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Modelling Earning Gaps: An Assessment of the Impact of Sticky Floors and Glass Ceiling in Lebanon

ALE J. HEJASE
School of Business, Lebanese American University, Beirut, Lebanon

HUSSIN J. HEJASE
Faculty of Business and Economics, American University of Science and Technology, Beirut, Lebanon
Email: hhejase@aust.edu.lb
Tel: 961-1-218716; 961-1-339302;

ALE H. HEJASE
NYU-CGA, Private Sector Studies, New York University

Abstract

Efficiency in the labour market is usually accounted for in order to understand and assess earning gaps that prevail among males and females. Arguing that the individuals' skills, productivity, and commitment to work ultimately determine their incomes sounds too naïve to explain the earnings' differential between males and females. In fact, discrimination against females may occur at different stages of their career path. The wage gap is apparent at the top (glass ceiling) as well as at the bottom (sticky floors) of wage distribution. This paper intends to explore earning gaps as a function of the characteristics of existing Lebanese human capital and labour productivity in selected white collar jobs within a large institution of the service industry. Quantitative analysis using linear regression is conducted. Outcomes of the research are expected to lead to the exploration and the explanation of the impact of automatic stabilizers on the Lebanese labour market in reducing gender disparity, and hence to discuss the government's intervention practices.

Key Words: *Gender wage gap, Lebanon, Lebanese labour*.

Introduction

Blau and Khan (2006) argued that women continue to encounter discrimination in the labour market, and that even though this tendency to discriminate is decreasing, it has not been fully eliminated. Moreover, they added that women's wages continue to be considerably less than those earned by men of similar qualifications. In a recent study conducted in Switzerland, Dacey (2012) considered a sample of 1100 professionals, of which 85% were women; he found that 79% of the women believed that gender is a determinant factor in their career advancement, while 73% of the women respondents agreed that there are barriers to women advancement in upper management within Switzerland. Similarly, in their debate related to women's discrimination in the job market, Barreto, Ryan, and Schmitt (2009) stated that women continue to be underrepresented in key corporate positions and that even after political and legislative reforms undertaken within the large world's economy, women's job status is still unclear. The gender pay gap continues to persist as declared by Dugas (2012); she reasons that among recent college graduates, women working full-time do earn 82% of what recent men graduates earn. In another part of the globe, specifically in Pakistan, Channar (2010) concluded that females are discriminated more than males in the majority of the salary groups within job markets, and that females face discrimination not only from bosses but also from their peer colleagues at the work place.

More issues related to gender pay inequity have been studied by researchers in many other countries of the world. In Brazil, Madalozzo (2010) stated that even when both genders have similar characteristics, men earn better payments than women. Likewise, in Australia; Vecchio, Scuffham, Hilton, and Whiteford (2013) acknowledged the fact that there is a wage gap of 16.7% that remains unexplained, even after adjusting for endowments. Indeed, it has been identified that such inequity in pays is usually found to be higher in developing nations as compared to that found in developed countries. As for Britain, a female working full-time earns just 82% of her male colleague's salary, a fee that for a part-time female worker sinks to 60%. The pay gap costs a woman with average qualifications about £250,000, during her lifetime (Jobsite.co.uk, n.d. cited in Hejase, Haddad, Hamdar, Massoud and Farha, 2013, p. 30). Fitzpatrick (2010) stated that in 2008, women in the USA did earn 77 cents compared to a dollar earned by males; thus, indicating a gap of 23%. Correspondingly, Eagly and Sczesny (2009), based on a 2007 report by the European Commission, concluded that in each of the 27 nations of the European Union, women discrimination is apparent when they average only 4% of the presidents and 10% of the members of the highest decision making bodies.

The wage gap scenario does not look so pessimistic to other researchers whose studies have shown that the aforementioned gender gap seems to be declining over time without being eliminated. According to Blau and Khan (2000), as of 1978, the wage disparities between men and women in the USA have been following a decreasing tendency that is expected to continue keeping the declining rhythm during the years to follow. Similar findings were reported by Kolesnikova and Liu (2011), who statted that the earnings gap between genders have dropped to around 16.5 in 2011, after being 23.75 in 1999 and 30% in 1989. Furthermore, Hejase et al (2013) contend that in a sample of 200 employees and managers, 73% of the respondents believe that managers of both genders are equally paid for the same managerial position. On another wave, and thinking out of the box, the US Department of Labour (2009) went on a different track when reporting that despite the narrowing of the wage gap witnessed during the past years, this gap continues to be used in confusing ways to support public policy agendas without fully clarifying the rationale behind the gap. Furthermore, the report adds that the there is no need to use the wage gap to justify corrective action since there would be nothing to correct if the wage gap arises from personal individual choices made by male and female workers.

