

Original Paper

The Impact of Selected Economic and Social Factors on Women Employment in the Public Sector in Eighteen Countries

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Abstract

This study examines the impact of selected economic and social factors on the representation of women in the public sector in eighteen countries using aggregated data published by international organizations and mainly from the statistics division in the United Nations between 2000 and 2010. Multiple Regression analysis is used to test the study hypotheses. Findings reveal that there is a positive relation between number of women in the public sector and each one of the following independent variables: size of the public sector, unemployment among men, and general job turnover in the public sector. In addition, there is a negative relationship between number of women in the public sector and two independent variables, namely level of urbanization in the country and number of schooling years for women. These findings and their possible implications for researchers and policy makers are discussed in detail. Recommendations are also included.

Keywords

women, human resources, public sector, urbanization, job turnover, unemployment

1. Introduction

Women representation in the public sector often reflects the progress women achieved in the society as well as the advancement of the public administration itself in that society (Al Marzouqi and Forster, 2011). The more equally women and men are represented, the more representative or democratic will be the public administration (i.e., public bureaucracy). Representative bureaucracy in terms of gender means that public sectors become the arena where governments demonstrate their commitment to gender equality in all aspects of employment (UAE 2007; Subedi, 2006; Buchanan 2001). Consequently, status of women has long become a parameter for healthy administrative practices. This is, basically, because representative bureaucracies are more likely to be responsive to the needs and

aspirations of those they serve. Eventually, representation and responsiveness can equip the government with better tools to effectively implement public policies (Nigro et al. 2007; Al-Lamki, 2007).

Across the world, women continue to struggle for better representation. Since the early 1900s, women have fused their resources to achieve equal opportunity in employment, retention and promotion (Millmore et al. 2007; Sargent and Domberger 2007). Despite their gains, however, number of women in the public sector in many countries remains relatively low (UN 2007; Schaubert, 2001; McKinley and Brayboy, 2003). Furthermore, women remain underpaid and pushed into performing certain tasks, mostly in non-supervisory jobs in many countries (Boushey, 2005; Bond et al. 2002; Carlson 1999; Yaghi and Alibeli, 2006). Therefore, the progress of women employment may depend on factors of which their control goes beyond women's personal capacities specifically the discrepancies in employment policies and patterns of human resource practices (Seldon, 1997; Gritz and MaCurdy, 1991; Rice et al. 1996; Shinotsuka, 1989; Alserhan et al. 2010).

The literature reveals that many different factors can influence women employment in general (Seldon, 1997; Asgari and Dadashi, 2011; Ziauddin et al. 2010). Some of these factors have already been researched (see, A Ali 2008; Smith 1994; Al-Dosary, 2011). However, some other factors have not fully been examined in global perspective. In the present study, five major variables are selected based on each country's available data. These variables are the size of the public sector, number of schooling years for females (education), urbanization, unemployment, and job turnover. Data for this research were derived from the UN between 2000 and 2010. For the purpose of the present study, all data are grouped, categorized, and reconstructed, which resulted in accumulative tables that represent the status of the aforementioned five variables in eighteen different nations; Brazil, India, Czech, Egypt, Morocco, Tunis, Poland, Philippines, Mexico, Nigeria, Thailand, Turkey, New Zealand, Malaysia, South Africa, South Korea, Oman, and Yemen.. Because the purpose of the present study is to examine women representation in the public sector in general terms, no individual countries are singled out in data treatment or in statistical analysis. Although different countries have different economic, political, and social cultures, examining such differences is beyond the scope of the present study. Generalizing the findings of the analysis will be limited to the data analyzed regardless of other uncontrolled factors (Weyer, 2007; Scandura, 1992; Mize, 1992; Gompels, 1994; Al Marzouqi and Forster, 2011).

