

## Gender equality at work in sub-Saharan Africa: A case study of Mali's modern sector

Saliha DOUMBIA\* and Dominique MEURS\*\*

The past twenty years have witnessed a proliferation of economic studies, both theoretical and empirical, on wage discrimination against women. To an economist, such discrimination remains an elusive market failure because it means that employers pay workers different wages for doing the same job. According to Becker (1957), this behaviour on the part of employers is unsustainable in a competitive market because enterprises labouring under such prejudice will be less profitable than their competitors and get driven out of business.

This view, however, fails to take full account of the obstacles women are up against in the labour market, especially occupational segregation. Because some jobs are “closed” to them, women tend to fall back on other occupations in large numbers, thereby putting downward pressure on the wages they are paid (Bergmann, 1974). The theory of statistical discrimination offers an explanation for occupational segregation, based on the behaviour of enterprises (Arrow, 1973; Phelps, 1972). Lacking perfect information on job applicants, employers tend to assign them the average characteristics of the group to which they belong. As far as women are concerned, the employer's assumptions would be less dedication to the job and a stronger likelihood of career breaks. As a result, women get relegated to “mummy-track” jobs that can make them leave the labour market altogether and thus retroactively validate the employer's preconceptions. As this example suggests, an analysis of pay differentials between men and women needs to take account of the occupational differences between them, which result from a combination of employer prejudice and “off-the-job”

---

\* Employment and Training Observatory (OEF), Ministry of Labour, Mali, e-mail: oef@mail.datatec.toolnetorg. \*\* Research Team on Markets, Employment and Simulation (ERMES), University of Paris II, France, e-mail: meurs@u-paris2.fr.

constraints. Childcare arrangements and costs, scheduling and working time can indeed influence the behaviour of households and, consequently, human resource management.

Many empirical studies have endeavoured to measure the wage gap between men and women and establish its causes by distinguishing between structural effects – i.e. differences in, say, education, experience, hours of work, or type of job held – and effects that cannot be traced to differences in characteristics and which therefore reflect outright wage discrimination.

The average wage gap between men and women is sensitive to two factors. The first is the position of female employees in the occupational hierarchy of pay which, in turn, depends both on objective differences in productive characteristics and on discriminatory practices. The second factor is the dispersion of wages, which determines the extent to which women are penalized on account of their position in the distribution of wages. In other words, the greater the inequality in the overall structure of wages, the wider the pay gap between men and women (Blau and Kahn, 1995). Indeed, given two countries with a similar structure of employment by sex, the country with the widest wage dispersion will also be the one with the widest wage gap between men and women because women's unfavourable position in that country's hierarchy of pay is bound to have more serious financial implications than in the country with less overall wage inequality. But to what extent do such analyses of discrimination apply to developing countries?

Current development policies attach growing importance to the position of women in society, as a factor of economic development (Sen, 1995). Policy-makers stress the economy-wide benefits of improvements in women's living and working conditions, while devoting particular attention to educational and health policies that help women to gain wider access to the labour market. In the context of developing countries, research has tended to focus on the supply of female labour in relation to household characteristics. Researchers highlight the obstacles to women's entry into the labour market, particularly as regards wage employment in the formal sector. They also identify differences in behaviour depending on the type of labour market considered (formal or informal). Women's labour market participation also varies from one sector to another: it tends to be strong in agriculture, widespread in the informal sector and limited in the formal sector (Jacobsen, 1994). By contrast, studies on the demand side of the labour market are scarce. As a result, very little information is available on the human resource policies of enterprises, including in respect of wage differentials by sex.

Within the framework of an ILO support programme concerned with the application of the Equal Remuneration Convention, 1951 (No. 100), a special survey was conducted among the modern sector

enterprises of Mali in 2001.<sup>1</sup> This study, whose findings offer insights into the relevant areas of enterprise policy, is significant for two reasons. The first is methodological and lies in the compilation of a set of matching worker/enterprise data, i.e. information covering both a sample of workers and the enterprises that employ them.<sup>2</sup> The second reason is empirical: the study explores the structure of wages in the very special labour market of Mali's modern sector.

Among the developing countries, Mali stands out on account of the wide gender differences it displays. In education, for example, its female population is severely disadvantaged, particularly in rural areas. The female literacy rate is about 15 per cent, as against 23 per cent for the entire adult population. The male-female gap in school enrolment rates is still very wide, with 25 per cent for girls against 40 per cent for boys (APDF, 2000).

The modern commercial sector – as opposed to the informal and agricultural sectors – is made up of all those commercial enterprises that are subject to the labour code, apply collective agreements and file tax returns. In other words, it is that part of the market economy which tends to function on the Western model and, to be more precise, on the French institutional model. The modern private sector accounts for a very small share of Mali's total employment, with less than 3 per cent of the employed population (7 per cent if agriculture is excluded). But this sector has been growing rapidly, particularly since the privatization of major state enterprises that were formerly counted as part of the public sector (OEF, 1999).

