# Gender pay Gap in education sector in Azerbaijan

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# Table of Contents

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## Executive Summary

Today, women make up very big proportion the labor workforce in the education sector in Azerbaijan, however they continue to earn less than men. Little research has been done on the Azerbaijan labor market, so the primary goal of this research is the measurement of the gender pay gap, identification of the key determinants of the gender wage discrimination in Azerbaijan and its consequences on the society and labor force. This study attempts to measure wage discrimination by looking directly at pay disparity between men and women in the same jobs and personal characteristics and by contrasting wage to specific productivity measures. The quantitative research method was implemented based on the survey format addressing teachers, instructors, professors and deans of six universities, colleges and schools in total. The female-to-male earnings ratio, based on the median earnings of 81 men and 152 women from survey is 0.53, and the total gender raw wage gap is 872.3 AZN in numbers or 87%. Women are doing the same jobs as men and have higher human capital characteristics, but gap still persists. After controlling for the productivity variables in the Blinder-Oaxaca wage decomposition, it is estimated that only 12% of the gap is explained by the self-explanatory characteristics. The wage gap persists due to a variety of factors including social and religious norms as the unconscious bias of employers, leading to significant lost wages, benefits and career opportunities , which contribute towards persistent gender inequality and impedes economic growth. Traditions and gender roles can impact the occupational segregation of women , their educational choice and the selection and promotion management of the HR management in organizations (European Commission report, 2013). As religion is strongly overlapped with social norms and values, we measured that 17% of the gender wage gap is explained by the combination of religiousness and the conservative or patriarchic type of society of the respondents, and we face gender wage

discrimination on the both groups of patriarchic male female and religious male female groups. But no discrimination is observed on religious or patriarchic women within the pool of all female employees. Moreover, flexible job arrangement of teachers' work doesn't cause the gender wage discrimination towards women but rather positively contributes the work-life balance and maternity obligations of female workers. These studies consistently find evidence of ongoing labor market discrimination and support the findings that women are still facing differential on-the-job treatment Indeed, achieving gender pay equity is critical for the employee retention and satisfaction, but challenging and long process requiring strong commitment.

## Abstract

The purpose of this quantitative research was to investigate the relationship between the gender wage gap and the discrimination based on social and maternity pressure, religion and flexible job preference, as there are limited studies which focus on the indirect factors contributing to gender pay inequality. This paper focuses on estimating wage differences between male and female instructors in Azerbaijan in order to understand the determinants of gender wage gap. The methodology of this paper is based on studying and analyzing the topic of wage differentials between males and females by using descriptive analysis, difference in difference technique and Blinder-Oaxaca decomposition methodology. The data used in the analysis is obtained from the conducted survey of teachers and instructors at the age of 19-71 across multiple educational institutions. The findings of this paper help in deep understanding of wage gap between males and females in Azerbaijan by determining differences in wages due to productivity variations in characteristics between both genders, as education , skills and experience, and differences due to discrimination or selectivity biases against women. The results from the data analysis demonstrate high gender wage gap and a significant discrimination of female workers due to the social and religious factors, while flexibility doesn't determine the gender discrimination at workforce. The findings from this research can encourage employees to revisit existing HR and corporate practices in the labor market for women receive pay equal to their male counterparts.


*Keywords:* wages, income, labor market, gender pay gap, discrimination, social, religious, wage decomposition, flexibility, Azerbaijan

# I. Introduction

## 1.1 Definition

The gender wage gap is a world phenomenon and its persistent across all developed and developing countries despite of how much women are educated and what social, political and economic structure the country has. Wage discrimination is the result of unequal treatment of the workers with the same productivity in physical and mental terms, based on their gender, race, ethnicity or religion. Discrimination can be observed in all countries worldwide, in all spheres of economics and can be encountered in job application, salary payment or job promotion (Blau and Kahn, 2000). Discrimination happens when the employer has personal prejudices towards women, when he/she thinks that employing a woman will hurt his business and attributes low average indicators to her. Discriminating employer can also offer lower wages to women with the same capabilities as men, or don't promote her at work (Schieder, J., & Gould, E., 2016). Statistically, its unfeasible to measure discrimination, and discrimination indicators are mostly based on surveys of population with various work experience and educational level. This indicates that the education is not the real solution in eliminating the gender pay gap.

## 1.2 Problem statement

Different researches have been conducted to investigate the wage discrimination based on gender, its major drivers and social, economic, psychological implications in the world. What makes this research important is that gender pay gap cannot be explained only by differences in skill and human capital. It is one of the key indicators of gender inequality in the world and the gap still persists despite of the increased educational level of women and their influx in the labor market worldwide. In the European Union on average female workers earn less than male worker by 16 (European Commission's report, 2013). Progress in the narrowing of wage gap is very

slow, the phenomena is much widespread and striking in Latin and African countries and still persistent in the developed countries (ILO 2009: 19). In the case of the USA, American women earn about 80 cents for every dollar paid to men despite the Equal Pay Act of 1963 and the numbers are even worse for the other countries. Women should take a stand for the wage equality, as it negatively affects women's self-esteem, demoralizes and discourages them and depicts them as powerless and undervalued workers. It can also be observed that the gender wage disparity is growing with age and its significantly low when women enter the labor market. As women have less money to save and invest because of gender wage gap they are also at a greater risk of poverty and social exclusion at the older age. Fair pay is not only a question of justice, it can also stimulate the economy because people will be wealthier, and some burden of the welfare system will be relieved (Aly, Y., 2017). According to evaluations, decreasing the gender wage disparity by one percentage point would raise the GDP by 0.1% (European Parliament report, 2020). According to the multiple researches wage discrimination is partially the outcome of direct gender discrimination and occupational segregation, and such indirect factors as motherhood and society's expectations on women, stereotypes and biases about women and their role.

1.2 Aim and objective

During the Soviet Union period, women have contributed significantly to the economic growth because of high labor participation rate encouraged by the planned government. However, after the collapse of the Soviet Union and transition to the market economy the economic status of women has changed (Pignatti, N.2016). It would be beneficial to analyze the consequences and impact of the political change on women's labor force in Azerbaijan due to its unique cultural, historical and religious background. Little research has been done on the

Azerbaijan labor market so the primary target of this research will be the measurement of wage gap, identification of the key drivers of gender wage discrimination in Azerbaijan and its consequences on the economy and society at whole. There are numerous studies indicating that differences in skills, human capital accumulation and government policies can cause wage gap in economy. However, there are limited academic papers which investigate invisible and indirect factors leading to gender pay gap in Azerbaijan's labor market. The purpose of this study is to determine the magnitude of wage discrimination in the education sector in Azerbaijan and to investigate the relationship between different factors causing wage gap in women's salary. The major question concerned for this paper is what the key drivers of wage gap are based on gender in education in Azerbaijan and how much of the wage gap is contributed to gender discrimination. After investigating the major cause and effects of wage discrimination further researches on the ways of securing and empowering women in education sector can be conducted. Reducing gender wage gap is critical for the employees because of ethical and moral reasons, for the bottom line of schools and universities and better instructors' retention and selection. Fair compensation and transparent approach in pay system improves women workers' morale and their job satisfaction. The perception of organizational justice motivates and pushes women to show more effort at work and be more productive (Cohen Charash, Spector, 2001). Education sector is one of the major branches of the labor force participation and the economy of the country, so it would be curious to measure the magnitude of the gender wage gap and its impact on the economic and social life of the country. This research is an interest area for MBA studies, and it lacks required attention in the country due to insufficient labor market analysis. This paper contributes to the literature on gender wage gap in in the education sector of Azerbaijan by studying wage differences among men and women in schools and universities.

The study aims to analyze mainly 3 potential drivers of the gender pay gap and reveal the degree of the gender discrimination by decomposing the wages of both groups of interests via Blinder-Oaxaca method and by difference in difference estimation. The outline of the paper is as follows: Literature review provides deep and clear definition of the gender wage gap and observes of the papers and data on the causes of the gender wage gap in the labor market from the different perspectives across multiple countries, the methodology part describes the data acquired from the survey and the implementation of different econometric methods in the data analysis. Section results presents the detailed descriptive analysis and the results of the regressions and decomposition. The last section discusses the results of the factors contributing to the gender pay gap in education sector in Azerbaijan while drawing some implications and limitations based on the conducted findings of the data analysis.

# II. Literature Review

## 2.1 Theoretical framework

There are number of factors which could be useful in explaining the lower income of women compared to men, and the economists suggest us to focus on two factors mainly: qualifications and gender specific discrimination. Gender-specific factors are explained like the differences between men and women and the way they are treated. Discrimination can emerge in a variety of ways in the economics, like in the discriminatory tastes of employers, clients or colleges, in different treatment of women and men because of the perceived expected value of productivity of men and women and etc. Furthermore, exclusion of women from "male" jobs because of the discrimination will result in surplus labor supply of women in "female" professions, lowering salaries in these professions for them. If women had the same

characteristics of human capital, like education and experience, occupational distribution, and membership in the union as men, the gender wage ratio would increase to 91 per cent of men's wage (Blau, F. D., & Kahn, L. M. ,2017). So, it comes out that women still earn less than men even if all the measured qualifications are considered. Thus, occupation, industry and union status are the variables potentially affected by gender discrimination. The qualifications and human capital accumulations like education, skills and experience are self-explanatory and not the primary focus of this paper, however they will also be analyzed to get the full picture (Kahn, 2006). The main reason for the persistence of the wage gap in the world are direct discrimination in labor markets, when women having the same education and work experience are paid less because of their sex; and occupational segregation, as women mostly prefer to work in the service and agricultural sector, and only 18.3% in industrial sector. Teachers, secretaries, and caregivers are poorly paid workers and are mostly dominated by women. Women also have less bargaining power and employers favor men over women in certain occupations, and childbirth and caregiving skills of women are not rewarded (Kahn, 2007). Another fact is that increase in the educational level of females doesn't correlate with higher wages. Women are discriminated by employers because they are viewed as potential mothers, who are denied of career promotion compared to men. Also wage discrimination can lead to poverty and impedes economic development. Based on the overview of 5 Latin American countries, it is studied that the narrowing of gender inequalities and wage gap contributed economically to the whole society, both rich and poor. Unequal educational opportunities and traditional gender roles lead to the persistence of wage gap and the negative impact on the well-being of society (UNDP, 2006). However, the gap is narrowing in the industrialized world. There are findings supporting the fact women have made considerable progress in closing the gender pay gap in last 50 years.

Nonetheless, on average, women tend to earn substantially less than men and the progression of men's and women's equal pay declined significantly in the 1990s. The fact that convergence has decreased in recent years suggests the possibility that the narrowing of the gender pay gap can be stagnated or increase in the future. Additionally, even if there is data that although discrimination against women in the labor market has decreased, there is still some discrimination and in some countries its very huge. A final argument referring to women's progress in the labor market is that although the gender wage gap has decreased, there is a growing disparity between highly educated and skilled women and less-educated women. This phenomenon can also be observed among men, but women are in worse condition when we consider growing income inequality in the world (D. Blau, M. Kahn, 2006).

The magnitude of the wage gap in Azerbaijan is 43%, which quite huge number even in the international level. The highest paid jobs both for women and men in Azerbaijan are considered to be mining and finance, and the lowest wages are paid in education, social work and health sectors. As there is no proper official statistics on hourly base, the research was conducted on monthly salaries. The wage gap is highest in personal and community services, real estate and other businesses, transport, construction and communication, which are mostly male dominated. In contrast the wage gap is smallest in wholesale and retail industry. Therefore, it is suggested that the gender pay gap in Azerbaijan occurs primary because of the highly segmented labor market (Van Klaveren, M., Tijdens, K., Hughie-Williams, M., & Martin, N. R.,2010).

The World Economic Forum's report calculations in 2019 ranks Azerbaijan as 94$^{th}$ out of 145 countries by the gender gap index score (World Economic Forum, 2019).The main dimensions of this gender gap score are the economic opportunity and participation of women,

political empowerment and educational attainment. When we look at the income gap component of the economic participation measure, we observe that Azerbaijan‘s score stands at 0.44, which is below the world average and it is ranked as 124$^{th}$ in the world (Wallwork,2018).

Another research summarizes that there are 4 major reasons for the gender discrimination and solutions to narrow it. One reason behind it is that there are more senior male workers who are paid more than younger generation because of their experience. Another reason is that women after childbirth are expected by society to care for children, therefore they can’t fully implement their career potential and have to work in part-time work below their skill and with little promotion opportunity. This period in the life of women further widens wage gap and causes women to lag behind men. The third reason for the wage gap is that women mostly prefer to work in low paid jobs, which require feminine and human caring skills, like teaching, nursing, or assistant and others. Women choose these occupations because of the flexibility of the and society’s traditional views and cultural bias, however these occupations are undervalued and paid less as the result compared male dominant jobs. Finally, the last argument for the wage gap is considering the wage discrimination based on gender when women with the same skills are paid less amount hourly for the same job (Charlotte Gascoigne,2019).

While there are geographical variations in the gender proportion in the education, it is proved that "in general, the higher the educational standard, the lower the female teacher ratio" (UNESCO 2006: 37). The vertical drop in women's jobs in the education sector demonstrates that in even such feminized occupation like teaching women still experience structural gender discrimination. The 2008 study "Female Teachers’ Careers" created by the National Association of Schoolmasters Union of Women Teachers reveals that the UK school system undervalues

woman instructors in many ways: 20 percent of male teachers reach out the Leadership Scale, compared to just 8.5 percent of their female counterparts, after five to nine years teaching in primary education. Moreover, women are still underrepresented in senior and headship roles. In the primary sector there are 75 percent of female headteachers, in the secondary sector only 40 percent. Also, an examination of the specific schools shows a gender bias: women are likely to be head in smaller schools and thus paid a lower salary (NASUWT, 2008).

In the UK education is among sectors  experiencing the highest wage gap in the country, with the wage gap of 26 percent compared to the national average of 18 percent. In other words, women employed in the education sector in the UK work 95 days a year without being paid than men. Leadership plays as an important factor in this gender pay gap as more than half of the university vice chancellors are men, and women are also underrepresented in leading academic faculty. Women are less interested in senior roles as they view high faculty as men's club and less determined to apply for these positions and more likely to fail even if they meet all criteria. Moreover, the motherhood and caring responsibilities of women can make them accept lower paid job and work on part-time work (Trade Union Congress,2019).

In the case of Jordan, education related jobs are viewed as effortless and suitable for women, and because of these stereotypes and prejudices there is overcrowding of women in schools and universities, which forces them to accept lower salaries for their teaching. High unemployment and unfavorable economic condition of women forces women to work for lower wages for the benefit of schools trying to save costs. There is high demand for some specialized male workers who can successfully negotiate their wages while women's qualifications are undervalued. Sometimes, high percentage of male instructors at private schools is viewed as a

promotion and marketing tool for schools leading to higher fees and school enrolment of students. Male teachers can also benefit more from the private tuition and increase their incomes than their female coworkers because of the more availability after school hours. Moreover, most women are less aware about the concept of wage equity and their rights and can be denied of the financial benefits. They are less likely to complain about unequal wages because of fear of losing job, disinformation about their rights and others wages and other social reasons. The study reported that family obligations falling on women from Jordan was also a source of the gender wage difference. Family obligations restrict the involvement of women in committees, projects, delegations and private classes, and reduce the number of courses they are assigned. This also prohibits them from receiving additional income and reduces their chances of being promoted. In private colleges, women operate less hours a day than males, due to their family commitments. Family responsibilities are the explanation why women have a shorter career span than men, keeping them from accumulating additional working experience. Finally, women in education sector have weak bargaining power and they are underrepresented in labor unions. This weakens their position in collective bargaining with employers for fair salaries and work conditions. In fact, men possess better bargaining power than women who appear to be cautious during negotiations because of fear of losing their job in the face of intense competition in labor market (International Labor Office, 2013).

The impact of the globalization on the wage gap across 80 countries around the world was examined by observing the wage statistics of 161 occupations of the International Labor Organization survey for 1983-1999 timeline. The major findings were that globalization has reducing impact on gender wage gap due to constantly rising GDP per capita. Increasing scale of the world trade and FDI also narrows wage gap for all type of workers in developed countries

and for low-skilled workers in poor countries. However, gap for the high skilled workers increases in poor countries because of trade and FDI. Also, wage-setting institutions have great impact in developed countries (Oostendorp, R., 2004).

Another crucial explanation the gender wage disparity is that salary gaps are often challenging to detect. Salaries are kept in privacy and many workers don't know that they are underpaid, and therefore can't resist the unequal pay. Most organizations have policies of punishing or firing employees who disclosure or inquire their or coworkers' wages. Such pay secrecy policies make it impossible for women to remedy salary differences and require the equal rights (Miller, 2018).