If we admit that there is discrimination against females, then this act can occur at different stages of their career path. Some argue that the discrimination starts upon the arrival to the labour market where, according to Channar (2010), sticky floors arise due to the appointment of men and women of the same rank, but with men put at higher favourable scale. Others (Cotter, Hermsen, Ovadia, & Vanneman, 2001) state that there is an unseen barrier called a glass ceiling that will prevent females from rising to the upper rungs of the organizational ladder, even if they prove their credentials or achievements. According to Barreto et al (2009), glass ceiling is used to refer to the fact that men dominate the upper strata of the managerial pyramid. Likewise, Wirth (2001) stated that qualified females look through the glass ceiling, having in mind the potential they carry and own, but are not capable of breaking through the invisible artificial barriers formed by attitude and organizational prejudices. Moreover, according to Briefcaseessentials.com (2010; cited in Hejase et al, 2013, p. 31), "every day, an average of 1,400 to 1,600 women leaders are leaving *Fortune 500* companies to start their own businesses or work for competitors, twice the rate of their male counterparts. This fact might imply that women are really feeling that glass ceiling in these companies is keeping them from fulfilling their ambitions, and that it is advisable to start up their own company."

Both sticky floors and glass ceiling have been extensively considered when performing wage gap studies. Bjerk (2008) suggested that the under-representation of females at higher managerial levels is more due to sticky floors than glass ceiling. In India, Khanna (2012) concluded that the sticky floor persists even after controlling personal and job attributes; thus, implying heavy discrimination of the poor women. The results from the European Union reported by Christofides, Polycarpou, and Vrachimis (2010) show that the wage gap in most of the nations of the EU is wider at the top of wage distribution; thus, implying a glass ceiling.

Equally, Yurtoglu and Zulehner (2009), using wages of top executive officers of publicly listed US firms, concluded that after controlling for individual and firm characteristics, the estimated pay gaps suffer a sticky floor effect and that females at the top of organizational ladders experience less discrimination than lower paid female managers.

In Lebanon, among other researchers, Dah, Ben Sita and Dah (2009) studied the Lebanese labour market and concluded that men earn 16% more than women do, even after controlling for factors such as education, experience and job category. In another study, Dah, Kassar and Dah (2009) show that in Lebanon, the odds for promotion for men as compared to women increase as they move towards the top. In fact, according to the Global Gender Gap Index, the Gender Inequality Index score is 0.440, placing Lebanon at 76 out of 146 countries (OECD Development Centre, 2011).

Research Objectives

This research paper questions whether the presence of automatic stabilizers in labour markets reduces gender disparity. If automatic stabilizers exist, then there is no need for government intervention, and any discrimination against females upon arrival to the labour market will be eliminated by fair promotion practices. These fair promotion practices must depend solely on the presence or availability of human capital and labour productivity. That is, the presence of a sticky floor in the labour market will eventually be balanced by non-discriminatory practices; hence, no need for government ruling to protect the unprivileged group. Likewise, the presence of a glass ceiling that prevents females from climbing the corporate ladder, and increases the income differential between males and females, opens the door for government intervention to reduce the income gap between males and females.

The works of Vecchio et al (2013), Still (1997), and the US Department of Labor (2009), among many others that has been studying the income differential between males and females, emphasize the importance of different job conditions in explaining, at least partially, the earnings' gap. Accordingly, this paper investigates the existence of the earnings' gap in a white collared job. Specifically, to control work conditions and the choice of career path, this research utilizes recent and comprehensive data that covers all the employees in two large financial institutions in Lebanon. The study examines whether there is an earning differential upon arrival to the labour market. Put differently, the research tests the validity of the presence of a sticky floor and, thus, calls for some automatic stabilizers that tend to reverse the initial cultural bias that exists upon appointment. The absence of self-correcting mechanisms in the labour market needs government intervention to protect the career paths of females. Such measures are required to overcome the presence of glass ceiling that makes it more difficult for females to climb the organizational ladder.