As in other developing countries, the proportion of women employed in Mali's modern commercial sector is small, at around 20 per cent, whereas the rate of feminization of Mali's informal sector is high by comparison with that of other African countries, at 59 per cent of non-agricultural employment in 1996 (Charmes, 1998). In theory, women's educational disadvantage might be expected to channel them into the lowest-skilled jobs, and wage dispersion should result in a wide wage gap between men and women, irrespective of discrimination. However, aggregate enterprise data show that the male-female gap in average wages is relatively narrow (OEF, 1999). Another observation is that women's under-representation pairs up with strong occupational segregation and concentration of female employees in only a few occupation/skill categories at intermediate levels in the hierarchy.

---

<sup>1</sup> The survey was conducted by the Employment and Training Observatory (Bamako) within the framework of an ILO project for the promotion of equal remuneration in Mali. Data were gathered from the entire territory of Mali, except for the districts of Gao and Kidal (in the first case because the survey could not be conducted there and, in the second, because the data collected were unusable). For a complete report on this study, see Meurs (2001).

<sup>2</sup> The main advantage is that data on employee characteristics can be supplemented by precise information on the enterprises employing them.

This article examines that paradox. After presenting the data and methodology applied, it analyses individual workers' wages by sex and investigates the causes of the average pay gap between men and women in the private sector and in the civil service.

## Data and methodology

### *Data collection among private enterprises in the modern sector*

Empirical research on African labour markets generally tends to draw either on household survey data or on aggregate data from modern-sector enterprises. Household data are helpful to understand the determinants of labour supply and to identify constraints on women's economic activity related to household characteristics. But those data provide no information on employers and demand-side factors. The aggregate data supplied by enterprises give some idea of the structure of employment and wages, but they preclude any detailed analysis of the separate effects of personal characteristics.

This article draws on data collected from modern-sector enterprises in Mali in January and February 2001. The survey consisted of two parts: one questionnaire addressed to the enterprise, and another designed to collect information on a sample of its workers (a maximum of 15 per enterprise). Thus, on the one hand, survey staff had to get management or some designated department to fill out the "enterprise questionnaire" and, on the other hand, they had to conduct individual interviews of workers drawn by lot in order to fill out the individual questionnaires. In this way, the information on remuneration, training, family status, etc. was provided directly by the workers themselves, thereby generating better quality data on their personal characteristics. The survey questionnaires were designed in collaboration with the Employment and Training Observatory (OEF) and approved at a tripartite meeting of government, employer and trade union representatives held under the auspices of the International Labour Organization in December 2000. This meeting also gave employer and trade union representatives an opportunity to appreciate the significance of gender equality issues in the world of work and to acquaint themselves with the proposed methodology for evaluating the situation in Mali's enterprises.

Once the survey data had been processed, the database contained personal and occupational characteristics (sex, age, family status, nationality, education, experience, occupational status) and employer characteristics (size, economic sector, enterprise status, economic situation) for a sample of 1,054 workers distributed across 155 enterprises representing virtually every region of Mali. The data thus collected reflect the status of individuals as at October 2000.

### *Principal characteristics of the enterprises under study*

A major concern in the construction of the database was its representativeness of the modern sector. The only available basis for comparison was a survey the OEF had conducted in 1997, which covered virtually the entire modern sector in Mali. The sample of enterprises studied here was thus drawn from that earlier survey, subject to two specific requirements. The first was a minimum enterprise size of five employees, since the objective was to collect responses not only from the enterprises themselves but also from the workers they employed. Very small enterprises were therefore excluded from the scope of the survey. Although such enterprises are very numerous in Mali – 40 per cent of the enterprises surveyed in 1997 employed fewer than five workers – they employ only a small percentage of the modern-sector workforce. In particular, their exclusion reduces the representation of the retail and hotel businesses which are dominated by very small enterprises. Still, the enterprises included in the 2001 survey were mostly small, with 73 per cent of them employing fewer than 50 workers. The second requirement was to include a sufficiently large number of female employees for statistical analysis, bearing in mind that rates of feminization vary from one sector to another. Selection of the sample by sector was thus dictated by the male-female structure of employment although this approach obviously reduced the representation of mining and manufacturing industries relative to their actual weight in the country's economy. Box 1 compares the structure of the 2001 sample with the 1997 reference base.

Lastly, as regards the legal status of enterprises, it is worth noting that NGOs play an important part in Mali's modern sector. They account for 16 per cent of the enterprises surveyed; their rates of feminization are not significantly higher than those of commercial enterprises (see box 2).

### *Structure of employment by sex in the modern private sector*

Based on the “enterprise” questionnaire, table 1 shows the distribution of employees surveyed by broad occupational category (12,432 employees). Women appear to be particularly under-represented in the manual labour categories, especially in unskilled jobs. They are more strongly represented in supervisory jobs, accounting for a quarter of total employment in the junior executive and supervisor categories. Lastly, relative to the average feminization rate of 18 per cent across all occupations, women do not seem to be *particularly* under-represented in management jobs.