Considering all the existing literature and research on the causes, effects and remedies for this issue, we can assume that wage discrimination based on gender is the outcome of 3 major factors.

*H1: Women in patriarchic society like Azerbaijan earn less than men due to the social pressure and motherhood expectations*

If we look across the world there is no country where women and men have equal income. Even in the Scandinavian countries with social democratic model there is about 15% wage gap. An important study from the Princeston University examines the case of Denmark, where year of paid leave after the childbirth is granted by government to both parents (Kleven, H., Landais, C., & Søgaard, J. E.,2019). Sharp fall in the women's earning is observed after their first child, so the author concludes that "the gender wage gap is a childcare penalty". The gender pay gap is largest for women at their 30s. Though historically the lack of education disappeared, such key factor as child caring is constant and persistent across all times. After having child

women tend to work in public sector with more leave off and flexible hours (Goldin, C.,2015). Another curious fact is that though the Danish government intends to decrease the wage gap by offering the same paid leave policy also for men, women still take off more parental leave because of their biological need for spending more time with children and the society's view of women as primary caregiver (Cliff, S., 2018). Women are designated to do the larger share of housework and take on the primary commitment of childcare, and as result women have less time available for work. This widens the wage gap between men and women in the labor market, and workers can be trapped in this self-reinforcing cycle. (Goldin, Claudia; Mitchell, Joshua, 2017)

In the similar study by Poverty and Equity Global Practice Group, the World Bank shed light on the Azerbaijan Labor market and reasons why wage differences emerge. Referring to the database from the survey of young people aged 15-29 years, the author argues that until 20 years-at the beginning of their career path- there is no gender gap observed. However, the early stages of women's job experience are critical. The gap widens to about 29% few years later and reaches its maximum at the late 20s, when women make decisions about motherhood. In fact, maternity creates a wage penalty years after joining the labor market. In fact, of the 40% of women marrying in their early 20s, most make family life decisions at that point. Maternity influences the gender pay gap partially by apparently eroding women's benefit in terms of readiness to work and speed in finding a job. This also explains women's tendency to work in sectors that provide more maternity benefits, such as large firms and jobs covered by formal work arrangements. Women generally earn more in these protected sectors, but still most of women who do not find these types of work remain unemployed and inactive. Women

outperform men in all educational levels and productivity characteristics in Azerbaijan, however they are paid less than men (Tiongson, E. R., 2016)

Women don't have advantage over men in human capital accumulation, skills and motivation when they are hired for work. As the solution to this problem there should be more childcare services by policy makers, which can relieve the burden of women. This is a clear discrimination against women in Azerbaijan as women with same human capital and hours of work are paid less than men across all occupations (Pastore, F., Sattar, S., Sinha, N., & Tiongson, E. R., 2016).

Motherhood is a major demographic factor which is important for the family income gap, because statistics show that gender wage gap is fairly low for single men and women (usually less than 10 percent), but substantially greater (about 40 percent) for married men and women , and much larger for those men and women who have children. In order to clarify this phenomenon, economists emphasize home labor division, which implies that that married men expect to work throughout their lifespan for more years and with more effort than married women. Men have more incentive to invest in human capital while women tent to invest in less perspective home activities (Becker, G. S., 1985). Therefore, married men accumulate more human capital than married women with children and consequently have higher wages. Never married and single men and women with no children earn the equal wages and roughly the similar lifetime work experience. Another problem is that detailed human capital investments like quality of schooling, types on the job training are not available in most researches when explaining the gender pay gap (Kuhn, P., & Weinberger, C. 2005).

Women are expected to follow several roles like caring mothers, working career professionals and good wife at the same time, which is hard for them. It is hard to be promoted in

job without proper healthcare childcare services, so motherhood drives the wage gap. Also, women are subjected to stereotypes and it can be even in the workplace. Because of women's work behavior and traditional stereotyping as weak and emotional, they are mostly hired for certain jobs like teachers, caregivers, waitresses etc., while men are viewed as physically strong and dominant, so they get more respected and higher paid jobs. Therefore, unless there are social norms and expectations on women, this will affect men's and women's career decisions and the gap will persist (Lips, H. M., 2013).

Despite the fact that after the implementation of Equal Pay Act in 1963 in the USA by Kennedy the wage discrimination should have been dissolved, nowadays women's income is still 51% less than men. The main reason behind that is the "women's choice" and their duties for rising the children, housework and nursing for elderly members of family. As women have less hours dedicated to career, they have to work in part time flexible jobs with less wage and they are less likely to be promoted in jobs because of little seniority at work. Parenthood plays a crucial role in wage gap as child caring women want more time off than childless women, while men have more bargaining power for the wage growth in comparison. Men and women make different choices because of their traditional gender roles (Bolotnyy, V., & Emanuel, N., 2019).

Moreover, private sector fails in providing equal opportunities for women compared to public sector. Wage gap can be observed across all sectors. Gender inequalities and occupational segregation are the major factors causing wage gap, and women are unable to reduce it more in the male-dominated jobs. Women in public sectors have more privileges in terms of wage premium and easier access to hiring and promotion as their male colleges. Public sectors are also

more successful in the representation of women in workforce (Bishu, S. G., & Alkadry, M. G., 2017).

Some skeptics attribute the wage gap to occupational segregation, however this factor themselves is the result of gender bias. Women's choice of female dominated occupations with low payment can be explained by social norms and gender discrimination. which are the factors out of women's control. Men and women working in the same job-like teachers, engineers or hairdresser earn more on average than women. Women outpace men in educational level in recent years, but they are still paid less per hour at each educational degree. From the childhood years most boys are expected to work in science, technology, engineering and mathematics fields (STEM) and girls are less likely to be interested in this sector ,so the parental expectations shape their children's future career choices. Even when women decide to pursue STEM career path, they can encounter hostile attitude in male-dominated workplace, extreme job graphics and sexual harassment. All these reasons steer women away from highly paid jobs. It's always rational for society to prioritize men's job first and put the burden of housework on women. Another argument is that work done by women is undervalued, as more women work in one industry, relative wages fall. (Booth, A. L., 2009). Computer programming is the field which firstly was dominated by men and highly paid, however, when women joined the work, wage declined (Miller, E. K., 2016).

Gender wage gap emerges not immediately but after several years of joining the labor market. Analyzing the data on job moves of women and men during the first 10 years of employment, it was noted that returns to job mobility has a great effect on the gender pay (Del Bono, E., & Vuri, D., 2011). The results of the similar study of major the American universities

also indicates that the gender wage difference for the male and female graduates with very similar motivation and skills emerges after some time, particularly after childbirth and childcare activities in which women are more involved than men (Bertrand, 2010). Moreover, women in the management are perceived to have less leadership skills and the courage than men from the viewpoint of employers, despite having equal success rate, accomplishments and achievements results in the companies. *(*Martell, Richard F., 1998) This perception makes it difficult for women to achieve the executive ranks compared to men in similar positions *(*Frankforter, Steven A.,1996).

*H2: Women are discriminated at workplace compared to men and have less chance of promotion due to their religious practices.*

Religion is given little attention from the researchers who investigate the factors leading to the gender pay gap, and only recently papers are being published shedding light on the religious factors, which actually form the gender roles in society. There is a gap in research about influence of religion on wage gap, though it is a crucial driving force in the economic activity and in forming gender roles

worldwide.Women's positions as mothers and workers are influenced by social standards and pra ctices, and societies that are strongly dominated by religion can have more restrained domestic position for women. In many world historical religious scripts women are manifested as men's subordinate, and this vision shaped the attitude of people and defined the current labor market roles and decision for women (Fernandez, R., 2007). The existing cultural norms are formed by religion, and governments' education, parental leave and health care services policy can be influenced by it. Traditional expectations which are stronger in religious societies may affect

career decisions and widen the wage gap further. From a young age Women are expected to pursue careers which are historically female dominated in religious communities, while in less religious states they tend to seek higher-level jobs because of equal expectations with men ( Gould, E., Schieder, J., & Geier, K., 2016).

The economic and social legacy of the Soviet Union and played a crucial role in the empowerment of women in the labor market of Azerbaijan and its gender politics. The economic empowerment of women was highly promoted and partly achieved this period of time. However, gender pay gap was still persistent and after the transition to a market economy Azerbaijan the pay gap was widening as it wasn't a gender-neutral process. Despite of the rising GDP and national wealth due to the oil-boomed boost, the growth of the national economy had disadvantageous gender impact for women. It is also argued that the cultural aspect of Islam could further create obstacle and discrimination for women at the workforce. (Wallwork, 2018)

Employees can experience discrimination in terms of religious harassment, non-accommodation of their religious beliefs and disparate treatment. Disparate treatment is the discrimination of religious people in hiring, promotion, recruitment, compensation and other HR practices, or in contrast giving privileges to particular group of employees because of their religion. Harassment can be explained as a condition under which employee is exposed to hostile work environment and she is under is under pressure because of her beliefs or practice. Moreover, there can be a failure by employer to adequately adjust the work environment like work schedule, practice at work, dressing or religious expression, and the worker can face dilemma in implementation of their employment obligation and practicing religion at the same time. The claims of religious discrimination have increased in the USA in last decade, and according to researchers it happens due to legal ambiguities, increased religious diversity, unique

nature of religion and increasing expression of religious expression (Ghumman, S., & Ryan, A. M.,2013).

The major study conducted in the University of Wisconsin investigates that even in such developed country as the USA religiousness of workers contributes to the gender wage gap. The measurements of religiousness across multiple states, like belief in God and frequency of practice are positively related to the wage gap, particularly 3 percent increase in states religiousness is linked to 1 percent rise in its gender pay gap. Policies which are directed to encourage gender parity tend to face more resistance in religious states in the USA. People having deep religious beliefs and regularly attending religious services have more unequal gender attitudes than others (Seguino, S., 2011). The most religious states have the highest pay gaps. Religion leads to unconscious discrimination and bias about men's being more privileged to job access and higher pay. Though the USA can be considered as religious country, economists still concentrate on social factors like human capital or government policies to explain the gender pay gap. Focusing on differences in religious disparities can demonstrate that some religious attitudes actually widen the gap more (Bartkowski,2002).

When we look at India, we can observe that for the same level of productivity, Indian women earn less than men, and it happens mainly due to the discrimination towards different social and religious groups. In all states women substantially lag in wages due the discrimination based on their belonginess to certain religion and castes. Muslim women are at lower position than Hindu women due to traditions and religious discrimination. Though the gender wage gap has narrowed over time in India, the difference in wages between Muslim women and men increased over time, and the premiums for women declined for religious minority groups (Sengupta, A., & Das, P., 2014).

*H3: Women preferring flexible job schedule face wage discrimination compared to men.*

Due to the traditional roles of women in Azerbaijan, women have to leave the labor force temporarily because of the pregnancy and childcare. Consequently, they tend to take lower paying jobs because flexible timings are more convenient for them compared to higher-paying jobs. As women are more likely to work fewer hours than male workers, they have less experience in years, which can cause women to lag behind men. There is a significant hourly salary penalty for women correlated with working less hours a week than men. In general, this is not gendered, and women are not discriminated, since men earn less for working fewer hours as well. However, given that women prefer more to work less than 40 hours a week, they are more likely to experience the wage penalty. There are several reasons why women are associated with flexible and part-time working. Some of women reporting working part-time claim that they cannot find full-time jobs. Therefore, these employees face a pay loss because of their inability to work more hours, doubly harming their economic well-being. As women are more likely to be affected by part-time jobs penalties than men, addressing the issue would help in eradicating the gender wage gap in the economy .As a large number of women sustain themselves and their households as breadwinners, the implications of reduced wages for women have adverse impact for economic stability and security of families. At some point in their life's women have to work fewer hours than men. There are periods in the life cycle of women when they have to work specific hours, like parents who can't work regular and long hours because they have to take care of children or students who cannot work full-time because of studying. It's also revealed that people in the technician group who work part-time are less likely to have a pay penalty for genders, while operator, food and the sale sector are the most likely to have a pay penalty for hourly employees (Goldin, C., 2015).

Part-time job care significantly leads to the gender pay difference. There is a significant actual pay difference between full-time and part-time workers. As most of the employees working part-time are women, it is estimated as a major contributor to the gender wage gap. Moreover, the majority of the part-time workers due to occupational distribution are low paid occupations. However, the part-time job schedule cannot be entirely justified by work and personal qualifications, meaning that other factors, such as crowding, and discrimination also play some role. That would widen the gender wage disparity because women are more likely than men to operate in jobs with a large percentage of part-time employment. This concentration impact was noted to explain three percentage points of the gender wage difference for full-time workers and seven percentage points for part-time employees, once other variables have been taken into consideration. The cause for the relationship between the concentration of part-time employees and poor salary for all workers is not explicit. It may be due to undervaluing the jobs performed by part-time employees by their coworkers, it can be because of crowding or it may be due to businesses for lower profits which want to hire part-time workers and save costs (Anderson, Forth, Metcalf, Kirby,2001).

Women forced to work flexible and part-time usually do it to balance their job with caring responsibilities, in ways that damages their job prospects. By comparison, men usually prefer to work flexibly once their career had already progressed. Consequently, there was a strong effect on present and future incomes for women taking up flexible job schedule, which was not equal for the men who did so. The flexible job model in this sense is widening the gender wage disparity (Cooper, C., & Dyer, J., 2004).

Flexible working can be a useful tool for women to adapt their job to family demands and enhancing gender quality in the society. Flexible job schedule assists mothers to maintain and

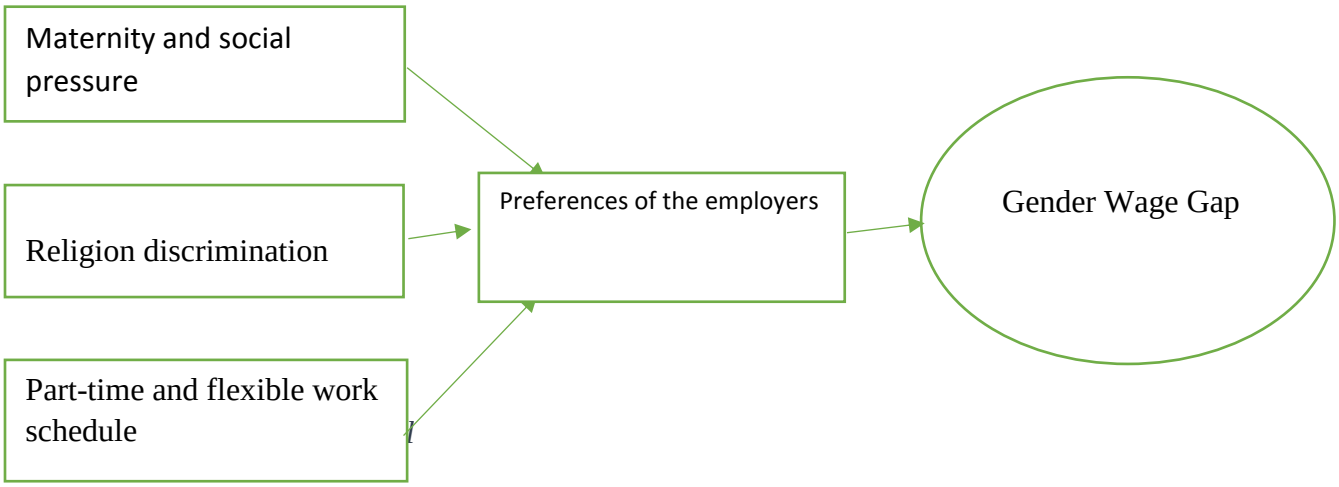
remain in their jobs after childbirth and raise women's job satisfaction because of the work-life balance. But from the other side, flexible working can traditionalize gender roles in the labor force because of existing social views on separate roles and responsibilities of men and women. Men are anticipated to use flexible job hours to enhance their performance, raise their job intensity and working hours and are more compensated through their income premiums than women. Women are supposed to raise their obligations within the family when they work part-time but they are not rewarded like men because of the different expectations. Empirical researches show that women working in flexible work structure, like those who are teleworking at home are expected to carry out the domestic work simultaneously while working (Sullivan and Lewis ,2001; Hilbrecht ,2013; Shaw 2003). Men and women view flexible employment in different forms, which results in different consequences for them, as men tend to extend their job ambitions and women more inclined to to balance the work-life balance. Consequently, it is more women who sacrifice their career ambitions and are more likely to experience negative job consequences because of flexible working. Family and domestic roles should be more interpreted as a barrier and women have to negotiate their rights (Lott, Y. 2018). It shapes how employers create reward system separately for men and women. Even when women work longer in part-time jobs, they are still less likely to receive more financial benefits relative to males. It is also partly attributed to people's assumptions on how men and women manage their flexibility. For example, in countries with traditional gender norms if men choose flexible job for childcare intention there is still a common assumption that men still devoted to their work and prioritize it over care roles. On the contrary, women are expected to benefit from the flexible working for care purposes, even if they take it other performance improving intentions. Flexible working is likely to be praised for productivity improvement reasons, but not for the for family friendly

reasons (Leslie, L. M., Manchester, 2012). Flexible working for family can potentially contribute to negative career outcomes and distort the image of ideal worker for women. Therefore, part-time and job flexibility is another reason why gender inequalities are persistent in the labor market (Chung, 2018).

