IS A WIDENING GENDER WAGE GAP NECESSARILY CAUSED BY A GLASS CEILING? A CASE STUDY FROM UGANDA

Abstract

Contrary to what is generally assumed, the gender wage gap and the glass ceiling may not necessarily be positively related. An exploratory analysis of aggregate public service personnel data for Uganda shows that the gender wage gap is small at the middle level of management, whereas it is twice as high at the top. At the same time, the share of women in top positions appears to be twice as high as at the middle ranks. Hence, it seems that in the context of a very patriarchal culture, women "have to pay" for being promoted to the top rather than that there is a linearly thickening glass ceiling that would drive a widening gender wage gap. The exploratory data analysis suggests that the *glass ceiling effect* may have an equally vicious partner in the shape of a *glass ceiling trade-off*.

Keywords: glass ceiling, gender wage gap, public service, Uganda

Introduction

The literature on occupational segmentation, the glass ceiling, and gender wage gaps assumes a close and positive relationship between these three phenomena of gender inequality in the labour market, across the globe (Anker, 1998; Wirth, 2001). Linda Wirth (2001), for example, argues in her insightful cross-country overview of the glass ceiling that the glass gets thicker to the top and that women's disadvantage in wages is a major implication of this vertical segmentation. This view is also known as the glass ceiling effect on the gender wage gap at

the top of the wage distribution. In recent literature, this effect is assumed to be so strong that the two terms become conflated, so that the metaphor of the glass ceiling is also used to refer to gender wage differences. For example, Hiau Joo Kee (2006) reports a glass ceiling effect in Australia: "A striking result is the sharp acceleration of the gender gap as we move towards the upper tail of the conditional wage distribution. This finding suggests that there is a glass ceiling in the private sector (Hiau Joo Kee, 2006: 420 & 423)". He adds that, controlling for demographic and education variables, the gender wage gap rises to the top of the wage distribution, concluding that "the glass ceiling is due to differences in returns between genders (idem, p. 423)". In this last quote, the term glass ceiling does no longer refer to the limited share of women in top positions but to the limited opportunity for women to increase their wages in a similar way as men do at the top. Another example of applying the glass ceiling metaphor to the gender wage gap, can be found in Albrecht et al. (2003). They emphasize that "we do not view occupational, or more generally job, segregation as an explanation of the glass ceiling effect. Occupation and wage are jointly determined variables. In this sense, occupational segregation is the form in which the glass ceiling is manifested rather than an independent explanation of it" (Albrecht at al., 2003: 163). Following these authors, Arulamparam et al. (2006: 164) interpret in their analysis of the gender wage gap in Europe "a widening gender wage gap at the top of the wage distribution as a glass ceiling."

The argument for treating the two phenomena of glass ceiling and gender wage gap at the top of the wage distribution as in a causal relationship, or even as synonymous, is that constraints to women's career development hurts their prospect for wage increases. This argument is convincing at the individual level. But such a micro-relationship does not necessarily imply that the two phenomena are also positively related at the organisational level. Using aggregate public sector personnel data, I will explore to what extent this holds for the public service of a developing country in a specific context of, on the one hand, a patriarchal culture and, on the other hand, a gender-aware policy environment. The case study of Uganda is exploratory due to a lack of sufficiently detailed data such as information on jobs and performance. It portrays a specific historical and cultural context from which no

generalizations can be made. The data are from the year 2004, and the Uganda-specific literature used in the analysis concerns the period around this year, namely 2002-2007. Taking this context into account, the case study provides an insight into correlations between the glass ceiling and the gender wage gap at the organisational level in the public sector. The case study serves to explore whether the gender wage gap at the top should, as the literature indicates, be attributed to the glass ceiling, or whether there may also be another mechanism behind large gender differences in pay at the top.

