1 = married or widowed or separated (ever married), 0 = single or engaged
<i>Presence of Child</i>	The respondent has children (currently living), 1 = yes, 0 = no
<i>Father Education</i>	Highest level of formal education that respondent's father has successfully completed, 1 = primary or less, 2 = lower-secondary, 3 = upper-secondary, 4 = tertiary
<i>Relationship with Head</i>	Relationship to the head of the household, 1 = head or spouse or son/daughter, 2 = brother/sister or grandchild, 3 = other relative or not related
<i>HH Financial Situation</i>	How the respondent describes their household's overall financial situation, 1 = poor or fairly poor, 2 = above the national average, 3 = well off or fairly well off
<i>Financial Services Use</i>	the participant uses financial services such as business loans, consumption loans, savings/ other banking services, insurance, remittances/money transfer services, etc., 1 = yes, 0 = no
<i>Age</i>	Age of respondent in years

Source: Author's elaboration based on SWTS-Armenia data, 2014.

Table A3. Summary Statistics for Youth in Armenia SWTS sample, 2014

	Total		Female		Male	
	mean	sd	mean	sd	mean	sd
Active	0.51	0.5	0.42	0.49	0.62	0.48
Age	21.76	4.3	21.84	4.34	21.67	4.26
Urban	0.67	0.47	0.68	0.47	0.66	0.47
Career goal	0.46	0.5	0.34	0.47	0.62	0.49
Educational Attainment	2.45	0.64	2.58	0.58	2.29	0.67
Worked while studied	0.11	0.32	0.1	0.3	0.13	0.34
Disability Level	0.16	0.51	0.14	0.43	0.18	0.58
Married	0.3	0.46	0.38	0.49	0.2	0.4
Age Married	21.44	2.64	20.75	2.49	23.12	2.23
Presence of Child	0.24	0.43	0.32	0.47	0.15	0.36
Relationship with Head	1.49	0.76	1.69	0.87	1.22	0.46
Father Education	3.42	0.68	3.42	0.68	3.42	0.67
Financial Situation	2.03	0.71	2.04	0.7	2.03	0.71
Financial services use	0.28	0.45	0.26	0.44	0.29	0.46
Observations	2710		1513		1197	

Source: Author's elaboration based on SWTS-Armenia data, 2014.

Table A4: Life Goal of Youth (aged 15-29) by Gender and Employment Status

<i>the most important goal in life</i>	male		female	
	unemployed	employed	unemployed	employed
being successful in work	197	122	240	57
a contribution to society	47	22	93	16
having lots of money	183	148	80	22
having a good family life	213	232	741	247

Source: SCRA, SWTS-Armenia data, 2014