2. Literature Background

Although what has been written about women and women economic activities is abundant, we still know little about the impact of the five aforementioned variables on women representation in global perspective. Because the inclusion of women in the public sector is a healthy sign, researchers always attempt to examine factors that influence inclusion of women. Alvin Gouldner (1954) noted that representative bureaucracy is the best form of governance because the inclusion of women allows better representation of members of the society in a way in which the workplace becomes a mirror to

the outside society (i.e., nation and its diverse components) (Meier and Bohte, 2007; Light 1999; Waters 1996; Loaden and Rosener, 1991). The concept of inclusion or representation relies on widening the pool of candidates from which recruitment, appointment, promotion, and training occur (Weyer 2007; Sharma 2007; Shinotsuka, 1989; Lopres,t 1992; Hallman et al. 2002; UAE Report on Human Resources 2005).

Challenges continue to face workingwomen in the public administration. Feuvre and Andriocci (2003) found that governments treat workingwomen in three different ways. Firstly, some governments consider women as “male breadwinner” thus workingwomen receive lower benefits than do men. To remedy this inequality, governments in countries such as United Kingdom and Ireland adopted policies to reduce men dominance over decision-making in the workplace so that women could get benefits as females, such as pregnancy and delivery leave. Secondly, some governments treated workingwomen as dual breadwinner as is the case in Sweden where policymakers adopted policies that offered training opportunities for public sector female employees so that women could compete with men in performing all types of tasks and get promoted to any leadership positions. Thirdly, some governments treated workingwoman merely as parent, which meant that women had to play two roles at the same time (inside the house and outside it) yet they were only get paid for tasks they performed on the job (outside the house). In addition to this double jeopardy, in countries such as France and Belgium professions often define men while women are defined first by their traditional roles as wives and mothers then by their professions. Such bias against workingwomen has limited their ability to work in the public sector (see, Andriocci, 2003).

Researchers assert that women’s educational level can influence their economic activities (Yaghi and Alibeli, 2006; Shaw and Cassell, 2007). However, there is no consensus among researchers about the way education influences workingwomen, but they agree that better education improves women employment opportunities. Tanmia (2004), UIU (2007) and the UAE Report on Human Resources (2005) indicate that education has enhanced the economic progress of working women in United Arab Emirates (UAE). These studies asserted that number of women in the public sector has increased sharply between 1980 and 2000 at the same time when education of women has also improved significantly.

Although women education has improved steadily in most countries, women still choose certain college specializations and abstain from others. Once they graduate, they work in certain jobs. This pattern of employment leaves women underrepresented in several professions in which women did not specialize (see, for example, Light 1999; UAE Report on Human Resources 2005, p. 32, and UAE 2007 and 2005). For example, in Turkey, the government reports that female enrolment at universities and high schools has increased from 18.7% to 24% but most girls choose to study economics and communication rather than engineering or computer sciences. Therefore, representation of women in engineering and computer science remains feeble.

Harvard University (2007) reports that women participation in the workforce between 1960 and 2000 increased among those females in urban areas who were reasonably educated compared to those with lower educational levels. For example, in the Caribbean nations, participation of educated women in the national workforce has increased from 26% to 38%. In Central America women participation increased from 16% to 33%, in the Middle East from 17% to 25%, in North America from 23% to 31%, in Oceania from 27% to 43%, in Western Europe from 32% to 41%, and in South America from 21% to 35% (Yaghi and Alibeli, 2006).

High rates of unemployment in a given society can negatively affect workingwomen (The Republic of Turkey 1997; UAE 2007). Some governments provide training for women to qualify them for jobs in certain occupations, especially where women are under-represented. In addition, there are governmental programs that target rural women and prepare them to perform jobs in urban cities in countries such as India and Brazil (Shaw and Cassell, 2007).

In many countries where job turnover among workingwomen is high, many women cannot hold a job that does not pay them enough to hire a babysitter. Some employers also lack interest in negotiating work schedules to accommodate breastfeeding, pregnant, or workingwomen with children. In order to reduce turnover among women, some governments adopted quota systems that reserved certain percentages of jobs for women. Other governments mandated that employers should provide proper accommodation for workingwomen especially in the public sector (see, WOW 2006; Durfee et al. 2003; UAE 2005; The Republic of Turkey 1997; Hammarstedt and Shukur, 2007).