## 2.2 Conceptual framework

"Gender pay gap" refers to "the difference in average gross hourly earnings between women and men", which 'is based on salaries paid directly to employees before income tax and social security contributions are deducted" (EU Parliament,2020). Only the organizations of ten or more worker are considered in the calculations. This study is framed within this understanding of gender pay gap as systematic economic problem, which aims to understand why women earn less than men in the education sector in Azerbaijan, how gender roles are socially constructed in the labor market and which factors contribute to this gender gap over the lifecycle of workers. The conceptual model incorporates the multiple social, individual and economic variables that can potentially impact the determination of teachers' wages. Model variables are split into subgroups which are hypothetically expected to affect wages in labor market of education. Individual characteristics are those qualities of people which are not under their control, like age, gender or marital status (Becker, 2002). Economic attributes are market characteristics and conditions that are known to affect wages, like number of hours worked, working experience, the job arrangement, knowledge and skills and others. The social factors include the religion of people, the role of the religious practices in their life and the type of society they are aligned with. There are limited studies in the case of Azerbaijan which emphasize indirect factors that contribute to gender pay gap in the country.

Since the 1970s the wage gap in hourly income has decreased substantially as more women joined the labor market. The study by Francine Blau and Lawrence Kahn is fundamental in explaining the factors causing wage gap, and it was revealed by them that 62% of gap is attributed to human capital differences in education and experience, 29% to segregation in industry and occupation, but 6.2% remained ambiguous in the USA. This unexplained portion is considered to exist due to wage discrimination based on gender. Due to childbirth women's career experience is discontinuous and causes shorter average wage hours. Because of family responsibilities and motherhood women intend to choose time flexible jobs with fewer hours and longer leave offs in career. Comparing the wages of women with no child and child caring women ,the wage gap is smallest for first group, while men enjoy income growth across all their lifetime (Blau, F. D., & Kahn, L. M., 2007).The impact of the religion in the gender discrimination and flexible job schedule are also the potential determinants of interest in this paper. In conclusion, I would like to categorize the variables to precisely meet the objectives of the paper and indicate their relationship to wage gap based on the above-mentioned literature, however the results can be different after utilizing decomposition model in Azerbaijani case.




## III. Methodology

## 3.1 Research approach

In order to succesfully conduct any research, qualitative and quantitative method approaches can be utilized.There is no academic research investigating this particular topic in Azerbaijan, therefore quantitave research approach was used in this paper to examine the gender wage gap analysis in the education sector in Azerbaijan in more detailed and precise manner. In the quantitative research descriptive statistics is reported using descriptive tables and figures, difference in difference estimation and regression analysis method is implemented to find the assosiations between the variables of interest and conduct wage decomposition.The survey questions were used to look for the similarities and differences of the generated data separately for men and women by posing precise and straightforwarded questions. After collecting the data on each variable the study aimed to adress the key research questions and hypothesises. Therefore, the primary target for this research is to measure the magnitude of wage gap in Azerbaijan, determine the relationship between variables and measure the possible gender discrimination at workforce in the education sector. The detailed survey, DD estimation and Blinder-Oaxaca decomposition are the tools to get the bigger picture of wage gap in Azerbaijan. In the theoretical framework part desk research method is used to shed light on the concept of gender pay disparity in the world and factors directly or indirectly causing it. The desk analysis involved collecting and interpreting data from secondary sources such as research, academic papers, reports, and official statistics. The insights from this analysis created the foundation for developing the tools and instruments to conduct this papers research process.

## 3.2 Research Strategy

Since there is not enough study about the wage gap in Azerbaijan, much detailed and broad research is conducted to meet the objectives of this paper. Quantitative research is used in order to adequately answer the research question from the conceptual model. It would be beneficial to determine which of the above-mentioned factors contribute more the wage of women. Universities and schools are the best destination for conducting the research due to easy access to employers working there, in the analysis of where there is wage differences and occupational segregation between women and men in the educational institution and know how much people are concerned with this issue. This research is conducted to analyze the degree of the gender wage gap in education in Azerbaijan through the analysis of mean wages of both male and female teachers, instructors and professors and examining the key factors mentioned in the hypothesises.It is essential to analyze the labor market of the education sector and figure out which variables have stronger impact on the wage gap between women and men. Moreover, the issue of gender discrimination in the education sector is also taken into account and measured furthermore.The major technique tool implemented in this research strategy is developing and distributing surveys to both male anf female instructors, teachers, professors and deans from different educational institutions. Survey questions were developed in order to understand whether there is gender pay gap for education workers in Azerbaijan and analyze the drivers of the it in the homecountry. This study will analyze the responses of the participants based on their age, marital status, the number of children they have, the highest education degree attained ,work experince, their wage, number of hours they work, the degree of their skills,the religiosness of respondents and the frequency they practice it, and the type of society they believe they are alighned with. The main purpose of this survey is to compare the results of men and women and understand the gender discrimination and relationship between reported wage and the potential

independent predictors of it. At the end, the research will analyse the reltionship between these factors and decompose the wage of participants to understand whether there is dicrimination at the workplace. Understanding the full picture of the wage structure of teachers in Azerbaijan will help to look at the bigger picture of gender pay gap in Azerbaijan.

## 3.3 Sampling

There is always challenge to gather data from the all or majority of target audience. There are several sampling methods which can be utilized to conduct a research, and probability sampling method was preferred in this study by random selection of participants. Two questionnaires in Azerbaijani and English language consisting of 15 questions were developed for the survey. Surveys specifically addressed questions to teachers and administrative staff in both private and public schools and universities. Questions were related to demographic and job-related aspects and on social and religious relation and perception on gender discrimination in workplace. Quantitative data was gathered from men and women between the ages of 19 to 71 in the Baku city. High educational institutions, colleges and schools were selected to represent population diversity. Several educational institutions were choosen for ensuring that answers are collected from the random research participants of different backgrounds. Statified random sampling  and cluster random sampling method was chosen by dividing the population by gender subgroups and ensure that the survey is sent to the equal number of male and female employers. As the gender wage gap is the research goal the target population is distinguished by gender and all variables are measured in sampled subgroups. The advantantage of this approach is that the random selection results are more precise and adjusted. Personal emails, social networks and face-to-face interactions were used to conduct the survey.The random sampling methodology was conducted in several steps and larger number of pre-selected partcipants was included

initially because of the anticipated risks of non-response. The response rate was more than 90 percent for women and approximately 70 percent for men. The total number of respondents is 233, mainly 81 men and 152 women from 5 private and public educational institutions. Though the first objective was to reach out the equal proportion of male and female respondents, lately it was figured out that the gender distribution of employees is unequal in favor of women in schools and universities, excluding ADA University where there is somehow balanced gender proportion employed. It was observed that the male employees from the surveyed universities and schools were more reluctant to respond to all wage-related questions in the survey or not to respond to the survey at all. Therefore, the participation of male respondents was less and relatively weak compared to women's active participation, and it demonstrates the sensitivity of such type of research. The major reasons why the surveys were refused to filled was the lack of time of instructors, unavailability during class time, refusal to participate in survey because of avoidance sharing private information about themselves and premature termination of the survey because of the country's lockdown during pandemics crisis. Some respondents were also reluctant to report their wages because of the institutions wage disclosure policy or just not relying on the privacy of the reseaerch's survey.The sensivity of direct wage question was realized and the following point was substituted by multiple ranges of wages from 0 to 5000 AZN and then median wage considered, as respondent preferred more to choose a range rather than write the exact amount of montly income. In summary, we ended up with a survey of a total of 15 questions covering the following instructors' characteristics, like:

- teachers' characteristics such as age, gender and marital status
- data about respondents' monthly income and working hours
- education

- working experience in years
- skills of computer, Russian, English languages
- number of children
- respondents' religion and religious practices
- respondents' social family structure (patriarchic or non-patriarchic)
- job arrangement

## 3.4 Data Collection

Mainly primary data was used in this research analysis collected for the first time in educational entities in Azerbaijan by using survey method, however, secondary data was also utilized for building up the initial conceptual framework and coming up with new recommendations later. Therefore, the generated data is valuable opportunity to analyze the labor market of education sector covering both genders and analyzing the emergence of wage gap in the country. In Azerbaijan, particularly in the educational sector there is lack of research regarding wage discrimination. As limited group university and school staff is surveyed, generalization of the whole educational sector can occur, therefore it was intended to choose the sample size as big as possible. The surveys were conducted personally and by electronic means with beforehand prepared questions for the university's' and schools staff face to face or online version. Totally there are 15 special mixed questions beginning with general yes/no questions and other specific optional answers . The data collected on standard sample surveys is based on reports of wages, hours worked and other variables. Instructors, deans, professors and relevent employees from the ADA University, Baku State University, Oxbridge Baku Academy and several (3) schools were contacted and involved in this study by answering the prepared survey

in the google form. All of these institutions are registered within the authority of the Ministry of education, and, moreover Baku State University and ADA University are considered as largest and dominant universities in the country. Therefore, both private and public sectors are covered to better analyze the wage differentiation. Collecting data across both private and public educational institutions makes the findings more robust to specific differences in the labor market, makes the estimates more precise and reduces concerns about sample selection. The data was collected practically from school teachers both, university instructors and professors and deans. Some minor groups for which its challenging to gather data are excluded, like teachers in internship and their assistants, students with study-to work employment and retired teachers who earn on tuiting at home. The self-employed teachers and teachers who launched their own business and courses are also excluded along with the instructors who work for non-profit organizations. Both male and women respondents were asked questions on their gender, wage,working hours, age, work experinece, education level, work flexibility schedule, religiosity and its level, and the prevalent social norms.The sample size includes controls for demographic characteristics like age, marital status and religiousness, number of children and societal structure and job characteristics, like wage, part-time status, work experience and skills and etc.

Several communication strategies were used by researcher, and it was observed that face-to-face interaction is more efficient in increasing respondents participation in the survey. Secondary data was collected from the academic peer-reviewed papers and reports from the e-library platform of the ADA University and other digital sources. The survey questions were designed to reflect the factors presumably causing gender wage gap in education sector and specific issues in the context of Azerbaijani labor market, like covering the skills more utilized

by Azerbaijani teachers and asessing the religious and social background of the employer. The survey questions were also translated into Azerbaijani language targeted for the respondents of different socio-demographic groups from schools and Baku State University who might not possess English language. Therefore, the survey was created and distributed in two languages- English and Azerbaijani. Data collection was completed In February 2020 with 152 women and 81 men employed in the teaching sector between the ages of 19 and 76, in total 233 respondents. Therefore, the surveys were initiated to collect data ranging both from the young workers at the beginning of their career to senior teachers and professors. The target sample size was 300 with equal number of men and women however the data collection had to be terminated because of the coronavirus pandemics and schools lockdown. All respondents were clearly informed about the aim and methods of this study, the potential benefit of this research on the gender equality in the labor market. They were notified that their participation in the survey was voluntary and that they were free to terminate the survey at any point or refuse to answer the questions. Surveys were strictly kept private and the anonymity of answers maintained. The projects coordinator and supervisor regularly evaluated the survey questions and reviewed the research process by giving feedback on analysis methods and detecting technical errors in the paper.

In summary, the survey was conducted through face-to-face and online surveys using a laptop. The majority of the respondents are citizens of the Azerbaijan Republic. Further information about the data collection can be summarized in such way:

- Data collection period: February 1-29, 2020
- Methodology: face-to-face and online surveys using a laptop
- Data collection location: ADA University, Baku State University, Oxbridge Academy in Baku, public schools N43, N76, N23

- Selection of respondents: teachers, instructors, deans and the representatives of the academic staff currently teaching
- 233 questionnaires were collected in total.

The respondents and their emails are chosen randomly from each department's dean offices separately and the majority of data collection is reached by the means of electronic surveys. The Google form online survey system ensures complete and precise filling of surveys. The generated data is carried out on the exported data in Excel. In case of incomplete answers are provided, the respondents' answers are abolished, or they are asked to complete the survey again.

## 3.5 Data Analysis

### 3.5.1 Descriptive Measures

The relationship of the variables associated with the wage discrimination are analyzed based on the survey results by using the human capital theory and economic theory of discrimination (Becker, G., 1971). First, the descriptive analysis is the essential initial stage for the statistical analysis of this paper. It is a useful tool in identifiying the assosciations between varibales. Such common measures like the mean, meadian and mode are informative decription of the sample size in the central tendency. Mean is the average value of the wages and it is the best and most suitable in our research to come up with the average income. Based on the survey results, different tables and graphs are introduced to visualize the nominal raw gender pay gap of the respondents within the categories of interest , like religiousness, number of children, type of dominant society and etc. There are two ways of calculating the gender pay gap based on the gender pay ratio. The unadjusted gender pay ratio is calculated by dividing women's average earnings by men's average earnings and it is expressed as a proportion of men's earnings and

interpreted as the number of AZN women are paid for every AZN earned by men. Alternatively, for each group we can compute the adjusted average wage separately, as

*(Men's average income-women's average income/men's average income)*100* formula is used to compute the gender pay gap in percentage and it represents how much less women are paid less than men (Moyser, M., 2019).

3.5.2 Difference in difference estimation

At the next step, difference in differences method will be implemented. Difference in differences or DD is a statistical tool implemented in social quantitative studies and econometrics. It intends to imitate the experimental research design by examining the differential impact of a treatment on a treatment group versus control group. It calculates "the impact of a treatment on an outcome by comparing the average change over time in the outcome variable for the treatment group, compared to the average change over time for the control group" (Bertrand, M., 2004). In this research the difference in differences method will be conducted on all three hypotheses to figure out whether there is the discrimination of women. The wages of women and men will be analyzed based on the difference of average wages of both groups, in other words the difference of the average wages of nonreligious and religious women will be deducted from the difference of the average wages of men with the same characteristics.

3.5.3 Regression analysis

Data is analyzed using the ordinary least square regression analysis (OLS) in the STATA 15 program and Excel Data Analysis, generating descriptive tables and figures, and mainly conducting correlation and multiple regression analysis methods to test the associations between variables of interest. Furthermore, Blinder-Oaxaca decomposition method (Blinder, 1973;

Oaxaca & Ransom, 1994) is implemented in the Stata 15 software to decompose the wage of men and women and find gender discrimination at workforce.

In this research, 15 explanatory variables are selected arbitrarily from the analyzed literature review concerning gender pay gap. Most of the variables are qualitative or categorical, which means these characteristics are defined as dummies. There are the following set of explanatory variables. Table 1 provides the summary of coding information as well as definitions of dummy variables used within this study.