**Box 1. Comparison of the January 2001 sample with the enterprises surveyed in 1997 (OEF Survey of nearly all modern-sector private enterprises)**

	January 2001 Survey (based on 134 enterprises for which the data were complete)		1997 Survey (1 646 enterprises)
	Number	Percentage	Percentage
<b>Legal status</b>			
1. Public	23	17.2	12.0
2. Private	69	51.5	66.4
3. Mixed	10	7.5	5.3
4. NGO/Cooperative	22	16.4	15.6
5. Multinational organizations	3	2.2	0.7
6. Other	7	5.2	0
<b>Main business</b>			
Agriculture, livestock, fishery, forestry	5	3.7	4.0
Extractive industry	1	0.8	0.2
Manufacturing	16	11.9	8.0
Electricity, gas, water	5	3.7	1.2
Construction, public works	3	2.2	5.5
Retail trade, hotels	13	9.7	30.0
Public transport	23	17.2	9.3
Banking, insurance	11	8.2	9.0
Services	57	42.5	32.8
<b>Size (number of employees)</b>			
Fewer than 5	6	4.5	39.5
5 to 9	31	23.1	26.1
10 to 49	56	41.8	26.7
50 to 99	17	12.7	3.9
100 to 199	12	9.0	2.0
200 or more	12	9.0	1.8
<b>Region</b>			
Kayes	9	6.72	7.28
Koulikoro	11	8.21	13.94
Sikasso	11	8.21	10.16
Ségou	11	8.21	8.07
Mopti	8	5.97	6.04
Tombouctou	9	6.72	4.29
Gao	—	—	5.53
Kidal	—	—	0.28
Bamako	75	55.97	44.41

### Box 2. Average proportions of female employees, by enterprise legal status, sector, size and region (percentages)

Legal status	Sector		Size		Region		
Public	20.2	Agriculture, livestock, fishery, forestry	18.8	5 to 9	40.2	Kayes	26.0
Private	27.6	Extractive industry	0.1	10 to 49	24.1	Koulikoro	40.8
Mixed	19.4	Manufacturing	21.2	50 to 99	27.3	Sikasso	23.6
NGO Cooperative	30.4	Electricity, gas, water	9.6	100 to 199	17.1	Ségou	36.1
Multinational organizations	7.2	Construction, public works	24.9	200 or more	17.5	Mopti	29.6
Other	16.2	Retail trade, hotels	32.1			Tombouctou	18.3
		Public transport	25.1			Kidal	—
		Banking, insurance	36.0			Bamako	26.1
		Services	30.8			Gao	—

Note: The distribution is based on the 134 enterprises that answered the relevant four questions.

Source: OEF, January 2001 Survey of modern-sector enterprises.

Women's under-representation in the least skilled jobs is interesting. It reflects both their low participation in modern-sector wage employment and their level of education which, incidentally, is on average lower than that of the male population. That "feminine jobs" tend to be concentrated in lower management is thus somewhat paradoxical in the light of the overall pattern of female labour market participation.

Table 1. Structure of permanent workforce by occupational category and by sex

Occupational category	Men	Women	Total	Percentage of women
Management	231	55	286	19.2
Senior executives	1 182	232	1 414	16.4
Junior executives	1 612	496	2 108	23.5
Supervisors	1 622	584	2 206	26.5
Skilled workers (clerical)	1 921	440	2 361	18.6
Skilled workers (manual)	1 096	92	1 188	7.7
Semi-skilled workers (clerical)	660	75	735	10.2
Semi-skilled workers (manual)	1 127	181	1 308	13.8
Labourers	617	10	627	1.6
Apprentices	113	86	199	43.2
Total	10 181	2 251	12 432	18.1

Source: OEF, January 2001 Survey of modern-sector enterprises.

Indeed, if women's employment in the modern sector were to follow the structure observed across the labour force as a whole, there would be, on the one hand, a much higher rate of feminization and, on the other, over-representation of women in the least skilled jobs because of the male-female gap in educational attainment.

## Analysis of individual workers' remuneration

### *Average pay and wage distribution*

In the sample studied here, men's average monthly wage is 141,511 CFA francs (FCFA),<sup>3</sup> while women's is FCFA 119,552. The average wage of women is thus 84.5 per cent of that of men (see table 2), though the gap between male and female median wages is narrower (the corresponding proportion being 90.2 per cent).

However, the most salient feature of these statistics is the very wide dispersion of wages: the ratio between deciles D9 and D1 is 9.2 for men and 6.5 for women. This reflects both extremely wide wage inequality<sup>4</sup> and wider wage dispersion among men than among women. In order to contrast the male and female wage distributions, figure 1 shows the values of the male and female percentiles. While relatively narrow over the first half of the distribution, the gap then widens somewhat, with the male curve slightly above the female; then the two curves join up in the highest percentiles. In order to give a better idea of how close the wage distributions are to each other, the average female percentiles have been recalculated in terms of the male distribution. This is done by assigning to each of the values of the female percentiles the corresponding percentile from the male distribution. For example, the value of FCFA 200,000 – which is that of the eighty-fifth percentile

Table 2. Average male and female wages (regular employees, excluding apprentices)

	Number	Average wage	Standard deviation	Median	D9/D1 ratio	Minimum	Maximum	Median wage F/M (%)
Men	608	141 511	151 588	100 000	9.2	15 000	1 800 885	
Women	446	119 552	120 100	90 264	6.5	12 500	1 211 143	90.2