Urbanization affects women's life in two ways: (1) it changes their working orientation by transforming their focus from working in agriculture to working in services; (2) it increases women's skills and training to perform diverse tasks and to serve the public (Dymock, 2005; Todaro, 1997; Hammarstedt and Shukur, 2007). Urbanization, however, can also lead to negative effects on women employability. In particular, migrant women face adversity when they seek to work in urban areas mostly because of their limited skills in customer-service, language competencies, and ability to compete with urban women (see, Design 2003; Todaro, 1997; Safa, 1989). These difficulties may lead to higher rates of job turnover among workingwomen in the public sector, including municipalities (Harvard University 2007). Studies show that employment of migrant women depends on the level of their education. In UAE and Vietnam almost all public sector jobs that were open to women have been exclusively filled by college educated women (Thabit, 1983; Al Shamsi and Lolo, 2001; Dung, 2004).

Shinotsuka (1989) posits that despite changes in the status of women in countries like Japan, women still occupy under-paid, un-powerful, and part-time jobs. Unlike men, women are the first to be fired and if, they try to return back searching for new jobs, only a limited number of those who are highly educated and very skilled succeed in landing jobs. Dung (2004) found that job turnover among women was higher than it was among men (28% among females, 21% among males). In addition, job turnover among women has increased when women had poor education and inadequate training as well as when there was low job turnover among male employees (Oliver and Jacobs 2007; Litzky and Greenhaus,

2007).

Some studies in France, Poland, Germany, Holland, and Italy suggest that unemployment in general and unemployment among men can sometimes benefit women. Researchers explain that when general unemployment is high, women are more likely to accept poorly paid jobs. Women also give up some benefits in order to keep their jobs (Stivers, 2002). Therefore, many employers seek to hire women, either permanently or temporarily in order to fill the gap caused by resignation, quitting, or layoff of the workingmen. However, this may happen in the private sector more often than it does in the public sector (The Republic of Turkey 1997; Feuvre and Andriocci, 2003; Saxena and Aoun, 1997; Feuvre and Andriocci, 2003; Shull 1999; Wolbers, 1994; Hutchison, 1997; Kim and Kurz, 2002; Tomasson et al. 2001; Al Nahyan, 1988; UAE, 2005; Salami, 2007).

To summarize the literature, women in the public sector across the world are still under-represented equally compared to men. Economic, social, and political conditions prevent women from gaining equal status like men. The following factors were cited as important predictors of women representation in the public sector; urbanization, education, size of the sector, unemployment, and job turnover. In the following section, methods of the present study are discussed.

3. Methods

The present study aims at examining the impact of selected economic and social factors on the representation of women in the public sector. To this end, aggregated data were collected from several international organizations, mainly from the United Nations, Unicef, and World Trade Organization for eighteen countries between 2000 and 2010 (UNstats.un.org 2000-2010; unicef.org 2010).

The dependent variable is “number of women in the public sector” reported in absolute numbers. The independent variables are country’s urbanization rate (ratio), size of the public sector (numbers), general rate of job turnover in the public sector (ratio), male general unemployment rate (ratio), and number of schooling years for women (numbers). These factors are selected based on the literature review, which revealed little research done in this regard. These factors have rarely been examined in a global perspective.

Because the aggregated data set is composed of interval data (i.e. ratio and numbers), Ordinary Least Square Regression (OLS) was judged suitable to examine the model fit and the strength and direction of the statistical relationships between the dependent and independent variables. The regression equation that will guide the analysis is:

Number of women in the public sector (women representation) = a + b1(size of sector) + b2 (rate of unemployment) + b3 (rate of turnover) + b4 (rate of urbanization) + b5 (schooling years) + e

OLS also enabled us to control for certain variables and test the following hypotheses (Babbie, 2004):

- H1. There is a significant relationship between women representation and the size of the public sector.