Data and Methods

This research relies on two main sources of data brought from the Lebanese banking sector. According to the Association of Banks in Lebanon (ABL), the "Lebanese banking industry is financially sound and stable. It plays key roles in the Lebanese economy where banks continue to dominate the financial system of the country and are major providers of credit to individuals and businesses" (ABL, 2011). The Lebanese banking sector is considered the key sector of the Lebanese economy, accounting for 35% of GDP growth (ALPHA, 2011). The first source's data accounts for the full number of personnel of a major bank with a work force of 633 persons, covering all the business levels; while, the second source corresponds to a smaller banking business with 323 employees, also at all levels. The data extracted for each employee from the respective human resource departments are:

- Earnings: Annual earnings of an individual in USD.
- Experience: Years in the field of work.

- Education: Considering six levels of education: illiterates, primary, and intermediate, secondary, diploma, university, or graduate.
- Gender: Female or male.

The complete proposed econometric model depicts a linear regression that relates earnings to the explanatory variables of experience, education and gender can be written as follows:

$$\ln(Earnings) = \beta_1 + \beta_2 Experience + \beta_3 Education + \beta_4 Gender + \varepsilon \quad \ldots 1$$

The earnings are related to the independent variables through a natural logarithm as suggested by classical econometric references (Wooldridge, 2009). The explanatory variables are: Experience which represents the individuals' years of experience. Education, which is a vector of dummy variables used to signal different levels of education. (Illiterate=0, primary& intermediate=1, secondary=2, diploma=3, university=4, and graduate degree=5). Gender is a binary variable that takes the value of one for a male and zero for a female. In the aforementioned econometric model, the "Beta" coefficients possess a percentage interpretation, and they have a "ceteris paribus" explanation (Wooldridge, 2009).

Because this study is related to the assessment of the impact of 'Sticky Floors' and 'Glass Ceilings', experience plays a major role in the regressions. Moreover, to account for non-linear relationships with experience, the inclusion of a squared experience term is considered as suggested by Wooldridge (2009). Thus, the aforementioned regression model may be augmented by adding "Experience^{2}":

$$\ln(Earnings) = \beta_1 + \beta_2 Experience + \beta_3 Education + \beta_4 Gender + \beta_5 Experience^{2} + \varepsilon \quad \ldots 2$$

Different regression equations using subsets of the original data, based on the individual years of experience, will be compared in an attempt to study the value of the gender coefficient in each subgroup. Absence of market correcting mechanisms will be evident if the gender gap, as measured by the Gender coefficient, grows concurrently with experience level; thus, inferring that government intervention is needed.

Prior to performing the regressions, some descriptive analysis of the data at hand is exposed with the aim of presenting a clear image of male and female earnings under different levels of education and experience in both the middle-size and small-size banking businesses.

Results

Descriptive Analysis

The statistical yearbooks of Lebanon show that the banking population in the Lebanese banking sector had grown from 15,268 persons with 42.8% females in 2003 (Central Administration for Statistics, 2007), to 18,632 persons with 45% females in 2008 (Central Administration of Statistics, 2008). In our case, the analysis of data is performed on 956 working individuals' records that correspond to the full working force at two banking institutions within Lebanon. Again, the statistical yearbooks of Lebanon show that in 2008, there were 64 banks, 81.2% of which were commercial banks and 18.8% were business banks (Central Administration of Statistics, 2008). The research data comes from a middle- size bank with 633 employees (376 males and 257 females), having 40.6% females, and from a small- size bank with 323 employees (196 males and 127 females) having 39.32% females.
According to Table 1, the individual's annual average earnings according the data in question turned out to be USD17,452, and the annual median income to be USD 12,186. The annual average earnings of males is USD19,285 as compared to USD14,722 for females. The median annual income for males is USD 12,564

and USD 11,694for females. The average age of males is 43 years while that of females is 39 years. Likewise, the average experience for males is 15 years while that of females is 14 years, and the median experience for males is 17 years compared to 13 years for females. Moreover, the combined data of both banks indicates that the quartile divisions are 4, 15 and 22 years for the first, second and third quartiles respectively.

Table 1: Gender versus Annual salary, age and experience Crosstab

Gender, N, %		Annual Salary in USD	Age	Experience
Females, 384, 40.17%	Mean	14,722	39	14
	Median	11,694	41	13
	Std. Deviation	9,264	11	10
Males, 572, 59.83%	Mean	19,285	43	15
	Median	12,564	44	17
	Std. Deviation	19,170	11	10
Males + Females, 956, 100%	Mean	17,452	41	15
	Median	12,186	42	15
	Std. Deviation	16,098	11	10

Actually, the mean and median earnings presented in Table 1 portray an image of the wage gap that exists within the sample banking businesses.