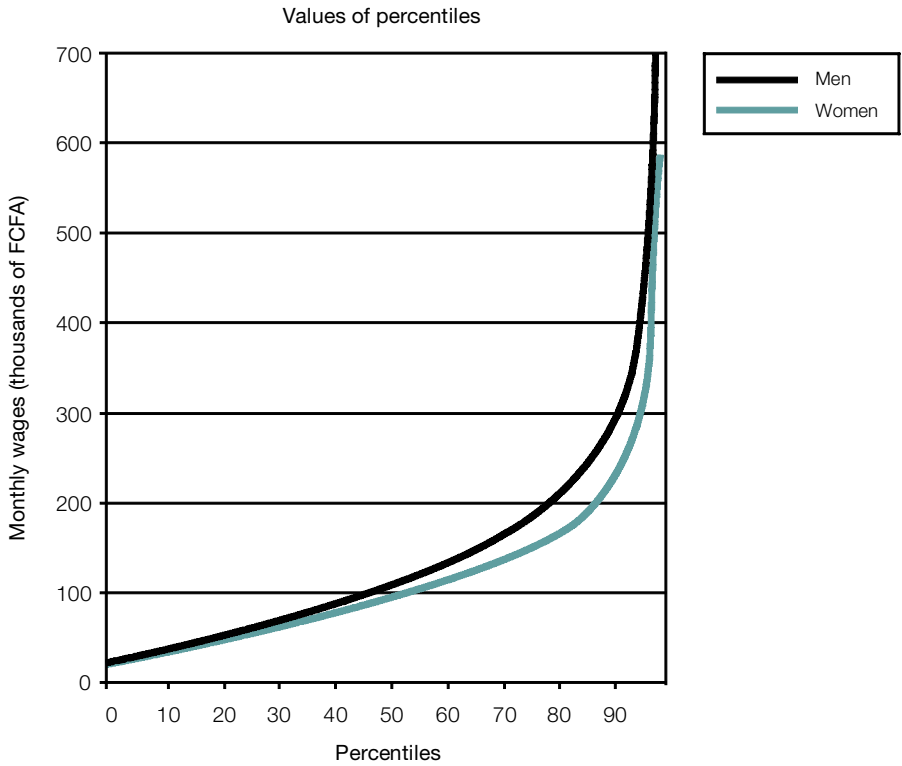
Source: OEF, January 2001 Survey of modern-sector enterprises.

<sup>3</sup> The CFA franc, which is the currency of several African countries, is pegged to the euro (1 euro = 655.96 CFA francs; 1000 CFA francs = 1.52 euro).

<sup>4</sup> By way of comparison, the D9 to D1 ratio in France's private sector is 3.1, which puts France among the industrialized countries with relatively high inequality. Norway and Sweden, with a ratio of 2, are considered the most egalitarian, whereas the United States, with a ratio of 4.5, ranks among the countries with the widest wage inequality (Piketty, 1997).



Figure 1. Comparison of male and female wages



for women – corresponds to the seventy-fifth percentile in the male distribution. The next step is to calculate the average of these transposed “male” percentiles: the closer the average comes to 50, the narrower the gap between the wage distributions. In this case, it works out at 45.3, showing that women’s position in the wage scale is not very different from men’s.<sup>5</sup>

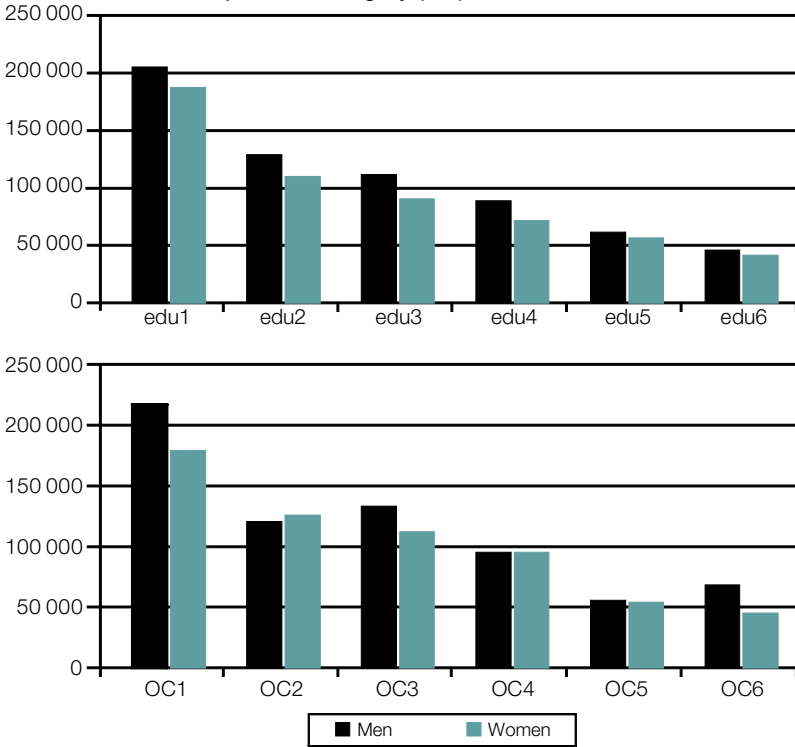
### *Wage gap by level of education and occupational category*

To what extent is the distribution of wages determined by educational and occupational characteristics?