- H2. There is a significant relationship between women representation and urbanization.
- H3. There is a significant relationship between women representation and job turnover in the public sector.
- H4. There is a significant relationship between women representation and male unemployment.
- H5. There is a significant relationship between women representation and females schooling years (education).

4. Results

Controlling for the size of the public sector in Model 1 did produce a moderate but significant positive relationship between the size of the public sector and the number of women in the public sector ($R^2 = 0.40$). Therefore, it is fair to say that the bigger the size of the civil service, the more likely females get jobs and enter the workforce. Such linear relationship indicates that the average change in the size of the public sector can help us predict 40% of the average variation in women representation with a small standard error (0.141). The t-value (11.33) also indicates that this model is significant at level <0.05 in two-tailed test. (You may delete). However, one-variable model remains insufficient to understand women representation.

In Model-2, urbanization was added to the model (see, Table 1). Urbanization and size of the public sector together explained (42%) of the variation in the number of women in the public sector. Adding urbanization maintained the significance of the model. When adding a third variable (schooling) in Model-3, the strength of the model has improved as well as our ability to predict the number of women entering the public sector ($R^2 = .434$). Model-3 shows a positive significant relationship between the number of women in the public sector and each of the three independent variables separately and collectively ($R^2 = .434$).

Model-3 indicates that while there are positive relationships with the dependent variable and size of the public sector ($\beta = .568$) and education ($\beta = .141$), there is a negative relation between the dependent variable and urbanization ($\beta = -.185$). The size of the public sector, however, is so far the strongest predictor of women's employment followed by education then urbanization (look at beta values). Beta values in Table (1) show that size of the public sector has remained the strongest predictor in the first, second and third models. It also had the most significant correlation with females' employment (t-values in Model-1 was 11.333, in Model-2 was 10.82, and in Model-3 it was 9.389).

In the aggregated data, there were some numbers that were odd, meaning that when running histogram for all data, some numbers appeared too far from the center. Therefore, all five variables were added in one model (Model-4) and then in Model-5 after checking for outliers. Because the results of OLS with odd observations were included (outliers) in Model -4 and the results after taking out those outliers (see, Model-5) were closely identical, it was wise to keep the odd observations as they were and to continue to the next step in finding the best OLS model fit. In other words, the oddly distributed data did not have a significant impact on the relationships between the dependent variable and the independent

variables. We may believe that the number of odd values was smaller than leaving any significant or noticeable impact on the OLS model (compare Models 4 and 5).ⁱ

Table 1. The Study Models

	<i>Model-1</i>	<i>Model-2</i>	<i>Model-3</i>	<i>Model-4</i>	<i>Model-5</i>	<i>Model-6</i>	<i>Model-7</i>	<i>Model-8</i>
Independent variables								
Size of Sector	.630*	.607*	.568*	.628*	.635*	.628*	.628*	.590*
	1.599	1.528	1.429	1.39	1.407	1.390	1.390	1.324
	(.141)	(.141)	(.145)	(.088)	(.085)	(.088)	(.088)	(.087)
Urbanization		-.151*	-.185*	-.221*	-.218*	-.221*	-.221*	-.213*
		-1.47	-1.179	-1.173	-1.172	-1.173	-1.173	-1.161
		(.054)	(.055)	(.028)	(.027)	(.028)	(.028)	(.027)
Schooling			.141*	-.533*	-.533*	-.533*	-.533*	-.529*
			.951	-5.117	-5.191	-5.117	-5.117	-5.076
			(.338)	(.338)	(.330)	(.338)	(.338)	(.328)
Unemployment				.420*	.409*	.420*	.420*	.457*
				2.220	2.156	2.220	2.220	2.330
				(.251)	(.243)	(.251)	(.251)	(.240)
Turnover				.082*	.081*	.082*	.082*	.075*
				.00008	.00007	.00008	.00008	.00007
				(.000)	(.000)	(.000)	(.000)	(.000)
Intercept	29.717	41.677	31.177	110.005	111.093	110.005	110.00	108.847
	(1.989)	(4.846)	(6.423)	(4.842)	(4.809)	(4.841)	(4.841)	(4.777)
Adjusted R ²	.400	.419	.434	.893	.901	.893	.893	.900

* Significant at level 0.05; two-tailed level t-test. The reported values are, Betas in the first line, slopes (unstandardized coefficients) in the second line, and standard error values in parentheses.