Table 2: Small-size bank descriptive statistics of gender versus salary

Gender		N	Minimum	Maximum	Median	Mean	Std. Deviation
F	Annual Salary (USD)	127	4,374	43,583	12,295	15,629	8,748
M	Annual Salary (USD)	196	3,716	281,598	12,762	20,686	25,616
M+F	Annual Salary (USD)	323	3,716	281,598	12,528	18,698	20,819

Table 2 shows the minimum, maximum, median, mean, and standard deviation of yearly earnings for males and females at the small bank. The annual average earnings of an individual within the small bank is USD 18,698 and the annual median income is USD12,528. The annual average earnings of males is USD 20,686 as compared to USD15,629 for females. The median annual income for males is USD 12,762 and USD 12,295 for females.

Once more, the means, medians and standard deviations of earnings presented in Table 2 reveal another perspective of the wage gap discrimination that prevails within the considered small bank.

Table 3: Middle-size bank descriptive statistics of gender versus salary

Gender		N	Minimum	Maximum	Median	Mean	Std. Deviation
F	Annual Salary (USD)	257	5,100	62,333	11,340	14,274	9,493
M	Annual Salary (USD)	376	4,278	85,000	12,467	18,554	14,723
M+F	Annual Salary (USD)	633	4,278	85,000	11,900	16,816	13,021

Table 3 shows the minimum, maximum, median, mean, and standard deviation of yearly earnings at the middle-size bank for males and females. The annual average earnings of an individual within the middle-

size bank is USD 16,816 and the annual median income is USD11,900. The annual average earning of males is USD 18,554 as compared to USD 14,274 for females. The median annual income for males is USD 12,467 and USD 11,340 for females.

Similarly, the means, medians and standard deviations of earnings presented in Table 3 disclose the same scene of Tables 1 and 2: the existence of a wage-gap discrimination within the considered medium-size bank.

Tables 4 and 5 correspond to frequencies related to education levels and gender within the small- and middle- size banks, respectively. Tables 4 and 5 show that 45.2% and 53.71% of the respondents are respectively BS and MS university graduates. Therefore, higher education degrees are dominant within all educational levels.

Table 4: Small-size bank frequency and percentage distribution: Gender versus Education

		Education Level					Total
		Primary & Intermediate	Secondary	Diploma	Bachelor	Graduate	
Gender	F	5 9.80%	20 27.78%	18 33.33%	**68** **56.67%**	**16** **61.54%**	127 39.32%
	M	46 90.20%	52 72.22%	36 66.67%	**52** **43.33%**	**10** **38.46%**	196 60.68%
Total		51 15.79%	72 22.29%	54 16.72%	120 37.15%	26 08.05%	323 100%

Table 5: Middle-size bank frequency and percentage distribution: Gender versus Education

		Education Level					Total
		Primary & Intermediate	Secondary	Diploma	Bachelor	Graduate	
Gender	F	10 16.949%	74 45.399%	23 32.394%	129 45.105%	21 38.889%	257 40.600%
	M	49 83.051%	89 54.601%	48 67.606%	157 54.895%	33 61.111%	376 59.400%
Total		59 9.32%	163 25.75%	71 11.22%	286 45.18%	54 8.53%	633 100%

To clarify this domination, a comparison of the percentages of males and females at each educational level is presented. Data from Tables 4 and 5 show that the bachelor level constitutes the highest percentage among the employees within both banks. Table 4, which corresponds to the small bank, shows that under the highest two levels of education: "Bachelor" and "Graduate", the percentages of females are higher than those corresponding to males. Indeed, at the university bachelor level, 56.67% is for females compared to 43.33% for males; at the graduate level, there is 61.54% for females compared to 38.46% for males. However, Table 5 shows that percentages of educated males are larger than the percentages of educated females under all the educational levels.

In order to have a better view of the interaction between gender, education and experience on one hand, and the corresponding annual salaries on the other hand, Table 6 is considered. In Table 6 experience was categorized based on the quartile divisions being 4, 15 and 22 years for the first, second and third quartiles respectively. Table 6 presents the mean salary and its standard deviation for the 956 employees, classified by educational level, experience and gender categories. It is shown that, in general, the average annual salaries under all educational categories are larger for males when compared with those earned by females.