- Gender is reported and coded as dummy category variable describing women and men
- Age is represented by the quantitative variable as age in years
- Marital status is reported by a dichotomous dummy, as married, single or other
- Level of education is noted by four dummies distinguished according to the educational system of Azerbaijan, as high school, college/bachelor, master and PhD.
- Job experience in years is a quantitative variable and represents the years in the teaching sphere.
- Wage is a quantitative dependent variable and represents the amount of income in AZN
- Maternity measure is quantitative variable represented by the number of children
- The skill of the workers is represented as a qualitative dummy variable divided by the low, moderate and high level of possessing knowledge of computer and English, Russian languages separately.
- Religiousness is reported as a qualitative dummy variable as yes and no answers
- The degree of religiousness is a quantitative variable represented by the percentage time of religion practice

- The type of society the worker aligned with is represented as qualitative dummy variable like patriarchic with parenthood obligations and expectations and non-patriarchic without these obligations and expectations
- The job flexibility is a qualitative dummy variable represented as yes and no answers

*Table 1*. Definition and coding of dummy variables

| **Variable** | **Measurement** |
|---|---|
| *Dependent variable* | |
| Income | Natural log (monthly income) , 0 AZN ≤ annual income ≤ 5000 AZN |
| | |
| *Independent variable* | |
| Gender | 1 = female; 0 = male |
| Marital status | |
| Single | 0 if single; otherwise 1 |
| Married | 1 if married |
| Other | 1 id divorced, widowed or separates |
| Education | |
| High school | 0 if high school/college; otherwise 1 |
| College | |
| Master | |
| PhD | |
| English language | |
| Poor | 0 if poor; otherwise1 |
| Moderate | |
| Fluent | |
| Russian language | |
| Poor | 0 if poor; otherwise 1 |
| Moderate | |
| Fluent | |
| Computer knowledge | |
| Low | 0 if low; otherwise 1 |
| Moderate | |
| High | |
| Religion | |
| Religious | 1 if religious; otherwise 0 |
| Non-religious | |

| | |
|---|---|
| Society type | |
| Patriarchic | 1 if patriarchic; otherwise 0 |
| Non-patriarchic | |
| Job flexibility | |
| Flexible | 1 if flexible; otherwise 0 |
| Inflexible | |

The logarithm of the average monthly labor wage separately for all the participants is the dependent variable of this research's equation. Monthly income measured as hourly wage rate practice is not popular and widely used in Azerbaijan labor market. Data is referring to net monthly wages free of taxes. To have insight about the education background of workers, 4 levels were considered- ordinary school, college or bachelor, master and PhD. Another independent variable is the years of experience of workers. In order to understand the range of skills the instructors possess, data on the level of Russian, English and computer usage is analyzed. In order to assess the maternity effect questions on the marital status and number of children are posed. Moreover, information on the type if the society the respondents are aligned, like patriarchic with parenthood obligations and expectation and non-patriarchic was analyzed to explain the social impact of the gender pay gap. The other variables used in the estimates are the job flexibility and the degree of religiousness. In our case, set of predictors are human capital indicators like education, work experience and skills, and log wages are taken as the outcome variable. Consequently, we can come up with the regression equation such as :

$$log(wage) = b_{0j} + b_{1j}\, patriarch + b_{2j}\, religious + b_{2j}\, education + b_{3j}\, age + b_{2j}\, skill + e,$$

where j= women or men, and patriarch, religious and education are dummy variables and skill variable accounts for the knowledge of Russian, English languages or computer usage.

### 3.5.4 Blinder-Oaxaca Decomposition

This wage decomposition method is widely accepted, and commonly used method to define how different groups' education, skills, and individual characteristics contribute to earnings (Oaxaca,1994). In Oaxaca, the general discrimination against women is revealed. Implementing Blinder Oaxaca decomposition is also useful in finding whether there is discrimination against religious people by having religious and non-religious groups in the Oaxaca regression. Then, the religious discrimination within each gender will be tested, separately for men and women. In case of religious women having high unexplained proportion, we will conclude that the hypothesis two is valid. The same methodology will be applied separately for men and women aligned with patriarchic and non-patriarchic type of society to test the hypothesis one, and for men and women employed in the flexible and inflexible job structure to test the hypothesis 3.

The best methodology in studying the labor-market results of two different groups is to decompose the mean differences in log wages on linear regression models. This methodology is known as Blinder-Oaxaca decomposition and it is utilized to reveal the possible gender discrimination at workforce. The main technique of this model is to divide the wage differential between women and men into an explained part of group differences like education, work experience and other productivity measures, and a residual part which is not unexplained and not accounted for such qualifications. This unexplained part is taken as a measure for gender discrimination. This analysis was conducted in the Stata 15 program by implementing the Oaxaca command.

Based on the linear model,

$R = E(Y^M) - E(Y^W) = = E(X^M)\,\beta m - E(X^W)\,\beta w$ is computed to know how much of the mean outcome is explained by the group differences, where E(Y) is the expected value for the outcome variable of separate male and female groups, X is the vector containing the predictors and the constant, and β is the intercept for the separate groups of men and women.

This expression can be also written as the sum of the following three terms:

$R = \{E(X^M) - E(X^W)\}\,\beta m + E(X^W)\,(\beta m - \beta w) + \{E(X^M) - E(X^W)\}\,(\beta m - \beta w)$, a threefold composition where the first component of the equation is the endowment effect, the second component is the difference of coefficients and lastly the third component is an interaction term meaning that differences in endowments and coefficients exist simultaneously between the two groups (B. Jann, 2008). The decomposition demonstrated here is formulated from the viewpoint of group of women. That is, the group differences in the predictors are weighted by the coefficients of group women to determine the endowments effect. The E component measures the expected change in group women's mean outcome if women had men's predictor levels.

If we consider that there is a nondiscriminatory coefficient vector $\beta*$ that should be used to explain the contribution of the differences in the predictors. Then we can come up with twofold decomposition outcome *as* $R = \{E(X^M) - E(X^W)\}\,\beta* + \{E(X^M)\,(\beta m - \beta*) + E(X^W)\,(\beta* - \beta w)\}$, where the first component is explained by the productivity differences in the predictors and the second part is accounted for the unexplained outcome, like gender discrimination. Regarding the first explaining part, it implies that if men and women had the same levels of age, education, experience and skills these terms would be 0. It is preferable that the coefficients are positive, and they all raise wages. The positive share of gap is explained better by the productivity

variables if men are older, better educated, have higher level of skills and more experience. The unexplained portion is due to the difference in the coefficient estimates. Essentially, this is the wage difference in the labor market in education that would remain even if women had the same average levels of measured characteristics like education, skills and working experience as men have. In the traditional gender wage gap literature, where this method was first applied, this portion was often associated with the employer discrimination against female workers. However, the unexplained portion in the Oaxaca– Blinder decomposition may also exist for other reasons. It can be other factors which can affect the wage outcome, but they are omitted from the model. Additionally, there can be some pattern of measurement error in variables which is systematically distinct for the two groups. And the third final reason is that there could theoretically exist certain forms of societal and gender discrimination such as that the same qualifications bring different returns in terms of wages for women and men separately (Sen, B., 2014).

In summary , there will be undertaken several calculations in order to reveal the discrimination. To compute the discrimination and assess the patriarchy factors in both groups, regression will be run separately on male and female data. Using the regression results, the explained and unexplained parts will be computed and compared. It will be useful to know whether the discrimination is higher in female group as it is claimed in the conceptual framework or not. Next step will be the running regressions between patriarchic group of male and female and non-patriarchic groups of male and female separately . Therefore, after calculating the results by Blinder-Oaxaca methodology it will be obvious in which group, the patriarchic or non-patriarchic group the discrimination is higher. The same pattern will be applied to understand the

wage discrimination between the religious and non-religious groups and within both genders based on their religiousness.

Considering our specific example, for dependent variable Y we take ln(wage) for both groups. The academic difference parameters will consist of the independent variables like age, marital status, education, working experience, computer, English and Russian language knowledge for skills which can potentially explain the wage determination equation differences. The specific variables included will depend on their significance level. So, there are several requirements for the correct and valid computation of the Oaxaca wage decomposition, mainly: 1) the results of the regressions should be statistically significant by choosing the set of variables which best fits sample data on wage rates and productivity level 2)the relationship between the variables should be linear, 3) log wages of both gender and within gender groups are taken as outcome variable, 4)means are taken for the numerical variables and proportions for the categorical variables. The final decomposition equation for the difference between the means of log monthly wages of men and women can be summarized like:

$$Mean(Ln(wage^M)) - Mean(Ln(wage^W)) = (\beta_0^M - \beta_0^W) + \sum_{K=1} \bar{x}_K^W(\beta_K^M - \beta_k^W) + \sum_{K=1} \beta_k^M (\bar{x}_K^M - \bar{x}_K^W),$$

where the first two components divided by the total wage difference give us the percentage of discrimination which is not explained by the difference in average productivity characteristics of men and women observed in the labor market, and the last component can be presented as a proportion of the overall difference estimating the magnitude of the effects of the specific personal and productivity characteristics which explains the gender wage gap.

## IV. Results

### 4.1 Descriptive Statistics

In total, 233 teachers and instructors were considered in this analysis. The participants were divided into two groups based on their gender. Participants belong to different senior and staff categories and position level, from the professors' assistants to the head of schools and deans. Their position was not clarified on survey individually, but all of them are currently having academic performance and giving lectures. Unfortunately, it was impossible to include equal proportion of men and women into the research study due to inactive participation of men respondents and natural prevalence of women in the education sector, resulting in 152 female respondents and 81 male respondents.

| | Men(in %) | Women(in % | Difference(%men-%women) |
|---|---|---|---|
| 0-500 AZN | 21 | 41.5 | -20.5 |
| 501-1000 AZN | 30 | 25 | 5 |
| 1001-1500 AZN | 4.9 | 15.7 | -10.8 |
| 1501-2000 AZN | 13.5 | 6 | 7.5 |
| 2001-2500 AZN | 4.9 | 5.2 | -0.3 |
| 2501-3000 AZN | 7.4 | 2 | 5.4 |
| 3001-3500 AZN | 1.2 | 0 | 1.2 |
| 3501-4000 AZN | 4.9 | 2 | 2.9 |
| 4001-4500 AZN | 1.2 | 2 | -0.8 |
| 4501-5000 AZN | 9.8 | 0.6 | 9.2 |
| 5000 AZN and more | 1.2 | 0 | 1.2 |
| **Total** | 100 | 100 | |
| in AZN | | | |
| **Average(mean)** | 1864.5 | 992.2 | |
| **Median** | 750 | 750 | |

Table 2. Proportion of men and women earning different range of income. Mean and median income.

This table of relative earnings reflect how the groups of interest are valued without considering the social and economic circumstances. The unadjusted pay gap calculated as the raw difference between monthly income of men and women is a signal of gender inequality and the need for the economic empowerment of women. The Table 2 summarizes the results of the wage distributions by gender of the survey in terms of people's income. In Azerbaijan, the majority of education workers are paid on monthly basis. As we can see, very large proportion of women ( 41.5%), or twice more than men are within the bottom of the income distribution, earning the minimum wage in the education sector.

On the contrary, majority of men are earning between 501-1000 AZN and are in better financial position than women. In fact, not all women earn less than men, women outperform men in some wage categories like 1001-1500 AZN and earn almost equally as men in some wage rages. However, when we observe the statistics, the wage distribution is allocated more in favor of men, and among those with monthly incomes most women earn less than men. For this reason, women's average monthly income from salaries and compensations is almost twice lower than men based on the survey- 992.2 AZN compared to 1864.5 AZN, and the difference or the total gender raw wage gap is 872.3 AZN for the education sector in Azerbaijan. The female to male earnings ratio is 0,53, and when we calculate the gender pay gap in percentage {(1864.5-992.2)/992.2*100] we come up with number 87%, which is quite high. Another prominent conclusion from this table is that there is increasing wage trend for men while less women are represented in the wage distribution as wages rise. Moreover, we can conclude that there is very little proportion of women earning 2500 AZN and more and almost no women earning 4500 AZN and more. As it was cited in the previous literature, our results prove once

more that even in such feminized occupation like teaching women still experience structural gender wage gap (NASUWT, teachers' union,2018).

| | Men | | Women | | Wage gap(in AZN) |
|---|---|---|---|---|---|
| | N | % | N | % | |
| **Age group** | | | | | |
| 19-30 | 27 | 33.3 | 62 | 40.7 | 155 |
| 31-50 | 46 | 56.7 | 75 | 49.3 | 865 |
| 51-76 | 8 | 10 | 15 | 10 | 2694 |
| **Marital status** | | | | | |
| Single | 35 | 43.2 | 52 | 34.2 | 750 |
| Married | 43 | 53 | 92 | 60.5 | 988 |
| Other(divorced, widowed) | 3 | 3.8 | 8 | 5.3 | 1548 |
| **Education** | | | | | |
| High school | 1 | 1.2 | 14 | 9.2 | -81 |
| College/Bachelor | 23 | 28.3 | 50 | 32.8 | 468 |
| Master | 33 | 40.7 | 68 | 44.7 | 479 |
| Phd | 24 | 29.8 | 20 | 13.3 | 1286 |
| **Presence of children** | | | | | |
| Yes | 44 | 54.3 | 96 | 63 | 1343.7 |
| No | 37 | 45.7 | 56 | 37 | 416.4 |
| **Hours of work per week** | | | | | |
| 0-20 | 18 | 22.3 | 33 | 21.7 | 344.7 |
| 21-40 | 46 | 56.7 | 83 | 54.6 | 898.4 |
| More than 40 | 17 | 21 | 36 | 23.7 | 1313 |

Table 3. The gender pay gap according to the demographic factors, education and job-related factors

Table 3 reports the age distribution of the surveyed men and women respectively and the corresponding wage gap in AZN for each age group. The earnings pattern over the life cycle is quite predictable. We can observe that the gender wage gap differs by the age groups. It can be concluded that the significant proportion of men and women ( 46% and 56.7%) or the largest segment of the employed adult population are employed at the working age range 31-50. It is also noted that the minimum wage gap (155 AZN) is observed at the younger ages, however, the wage gap between men and women also tends to rise sharply with the increase of age, and the highest gender wage gap (2694 AZN) is observed at the senior age level after 51-76.This confirms the literature findings according to which the increasing age of employers is positively

related to the gender wage gap. Wage inequality between genders tends to increase with age, it can be because of women experiencing more job interruptions related to childcare and family obligations than men. Moreover, another reason behind it is that there are more senior male workers who are paid more than younger generation because of their experience (Charlotte Gascoigne,2019). Reasonably, the gender pay gap is narrower among those aged 19-30 than it is among those aged 31-50 years and older.

The share of women who are married is larger than the proportion of men, 60.5% and 43% respectively. Table 3 shows that the raw gender wage gap is higher for married women (988 AZN) than for single ones (750AZN), and it somehow confirms our initial assumptions that decisions regarding marriage has important implications for the labor supply and increases the gender pay gap further. There is also a significant gender wage gap between divorced or widowed women and men.

Education can also be another important driver of gender wage gap for women. Women in education sector have much higher education levels compared to men. 32.8 percent of females have bachelor's degree compared to 28.8% of males, and 44.7% of women are master graduates compared to 40.7 percent of males. Educational structure of teachers shows that lower high school secondary education is the level of education acquired most often by women (9.2% of women compared to 1.2% of men), and in the case of men it is the highest PhD degree. Higher levels of education do not represent as significant gender differences as described, however there is twice as more proportion of men having PhD than women, 29.8% of men and 13.3 % of women respectively. Despite the fact that the educational level of women is slightly higher in high school, bachelor and master, they still experience gender wage gap. This supports the literature findings that increase in the educational level of females doesn't correlate with higher

wages. It supports the argument that there is a growing disparity between highly educated and skilled women and less-educated women (D. Blau, M. Kahn, 2006). There is no wage gap for women having the secondary education, however the wage gap fluctuates as educational degree rises and dramatical rise in the wage gap (1286 AZN) can be observed for the women and men with PhD. Therefore, men may have higher wages just because the payoff of PhD is higher than the returns to high school.

It is also notable to mention that there is larger proportion of women (63%) having children than men (54.3), the wage gap is 416.4 AZN between women and men with no children and it rises 3 times more to 1343 AZN once both men and women have children. Sharp fall in the women's earning is observed after their first child, so it's proved once more than "the gender wage gap is a childcare penalty". Though historically the educational and human capital differences between genders have disappeared, such key factor as child caring is constant and persistent (Goldin, 2015). However, several tests should be conducted controlling other variables to verify our initial assumption that the gender wage gap increases for women after the childbirth as the women the ones who are negatively affected by the childcare responsibilities and the motherhood penalty.