Model-6 shows results after checking for any multicollinearity problem using the VIF and TOL values. No evidence, however, was found to suggest any serious multicollinearity problem, (see, Model-6). Therefore, the model did not suffer from a redundancy problem. Comparing Model-6 (after checking for multicollinearity), Model-5 (before correcting the multicollinearity problems) and Model-8 (the best-specified model, fit) indicates that there is just a slight change in the values of standard error. The slight change, however, does not appear to affect either our faith in the significance of the reported correlations or the predictive power of each independent variable (look at each single coefficient).ⁱⁱ

Checking for any possibility of non-linearity reveals no evidence of non-linear relationships (see, Model- 8). To test for any possibility of Heteroskedasticity problem, White's Test was used (Babbie, 2004; Leonard and Rog, 1998). Model-7 shows a possible problem of Heteroskedasticity. In order to fix this problem, Weighted least squares test (WLS) was utilized. In addition, regressing the residuals on all five independent variables has showed that the "error term" was not correlated with any of the independent variables.¹ Model-8 reflects the results after checking and treating the error-term problem. However, results in Model- 7 (before treating the error term) and Model- 8 (after treating the error problem) suggest that there are not major changes in the model. Despite lack of major changes in the model, and in order to avoid any violation of the theoretical assumptions of the multiple regression equation regarding the error-term, Model-8 is considered the best- specified representation of the relationship between women representation in the public sector and the five predictors (best fit that provides the best and most accurate correlations).ⁱⁱⁱ

In conclusion, Model-8 represents the best-specified model among all other models. With five variables, this model is significant ($F=215.478$, $\alpha .05$) and it explains 90% of the change in the dependent variable (adjusted $R^2 = .90$). The size of the public sector remains the strongest predictor of women representation ($\beta=.590$), followed by education ($\beta= -.529$), and unemployment ($\beta=.457$). Comparatively, the weakest predictors of the dependent variable are urbanization ($\beta= -.213$) and turnover ($\beta= .075$). Although all variables are significantly correlated with the dependent variable, we should not be too optimistic about the future of women in the public sector because since late 1990s the share of the public sector in job market has been constantly declining while the third sector and private sectors have been growing larger.

Comparing the intercepts in Models 4, 5, 6, 7 and 8 shows a relative stability and changes were not substantial. In addition, the sign of the intercept remains positive in the four mentioned models. This particular finding is significant because it provides statistical evidence that women representation in the public sector in all countries may be evolving in a positive direction.

¹ Having a correlation between the error term and an independent variable would suggest a problem of Heteroskedasticity, that is a violation of the regression assumptions regarding to the residuals or error.

5. Discussion

Women employment in the public sector can be influenced by five variables, namely the size of the public sector, male unemployment, job turnover, number of schooling years, and urbanization. OLS Model-8 confirmed that the five hypotheses of the present study are accepted. The study explained that women work in the public sector could be influenced by the size of the public sector. Therefore, it is important that policy stakeholders empower civil servants and reorganize the role of the public sector in helping women get better job opportunities. In other words, the government should lead the efforts to compete with other sectors in recruiting the talented and dedicated female personnel. To do this, regulations and structures of the public sector needs to be reformed in ways that job applicants are recruited based on skills and abilities regardless of gender. Retention, compensation, and development should also be based on human resource gender equality practices.