Table 6. Distribution frequencies based on experience for both banks

Education	Experience (years)	GENDER	N	MEAN (USD)	STD (USD)
Primary & Intermediate	Experience ≤ 4 years	F	3	9,635	3,707
		M	12	9,769	14,884
	4 < Experience ≤ 15 years	F	1	19,652	.
		M	25	10,283	11,393
	15 < Experience ≤ 22 years	F	4	10,125	3,455
		M	28	11,256	9,649
	Experience > 22 years	F	7	17,834	4,222
		M	30	12,697	3,182
Secondary	Experience ≤ 4 years	F	9	6,915	1,072
		M	15	9,041	9,965
	4 < Experience ≤ 15 years	F	17	12,635	6,389
		M	32	10,954	12,223
	15 < Experience ≤ 22 years	F	33	11,468	2,281
		M	50	12,522	3,844
	Experience > 22 years	F	35	18,457	7,471
		M	44	26,796	41,159
Diploma	Experience ≤ 4 years	F	7	14,834	10,369
		M	8	21,344	20,686
	4 < Experience ≤ 15 years	F	14	14,106	11,962
		M	21	19,125	17,569
	15 < Experience ≤ 22 years	F	14	13,031	2,690
		M	29	19,609	10,661
	Experience > 22 years	F	6	18,232	12,008
		M	26	26,545	12,986
Bachelor	Experience ≤ 4 years	F	86	8,339	4,946
		M	84	11,458	9,912
	4 < Experience ≤ 15 years	F	48	13,072	7,482
		M	48	23,045	18,747
	15 < Experience ≤ 22 years	F	32	17,527	6,269
		M	38	28,711	17,258
	Experience > 22 years	F	31	26,670	7,324
		M	39	35,486	17,009
Graduate	Experience ≤ 4 years	F	5	17,501	21,926
		M	14	22,094	23,514
	4 < Experience ≤ 15 years	F	26	19,678	10,415
		M	18	28,178	15,286
	15 < Experience ≤ 22 years	F	2	24,996	1,107
		M	4	36,778	26,071
	Experience > 22 years	F	4	40,833	15,429
		M	7	47,266	16,101

A few exceptions can be noticed in the highlighted cells of Table 6, which shows the average salaries corresponding to females are larger than those of males. Looking at these three cases carefully, it can be noticed that the first case at the primary and intermediate level of education is not meaningful since the number of female records is just one record, so the mean is not representative of the group. The second

case, where the female's mean is USD 17,834 and the male's mean is USD 12,697, occurs under the primary and intermediate level of education where there are 7 female records and 30 male records. With references to statistical tests (Hejase & Hejase, 2013), this indicates that these means are significantly different at 5% level of significance; however, the size of the female group weakens the acceptability of this result.

Similarly, Table 6 shows a third case that occurs under the category of experience of between 4 and 15 years that was obtained as a result of studying17 female records and 32 male records. Performing a test for the significance of the difference, it indicated that at 5% level of significance, the females' mean USD 12,635 and the males' mean 10,954 are not significantly different.

Therefore, upon comparing the average salaries of males to those of females while controlling for education, the researchers concluded that, in general, males' average salaries are significantly higher than those of females under all experience categories, keeping in mind that the couple of exceptional cases that came to light cannot break the emphasis.

Ordinary Least-Squares Regression

As previously mentioned, the regression model to study the impact of gender, experience and education level on salary is:

$$\ln(Earnings) = \beta_1 + \beta_2 Experience + \beta_3 Education + \beta_4 Gender + \beta_5 Experience^2 + \varepsilon \quad \ldots 3$$

In the first round of regressions, the results of the regression are grouped in accordance with gender, i.e. different regression models are obtained each within a certain gender category. By working with data corresponding to each gender category, the researchers could observe the variations of the "Betas", and, thus, estimate how salaries vary with variations of experience and education.

Table 7 shows the results of the regressions performed on the data at hand; it is worth mentioning that when female or male data is exclusively considered, the gender term is excluded from the regression and, thus, no value exists for the coefficient 'β_4'.