Gender Inequality in the Public Service of Uganda

Summary of the data

The sample of 2004 aggregate personnel data of the central public service at the management level contains all employees at the four top positions with a BA or MA degree, employed by ten out of the twenty three central ministries of Uganda, excluding incomplete cases. No data was available for decentralized public services. The selection of ministries is based on the availability of gender disaggregated personnel data for all four function levels. There are no indications of any substantial differences between the ministries that are included and those that are excluded from the sample with respect to gender distributions over function levels or specific gender policies. The data covers a total of 739 cases and were obtained from the personnel statistics of the government of Uganda through a former MA student who wrote a dissertation in 2005 supervised by the author, and the data are not publicly available[1]. The variables in the dataset concern gender disaggregated data on number of employees per function level (4 levels), level of education (2 levels), age, years in the public service, years at current position, and monthly salary (in Ugandan Shillings, excluding benefits). The number of women is 188 and men 551, which implies an overall female share of 25 percent of management positions in the public service. All employees work fulltime. The summary statistics in table 1 show that men and women have rather similar proportions of educational

degrees, with no statistically significant gender difference. Female employees are on average three years younger than their male counterparts, a difference which is statistically significant ($p<0.01$) and have on average one year less employment in the public service, which is, however, not statistically significant.

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Gender wage gap

The gender wage gap in the public service dataset is 5.3% on mean wages, well in line with the public sector gender wage gap in other countries, and the difference is statistically significant ($p<0.05$). The distribution is quite dispersed as the high standard deviations show, but not extremely skewed, with a 6.4% gap on median wages. The public sector gender wage gap in Uganda is much smaller than for the economy as a whole (Sebaggala, 2007; Kagundu and Pavlova, 2007). Table 2 provides summary data for the gender wage gaps in the public sector data per function level. At the junior level, the female/male wage ratio is 0.94, at the senior and manager levels the ratios are 0.98 and 0.96, respectively. At the director level, however, the gender wage gap is largest, with a ratio of female to male wages of 0.93.

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Glass Ceiling

Diagram 1 provides a picture of the number of men and women employed at each of the three top function levels, as well as for the entry level for comparison. The gender differences in employment are statistically significant at all function levels ($p< 0.05$).

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The diagram shows the percentage of female and male employees per function level. It reveals, contrary to what is assumed in the literature, that the glass ceiling does not get thicker to the top but is thickest at the middle management level. At this middle level, the average share of women is 20% as compared to 30% at the entry level and the top, suggesting that it is particularly difficult for women to get promoted to senior and manager functions, where men still hold a comfortable majority. Table 3 provides an overview of the share of women and men with an MA degree at each function level. Although overall the share of men with an MA degree is three percent higher than that of women, the difference is smaller or even reversed at the middle management level. For senior officers, the male advantage is reduced to one percent, whereas for managers, the share of men with MA degrees is three percent lower than for women. Combining these results with those of diagram 1, it appears that at the middle management level where the glass ceiling is strongest, women's educational attainment is, on average, higher than that of men, not lower[2].

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Glass Ceiling Versus Gender Wage Gap

Combining the measures of the gender wage gap and the glass ceiling, the data of the public service in Uganda seems to suggest a trade-off between promotion and pay. At the senior and management levels, the wage gap is small, whereas at the director level, the wage gap is twice as high. At the same time, the share of women is lowest at the senior and management levels while it is quite high at the director level, similar to that at the entry level.

In order to find out whether the gender wage gap should be attributed to differences in human capital between men and women or to other factors, a wage equation is estimated. The regressions are run with the ordinary least squares method and use natural logarithms for the wage variable and a dummy for the education variable. The equation below estimates

women's and men's wages separately, with limited control variables, since, as explained above, the dataset is rather aggregate and does not include data on performance or job characteristics.

$$\ln W_j^i = C + \alpha EDUC_j^i + \beta AGE_j^i + \gamma LENGTH_j^i$$

W = wage, C = constant, EDUC is an education dummy (BA = 0, MA =1), AGE is the age variable, and LENGTH refers to the length of service; i = f, m to indicate female or male variables, and j = all, d: either all function levels (all) or only the director level (d).

Table 4 provides a summary of the regression results. The first two rows show the results for all function levels. For these regressions, both the female and the male estimations have a moderate to low fit, suggesting that unmeasured variables play a substantial role in the wage determination, and more so for men than for women. The parameter for education is statistically significant and almost the same for women and men, indicating that there are similar returns for men and women from MA degree. The correlations for age and length of service are quite weak, while for men, the age variable is not statistically significant.