Model-8 shows that when male unemployment increases by 1%, female employment increases by 2.33%. It seems that women unemployment moves against men unemployment. More studies will be needed in the future to further examine this connection between men and women employment. There could be other factors that intervene in this relationship. When schooling years, as reported in Model-8, increases by one year, there will be a likelihood that number of women in the public sector decreases by 5.07%. This conclusion could be viewed as contradictory to the conventional wisdom about the influence of education on economic activities. Scholars in the field tend to argue that more education women get, the more likely they get opportunities for jobs. When schooling years increase, other avenues of hope and opportunities may open for female job seekers (as well as probably for males). In such situation, some well-educated females may seek jobs in the private and nonprofit sectors or even become entrepreneur rather than working in the civil service. This scenario opens the door large to skepticism about the ability of the civil service to attract the best intelligent women applicants. Others might argue that the previous result could raise a red flag for policymakers to take actions that make public bureaucracies competitive in the job market. Public sector should create challenging environments, pay better salaries, and provide strong compensation systems. Public sector should open up the leadership and technical jobs for females to encourage diversity in leadership levels (see, for example, Al Ittihad, 2007 about the recommendations of the Conference on Female Parliamentarian in the Arab Gulf; Kim and Kurz, 2002). Stivers (2002), Shaw and Cassell (2007) and Weyer (2007) argue that although women in the past decades have achieved better status at work, the glass ceiling continues to be a serious challenge, which makes it difficult for highly qualified females to compete with males over leadership positions in the public sector. This problem may be overshadowed by the emphasis of many governments on the number of women employed. For example, the UN and its agencies rarely publish studies on the quality of working life of employed women. Saying this indicates that governments should focus on recruiting more qualified women and at the same time they should focus on making the work environment suitable for women to stay on the job.

Public administration researchers (e.g., Smith, 1994; Litzky and Greenhaus, 2007; Sargent and

Domberger, 2007) argue that women work in low-level jobs regardless of the level of education they may have. The increase in women employment, historically, has not led to a matching increase in women representation in leadership positions. In the 1970s, for example, women movements in Germany demanded improvements in the educational service for females and demanded supplementary payments for childcare offered to workingwomen. Despite their demands, German women in the 1990s could not gain more than 5% of professor jobs, 4% of physicians, and 20% of principals. Women in many countries, however, are overrepresented in certain jobs such as, hospital staff and schools. In addition, women make only 65% to 78% of males' salary in most countries (UAE 2007; Gupta et al. 2000; Rice et al. 1996; Buchanan 2001; Lewis 1996; Design 2003).

The present study shows a negative relationship between women representation and urbanization (see, Model-8). When urbanization increases by 1%, women number in the public sector is more likely to decrease by 0.161%. Although the correlation is weak, it is significant, which suggests many possible explanations. We might argue that rural women tend to work in the civil service more than do their urban sisters. We can probably better understand this phenomenon if we put it in its context because there are differences in social, economic, and political cultures among the eighteen countries. For example, studies on Turkey show connections between urbanization, educational patterns, and women employment. In 1996, the Turkish government reported that 74.7% of economically active women worked in agriculture and related jobs, and 6.1% worked in scientific and technical jobs (The Republic of Turkey 1997). In addition, rural women who migrated to cities maintained interest in working in semi-agricultural jobs such as flour shops and gardening. In some cultures, rural societies might encourage women to seek jobs in municipal offices or local public departments that have conservative organizational environments, maybe similar to those at the employee's own home. Dung (2004) found that the weak public sector in Vietnam, for example, has led to concentration of the small proportion of workingwomen in traditional clerical jobs and municipal managerial positions. When the public sector was equipped to recruit more females, Sexena and Aoun (1997) stress, the Lebanese government provided training and vocational support for migrant women in order to help them work in new professions and in higher positions or prestigious occupations (management and leadership). More studies will be needed in the future to examine the different dimensions of the relationship between employment of women in the public sector and urbanization in individual countries.