Table 7: Regression analysis outcomes: first round

Source of regression data	N	β_1 p-value	β_2 p-value	β_3 p-value	β_4 p-value	β_5 p-value	R^2	Adjusted R^2
Females in medium bank	*257*	*8.219* *0.000*	*0.045* *0.000*	*0.193* *0.000*		*0.000* *0.333*	*0.543*	*0.538*
Males in medium bank	*376*	*8.002* *0.000*	*0.050* *0.000*	*0.296* *0.000*		*0.000* *0.246*	*0.443*	*0.438*
Females plus males in medium bank	*633*	*7.976* *0.000*	*0.047* *0.000*	*0.260* *0.000*	*0.155* *0.000*	*0.000* *0.333*	*0.476*	*0.472*
Females in small bank	*127*	*8.619* *0.000*	*0.038* *0.016*	*0.107* *0.007*		*0.000* *0.976*	*0.394*	*0.379*
Males in small bank	*196*	*8.190* *0.000*	*0.047* *0.004*	*0.294* *0.000*		*0.000* *0.602*	*0.344*	*0.333*
Females plus males in small bank	*323*	*8.107* *0.000*	*0.043* *0.000*	*0.239* *0.000*	*0.238* *0.001*	*0.000* *0.785*	*0.335*	*0.327*
Females in medium and small banks	*384*	*8.323* *0.000*	*0.044* *0.000*	*0.169* *0.000*		*0.000* *0.330*	*0.492*	*0.488*
Males in medium and small banks	*572*	*8.100* *0.000*	*0.050* *0.000*	*0.284* *0.000*		*0.000* *0.152*	*0.392*	*0.389*
Females plus males in medium and small banks	*956*	*8.039* *0.000*	*0.047* *0.000*	*0.247* *0.000*	*0.185* *0.000*	*0.000* *0.146*	*0.476*	*0.472*

Dependent variable: Ln(Earnings)
Independent variables: Experience, education, gender, experience square.

Regressing Ln(Earnings) as a function of all the selected variables aims at determining the gender bias in the banking labor market after controlling for education, and experience years. The results presented in Table 7, show that most of the "Betas" of independent variables are significant at the 5% level of significance except for 'β_5' that is related to the square of the experience, indicating a weak nonlinear relationship with experience. Furthermore, the coefficients of determination (R^2) are acceptable and the estimated coefficients have the correct signs as per economic theory.
The gender coefficients in the three "Females plus males" models of Table 7 are found to be equal to 0.155, 0.238 and 0.185 respectively, and are significant at the 1% level of significance; thus, indicating that the hypothesis that states that gender results in significant difference in pay is supported. This shows that a male is expected to earn 15.5 %, 23.8%, or 18.5% more than a female.

In the second round of regressions, depicted in Table 8, the results of the regression are grouped in accordance with the years of experience, i.e. different regression models are obtained, each within a certain experience category. By working with data corresponding to each experience category, the researchers observed the variations of the "Betas", and, thus, estimate how salaries vary with variations of gender and education.

Table 8: Regression analysis outcomes: second round

Experience Interval for both banks	N	β_1 p-value	β_2 p-value	β_3 p-value	β_4 p-value	β_5 p-value	R^2	Adjusted R^2
Experience ≤ 4	243	8.405 0.000	-0.153 0.135	0.157 0.000	0.141 0.042	0.064 0.008	0.137	0.122
4<*Experience* ≤ 15	250	8.333 0.000	0.034 0.676	0.248 0.000	0.206 0.009	-0.001 0.768	0.203	0.19
15<*Experience* ≤ 22	234	10.743 0.000	-0.265 0.381	0.260 0.000	0.236 0.000	0.008 0.300	0.447	0.437
Experience> 22	229	7.445 0.000	0.084 0.202	0.273 0.000	0.147 0.011	-0.001 0.442	0.412	0.402

Dependent variable: Ln(Earnings)
Independent variables: Experience, education, gender, experience square.

Table 9 shows the results of four regressions performed on four experience strata of the combined data obtained from both banks. The experience strata are designed based on the approximate quartile divisions of the experience years for the 956 combined records. The results clearly demonstrate how 'β_4', the gender coefficient, varies with experience.

Table 9: Regressions performed on four experience strata from the 633 records of the medium bank.