Figure 2 clearly shows that average wages go up with the level of education. While women appear to be paid slightly less than men for

<sup>5</sup> Comparing wage gaps across the industrialized countries, Blau and Kahn (1995) find values of 33.2 and 28.2 for the United States and Sweden, respectively. In Sweden, women in wage employment are thus at a greater disadvantage than in the United States in terms of their position in the wage scale, though Sweden has a small male-female gap in average wages because of its narrow dispersion of wages.

Figure 2. Average male and female wages in FCFA by educational level (edu) and occupational category (OC)



any given level of education, wage increments from one level to another are of the same order of magnitude for women as they are for men.

The link between the scale of wages and occupational categories (OC) is less obvious. Managerial and senior executive occupations (OC1) carry markedly higher pay than do the other categories; at the other extreme, the lowest-paid jobs are those of semi-skilled and unskilled workers (OC5 and OC6). However, the wages of the intervening categories of junior executives, supervisors and skilled workers (OC2, OC3 and OC4) are relatively close together and do not display any systematic disadvantage for women. The explanation for this somewhat puzzling wage structure lies in the definition of qualification levels and grades within the occupational hierarchy. In fact, an occupational classification programme covering all Malian enterprises is currently under way.

### *Analysis of the average male-female wage gap*

The next step was to carry out a standard econometric analysis of wage structure in order to estimate the effects of personal characteristics

and thus find out whether women are discriminated against, all else being equal. To that end, wage equations were estimated for men and for women, using level of education, occupational experience, number of children and nationality as explanatory variables (see table 3). Then, using combined variables, the differential effects of these personal characteristics were compared between men and women.

The basic model, which was estimated for all employees, highlights the significant effect of education, as might have been expected from the examination of average wages by level of education. It also shows that the coefficient for work experience – measured as the interval between the date of exit from the educational system and the date of the survey – is both positive and significant, albeit more so for the female sample than for the male sample. Another finding is that non-Africans working in Mali earn 70 per cent more than their Malian counterparts. Lastly, while the estimated coefficient for the “female” variable is admittedly negative (–6 per cent), its significance is weak.

The earnings equations were also estimated separately for men and for women. Here, the estimated coefficients for men and for women were found to differ only slightly. In order to verify this finding, combined variables for education, experience and nationality were introduced into a third specification (see table 4). The estimated coefficients for these combined effects are not significant. In other words,

Table 3. Earnings equation: Human capital model (regular employees, excluding apprentices)  
Dependent variable: Log of monthly wage

Independent variables	1. Total		2. Men		3. Women	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	<b>10.342</b>	106.43	<b>10.447</b>	78.81	<b>10.194</b>	69.77
Female (1)	–0.062	–1.51	—	—		
Post-secondary academic education (2)	<b>1.410</b>	19.17	<b>1.380</b>	14.95	<b>1.442</b>	11.22
Technical and vocational education (2)	<b>0.758</b>	10.60	<b>0.763</b>	8.36	<b>0.751</b>	6.12
Secondary education (2)	<b>0.577</b>	6.39	<b>0.563</b>	4.86	<b>0.586</b>	3.90
Primary 2 (2)	<b>0.308</b>	3.63	<b>0.304</b>	2.69	<b>0.322</b>	2.34
Non-African (3)	<b>0.721</b>	3.35	<b>0.734</b>	2.68	<b>0.663</b>	1.87
Experience	<b>0.019</b>	2.65	<i>0.014</i>	1.37	<b>0.023</b>	1.93
Experience <sup>2</sup> * 100	0.011	0.55	0.015	0.64	0.000	0.42
No children (4)	–0.003	–0.07	–0.079	–1.05	0.082	1.10
Observations		1 050		605		446
Adjusted R <sup>2</sup>		0.338		0.325		33.09

(1) Reference: male. (2) Reference: primary 1 and illiterate. (3) Reference: African. (4) Reference: one or more children.

Table 4. Combined effects

Dependent variable: Log of monthly wage (regular employees, excluding apprentices)

	Coefficient	t-value
Constant	10.353	108.39
Female (ref.: male)	-0.110	-0.66
Post-secondary academic education	<b>1.401</b>	15.73
Technical and vocational education	<b>0.792</b>	9.00
Secondary education	<b>0.572</b>	5.13
Primary 2	<b>0.297</b>	2.74
Non-African	<b>0.718</b>	2.72
Experience	<b>0.021</b>	6.64
<i>Female and</i>		
Post-secondary academic education	0.024	0.15
Technical and vocational education	-0.009	-0.06
Secondary education	0.065	0.34
Primary 2	0.039	0.22
Non-African	-0.027	-0.06
Experience	0.002	0.37
Number of observations	1 050	
Adjusted R <sup>2</sup>	0.332	

women's educational qualifications and work experience do not systematically command lower wages than those of men.

At this point, it thus appears that wage discrimination *per se* is not the result of differential returns to personal characteristics. If only the basic variables are taken into account (education, experience), the results do show women to be at a disadvantage (-6 per cent), but not a very significant one.

Could this wage gap be attributed to enterprise characteristics? To answer this question, the initial earnings equation was expanded with a range of variables representing occupational category and enterprise characteristics, namely region, legal status, industry, size, unionization, client profile and profitability (see table 5).