The last two rows show the regression results for the director level only – the top function level where the gender wage gap is biggest. For female wages, the coefficients for education and age are negative, weak and not statistically significant. Only length of service is positive and statistically significant. For male wages, age is also negative, small and not statistically significant. For males, education is positive, as expected, and the parameter size is relatively large, and statistically significant. Apparently, for men, having an MA degree matters for promotion to the director level, whereas for women it does not seem to have a significant impact. This is interesting in the light of the earlier established result that women have relatively more often an MA degree at the level immediately preceding the top: being higher educated, hence, does not seem to help women to get promoted to the top. Length of service is for men and women alike positive but weak and statistically significant. Overall, the wage regressions suggest, first, that length of service is the most important variable

explaining women's and men's wages in the public sector, and second, that having an MA degree is a more important determinant for male wages than for female wages.

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In order to have an idea of gender inequality in wage setting in the public sector, the gender wage gap will be further explored[3]. A basic form of the standard Oaxaca-Blinder wage decomposition was used, because of the restriction of the dataset to a small number of variables. The results of the exploratory wage decomposition are shown in table 5. The table shows that at the top level, where the gender wage gap is biggest, 80% of the gender wage gap cannot be explained by the human capital variables in the dataset, against only 25% for all four function levels. This result is in line with Albrecht at al. (2003) for Sweden, Kee (2006) for Australia, and Arulampalam et al. (2006) for Europe. But the glass ceiling figures at the four function levels point out that this effect of a widening unexplained wage gap to the top cannot be attributed to a glass ceiling effect, because at the director level, the glass ceiling is thinner than at the lower function levels.

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The exploratory data analysis indicates that next to a glass ceiling effect, there may be another mechanism leading to a high gender wage gap at the top, which similarly to a glass ceiling cannot be attributed to differences in human capital variables between men and women but to differences in rewards to these variables. This suggest a "glass ceiling trade-off" hypothesis, implying that women "have to pay" for being promoted to the top, whereas remaining at the middle management level does not trigger such a penalty in their wages compared to men. This hypothesis needs further analysis which requires more detailed data at the organizational level in the public and private sector of developed and developing countries, and with rich qualitative data on possible causal mechanisms of such a trade-off.

The last section will briefly review possible reasons for a "glass ceiling trade-off" hypothesis, both from the literature and from Ugandan public service review reports.

Wage penalty for women at the top?

Glass ceiling at the middle ranks

For the glass ceiling, the literature on gender and leadership points out that in competitive environments where the share of women is very low, women are less successful in competing for scarce resources, such as jobs, compared to men (Ridgeway, 2001). The male-dominated competitive context of management positions in the Ugandan public service has been characterized in a review as likely to be affected by a strong patriarchal culture, in which men are regarded as natural leaders. This may discourage women to compete for promotion to the middle ranks. The report mentions "… the possibility that the persistence of patriarchal attitudes that view men as natural leaders may preclude women from seeking positions of leadership…" (HRI, 2002: 1).

However, for the director level, where the share of women is higher, the competitive environment may have partly different determinants, due to a top-down gender mainstreaming policy of the Ugandan government (Government of Uganda, 1997). This policy, implemented in 1997 by the Ministry of Gender, Labour and Social Development, has led, among others, to the appointment of several female commissioners, which are positions at the director level. These are political appointments, motivated by the Cabinet's dedication to a visible implementation of its gender policy – for a mix of motivations, including access to donor funds from development cooperation. Hence, the presence of women at the top level may be a result of a visible expression of gender mainstreaming policy in the public service through political appointments of women at the top. A recent UN report on the public service in Uganda indicates that there is some resentment among male employees about this visible gender mainstreaming policy and its implementation. The report states that "in the public

sector 48% of informants reported that gender influences recruitment in their organizations" (UN, 2004: 13). Some employees have the feeling that women are advantaged over men in promotions: "62% of the respondents reported that there is no difference between women and men of the same qualifications when it comes to promotions, whereas 23% claim that women are more likely to be promoted than men." (idem: 14) The authors of the report attribute this belief to the recent gender mainstreaming policy. Interestingly, the report adds, "it has to be pointed out that the fact that the large majority of those interviewed were male may have influenced perceptions towards a larger proportion considering that women have an advantage both in recruitment and promotion." (p. 14)

Wage penalty at the top

The literature on the gender wage gap and payment structures indicates that some payment systems are more likely to perpetuate gender wage gaps than other systems. Rubery et al. (1997) have argued that a seniority payment system tends to behave as an alternative to promotion. The Ugandan wage regressions reported in table 4 showed that both for men and for women, seniority is a statistically significant variable for the organisation as a whole although not as strong as education. This suggests that in the Ugandan public service the payment system is for an important part based on education and seniority rather than on performance, a feature that has been confirmed in the earlier mentioned civil service survey (UN 2004: 12). This would help to explain why at the middle ranks, the gender wage gap is small: women generally do not get promoted to the director level but get stuck at the middle level (if they reach that level at all) at which they receive wages very close to those of their male colleagues, having similar levels of seniority qua age and length of service.