The table also shows that the there is no big proportion difference between men and women and their weekly hours of work, and more than half of both women and men work about 21-40 hours a week. They work somehow the equal number of hours as teachers, however they are not compensated equally for the same amount of works. Ironically men are paid higher wages than women when they increase the number of working hours and efforts in week, and consequently the gender pay gap increases and reaches its maximum 1313 AZN when both men and women work than 40 hours a week (23.7% of women compared to 21% of men). It was

expected that men devote more time and energy to work than women who have family obligations, and it can be the explanation why women are paid  less than men. However, the statistics results of the survey don't verify this assumption.

| | Men | | Women | | Wage Gap(in AZN) |
|---|---|---|---|---|---|
| | N | % | N | % | |
| | | | | | |
| **Skills (English language)** | | | | | |
| Poor | 23 | 28 | 17 | 11 | -114 |
| Moderate | 23 | 28 | 50 | 33 | 355 |
| Fluent | 35 | 44 | 85 | 56 | 1077 |
| **Russian Language** | | | | | |
| Poor | 19 | 23.4 | 35 | 23 | 1156 |
| Moderate | 39 | 48 | 57 | 37.5 | 539 |
| Fluent | 23 | 28.6 | 60 | 39.5 | 1056 |
| **Computer skills** | | | | | |
| Low | 11 | 13.5 | 12 | 7.8 | 84 |
| Moderate | 36 | 44.5 | 62 | 40.7 | 156 |
| High | 34 | 42 | 78 | 51.5 | 1006 |
| | | | | | |
| **Average working experie** | **7.8** | | 8.6 | | |

Table 4. Gender pay gap according to the human capital qualifications

In Table 4 we analyze the proportion of men and women possessing particular skills and the corresponding gender wage gap for each category of workers. English, Russian languages and computer skills were taken as the main measures to assess the skills of both male and female teachers.Women outperform men in both Russian and English languages. Particularly, if we pay attention to the moderate and fluent level of possessing of English language the proportion of women( 33% moderate and 56% fluent)  surpasses the proportion of men ( 28% moderate and 44% fluent). There are aslo more women speaking Russian fluently than men, 39.5% to 28.6% correspondingly. Women also are more adept in using computer and having technical skills, the proportion of women and men using computer moderately is somehow equal in favor of men but women still surpass men in high utilization of computer (51.5%of women to 42% of men).

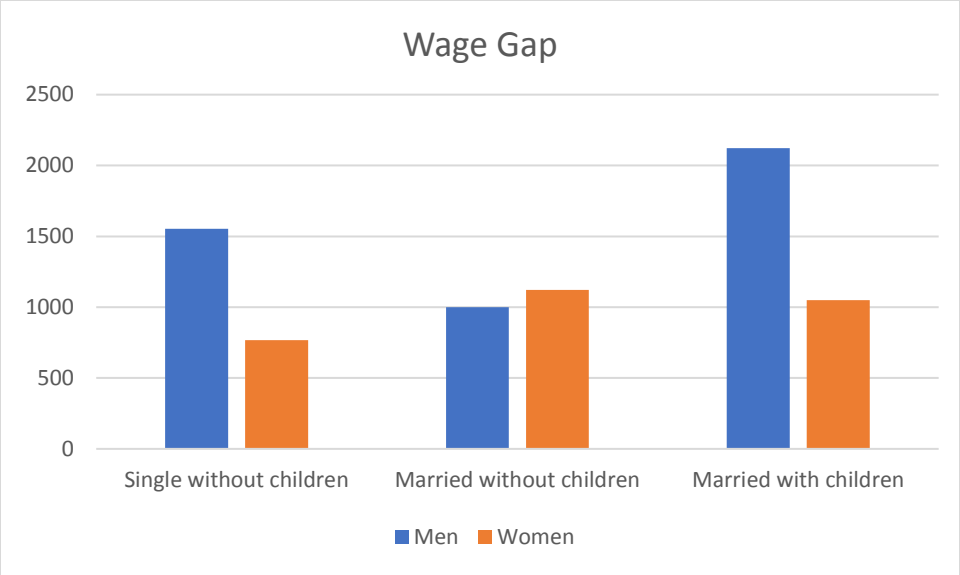
Therefore, we can conclude that women don't concede men in skills and even outpace them in all skills metrics, but if we screen the mentioned wage gaps we assert that women aren't paid according to their qualifications and the wage gap is even higher for the highly specialized women, more than 1000 AZN in all three cases. This is quite high and can be demotivating for women instructors. Finally, it proves the above-mentioned argument that women with the same or higher skills are paid less amount for the same job.(Charlotte Gascoigne,2019) Another unexpected outcome is that women on average have higher woking experience in years than men (8.6 years for women to 7.8 years for men), however when we overview the overall gender pay ratio women are underpayed and disregarded also on this human capital qualification.

| | Men | | Women | | Mean wage of women | Mean wage of men | Wage Gap |
|---|---|---|---|---|---|---|---|
| | N | % | N | % | AZN | AZN | AZN |
| **Religious** | | | | | | | |
| Yes | 61 | 75 | 97 | 63.8 | 1263.4 | 2144 | 880.6 |
| No | 20 | 25 | 55 | 36.2 | 513 | 1011.4 | 498.4 |
| **Practice of religion** | | | | | | | |
| No practice(0%) | 28 | 34.5 | 55 | 36 | 880 | 1577.2 | 697.2 |
| 1-30% | 20 | 24.5 | 43 | 28 | 992 | 1777.5 | 785.5 |
| 31-60% | 22 | 27 | 32 | 21 | 1164 | 2002.2 | 838.2 |
| 61-90% | 4 | 5 | 15 | 10 | 708 | 1125 | 417 |
| 91-100% | 7 | 8.3 | 7 | 5 | 1694 | 3250 | 1556 |
| **Type of society** | | | | | | | |
| Patriarchic | 41 | 50.6 | 80 | 52 | 934 | 2404 | 1470 |
| Non-patriarchic | 40 | 49.4 | 72 | 48 | 1056.4 | 1216 | 159.6 |

Table 5. Gender pay gap according to the religious and social background of respondents.

Table 5 summarizes the results of survey based on the religion related aspects of the participants and the dominant society type they are surrounded by. First, it was figured out that there is bigger proportion of religious men at workplace and women, 75% to 63.8% respectively. There is also greater number of women (36%) than men (34.5) not practicing religion at all. In general, most proportion of both men and women are moderately religious, practicing religion 1-60% of time, however there are more highly pious men (8.3%) than women (5%). When we analyze the gender pay gap for both groups, we observe that the wage disparity is higher between

religious women and men than non-religious women and men. It was expected that the wage gap will increase as the degree of religiousness of respondents increases, however the wage gap is not consistent and fluctuates. Moreover, the mean wages of both women and men tend to increase when their religiousness rises. It can potentially reject our initial hypothesis that the women are discriminated at workplace because of their religious practices, but it can be also the combination of other factors favoring the higher wages of religious women compared to non-religious women. The full understanding will be reached out when the full differences in difference and Blinder-Oaxaca decomposition is implemented. But it should be highlighted from the statistics that the gender pay disparity for religious women is highest for the most religious proportion, practicing the religion 91-100% of time. When we examine the social environment and the type of the society the respondents are aligned with, we notice that the society is divided almost equally and the proportion of men and women in both types of social structure is similar. The majority of both male and female respondents (50.6% and 52% correspondingly) claimed to be aligned with patriarchic society with strong family and parenthood expectations and obligations. The wage gap also tends to attain its maximum between women and men with patriarchic type of society (1470 AZN) compared to the more liberal individualistic social group without any family obligations.

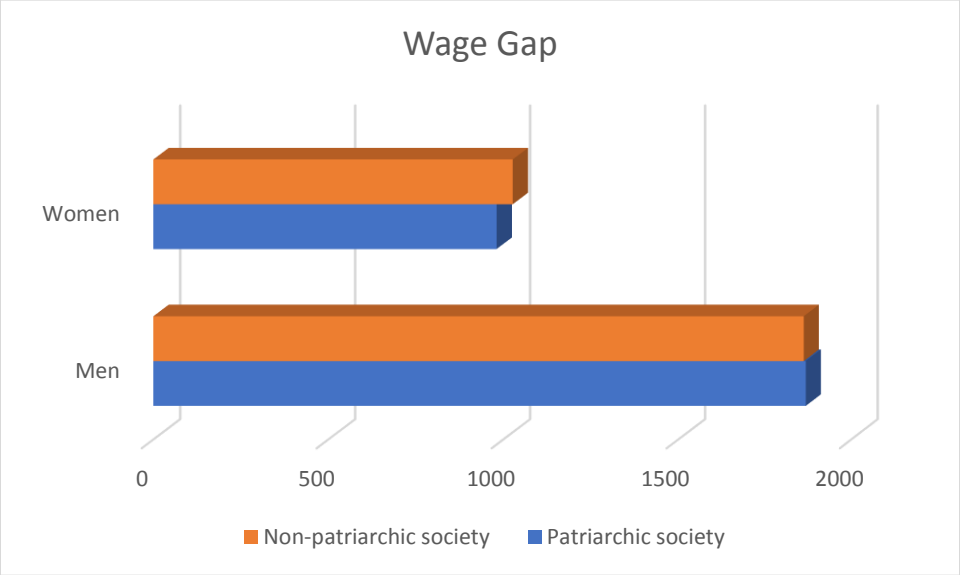



Graph 2. Mean wages of single and married respondents with and without children

In next graph we observe the mean wages of single men and women without children, the married groups without children and finally the married men and women with children. Single male teachers without children earn the mean wage of 1554 AZN per month, while single female teachers without children earn twice less, 768 AZN in month. The wages are somehow similar for the married couples, but when we look at the wage gap between married couples with children, the men have the highest income while married women with kids are paid less than married ones without children. However, there is trend of rise of the average wage for women once they get married, but it can be attributed to other factors like accumulated human capital, experience or age. We can observe that the wage gap is quite high for the single women without children, however the married women without children are paid roughly the same amount as the men with the same characteristics, and the gender pay gap is relatively smaller for this category. The pay disparity is peaked for the married women with children compared to married men with children (more than 1000 AZN), which confirms the literature of the potential maternity penalty for women bearing childcare duties. Therefore, as previous studies suggest, children and

maternity plays very huge role in the existence of the gender pay gap and one reason for explaining such phenomenon can be that married men accumulate more human capital than married women with children and consequently have higher wages (Weinberger and Kuhn, 2005).

4.2 Differences in difference methodology results.

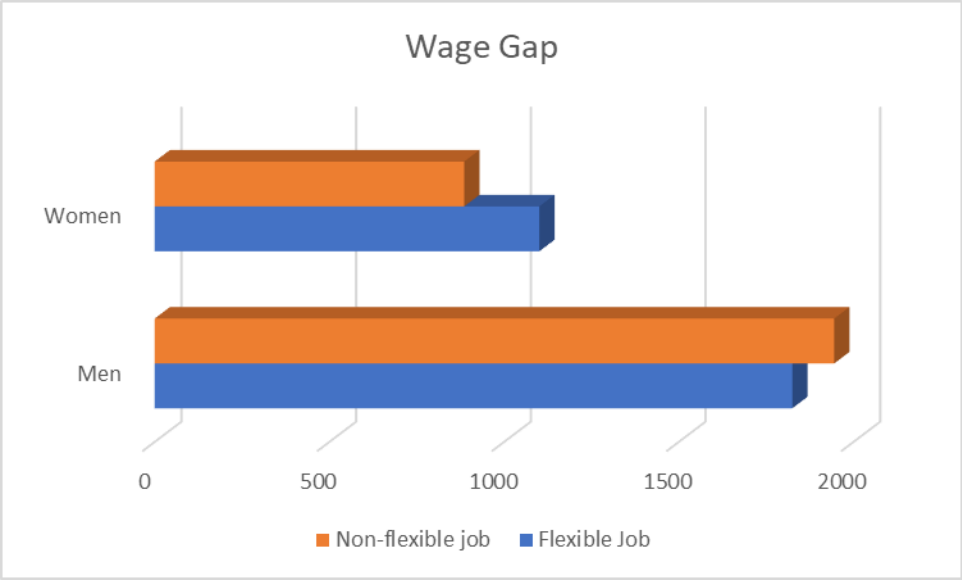



Graph 3. The average wage of men and women aligned with two separate social types

In graph 3 we can also visually observe the wage gap within the group of men and women separately and the gender wage difference according to their social background. We conduct the difference in difference method which is conceptually simple. First, we measure the change in the wage between the exposed group of men and a control group of women, then subtract one from the other to see the "difference in the differences" between the groups. Consequently,

*(Mean wage of men with patriarchic type - mean wage of men with non-patriarchic type)* –

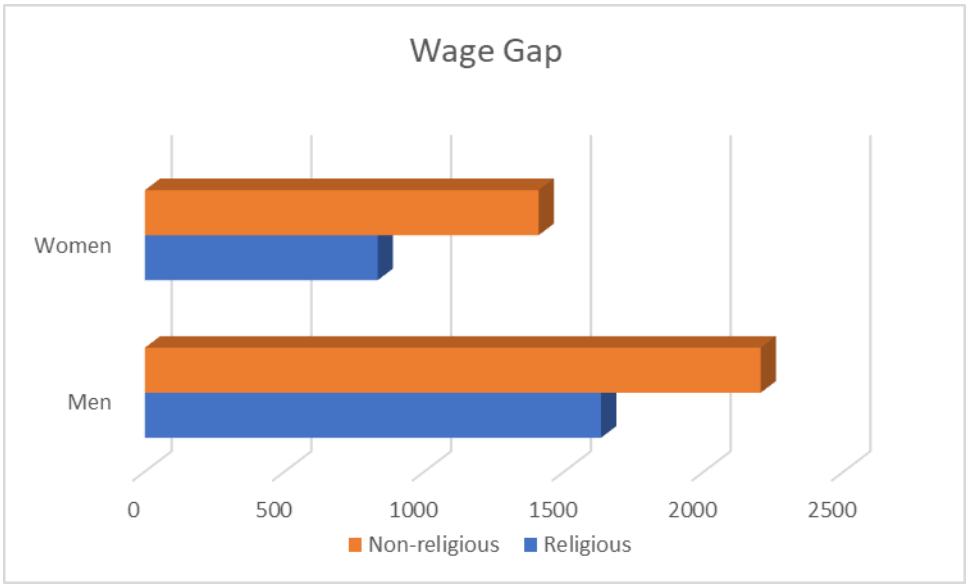
*(Mean wage of women with patriarchic type – mean wage of women with non-patriarchic type)* reveals us whether there is the discrimination against the women with patriarchic type of society. In other words, by the DD method it can be estimated that there is (1868-1862) - (981-1027) = 52 AZN wage discrimination against employed women with strict social and family obligations. This supports our first hypothesis that women teachers in Azerbaijan earn less due to the social pressure and discrimination at workplace. In order to verify our findings, we conduct difference in difference estimation for the men and women with children and without. *(Mean wages of men with children-mean wages of men without children)-(mean wages of women with children-mean wages of women without children)* gives us the difference of 380 AZN as the wage discrimination towards women with children. Our results are similar with the findings of similar studies of the American universities indicating that the gender wage difference for the male and female graduates emerges after some time, particularly after childbirth and childcare activities in which women are more involved than men (Bertrand,2010).



Graph 4. The mean wages of men and women based on their job schedule

Once again in order to test our third hypothesis that women are paid less because they prefer flexible job schedule, we conduct the DD estimation between group of men and women. We analyze that the difference between groups, or *(Mean wage of men with flexible job – Mean wage of mean with inflexible job) – (Mean wage of women with flexible job – Mean wage of women with inflexible job)* gives us the discrimination of the employer towards the women workers with flexible working. Therefore, we can estimate that there is (1825-1945)-(1101-886)=-335 AZN, which can be interpreted that women with flexible job schedule are actually paid relatively higher than the men with flexible job schedule and there is actually gender discrimination of men based on this factor. It totally rejects our hypothesis that the women are discriminated more because of their preference for the flexible job schedule. Women who are employed in flexible job schedule due to family-work balance or other reasons are not discriminated and their wage gap is not significant. We stated on our hypothesis that there is a strong effect on present and future incomes for women taking up flexible job schedule, which is not equal for the men and the flexible job model in this sense is widening the gender wage disparity (Cooper, 2004). The results of the difference in difference model rejects the previous studies in the favor of counter argument, that the flexible working can be a useful tool for women to adapt their job to family demands and enhancing gender quality in the society. It can assist mothers to maintain and remain in their jobs after childbirth and raise women's job satisfaction because of the work-life balance (Golden, 2001; Jacobs and Gerson, 2004; Lott, 2015). However, these findings don't reject the results of the previous literature that the flexible job schedule damages women's job prospects and negatively affects the income of women who take up flexible job schedule. We conducted correlation analysis between the income and flexibility

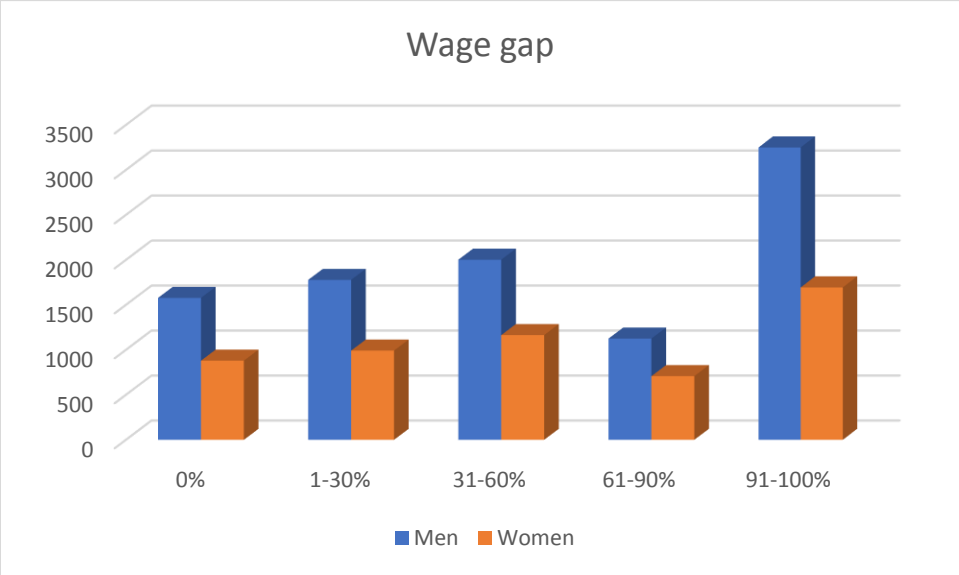
variables both for the group pf men and women to reveal the effect of flexible job preferences on the real income of workers, and the negative correlation coefficients in both groups can be interpreted as the negative association between these two variables.