Experience Interval for medium bank	N	β_1 p-value	β_2 p-value	β_3 p-value	β_4 p-value	β_5 p-value	R^2	Adjusted R^2
Experience ≤ 4	169	8.371 0.000	-0.161 0.148	0.164 0.000	0.118 0.118	0.070 0.013	0.149	0.128
4<*Experience* ≤ 15	149	8.219 0.000	0.087 0.398	0.223 0.000	0.210 0.034	-0.004 0.397	0.183	0.16
15<*Experience* ≤ 22	156	14.970 0.144	-0.707 0.045	0.301 0.000	0.160 0.003	0.020 0.033	0.539	0.527
Experience> 22	159	7.220 0.000	0.084 0.206	0.291 0.000	0.165 0.003	-0.001 0.528	0.587	0.577

It is clearly seen that at middle years of experience, 'β_4' increases, indicating a wider gap in earnings between males and females with males making up to 23.6% more than females. At lower and higher

categories of experience, the gap narrows, making the females' salaries lower only by some 14%. Notice that in the four regressions performed in Table 9, the experience coefficient and the experience squared coefficient, are not significant at 5% level of significance.

Table 9 shows the results of four regressions performed on four experience strata from the 633 records of the medium-size bank. The experience strata are identical to the ones designed for the aforementioned regression cases that included both banks. The results clearly demonstrate how 'β_4', the gender coefficient, varies with experience. It is clearly seen that at middle years of experience, 'β_4' increases, indicating a wider gap in earnings between males and females with males making up to 21 % more than females. At lower and higher categories of experience, the gap narrows, making the females' salaries lower only by some 16.5%. Notice that in most of the regression cases that correspond to data from the medium-size bank, the experience coefficient and the experience squared coefficient are not significant at 5% level of significance.

Table 10: Regressions performed using four experience strata from the 323 records of the small bank

Experience Interval for small bank	N	β_1 p-value	β_2 p-value	β_3 p-value	β_4 p-value	β_5 p-value	R^2	Adjusted R^2
Experience ≤ 4	74	8.479 0.000	-0.191 0.460	0.158 0.025	0.184 0.261	0.065 0.230	0.121	0.07
4<*Experience* ≤ 15	101	8.515 0.000	-0.044 0.750	0.281 0.000	0.265 0.066	0.003 0.639	0.247	0.215
15<*Experience* ≤ 22	78	3.171 0.573	0.490 0.402	0.262 0.000	0.431 0.000	-0.011 0.473	0.368	0.333
Experience> 22	70	6.655 0.006	0.157 0.306	0.240 0.000	0.165 0.238	-0.002 0.382	0.198	0.149

Table 10 shows the results of four regressions performed using four experience strata from the 323 records of the small-size bank. The experience strata are identical to the ones designed for the aforementioned regression cases that included both banks. The results clearly demonstrate how 'β_4', the gender coefficient, varies with experience. It is clearly seen that at middle years of experience, 'β_4' increases, indicating a wider gap in earnings between males and females with males making up to 43.1% more than females. At lower and higher categories of experience, the gap narrows, making the females' salaries approximately equivalent to those of males due to the insignificant gender coefficients. Notice that in all of the regression cases that correspond to data from the small-size bank, the experience coefficient and the experience squared coefficient are not significant at 5% level of significance.

Discussion

Looking carefully at the four regressions under the four experience categories for both banks, Table 8 shows that under the four categories of experience the gender coefficients are statistically significant at the 5% level and the earning gap is lower near low and higher years of experience. The coefficients for the categories of medium years of experience, i.e. intervals of 4 to 15 years and 15 to22 years, are 20.6% (p-value=0.009), and 23.6% (p-value=0.000) respectively. These indicate that a woman's wage is on the average 20.6% (or 23.6%) below a comparable man's wage. Apparently, the ideas of "sticky floors" and "glass ceiling" are not sharply present.

Likewise, in the medium-size bank, Table 9 confirms that the earnings' gap is lower near low and high years of experience. In fact, the gender coefficient for the category of medium years of experience, i.e. the interval between 4 and 15 years is 21% (p-value=0.034). This indicates that a female's wage is on average 21% below a comparable male's wage. Again, there is evidence that the ideas of "sticky floors" and "glass ceiling" exist, but are not the most critical.

Finally, to reinforce the findings, the regressions performed on the records of the small-size bank, which are presented in Table 10, show again that earning gaps are wider in the categories of medium years of experience. Indeed, for the experience interval of 4 to 15 years, the gender coefficient is 26.5% (p-value=0.066), suggesting that a woman's wage is on average 26.5% below a comparable man's wage. Similarly, for the experience interval of 15 to 22 years, the gender coefficient is 43.1% (p-value=0.000), implying that a woman's wage is on average 43.1% below a comparable man's wage.