Women are much less equally rewarded at the top. The belief among public servants that women are either treated equally or even advantaged over men, as the above quoted UN report states, may lead to women directors being less liked than male directors. A US experimental study on gender and leadership has pointed out that when male and female managers were ranked by subjects according to their likeability, that equally competent

women were less liked when they worked in what were regarded as male occupations. This lower ranking also resulted in lower salary rewards (Heilman et al., 2004). For the Ugandan case, this may suggest that women in top leadership positions may trigger resentment among male managers at the top, leading to a penalty for their promotion in their payment. Such a wage penalty is possible because wage setting is generally less influenced by the political top than appointments, and therefore the determination of wages of directors is more in the hands of line managers and HRM departments. Moreover, the political top is not likely to be very concerned with the wages of female directors, because wages are generally not made public, and hence, are not a visible dimension of the implementation of gender equality policies. In contrast to equal wages. female director appointments are more in the interest of political leaders who have committed themselves publicly to national or international gender equality objectives. Finally, the female directors themselves may also not know that they earn less than their male counterparts – or they feel that they have to accept it as part of the deal, as a trade-off.

In conclusion, there seems to be some support in the literature for a glass ceiling trade-off hypothesis next to the generally assumed glass ceiling effect on women's wages. Such a trade-off seems to operate even in the presence of a strong political commitment to gender mainstreaming, because such a top-down approach does not seem to be able to affect gender biases in organizational culture, in particular on those affecting the less visible forms of gender inequality such as the gender wage gap. The follow-up of the 1997 gender policy in 2007 (valid for the period 2007-2017) is a continuation of the same approach, and therefore is not likely to affect the perverse relationship between women's careers and earnings in the public sector[4].

In order to be able to better document possible male resistance at the middle management level against the promotion of women, and male resistance at the top level to proportionate wages for women in leadership positions, two types of data are necessary for further analysis. First, more detailed personnel data so that more sophisticated wage

regressions can be run, with more control variables, in particular on performance. Second, complementary qualitative data, through interviews and/or focus groups discussions, which should focus on the attitudes of HRM managers, line managers, and colleagues towards the promotion and equal pay of women at the top. This would help to reveal motivations and actions of male managers against promotion of women in the public service and against equal pay when women do reach the top. Only with more detailed data, adequate measures may be designed to prevent that women face a glass ceiling at middle management levels and that they literally have to pay when they are, eventually, promoted to the top.

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Tables & Figures

Table 1. Summary statistics of management positions in the public service of Uganda, 2004 (n = 739).

	Education (%)		**Age (years)**	**Length of service (years)**	**Number of employees (%)**	**Mean wage (Ugandan Shilling) (Stdev)**	**Median wage (Ugandan Shilling)**
	BA	**MA**					
Women	139 (74)	49 (26)	39	13	188 (25)	657,957 (284,337)	611,950
Men	390 (71)	161 (29)	42	14	551 (75)	694,296 (297,018)	653,730
Total	529 (72)	210 (28)	41	13	739 (100)	685,051 (294,079)	650,098

Table 2. Wages and gender wage gaps (n = 739)

	Mean female wage (stdev)	Mean male wage (stdev)	Female/male wage ratio
Junior officer	450,532 (94,036)	477,035 (90,701)	0.94
Senior officer	651,086 (139,181)	661,863 (157,275)	0.98
Manager	792,942 (123,127)	824,537 (238,705)	0.96
Director	1,041,701 (353,223)	1,125,200 (392,020)	0.93

Diagram 1. The glass ceiling in the Ugandan public service (n = 739)