Graph 5. The average wages of women and men who claim to be religious and non-religious.

In order to test our second hypothesis that women are discriminated at workplace and paid less due to being religious and practicing religion at work, we implement difference in difference method. Next, we come up with the following outcome *(Mean wage of religious men-mean wage of non-religious men)- (mean wage of religious women-mean wage of non-religious women)* = (1632-2203)-(833-1409)= 5AZN, which is surprisingly low wage difference and the question of whether there is real religious discrimination arises. However, after the Oaxaca decomposition we can fully assert whether there is religious discrimination or not in the education sector. Whether employee is religious is not sufficient information to acknowledge that there is no religious discrimination at all. Additionally, we should examine the mean wages of two extreme groups, the difference between groups of men and women not practicing religion at all (0% of time) and the group practicing it 91-100% of time to get the full picture (Graph 6).

Implementing difference in difference estimation, we come up with number (3250-1577.2) – (1694-880) =850 AZN discrimination of women who practice religion very frequently. Such big difference can emerge because the employee may not be informed about the beliefs of worker once she hired due to the topic's sensitivity, however the employer can be discriminated at workplace once the employee notices her constantly practicing the religion during the worktime. Moreover, as it was claimed in the literature part of the study, the employer can fail to adequately adjust the work environment like work schedule, practice at work, dressing or religious expression, and the worker can face dilemma in implementation of their employment obligation and practicing religion at the same time (Ghumann, 2013), and people having deep religious beliefs and regularly attending religious services have more unequal gender attitudes than others (Seguino,2011). These all can lead to adverse effect on the promotion and rewarding HR practices of the employer, or the religious discrimination in other words.




*Graph 6. The mean wages of men and women by the time spent on the religious practices*

### 4.3 Blinder Oaxaca decomposition results

This section presents the results of the decomposition analysis based on the conducted survey data outcomes. Table 6 shows the results of the decomposition of the gap between the natural log wages of men and women. The overall explained part and unexplained part are expressed as the percentage of log wages differences of men and women in general, for the patriarchic non-patriarchic group of male-female and religious and non-religious group of male and female. The decomposition is also conducted within non-religious religious female group as well as within non-patriarchic patriarchic female and male group. The positive explained part implies that the difference in average characteristics between men and women is in favor of men, while the negative explained part means that the difference in characteristics is in favor of women. Moreover, the positive unexplained part means that the potential discrimination of women is not based on the mentioned productivity characteristics, while on contrast the negative unexplained part implies there is discrimination on men. Multiple regressions, besides being used in the Blinder- Oaxaca decomposition model, can be used to examine the relationship between different explanatory variables and log wages for different groups. These regression models are summarized and can be reviewed independently in Appendix A. It is clear from the OLS regression results that there is a positive association between most of the explanatory results and the log wages for both genders.

Results from the Blinder- Oaxaca decomposition analysis are summarized in Tables 6. To gain additional insight into the wage differentials across different groups, we separate the sample into two groups of male and female, and decompose the gender pay gap for each category separately. Groups of men and women are also separated based on their answers on religion and dominant society type to test our initial assumptions. Table 6 presents the gender

wage gap decomposition results within the groups of interest. In general, the overall explained part, which is the weighted average of the all explained parts in education sector in Azerbaijan is 12%. The explained part is mainly driven by several explanatory factors, like age, education, marital status, religion, knowledge of Russian language and type of society. Some factors were statistically significant, however the outcomes for marital status, patriarchic group of society and Russian language were statistically insignificant (p-value more than 0.05). All the variables were positively associated with the log monthly ages, except for the knowledge of Russian language in the group of women. Observing the Table 6, we can consider that the 12% of the difference between log wages of male and female workers can be attributed to the gap in average characteristics between male and female workers favoring men, though women have higher level of education and age. It is noteworthy to mention that due to their higher level of education, female workers should in fact earn more than male workers, despite of the fact that the contribution of education to the gender pay gap is minimal. This result indicates that productivity characteristics play very little role in explaining gender wage differentials. Thus, only 12 % of the difference is explained by predictors. Most of the difference remains unexplained, which is consistent with the theoretical framework. The remained 88% can be attributed to gender discrimination and other personal and productivity factors. According to our theoretical framework, some gender-specific factors are explained like the differences between men and women and the way they are treated, like the discriminatory tastes of employers and eventually lead to different treatment of women and men because of the perceived expected value of productivity of men and women (Kahn,2006).

Another decomposition was calculated to know the effect of religion and patriarchic society on the gender pay gap between men and women. 17% of the wage gap in favor of men is

explained by such factors like religion and type of society only, and the remained part is unexplained. The unexplained part (83%) captures all potential effects of differences in unobserved variables. The reason why we considered both factors at the same time is that religion and social norms are interconnected and overlapping. As is was mentioned in the literature,

women's positions as mothers and workers are influenced by social standards and practices, and societies which are strongly dominated by religion can have more restrained domestic position for women. The existing cultural norms are formed by religion, and all the job-related and personal characteristics can be influenced by it (Fernandez,2007). As it was cited by Gould (2016), traditional expectations which are stronger in religious societies may affect career decisions and widen the wage gap further.

When we compare the Blinder-Oaxaca decomposition results the wage differences between patriarchic male and female, we observe that 21% of the wage gap can be explained by such factors like working experience, marital status and the level of education, and the remained 69% is unexplained due to other factors or discrimination. However, when we decompose the wage gap of non-patriarchic men and women based on the same parameters, we find that none of these factors explains the gender pay gap and the whole gender pay gap remains unexplained. Comparing these two groups, it can be claimed that the discrimination is actually higher for the non-patriarchic female workers compared to non-patriarchic men . In another case, the Blinder-Oaxaca decomposition results within non-patriarchic and patriarchic female group show us that such variables as age, education and computer knowledge totally explains the wage differences between these two groups based on their social background and there is no unexplained discrimination to the patriarchic group of women. Though non-patriarchic women earn more

than women aligned with conservative type of society, this gap can be explained by personal and job characteristics. Comparing the group of patriarchic male and non-patriarchic male, we found that patriarchic males are actually earning more than their non-patriarchic colleges, however the whole gap (100%) is explained by the performance and personal indicators like age, education and computer knowledge . Therefore, combining these results we can claim that both patriarchic and non-patriarchic females are discriminated at workforce compared to their male colleges, however within the group of female patriarchic women are not discriminated and the wage gap can be attributed to personal characteristics.

Further analysis was performed to compare the wage difference decomposition between religious male and female and non-religious male and female groups. The unexplained components of the two groups are 120% and 110% respectively, calculating the wage gap based on such components like age, education and experience. We observe that there is higher discrimination on religious women than on religious men, as it was expected, and it partially supports our initial hypothesis than women earn less than men at workplace due to the religious discrimination and prejudices towards them. As it is seen from results, the contribution of differences in productivity to the mean wage gap is minimal. This means that religious women would get lower salaries if they had the same endowment of productivity-related characteristics as religious men. On contrast, this implies that gap attributable to differences in individualistic and gender level is high. As it was mentioned in the previous literature, women's roles as mothers and workers are shaped by the social norms and practices and women's career positions may be more restrained by societies which are strongly dominated by religion. It was stated in the literature that after the collapse of the Soviet Union, the cultural aspect of Islam could also build obstacles and discrimination for women in the workplace and religion can lead to

prejudices and bias over the fact that men are more privileged to gain access to jobs and higher wages than women. Furthermore, when we compared the wages of religious women and non-religious women, it is noteworthy to highlight that the religious women on average earn more their non-religious female counterparts due to their higher performance indicators (96% of the wage decomposition) and still the non-religious women are discriminated at workforce more that the religious women by 4%. Religious males also earn more than their non-religious male colleges, and 18% of this gap can be associated with discrimination or other omitted productivity variables.

The non-discriminatory factors explaining the wage gap in this study were age, education and experience, marital status and computer and Russian knowledge. Other factors which helped explain the pay gap were marital status, Russian language, computer knowledge. Different combination of factors suggested different explained portions of the gender pay gap. Future studies may benefit from more precisely examining both direct and indirect relationships between the human capital variables and the wage gap and the employer's decisions and preferences for these factors in the selection and hiring process.

| | Gender Pay Gap | Explained part | Based on: | Unexplained |
|---|---|---|---|---|
| **Group** | | | | |
| Male-female | 0.53 | 0.06 (12%) | age, edu, marital, rus, religion, patriarchy | 0.47 (88%) |
| Male-female | 0.53 | 0.09 (17%) | religion, patriarchy | 0.44 (83%) |
| | | | | |
| Patriarchic male-female | 0.86 | 0.26 (21%) | exp,edu, marital | 0.6 (69%) |
| Nonpatrairchic male-female | 0.2 | -0.03 | exp,edu, marital | 0.23 (115%) |
| | | | | |
| Nonpatriarchic-patriarchic female | 0.17 | 0,21 (123%) | age, edu, comp | -0.04 |
| Nonpatrairchic-patriarchic male | -0.5 | 0.5 (100%) | age, edu, comp | 0 |
| | | | | |
| Religious male-female | 0.49 | -0.1 | age,exp, edu | 0.59 (120%) |
| Nonreligious male-female | 0.33 | -0.03 | age,exp, edu | 0.36 (110%) |
| | | | | |
| Nonreligious-religious female | -0.76 | 0.73 (96%) | age, exp, edu | 0.03 (4%) |
| Nonreligious-religious male | -0.92 | 0.76 (82%) | age, exp, edu | 0.16 (18%) |
| | | | | |

Table 6. Blinder-Oaxaca Wage Decomposition results

## V. Discussion

### 5.1 The gender pay gap

This paper focuses on Azerbaijan's wage gap differences in the education sector to assist institutions and decision-makers involved in wage policy design to control income inequality and wage distortion on the Azerbaijani labor market. The results of this paper help to explain the pay disparity between males and females in Azerbaijan by evaluating wage gaps because of the variations in personal and productivity characteristics and other variations related to discrimination against women. This research uses survey data gathered at multiple educational institutions to assess the scale of Azerbaijan's gender wage disparity. The report shows that monthly incomes for male teachers are higher than for female instructors. More than 40% of women are earning within the bottom line of the income distribution, or the minimum wage. Consequently, in general female instructors earn almost twice less their male colleges, and the total gender pay gap is 872.3 AZN in numbers or 87%, which is quite negative indicator if we don't adjust for the human capital factors. This negative phenomenon persists despite the fact than on general women have higher experience in years, higher working hours and outperform men in all three skill indicators like Russian language, English and computer usage. Women also have higher educational level compared to men excepting PhD. The only factors favoring men are higher aging and higher level of PhD. The Blinder-Oaxaca wage decomposition results between all male and female groups demonstrated us that only 12% of the gender pay gap can be explained by factors like, age, education, marital status, religion, knowledge of Russian language

and type of society, while huge remained proportion can be attributed to discrimination and other omitted productivity factors.

The decomposition of Blinder-Oaxaca conducted on both male and female workers aged 19-71 indicates that there is a statistically substantial gap in earnings per month between men and women. Factors of productivity are rewarded differently- men have a higher return to education, experience and skills on the labor market, though in most cases women outperform them. Those productivity variables explain some portion of the gender pay gap, but an apparent gender pay disparity still persists which can be interpreted as discrimination, specific family roles or cultural differences, and religion. Once, the pay disparity observed is mostly because of the impact of discrimination, while disparities in the characteristics of human capital should minimize the wage gap between the two genders. The decomposition of the wage gaps into explained and unexplained parts reveals that gender pay disparity is significant but unresolved issue in Azerbaijani labor market. Therefore, in order to obtain the reasons why the labor market undervalues female labor as relative to males, more detailed researches are needed on the government level to address adequate policies for resolving this inequality issue.

## 5.2 Review of hypothesizes

In general, the raw gender pay gap calculations demonstrate that the share of women who are married is larger than the proportion of men and the raw gender wage gap is higher for married women than for single ones, which creates a basis to assert that the decisions regarding marriage can be an important factor for the employee and increases the gender pay gap further. The gender pay gap also exists significantly between divorced or widowed women and men. It is also notable to mention that there is larger proportion of women having children than men. Single male teachers without children earn twice more than single female teachers without

children and still the wage gap rises 3 times more in favor of men once both men and women get married and have children, which confirms our hypothesis that women bear maternity penalty because of the childcare and social obligations. If we analyze the social environment the respondents are associated with, we found that and the proportion of men and women in both social groups are identical. Most respondents, both male and female claimed to be associated with patriarchal or conservative culture with high expectations and responsibilities to family and parenthood. The pay difference also appears to hit its height among men and women with patriarchal form of society as opposed to the more modern individualistic social group without any family commitments. Difference in difference methodology determined that there is 52 AZN wage discrimination against working women with tight social and family commitments. That confirmed our first hypothesis that women teachers in Azerbaijan earn less because of social pressure and job discrimination. The difference in difference test also estimated that women with children are discriminated by 380 AZN compared to men. The Blinder -Oaxaca decomposition showed us that that both patriarchic and non-patriarchic female are discriminated at workforce compared to their male colleges, and non-patriarchic women are discriminated even more on gender basis that patriarchic women in this case. This supports our first hypothesis that women in patriarchic society like Azerbaijan earn less than men due to the social pressure and motherhood expectations (69% unexplained). For women and men, the relationship between family status and income is different. Children are associated with lower pay for women but not for men, partially because children tend to decrease the job experience of women and their working hours. Women and men have different motivations and life expectations, as men are more ambitious by nature and have long term value attached to the financial return. Generally, women have lower career ambitions and long-term values that are less driven by career success than men. Social prejudices

form gender differences in long-term values ,which results in men being less altruistic than women and caring more about their own career. These expectations are leading to the reality that women are more benevolent have a career break for family reasons than men. Furthermore, women with higher preferences for maternity search the labor market with less intensity, end up on worse job match or less willing to change employer, which can explain how child rearing preferences and maternity expectations can impact wages of women in negative way. We should be concerned whether women's preferences derive from the fear of discrimination, expectations of raising children and social pressure, so that these factors can explain the discriminatory side of the gender wage gap. Additionally, due to social pressure and maternity expectations women may choose to remain with in their current employment even if wages are low in order to build good relationships with employers and expect that the employer will accommodate their childcare roles and future career (Chevalier, A., 2006). This is a negative phenomenon for female workers motivation and career growth and can explain the adverse widening impact on the gender pay gap and the social gap within our hypothesis. However, the positive outcome was that there is no discrimination towards patriarchic women within the pool of all female workers. It can be explained by the fact that the social environment we live today is much different of our ancestors, despite the biological fact that maternity places a disproportionate burden on women. Gaps which emerge from this burden is hard to abolish entirely, but people and firms can take steps to minimize this gap, if that is the desired goal (Tharp, D. T., Lurtz, M., Mielitz, K. S., Kitces, M., & Ammerman, D. A., 2019).