Tables 8, 9 and 10, which correspond to the data from both banks show that the earning gaps are narrower at the categories of low experience (below 4 years) and high experience (above 22 years). This behaviour of the earning clearly leads to the conclusion that a sticky floor or a glass ceiling do exist but cannot be considered the major discrimination traits of the banking sector in Lebanon.
Under the lowest category of experience (Experience ≤ 4 years), the gender coefficients are: 14.1% (p-value = 0.042), 11.8% (p-value = 0.118) and 18.4% (p-value=0.261) for data from both banks respectively. These gender coefficients, when significant, mean that a male is expected to earn more than a female when holding other variables constant. The point to emphasize is that these earnings' gaps are narrower than the aforementioned gaps at medium years of experience.

Likewise, for the highest category of experience (Experience > 22 years), the gender coefficients are: 14.7% (p-value = 0.011), 16.5% (p-value = 0.003) and 16.5% (p-value=0.238) for data from both banks respectively. These coefficients, when significant, mean that a male employee is expected to earn more than a female employee when other variables are held constant. Once again, the point to emphasize is that these earnings' gaps are narrower than the aforementioned gaps at medium years of experience.

The aforementioned outcomes clearly demonstrate that on one hand as the number of years of experience decreases, the level of discrimination between males and females decreases and the effect of a sticky floor is not very lustrous. On the other hand, as the number of years of experience increases, the level of discrimination between males and females increases, making the effect of a glass ceiling gloomy. Hejase et al (2013) concluded in their research that the first reason might be the fact that women are still considered as less equal and less competent than men; thence, they are not allowed to participate in top managerial decisions. Furthermore, the researchers delineate the findings in Exhibit 1.

Exhibit 1: Evidence of glass ceiling from Lebanon

From a sample of 200 Lebanese employee respondents:

* 24% (cumulative) of respondents believe that women are not as competent as men and lack certain managerial skills.

* 26% (cumulative) of respondents believe that women are dependent and show less initiative than men.

* 45% (cumulative) of the respondents believe that women are still expected to bring coffee and schedule meetings.

* When Q5 (which in your opinion is the number one factor that prevents women from advancing to managerial positions?) was cross-tabulated with gender, 22.7% of male respondents believed that women are unable to reach higher positions due to lack of capability and leadership skills.

Source: Hejase et al. (20130, p. 46.

Is there a self-correcting mechanism in the Lebanese banking sector in particular? Apparently there is no evidence of any self-correcting mechanism within the considered banking sector. The wage gap seems to be weaker with lower or greater experience, meaning that the gap that exists upon arrival is widened for some years and then it shrinks again to almost the same as that present upon arrival.

Conclusion

Hejase et al (2013) contend that social and organizational changes place women, more often than men, in the position of being newer entrants into higher-level managerial roles. Russeau (2008) reports that 28% of the Lebanese females are in the labor force (Para. 2). Moreover, according to the World Bank (2009; cited in Cestas.com, 2010, p.22), women comprise 90% of the workforce in Lebanese banks, but account for only 19% of bank general and assistant general managers. On average females earn USD 14,722 (Median = USD 11,694) as compared to USD 19,285 (Median = USD 12,564), indicating that on average a female earns around 76% of what a male earns. The models presented in this paper have revealed that the income inequity gap is reduced but not eliminated with higher and lower years of experience.

There is no evidence of any established correcting mechanism for wage gaps in the Lebanese labour market. The gap that exists upon arrival to the labour market due to the traditional masculine stereotype concept (Eagly & Sczesny, 2009, p. 25), is widened as experience increases, probably through discriminatory promotion policies. This gap diminishes as women advance into leadership roles.

Accordingly, this research concludes that women in the Lebanese banking sector suffer more from intermediate discrimination while being in the intermediate years of service. Therefore, both the "sticky floors" and "glass ceiling", although present, are not the dominant discrimination factors. It has been shown that the major discrimination occurs while climbing the ladder up; this should call for government intervention programs to eliminate such discrimination.

Finally, the findings of this research are consistent with the results attained by Madalozzo (2010) which state that: "Men are better paid than women. The trend of a decreasing gap remains, but is losing pace over time. The difference in pay is decreasing but still a significant 15.4% on average in 2007" (p. 166).

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