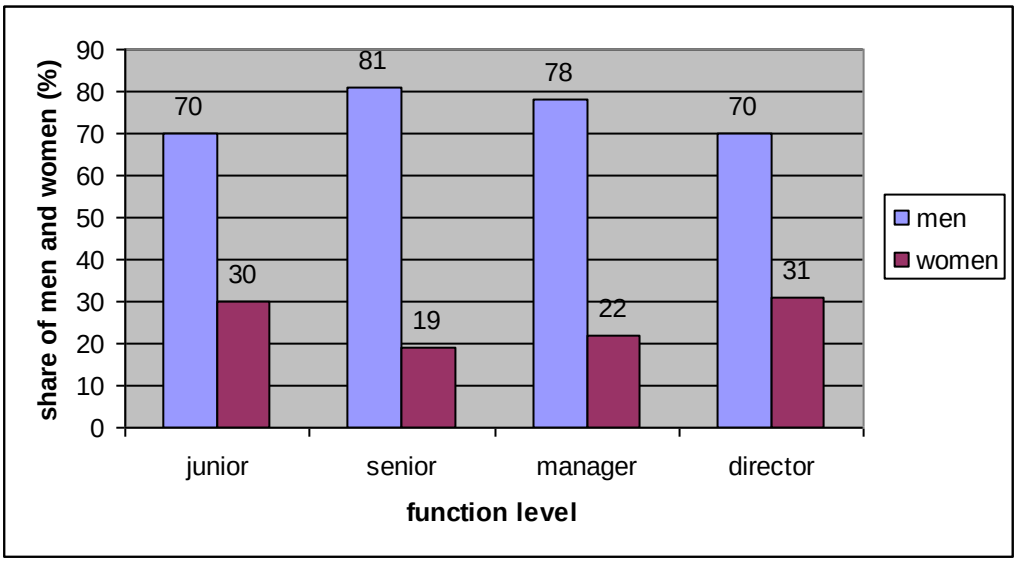

Table 3. Educational distribution per function level (n = 739)

	Women with an MA degree (%)	**Men with an MA degree (%)**
Junior officer	11	13
Senior officer	28	29
Manager	47	44
Director	41	47
All levels	26	29

Table 4. Gender wage regressions for the Ugandan public service (n = 739)

Dependent variable	**Education**	**Age**	**Length of service**	**Constant**	**R^2**
$logW_{all}^{f}$ (n = 188)	0.132** (2.283)	0.014 *** (2.612)	0.013*** (2.738)	12.582*** (79.699)	0.365***
$logW_{all}^{m}$ (n = 551)	0.153*** (4.096)	0.003 (0.820)	0.019*** (5.843)	12.939*** (110.913)	0.235***
$logW_{d}^{f}$ (n= 34)	-0.059 (-0.349)	-0.009 (-0.450)	0.044*** (3.079)	13.237*** (17.028)	0.370***
$logW_{d}^{m}$ (n= 76)	0.246* (1.844)	-0.015 (-0.943)	0.040*** (3.644)	13.532*** (20.549)	0.224***

Note: t-statistics in brackets; level of significance: *** = 0.01, ** = 0.05, and * = 0.1.

Table 5 Gender Wage Gap Decomposition for the Ugandan Public Service

Function level	Gender wage gap (%)	Explained proportion	Unexplained proportion
Director	7.4	0.20	0.80
All	5.3	0.75	0.25

Notes

[1] The following ministries are included in the sample: Agriculture, Defence, Education, Energy, Finance, Gender Labour Development, Internal Affairs, Local Government, Public Service, and Tourism. Six outliers for the wage variable have been removed from the dataset, because the wages for these cases were at least double the wage of the highest wage for the remaining 739 cases.

[2] The weighted average share of women with an MA degree at senior and manager level is 35.6% whereas for males at these two middle management ranks it is 34.8%.

[3] The standard decomposition method was used, filling in the female averages of all variables into the male wage equation.

[4] In the foreword to the 2007 gender policy (Government of Uganda, 2007), the Minister writes: "The challenge ahead of us, therefore, is to ensure that we build on the best practices and measures articulated in this policy so as to achieve gender equality for women and men in Uganda. As we move forward, we now need to keep the gender mainstreaming process on track in order to accelerate the pace towards achieving our gender equality targets." The report, however, does include a monitoring and evaluation indicator that is helpful: the proportion of women in decision-making positions by sector and level.