The raw wage calculations demonstrated us that in general there are more religious men at workforce than women, and most proportion of both men and women are moderately religious. The analysis shows us that the raw wage gap is wider between religious male and

female groups than non-religious male and female group. From the figures we could observe that the gender pay gap for religious women is highest for the most religious proportion, practicing the religion 91-100% of time. The difference in difference estimation resulted in 5 AZN gender pay discrimination against women who claimed to be religious. Such a low wage gap could be an argument for rejecting our second hypothesis that religious women are discriminated because of their religious beliefs, but it's not strong enough to acknowledge that there is no religious discrimination at all. Its known that the employees who are faithful but don't practice religion at all or practice it seldom have less chance of being discriminated, as their faithfulness doesn't affect neither the hiring process nor the promotion. Its unethical and illegal for the employer to question and get information about workers religion when they hire, and this factor cannot affect the promotion or any other decision of the employer if the worker doesn't practice his religion at workforce at all. Consequently, the conducted difference and difference estimation between groups of men and women not practicing religion at all and the group practicing it 91-100% of time showed us 850 AZN discrimination towards women who practice religion frequently. Therefore, it supported our hypothesis that religiousness of female workers, particularly the piousness and deep practice of their religion can have adverse discriminatory effect on the hiring, promotion and rewarding HR practices of the employer in the education sector. Blinder-Oaxaca wage decomposition results demonstrated us that the gender pay gap due to such discriminatory factors like religion and being dominated by the patriarchic social type together can be accounted for 17% of the total wage gap. Its obvious that religion is a phenomenon affecting the socio-political practices of a society and it is a complex cultural system and a guide for the behaviors in communities (Stump, 2008). As religion and social values are interconnected concepts, we can see that they have huge impact on the gender pay gap in Azerbaijan and it

supports our H1 and H2 at the same time. This assumption was essential in our analysis as a women's role in society is determined by fundamentals of religion among other factors. Moreover, countries which are strongly influenced by religion might emphasize a more passive domestic female role (Dutta,2016). Furthermore, number of studies in sociology, anthropology and social psychology claim that predominant attitudes and gender roles can be shaped significantly by religion (Inglehart, Norris, 2003). It is quite likely that the presence of strong and firm religious beliefs can impact labor market decisions and roles towards women (Fernandez 2007, Clark 1991).

The Blinder-Oaxaca decomposition results within the groups of religious male and female and non-religious male and female groups showed that both religious and non-religious female workers are discriminated compared to their male colleges, and religious women are discriminated even more. This supports our second hypothesis that women are discriminated at workplace compared to men and have less chance of promotion due to their religious practices. However, it was unexpected that within the pool of all female workers non-religious women are discriminated by 4% than the religious women, and within the pool of all male workers non-religious men are discriminated more than religious male workers. This shows a most of the gap between religious and non-religious female workers is explained by the human capital development as a factor of the narrowing gender pay gap.

The negative wage estimation in the difference in difference methodology analysis showed us that there is actually no discrimination against women preferring to have flexible job schedule, and on the contrast women with flexible job schedule are paid by 335 AZN more than their male colleges teaching in flexible mode. Therefore, this analysis totally rejected our third hypothesis that women employed in flexible jobs are discriminated more because of their

preference for the flexible job schedule. There was no need to conduct Blinder-Oaxaca decomposition further as there was no gender discrimination towards women. However, the correlation analysis between the natural log wages of both men and women and job flexibility demonstrated us that the preference for the flexible job preference has negative relationship with real monthly income of all employees. Still, it is not an argumentation to assert that it causes gender discrimination against women. From another perspective, flexible job plans may provide women with better opportunity to recover from pregnancy and raise children with less damage to their job commitment (Goldin, Katz, 2011). In comparison, stronger support of male employers who use paternity leave can also help to minimize gender-based inequalities associated with childcare. Within the context of financial planning, certain occupations are better adapted for providing of more flexible job conditions for all genders (Ammerman, D. A., 2019). Teaching can be one of these occupations because of the rising digital means like online courses and capacity to adjust the classes. Actually, access to flexible job arrangement like teleworking and choosing working hours can improve salaries of women with the university degree. The obstacles to employment in higher paid institutions can be reduced and benefit mothers. The option of choosing flexible job schedule actually reduces discrimination in the selection and hiring process of women with children, it alleviates the employers concern and reduces women's stress at the same time. The gap in the maternity wages was reduced by 68% due to flexible working and teleworking, and it favored most the women with postgraduate degrees. Flexibility may not be feasible for all occupations, but it is usually valued by employees and makes good business sense when it comes to recruiting and retaining highly skilled workers (Sylvia Fuller,2018). It is plausible to assume that flexible jobs are linked to more authority (Schieman, Schafer, 2013). Flexibility is provided to workers to improve work commitment and efficiency

according to the high-performance work organizations' view. Workers' control and flexibility over flexible job schedule is also a technique for increasing productivity (Davis & Kalleberg, 2006; Ortega, 2009). Job characteristics like constant availability, overtime work, participation in meetings in the flexible working beyond the regular working hours can all be expected to take a lot of time from the worker and be difficult to combine with out-of-work duties (Magnusson, 2010). The possibilities of being accessible most of the time and working long hours could be a way of signaling employee about workers' high job commitment (Blair-Loy, 2003; Cha & Weeden, 2014). There is a proof that flexible jobs will help women remain in job after childbirth and that mothers who use flexibility and have access to teleworking are less likely to reduce their working hours after pregnancy. This theory helps us to understand the rejection of our third hypothesis than women are discriminated at work more than men because of the flexible job arrangement. This contributes to our understanding of flexible work not only as the instrument for work-life balance, but also as a tool for enhancing and maintaining the capacity of workers to work in times of increased family demand. This has major implications for supporting the career opportunities of women and reducing gender equality in the labor market (Chung, Horst,2017).

## 5.3 Limitations and future research

This study alone cannot entirely and reliably address the problem of the gender wage gap in educational sector. Future researches on this topic can be enhanced by including additional factors found or proposed to be relevant to the gender wage gap in Azerbaijan. Many of the survey questions can also be expanded and specified to get deeper knowledge of the variables impact. One drawback of this analysis is the low number of male participants (81 men compared to 152 women respondents). Readers of the results part should be especially cautious in evaluating any findings that rely on any male group regression coefficient estimates, as some the

sample size of some male groups, like non-religious male is very small and consequently are more likely to be unreliable coefficient estimates compared to female groups. These groups' regressions were kept despite of this issue due to their significance levels, however these estimations should be more robust in future studies, and this analysis can be replicated by future researches with larger sample size of male participants. The other limitation of this study was small size of the participating instructors in general (253) due to less access to them because of the coronavirus pandemics, and they cannot broadly represent the whole population of educators in Azerbaijan. The gap and the gender discrimination observed in this research analysis can be smaller or larger than the wage gap observed within all the population of teachers in the country level. Also, among the large scale of population of interest the gap explained by the characteristic's differences between male and female workers can be smaller or larger. The unexplained portion of the pay gap in the Oaxaca decomposition is frequently interpreted as discriminatory. But this could be too simplistic interpretation. To the extent that discrimination impacts women's preferences in education, jobs, and family, the unexplained difference would understate the true impact of gender discrimination. However, as researcher is unable to adequately measure all the wage determinants in the gender wage decomposition, substantial unmeasured labor market abilities which vary between men and women is not considered. As women's labor experience is less continuous because of the pregnancy and childcare, then regressing the years of experience may not control for different impact of experience on the wages of men and women. In this scenario, the unexplained proportion of the wage decomposition would overstate the real impact of discrimination, because it involves the impact of important unmeasured factors affecting the relative productivity of men and women (Chevalier,2016). Future studies with more robust data collection methodologies can be needed

to provide generalizable results and fully understand the gender wage gap within the education sector in Azerbaijan, and this paper can motivate the future researches on this topic as there are a few reports and labor economics papers investigating this topic in Azerbaijan

To interpret the results of the Blinder-Oaxaca decomposition and compare them to other studies, we should be cautious about several factors. Actually, omitting potentially important factors which could have significant effect on the gender pay gap could be one reason of the large degree of unexplained part in the gender wage gap decomposition. It is impossible to cover all factors responsible for the gender pay gap due to data limitations, like the position of the instructors at the university largely influencing their wages. The size of unexplained part of the wage gap was likely to decrease if it came out that more men were holding higher positions, however, that wasn't part of our survey and hypothesis. Also, we couldn't cover all the surveyed variables of skills and personal characteristics because of their statistically insignificant outcomes in regressions. Another crucial variable which wasn't included to study was the part-time versus full-time job schedule of respondents, which actually determines the wages, but it wasn't part of our hypothesis. In addition, most studies analyzing the gender pay gap omit the dummies of part time and full time, because of not having information on the number of working hours (Winter-Ebmer, 2005), and it is hard to individually assess each workers time schedule. If the reward system of our workers was based on the hourly earnings like in the USA and women worked less hours than men, we could assert that the gender pay gap is overestimated. However, in Azerbaijan, like in most former Soviet Union countries the wages are attained on monthly basis and the share of part-time employment is little, so omitting this variable wasn't an issue for our decomposition (Vereshchagina, 2007). Moreover, raw wage gap calculations showed us that there is no big proportion difference between the working hours of men and women, and more

than half of both women and men work about 21-40 hours a week. However, they are still not equally compensated for the same number of working hours.

We acknowledge the selective nature of our survey, and not only scale, but also the nature of discrimination can vary by industries and the type of the educational institutions. The cases of self-employment and tutoring have risen in recent years, and a number of studies are indicating at the magnitude of the gender wage gap between self-employed and regularly paid instructors (Eastough , Miller 2004). Another variable which wasn't determined in this study, but which could have huge impact on workers wage expectations was the employees' different preference for wages, the role and the importance of the income itself for men and women in total. Some people can appreciate and value wages more than others, while others may prioritize work experience, the work environment and colleges or self-development more than compensation .Those workers who are unwilling to bargain salary rise may end up in lower job rewarding and income than those workers who are personally driven and motivated by income and promotion. The Theory X and Y by McGregor explains this phenomenon, when one group of workers can be satisfied by their job due to intrinsic motivators, like being passionate about job itself, their social contribution, work environment and communication, and pride and satisfaction from the extra efforts done by them. On the other hand, the employees driven by external motivation put more emphasis on reward incentives, promotion, status and manager relations (McGregor, 1957).

This paper focused on the direct discrimination, when a woman is earning less than a man for the same job. The future research can be about sectoral, or systematic discrimination, with women being paid less due to occupational segregation, which is a more prevalent issue. Researches implemented in the labor economics in Azerbaijan can emphasize the gender pay gap

for the economic activity, addressing economic imperatives and benefits on the whole country's economy and GDP per capita (Costa & Silva 2008:8). The pay gap also has negative implications on women's pension, as women's lifetime income is less than men. As a result, elderly women may have lower pensions and be under more risk of poverty (European Commission, 2014). There are no government reports shading light on this issue, while such social injustice can be demotivating factor for women who have high human capital accumulations but still earn less payoff than men. Future researches can focus the female representation and gender pay gap at the corporate level in Azerbaijan, as gender diverse workforce proved itself to be more effective, creative and smarter. Companies having diverse gender background and with more women in executive management have better financial performance and profitability (Kellie McElhaney & Genevieve Smith,2017).

## VI. Conclusion

Despite the rise of women's educational accomplishments and their intrusion into profitable jobs, a gender pay gap still persists. This study revealed both positive and negative outcomes regarding the gender pay gap in education sector in Azerbaijan. The negative outcome is that there is a significant difference between the monthly income of men and women, and there is 87% gender pay gap in favor of men. Even after controlling for differences in some variables in job and skill characteristics, women still earn less than men. Although there are a number of explanations of this remaining unexplained difference, our possible explanation is the discrimination against female's employment on the social and religious basis. This definition is confirmed by our results and other more direct researches, which also demonstrate continuing gender pay disparities which are not justified by differences in productivity or job characteristics.

The positive results of this study  are that there is no gender pay discrimination based on the flexible job arrangements of women and the religious and social factors doesn't play role within the pool of female workers in the education sector. Obviously, the discrimination disappeared due to the improving educational degree of women, their increasing participation in the labor market , fewer job interruptions because of the increasing efficiency of the childcare services and their entry into more well-paid positions, and social and religious prejudices are not so prevalent nowadays.

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## Appendix A. List of OLS tables

Table 1A. Estimates of OLS for male workers

```
. regress lnwage religion patriarchic ageinyears education_d  rus_d marital

      Source |       SS           df       MS      Number of obs   =        81
-------------+----------------------------------   F(6, 74)        =     94.53
       Model |  75.0326748         6  12.5054458   Prob > F        =    0.0000
    Residual |  9.78942143        74  .132289479   R-squared       =    0.8846
-------------+----------------------------------   Adj R-squared   =    0.8752
       Total |  84.8220962        80  1.0602762   Root MSE        =    .36372

------------------------------------------------------------------------------
      lnwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    religion |   .2113471   .1014611     2.08   0.041     .0091814    .4135128
patriarchic |   .0351466   .0841206     0.42   0.677    -.1324674    .2027606
 ageinyears |   .0851228   .0044005    19.34   0.000     .0763545     .093891
education_d |   .2304785   .0919557     2.51   0.014     .0472527    .4137042
      rus_d |   .0058015   .0984026     0.06   0.953      -.19027     .201873
    marital |   .0880332    .086436     1.02   0.312    -.0841943    .2602607
      _cons |   3.585035   .1628807    22.01   0.000     3.260488    3.909581
------------------------------------------------------------------------------
```

Table 1B. Estimates of OLS for female workers

```
. regress lnwage religion patriarchic ageinyears education_d marital  rus_d

      Source |       SS           df       MS      Number of obs   =       152
-------------+----------------------------------   F(6, 145)       =    383.46
       Model |  108.415047         6  18.0691746   Prob > F        =    0.0000
    Residual |  6.83264056       145  .047121659   R-squared       =    0.9407
-------------+----------------------------------   Adj R-squared   =    0.9383
       Total |  115.247688       151  .763229721   Root MSE        =    .21708

------------------------------------------------------------------------------
      lnwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    religion |   .0164018   .0414758     0.40   0.693    -.0655735    .0983771
patriarchic |   .0074031   .0365484     0.20   0.840    -.0648333    .0796395
 ageinyears |    .076688   .0020465    37.47   0.000     .0726433    .0807328
education_d |   .1223691   .0400201     3.06   0.003      .043271    .2014672
    marital |   .0191425   .0380846     0.50   0.616    -.0561302    .0944153
      rus_d |  -.0641396   .0425879    -1.51   0.134    -.1483127    .0200336
      _cons |   3.704443   .0749909    49.40   0.000     3.556226    3.852659
------------------------------------------------------------------------------
```

Table 2A. Estimates of OLS for male workers-based on religion and social group

```
. regress lnwage religion patriarchic

      Source |       SS           df       MS      Number of obs   =        81
-------------+----------------------------------   F(2, 78)        =      8.59
       Model |  15.3041452         2  7.65207262   Prob > F        =    0.0004
    Residual |  69.517951         78  .891255782   R-squared       =    0.1804
-------------+----------------------------------   Adj R-squared   =    0.1594
       Total |  84.8220962        80  1.0602762   Root MSE        =    .94406

------------------------------------------------------------------------------
      lnwage |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    religion |   .8456917   .2472431     3.42   0.001     .3534685    1.337915
patriarchic |   .3603127   .2132467     1.69   0.095    -.0642288    .7848542
      _cons |   6.229025   .2239048    27.82   0.000     5.783265    6.674785
------------------------------------------------------------------------------
```

Table 2B. Estimates of OLS for female workers based on religion and social group

```
. regress lnwage religion patriarchic
```

| Source | SS | df | MS | Number of obs | = | 152 |
|---|---|---|---|---|---|---|
| | | | | F(2, 149) | = | 18.34 |
| Model | 22.7695911 | 2 | 11.3847955 | Prob > F | = | 0.0000 |
| Residual | 92.4780968 | 149 | .620658368 | R-squared | = | 0.1976 |
| | | | | Adj R-squared | = | 0.1868 |
| Total | 115.247688 | 151 | .763229721 | Root MSE | = | .78782 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| religion | .7931805 | .1342191 | 5.91 | 0.000 | .5279619 | 1.058399 |
| patriarchic | -.2734745 | .1291725 | -2.12 | 0.036 | -.5287211 | -.0182279 |
| _cons | 6.148376 | .1202574 | 51.13 | 0.000 | 5.910746 | 6.386007 |

Table 3A. Estimates of OLS for non-patriarchic female workers

```
. regress lnwage marital howlonghaveyoubeenworkingincurre education_d
```

| Source | SS | df | MS | Number of obs | = | 72 |
|---|---|---|---|---|---|---|
| | | | | F(3, 68) | = | 9.98 |
| Model | 16.2817863 | 3 | 5.4272621 | Prob > F | = | 0.0000 |
| Residual | 36.9970224 | 68 | .544073858 | R-squared | = | 0.3056 |
| | | | | Adj R-squared | = | 0.2750 |
| Total | 53.2788087 | 71 | .750405756 | Root MSE | = | .73761 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| marital | .0124698 | .1797864 | 0.07 | 0.945 | -.3462883 | .3712279 |
| howlonghaveyoubeenworkingincurre | -.0032445 | .0138684 | -0.23 | 0.816 | -.0309184 | .0244294 |
| education_d | 1.000163 | .1872211 | 5.34 | 0.000 | .6265686 | 1.373757 |
| _cons | 5.948552 | .226054 | 26.31 | 0.000 | 5.497468 | 6.399636 |