Before examining the "female" variable and comparing the male and female equations, a few comments need to be made on the overall structure of wages that emerges from the general equation. Indeed, the survey made it possible to take a broad approach to the determinants of wage structure in Mali's private sector. The quality of the estimation is significantly enhanced by the introduction of the additional variables, with the correlation coefficient increasing to 49 per cent. Another ob-

**Table 5. Earnings equation controlling for job category and enterprise characteristics**  
Dependent variable: Log of monthly wage

Variable	1. Total		2. Men		3. Women	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	<b>10.131</b>	85.43	<b>10.124</b>	68.92	<b>9.963</b>	44.07
Female (ref.: male)	-0.047	-1.28				
<i>Ref.: primary 1 and illiterate</i>						
Post-secondary academic education	<b>0.834</b>	9.7	<b>0.747</b>	7.06	<b>0.942</b>	6.22
Technical and vocational education	<b>0.469</b>	6.48	<b>0.441</b>	4.98	<b>0.464</b>	3.57
Secondary education	<b>0.367</b>	4.21	<b>0.348</b>	3.28	<b>0.322</b>	2.09
Primary 2	<b>0.252</b>	3.25	<b>0.257</b>	2.66	0.234	1.71
Non-African (ref.: African)	<b>0.613</b>	3.22	<b>0.695</b>	2.99	0.499	1.49
Experience	<b>0.014</b>	2.22	0.014	1.79	0.015	1.41
Experience <sup>2</sup> * 1 000	0.000	0.61	0.000	0.32	0.000	0.46
<i>Ref.: semi-skilled manual workers and labourers</i>						
Managers and senior executives	<b>0.679</b>	6.61	<b>0.710</b>	5.97	<b>0.679</b>	3.03
Junior executives	<b>0.445</b>	4.6	<b>0.415</b>	3.72	<b>0.562</b>	2.62
Supervisors and skilled manual workers	<b>0.365</b>	3.81	<b>0.343</b>	3.12	<b>0.488</b>	2.28
Skilled clerical workers	<b>0.269</b>	2.83	<b>0.232</b>	2.05	0.408	1.95
Semi-skilled clerical workers	0.021	0.2	-0.032	-0.26	0.117	0.51
<i>Ref.: other regions</i>						
Koulikoro	<b>-0.216</b>	-3.26	<b>-0.181</b>	-2	<b>-0.263</b>	-2.69
<i>Ref.: services</i>						
Manufacturing, construction and public works	-0.062	-1.13	0.115	1.6	<b>-0.299</b>	-3.61
Retail trade, hotels	-0.092	-1.18	-0.085	-0.87	-0.050	-0.39
Public transport	-0.068	-1.12	-0.075	-0.94	-0.048	-0.52
Banking, insurance	<b>0.223</b>	3.13	<b>0.428</b>	4	0.003	0.04
NGO (ref.: non-NGO)	<b>0.308</b>	5.9	<b>0.390</b>	5.66	<b>0.205</b>	2.51
<i>Ref.: fewer than 10 employees</i>						
10 to 49 employees	<b>0.114</b>	1.98	0.149	1.94	0.123	1.39
50 to 99 employees	-0.056	-0.78	-0.068	-0.69	0.057	0.53
100 to 199 employees	<b>-0.232</b>	-2.97	<b>-0.306</b>	-2.89	-0.049	-0.42
200 or more employees	<b>0.293</b>	3.63	<b>0.272</b>	2.53	<b>0.379</b>	3.1
Trade union presence (ref.: no union)	<b>0.339</b>	6.57	<b>0.340</b>	5.13	<b>0.303</b>	3.66
Local market (ref.: national and international)	<b>-0.216</b>	-4.93	<b>-0.281</b>	-4.9	-0.111	-1.65
Intermediate/low profitability (ref.: high profitability)	<b>-0.138</b>	-3.01	-0.115	-1.86	-0.108	-1.55
Observations	1 050		605		444	
Adjusted R <sup>2</sup>	48.66		52.71		44.26	

ervation is that occupational categories become significant (except for “semi-skilled clerical workers” whose wages do not differ significantly from those of semi-skilled manual workers and labourers). In other words, occupational categories have a separate effect on the wage scale determined by educational levels.

As regards enterprise characteristics, NGO status is associated with higher wages relative to the other status categories. Furthermore, work in the banking and insurance sectors pays significantly more than work in other service industries. On the whole, the other sectors tend not to compare very favourably with services. Also observed is a marked unionization effect: the presence of a trade union has a significant positive effect on wages. Lastly, the characteristics of the market in which the enterprise operates also have an effect on wages: if the enterprise's market is local – as opposed to nationwide or export-oriented – or if the enterprise reports low profitability, the wages it pays are lower than those paid by other enterprises.

Once all of the above characteristics have been factored in, the estimated coefficient for the “female” variable is not significantly different from zero. This finding puts Mali in an unusual position in the light of the various other studies conducted on wage discrimination.

When the estimations are calculated separately for men and for women, it turns out that the coefficients do differ for a few of the enterprise characteristics, but they do not point to a systematic disadvantage for women. Thus, women working in the Koulikoro area appear to earn less than their counterparts elsewhere; women employed in manufacturing, construction and public works are paid significantly less than those in the service sector; and the higher wages observed in the banking and insurance sector appear to apply only to men (relative to male employees in other service industries). Lastly, female employees are better off in large enterprises – an effect that does not benefit male employees.