Model-8 shows a weak but significant positive relationship between women representation and general rate of employee turnover ($\beta = .075$). This finding relates somehow to the other finding that connects unemployment of men with women representation. We can argue that because employers generally prefer to hire men, high job turnover among all employees may provide women with a little advantage over men that is, they may be willing to accept jobs that others do not want to take (www.bc.edu 2007; Al Shaheen, 1997; UAE 2007; UAE 2005; Yaghi, 2005; Roberts 2007; Gender.pogar.org 2007). However, more studies will be needed to better understand such connection especially the progress that women achieved in the public sector could lead to improvements in the role women play in the

organization. Feuvre and Andriocci (2003) assert that “gender contract” is a widespread problem that limits women’s ability to work because some societies cannot easily accept women to work in some professions, leaving women with fewer employment opportunities compared to men. Similarly, Seldon (1997) argues that it may take another thirty years until women fill 50% of all jobs in all levels in the public sector. Further, she reports that women are overrepresented in blue-collar jobs (i.e., low-level jobs). Therefore, gender gap and traditional cultures revisit stereotypes that can be associated with the performance of women at work (Stivers, 2002; Dale et al. 2000).

The present study reports that women representation in the public sector relates to men employment. Therefore, hiring women in the public sector cannot be obstacle-free or solely dependent on women professional merits and qualifications (Dung 2004; Devi 2002). Contradictory to what Light (1999) found that education could lead to hiring more women in the civil service, the current study reports that more schooling years may reduce numbers of women in the public sector, but at the same time education, in general, may provide women with better competitive advantages to find jobs in other sectors. Because urbanization is negatively related to women representation, the study findings suggest that urban women tend to work in places other than the public sector, while rural women find the civil service attractive (see, for example, The Republic of Turkey 1997; Sumagaysay 2007). As Filla and Larimer (2011) Saxena and Aoun (1997) and Shull (1999), the present study emphasizes the fact that women representation in the public sector is sophisticated and that factors that influence it can be interrelated. For example, education may lead to having more women in urban societies work in white-collar professionals, while poor education may limit women’s ability to compete with others over good jobs. In addition, male unemployment and the size of the public sector can overlap because if the public sector was small and men were demanded for jobs that might lead to hiring fewer women as compared to men. More research is worth conducting to further understand the dynamics of urbanization and unemployment over women employment.

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ⁱ We looked at three odd observations, which have residual values ≥ 2 , ≥ 0.035 , and ≥ 0.10 as the following (see Model-4): Studentized residual, any observation with values ≥ 2 .

Cook/D ≥ 0.035 [$4/N-K-1 = 4/114 = 0.035$], and Leverage ≥ 0.10 [$2(K+1)/N = 2(5+1)/120 = 0.10$]. Outliers if founded could shift the regression model by influencing the coefficients (slope) and produce inaccurate specification of the model. Nevertheless, results represent the regression model with all five variables before treating the outliers. Comparing Model-4 (with outliers) with Model-5 (after the treatment of outliers) shows that by taking off the three odd observations, there were just very slight and minor changes in the coefficients, R², F scores and t-scores. This fact suggests that the odd observations have neither changed my regression model nor improved the predictive ability, strength, significance, or directions of the individual or collective correlation values. For more details about outliers' treatment, read Fox 1991, Chapter 4.

ⁱⁱ There is no theoretical evidence to suggest an interactive relationship in my models. Each variable has been operationalized and measured in a significant way and therefore describes different phenomenon.

ⁱⁱⁱ By using the Weighted least squares (WLS), the Chi square value (21.36) was found higher than the critical (scheduled) Chi square (11.070, $\alpha = 0.05$, $df = 5$), which suggested that Model-7 had a problem of Heteroscedasticity. Slight changes have occurred in the coefficients and standard error values. For further assurance, the residual variable was regressed as a dependent variable (that was created by using WLS) on the five independent variables to find that the term error was not correlated with any of the independent variables. Having a correlation between the error term and an independent variable would suggest a persistent problem of Heteroskedasticity (the assumption is that the error term must have equal variance across the distribution of the x,y values. For more details about dealing with Heteroscedasticity, read Berry and Feldman 1985, Chapter 7.