Table 3B. Estimates of OLS for non-patriarchic male workers

```
. regress lnwage education_d  howlonghaveyoubeenworkingincurre  marital
```

| Source | SS | df | MS | Number of obs | = | 40 |
|---|---|---|---|---|---|---|
| | | | | F(3, 36) | = | 1.68 |
| Model | 4.10174303 | 3 | 1.36724768 | Prob > F | = | 0.1879 |
| Residual | 29.2450637 | 36 | .812362882 | R-squared | = | 0.1230 |
| | | | | Adj R-squared | = | 0.0499 |
| Total | 33.3468068 | 39 | .855046327 | Root MSE | = | .90131 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| education_d | .6853075 | .3166636 | 2.16 | 0.037 | .043084 | 1.327531 |
| howlonghaveyoubeenworkingincurre | -.0124248 | .0184825 | -0.67 | 0.506 | -.0499089 | .0250594 |
| marital | .0778529 | .291607 | 0.27 | 0.791 | -.5135536 | .6692593 |
| _cons | 6.404769 | .3774242 | 16.97 | 0.000 | 5.639317 | 7.170221 |

Table 3C. OLS estimates for patriarchic female

```
. regress lnwage howlonghaveyoubeenworkingincurre  marital education_d
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| | | | | Number of obs | = 80 |
| | | | | F(3, 76) | = 7.08 |
| Model | 13.2908026 | 3 | 4.43026752 | Prob > F | = 0.0003 |
| Residual | 47.5839443 | 76 | .62610453 | R-squared | = 0.2183 |
| | | | | Adj R-squared | = 0.1875 |
| Total | 60.8747468 | 79 | .770566416 | Root MSE | = .79127 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| howlonghaveyoubeenworkingincurre | .0121367 | .0141902 | 0.86 | 0.395 | -.0161255 | .040399 |
| marital | .407613 | .1974702 | 2.06 | 0.042 | .0143171 | .800909 |
| education_d | .6793887 | .1771943 | 3.83 | 0.000 | .3264757 | 1.032302 |
| _cons | 5.728277 | .1911226 | 29.97 | 0.000 | 5.347623 | 6.108931 |

Table 3D. OLS estimates for patriarchic male

```
. regress lnwage howlonghaveyoubeenworkingincurre marital education_d
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| | | | | Number of obs | = 41 |
| | | | | F(3, 37) | = 7.94 |
| Model | 18.2519614 | 3 | 6.08398713 | Prob > F | = 0.0003 |
| Residual | 28.3466317 | 37 | .766125182 | R-squared | = 0.3917 |
| | | | | Adj R-squared | = 0.3424 |
| Total | 46.5985931 | 40 | 1.16496483 | Root MSE | = .87529 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| howlonghaveyoubeenworkingincurre | .0431842 | .0121848 | 3.54 | 0.001 | .0184955 | .0678729 |
| marital | .5887933 | .2805853 | 2.10 | 0.043 | .0202736 | 1.157313 |
| education_d | .4548554 | .3105061 | 1.46 | 0.151 | -.1742897 | 1.084001 |
| _cons | 6.093792 | .312603 | 19.49 | 0.000 | 5.460398 | 6.727186 |

Table 4A. OLS estimates for patriarchic female

```
. regress lnwage ageinyears education_d  comp_d
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| | | | | Number of obs | = 80 |
| | | | | F(3, 76) | = 348.32 |
| Model | 56.7474845 | 3 | 18.9158282 | Prob > F | = 0.0000 |
| Residual | 4.12726235 | 76 | .054306084 | R-squared | = 0.9322 |
| | | | | Adj R-squared | = 0.9295 |
| Total | 60.8747468 | 79 | .770566416 | Root MSE | = .23304 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| ageinyears | .078046 | .0029051 | 26.87 | 0.000 | .07226 | .083832 |
| education_d | .0700381 | .057886 | 1.21 | 0.230 | -.0452519 | .1853282 |
| comp_d | .1723223 | .0986855 | 1.75 | 0.085 | -.024227 | .3688715 |
| _cons | 3.510361 | .1558753 | 22.52 | 0.000 | 3.199908 | 3.820813 |

Table 4B. OLS Estimates for non-patriarchic female

```
. regress lnwage ageinyears  education_d   comp_d
```

| Source | SS | df | MS | Number of obs | = | 72 |
|---|---|---|---|---|---|---|
| | | | | F(3, 68) | = | 450.79 |
| Model | 50.7280762 | 3 | 16.9093587 | Prob > F | = | 0.0000 |
| Residual | 2.55073251 | 68 | .037510772 | R-squared | = | 0.9521 |
| | | | | Adj R-squared | = | 0.9500 |
| Total | 53.2788087 | 71 | .750405756 | Root MSE | = | .19368 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| ageinyears | .078562 | .0025981 | 30.24 | 0.000 | .0733776 | .0837464 |
| education_d | .1529809 | .0563933 | 2.71 | 0.008 | .0404498 | .2655121 |
| comp_d | -.043967 | .1013167 | -0.43 | 0.666 | -.2461414 | .1582073 |
| _cons | 3.628427 | .1369349 | 26.50 | 0.000 | 3.355178 | 3.901677 |

Table 5A. OLS Estimates for religious women

```
. regress lnwage ageinyears howlonghaveyoubeenworkingincurre education_d
```

| Source | SS | df | MS | Number of obs | = | 97 |
|---|---|---|---|---|---|---|
| | | | | F(3, 93) | = | 510.52 |
| Model | 69.8810194 | 3 | 23.2936731 | Prob > F | = | 0.0000 |
| Residual | 4.24330235 | 93 | .045626907 | R-squared | = | 0.9428 |
| | | | | Adj R-squared | = | 0.9409 |
| Total | 74.1243217 | 96 | .772128352 | Root MSE | = | .2136 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| ageinyears | .0765226 | .0022201 | 34.47 | 0.000 | .0721138 | .0809313 |
| howlonghaveyoubeenworkingincurre | -.0020118 | .0031416 | -0.64 | 0.524 | -.0082504 | .0042268 |
| education_d | .0766946 | .0499621 | 1.54 | 0.128 | -.0225203 | .1759095 |
| _cons | 3.737514 | .0845866 | 44.19 | 0.000 | 3.569542 | 3.905486 |

Table 5B. OLS Estimates for religious men

```
. regress lnwage ageinyears howlonghaveyoubeenworkingincurre education_d
```

| Source | SS | df | MS | Number of obs | = | 61 |
|---|---|---|---|---|---|---|
| | | | | F(3, 57) | = | 141.14 |
| Model | 47.0431679 | 3 | 15.681056 | Prob > F | = | 0.0000 |
| Residual | 6.33269652 | 57 | .111099939 | R-squared | = | 0.8814 |
| | | | | Adj R-squared | = | 0.8751 |
| Total | 53.3758644 | 60 | .88959774 | Root MSE | = | .33332 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| ageinyears | .0889772 | .0053738 | 16.56 | 0.000 | .0782164 | .0997381 |
| howlonghaveyoubeenworkingincurre | -.0060222 | .0053209 | -1.13 | 0.262 | -.0166771 | .0046327 |
| education_d | .2669487 | .1007924 | 2.65 | 0.010 | .0651153 | .468782 |
| _cons | 3.760414 | .1866103 | 20.15 | 0.000 | 3.386733 | 4.134095 |

Table 5C. OLS Estimates for non-religious men

```
. regress lnwage howlonghaveyoubeenworkingincurre  ageinyears education_d
```

| Source | SS | df | MS | Number of obs | = | 20 |
|---|---|---|---|---|---|---|
| | | | | F(3, 16) | = | 25.55 |
| Model | 15.4597128 | 3 | 5.15323761 | Prob > F | = | 0.0000 |
| Residual | 3.22684231 | 16 | .201677644 | R-squared | = | 0.8273 |
| | | | | Adj R-squared | = | 0.7949 |
| Total | 18.6865551 | 19 | .983502902 | Root MSE | = | .44909 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| howlonghaveyoubeenworkingincurre | -.0110281 | .010614 | -1.04 | 0.314 | -.0335287 | .0114725 |
| ageinyears | .0885627 | .010611 | 8.35 | 0.000 | .0660684 | .111057 |
| education_d | .1315702 | .2080855 | 0.63 | 0.536 | -.3095513 | .5726917 |
| _cons | 3.740052 | .368868 | 10.14 | 0.000 | 2.958087 | 4.522017 |

Table 5D. OLS Estimates for non-religious women

```
. regress lnwage howlonghaveyoubeenworkingincurre ageinyears education_d
```

| Source | SS | df | MS | Number of obs | = | 55 |
|---|---|---|---|---|---|---|
| | | | | F(3, 51) | = | 127.44 |
| Model | 18.6481182 | 3 | 6.21603938 | Prob > F | = | 0.0000 |
| Residual | 2.48758557 | 51 | .048776188 | R-squared | = | 0.8823 |
| | | | | Adj R-squared | = | 0.8754 |
| Total | 21.1357037 | 54 | .391401921 | Root MSE | = | .22085 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| howlonghaveyoubeenworkingincurre | -.004357 | .0059044 | -0.74 | 0.464 | -.0162106 | .0074966 |
| ageinyears | .0805569 | .0048436 | 16.63 | 0.000 | .0708331 | .0902808 |
| education_d | .1697548 | .0686771 | 2.47 | 0.017 | .0318799 | .3076298 |
| _cons | 3.560011 | .1418515 | 25.10 | 0.000 | 3.275232 | 3.84479 |

Table 6A. OLS Estimates for patriarchic male

```
. regress lnwage age education computer
```

| Source | SS | df | MS | Number of obs | = | 41 |
|---|---|---|---|---|---|---|
| | | | | F(3, 37) | = | 109.64 |
| Model | 41.8868746 | 3 | 13.9622915 | Prob > F | = | 0.0000 |
| Residual | 4.71171852 | 37 | .127343744 | R-squared | = | 0.8989 |
| | | | | Adj R-squared | = | 0.8907 |
| Total | 46.5985931 | 40 | 1.16496483 | Root MSE | = | .35685 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| age | .0849295 | .0053085 | 16.00 | 0.000 | .0741735 | .0956856 |
| education | .3310569 | .1309846 | 2.53 | 0.016 | .0656569 | .5964569 |
| computer | -.1189145 | .1514661 | -0.79 | 0.437 | -.425814 | .1879849 |
| _cons | 3.885512 | .2572057 | 15.11 | 0.000 | 3.364364 | 4.406661 |

Table 6B. OLS Estimates for non-patriarchic male

```
. regress lnwage age education computer
```

| Source | SS | df | MS | Number of obs | = | 40 |
|---|---|---|---|---|---|---|
| | | | | F(3, 36) | = | 62.21 |
| Model | 27.9547114 | 3 | 9.31823712 | Prob > F | = | 0.0000 |
| Residual | 5.39209541 | 36 | .149780428 | R-squared | = | 0.8383 |
| | | | | Adj R-squared | = | 0.8248 |
| Total | 33.3468068 | 39 | .855046327 | Root MSE | = | .38701 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| age | .095654 | .0080696 | 11.85 | 0.000 | .079288 | .1120199 |
| education | .1012843 | .1494291 | 0.68 | 0.502 | -.2017721 | .4043406 |
| computer | .2407041 | .2645446 | 0.91 | 0.369 | -.2958172 | .7772255 |
| _cons | 3.292344 | .4055008 | 8.12 | 0.000 | 2.46995 | 4.114738 |

Table 7A. OLS Estimates for religious female

```
. regress lnwage age education  experience
```

| Source | SS | df | MS | Number of obs | = | 97 |
|---|---|---|---|---|---|---|
| | | | | F(3, 93) | = | 510.52 |
| Model | 69.8810194 | 3 | 23.2936731 | Prob > F | = | 0.0000 |
| Residual | 4.24330235 | 93 | .045626907 | R-squared | = | 0.9428 |
| | | | | Adj R-squared | = | 0.9409 |
| Total | 74.1243217 | 96 | .772128352 | Root MSE | = | .2136 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| age | .0765226 | .0022201 | 34.47 | 0.000 | .0721138 | .0809313 |
| education | .0766946 | .0499621 | 1.54 | 0.128 | -.0225203 | .1759095 |
| experience | -.0020118 | .0031416 | -0.64 | 0.524 | -.0082504 | .0042268 |
| _cons | 3.737514 | .0845866 | 44.19 | 0.000 | 3.569542 | 3.905486 |

Table 7B. OLS Estimates for non-religious female

```
. regress lnwage age education experience
```

| Source | SS | df | MS | Number of obs | = | 55 |
|---|---|---|---|---|---|---|
| | | | | F(3, 51) | = | 127.44 |
| Model | 18.6481182 | 3 | 6.21603938 | Prob > F | = | 0.0000 |
| Residual | 2.48758557 | 51 | .048776188 | R-squared | = | 0.8823 |
| | | | | Adj R-squared | = | 0.8754 |
| Total | 21.1357037 | 54 | .391401921 | Root MSE | = | .22085 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| age | .0805569 | .0048436 | 16.63 | 0.000 | .0708331 | .0902808 |
| education | .1697548 | .0686771 | 2.47 | 0.017 | .0318799 | .3076298 |
| experience | -.004357 | .0059044 | -0.74 | 0.464 | -.0162106 | .0074966 |
| _cons | 3.560011 | .1418515 | 25.10 | 0.000 | 3.275232 | 3.84479 |

Table 8A. OLS estimates for religious male

```
. regress lnwage age education experience
```

| Source | SS | df | MS | Number of obs | = | 61 |
|---|---|---|---|---|---|---|
| | | | | F(3, 57) | = | 141.14 |
| Model | 47.0431679 | 3 | 15.681056 | Prob > F | = | 0.0000 |
| Residual | 6.33269652 | 57 | .111099939 | R-squared | = | 0.8814 |
| | | | | Adj R-squared | = | 0.8751 |
| Total | 53.3758644 | 60 | .88959774 | Root MSE | = | .33332 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| age | .0889772 | .0053738 | 16.56 | 0.000 | .0782164 | .0997381 |
| education | .2669487 | .1007924 | 2.65 | 0.010 | .0651153 | .468782 |
| experience | -.0060222 | .0053209 | -1.13 | 0.262 | -.0166771 | .0046327 |
| _cons | 3.760414 | .1866103 | 20.15 | 0.000 | 3.386733 | 4.134095 |

## Table 8B. OLS Estimates for non-religious male

```
. regress lnwage age education experience
```

| Source | SS | df | MS | Number of obs | = | 20 |
|---|---|---|---|---|---|---|
| | | | | F(3, 16) | = | 25.55 |
| Model | 15.4597128 | 3 | 5.15323761 | Prob > F | = | 0.0000 |
| Residual | 3.22684231 | 16 | .201677644 | R-squared | = | 0.8273 |
| | | | | Adj R-squared | = | 0.7949 |
| Total | 18.6865551 | 19 | .983502902 | Root MSE | = | .44909 |

| lnwage | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| age | .0885627 | .010611 | 8.35 | 0.000 | .0660684 | .111057 |
| education | .1315702 | .2080855 | 0.63 | 0.536 | -.3095513 | .5726917 |
| experience | -.0110281 | .010614 | -1.04 | 0.314 | -.0335287 | .0114725 |
| _cons | 3.740052 | .368868 | 10.14 | 0.000 | 2.958087 | 4.522017 |

**Appendix B. Survey questions**

https://docs.google.com/forms/d/e/1FAIpQLScqGTkwAvJolhGH5kXFdd740VVDfwjx3Rj--85e5K-Ntp75Jg/viewform?usp=sf_link

1. Gender
2. Age (in years)
3. Marital status
4. How many children do you have?
5. What is your highest education degree?
6. How much do you earn in a month approximately? (in AZN)
7. How many hours do you work in a week?
8. How long have you been in current sector? (in years)
9. In what level can you speak English?
10. In what level can you speak Russian?
11. In what level do you use computer?
12. Are you religious?
13. How often do you practice your religion?
14. What type of society are you aligned with?
15. Would you consider your working hours flexible?