This analysis leads to the conclusion that the negative coefficient observed for the “female” variable in the basic model resulted primarily from the omission of occupational and enterprise characteristics. In other words, the sample under study shows no indication of wage discrimination as such. Aside from structural characteristics (education, experience), the average wage gap is primarily attributable to the distribution of men and women between enterprises with different characteristics, whereby women tend – more typically than men – to work in “less advantageous” enterprises.

## The civil service

In January 2001, Mali's civil service (state administration) comprised 33,905 civil servants – a workforce as large as that of the modern sector subject to the labour code. It therefore seemed to make sense to supplement the foregoing study of the commercial sector with an equivalent analysis of the civil service. The methodology, however, had to be adapted to the special characteristics of this segment of the modern sector. In particular, the civil service's human resource management policy is characterized by the following three features:

- recruitment into the civil service has been subject to a competitive examination since 1983, and promotion to a higher category within the service is generally based on an internal competition;
- civil servants are assigned to hierarchic categories according to their level of education;
- civil service salaries are set according to an index-based scale specific to each government administration, with index-point increments within a given grade depending largely on seniority. On this scale, the basic salary is calculated by multiplying the appropriate number of index points by FCFA 292.5. The basic salary is then supplemented by bonuses, paid by the relevant ministry, to make up total remuneration.

This system of human resource management is in principle less prone to wage discrimination. Recruitment by anonymous written examination guarantees the impartiality of grading. And the index-based salary scale automatically translates into equality of basic salaries for any given number of index points. Seniority, as a determinant of career progression, is also a mechanism that works against lower wages for women. If there proved to be any actual discrimination in pay, it could only come from differences in the bonuses paid to civil servants with the same number of index points on the wage scale; women would be discriminated against if they were more typically employed in jobs carrying lower bonus rates.

However, the above procedures fail to protect female civil servants against occupational segregation. To begin with, the unequal enrolment of men and women in education obviously translates into over-representation of male candidates in competitive examinations for admission to the higher categories in the civil service hierarchy. Then, there are several reasons why women may find it harder than men to qualify for internal promotion (whether by internal competitions or by merit). The reasons may include difficulty in attending post-educational training (the lower the initial educational level, the more difficult the courses are to follow), difficulty in taking on responsibilities because of family constraints or risk-aversion, and supervisors' preference for promoting men.

The significance of such factors was evaluated using two additional sources of information. First, the National Civil Service Directorate provided the distribution by category and by sex of Mali's entire civil service as at 17 January 2001. This gives an initial idea of hierarchic distribution of civil servants by sex. Second, the Payroll Office – which administers payments to the entire civil service – provided pay slip particulars on the sex, hierarchical category, salary scale index points, bonuses and personnel numbers of the staff of the Ministry of Trade, Industry and Handicrafts for the year 2000. This information made it

possible to measure the average wage gaps between men and women for this subset of the civil service.

### *Women's representation in the civil service*

Table 6 shows the distribution of Mali's civil servants by sex and by major category. Category A is equivalent to senior executive (Master's degree or higher attainment); category B, to junior executive (B2 requires a post-secondary technical degree or equivalent qualification; and B1, a diploma in a technical discipline or equivalent qualification); category C is equivalent to skilled worker (vocational training certificate); and category D consists of civil servants without any qualification (this category is being phased out). The first three columns in table 6 show the absolute numbers of civil servants (female, male, total). The fourth column shows the proportion of women in each of the major hierarchic categories. The last column is an indicator of over/under-representation (ratio of the proportion of women in the category to the proportion of women overall).

Women account for a quarter of Mali's civil servants – a higher proportion than that observed in the modern private sector, although eligibility for the civil service recruitment examination now requires a minimum level of education (recruitment to category D has been discontinued). A possible explanation is that the competitive examination procedure helps women to overcome obstacles to their recruitment. The fact that many civil service jobs are based in urban areas – particularly in Bamako – may also be a factor contributing to higher levels of female employment. A third factor may be that women encounter fewer cultural barriers in the public sector than in the private sector.

The distribution of civil servants by hierarchic category highlights striking discrepancies between women and men. Women appear to be under-represented in category A (at 10 per cent) and “over-represented” in categories B1 and C, where they account for 39 and 36 per cent of the staff, respectively, i.e. twice their representation in the civil service as a whole. Lastly, in category B2, which is the largest in the civil service, women account for 22 per cent of the entire staff, a proportion reflecting their overall average representation.

These imbalances in male/female staffing levels may result from women's lower entry-level educational attainment (there are potentially fewer female applicants for category A posts), or from obstacles to internal promotion, or from a combination of those two factors. Whatever the case, the outcome is lower salaries for women in the civil service. The extent of the male/female gap in average salaries then depends on the salary differentials between the various civil service categories.



Table 6. Distribution of civil servants by sex and major hierarchic category (all titularized staff as at 17 January 2001)

Category	Women	Men	Total	Percentage of women	Deviation from average
A	775	6 808	7 583	10.2	0.4
B1	1 664	2 625	4 289	38.8	1.6
B2	3 510	12 390	15 900	22.1	0.9
Total B	5 174	15 015	20 189	25.6	1.1
C	2 215	3 901	6 116	36.2	1.5
D	6	11	17	35.3	1.5
<b>Total</b>	<b>8 170</b>	<b>25 735</b>	<b>33 905</b>	<b>24.1</b>	<b>1.0</b>

Source: National Civil Service Directorate.

### Salary differentials

In order to find out about salary differentials between men and women in the civil service, a specific survey was conducted in the Ministry of Trade, Industry and Handicrafts. This Ministry was selected in cooperation with the Payroll Office and the OEF, for a number of reasons. It is a comparatively small Ministry; it is not particularly male-dominated; and it seemed to present a case without any special characteristics, making it representative of the civil service as a whole. Another advantage of focusing on a single ministry is that the range of jobs under study is more consistent than would have been the case if the entire civil service had been considered. In particular, it can reasonably be assumed that job content and skill requirements are roughly equivalent for a given number of salary index points and level of seniority, whatever the department within the Ministry. Of course, the drawback of this approach is that it captures only part of the explanation for average salary differentials – that relating to women's position within a given ministry (i.e. intra-ministerial differences) – and fails to take account of differences in male-female distribution between different ministries (i.e. inter-ministerial differences).

In order to concentrate on core staff, it was decided to consider only titularized civil servants. Contract workers (not officially civil servants) and interns are therefore excluded from the analysis. Barring three cases in which the respondents failed to specify their sex, the survey sample consisted of 137 civil servants of the Ministry of Trade, Industry and Handicrafts in 2000. Their distribution by sex and by category is shown in table 7.

The rate of feminization, being slightly above one-third, is markedly higher than that observed for the civil service as a whole. The sample displays the same imbalance in hierarchic distribution as that observed for

Table 7. Civil servants' distribution by sex and major hierarchic category (titularized staff of the Ministry of Trade, Industry and Handicrafts, 2000)

Category	Men	Women	Total	Percentage of women	Deviation from average
A	58	13	71	18.3	0.53
B	27	16	43	37.2	1.08
C	5	18	23	78.3	2.28
<b>Total</b>	<b>90</b>	<b>47</b>	<b>137</b>	<b>34.3</b>	<b>1</b>

Source: Payroll Office.

the entire civil service, albeit with a slightly higher proportion of women in category A and strong over-representation of women in category C.

Annual salaries average FCFA 1,630,515 for male civil servants and FCFA 1,128,995 for female civil servants. This translates into a gap of 31 per cent in average pay to the advantage of men (see table 8).<sup>6</sup> By comparison with the private sector, the dispersion of civil service salaries appears to be much narrower: the D9/D1 ratio is 3.7 across the entire sample. Contrary to what proved to be the case in the private sector, the dispersion of civil service salaries is greater for women than it is for men. This probably has something to do with the capping of top-level salaries (paid to those at the top of the civil service hierarchy), which may guard against over-inflation of top-level male salaries (as opposed to what happens in the private sector).

Examination of the data by category shows that the pay gap still favours men, though much less so than in the private sector, with a maximum of 11 per cent in category B. The overall gap in average pay thus appears to result primarily from the rigid salary hierarchy between the three categories, coupled with women's under-representation in category A (see table 9).

What remains to be examined is whether bonuses play a part in producing these annual salary differentials. On average, women enjoy higher bonus rates than their male counterparts, except in category A (see table 10). Moreover, bonus rates are higher in categories C and B. Therefore, annual bonuses cannot be blamed for wage gaps; on the contrary, they contribute to equalizing the average annual salaries of men and women.

At this stage, the most likely explanation is that the observed differential between male and female average salaries reflects differences in the structure of employment by hierarchic category. The outcome would thus appear to be determined by occupational segregation, not pay discrimination *per se*. In order to find out whether this was the case,

<sup>6</sup> Male and female monthly salaries average FCFA 135,876 and 94,083, respectively. Both figures are significantly lower than those found for the sample of private sector employees.

**Table 8. Indicators of annual pay dispersion in FCFA, 2000**  
(titularized staff of the Ministry of Trade, Industry and Handicrafts)

	Total	Men	Women	Female/Male gap (%)
Average	1 458 460	1 630 515	1 128 995	69.2
D9	2 430 290	2 650 290	2 069 256	78.1
Median	1 419 410	1 537 260	906 360	59.0
D1	662 904	906 360	573 360	63.3
D9/D1	3.7	2.9	3.6	

Source: Payroll Office.

**Table 9. Average annual pay in FCFA by category and by sex, 2000**  
(titularized staff of the Ministry of Trade, Industry and Handicrafts)

	Total	Men	Women	Female/Male gap (%)
A	1 938 578	1 943 489	1 911 210	98.3
B	1 077 276	1 124 259	997 994	88.8
C	692 091	733 797	680 507	92.7

Source: Payroll Office.

**Table 10. Average bonus rates by sex and by category, 2000**  
(titularized staff of the Ministry of Trade, Industry and Handicrafts)

	Total	Men	Women	Female/Male gap (%)
Total	12.4	11.4	14.3	125.4
A	11.0	11.2	10.4	92.9
B	11.7	10.9	13.2	121.1
C	17.8	16.5	18.2	110.3

Source: Payroll Office.

we estimated an earnings equation, in which sex, hierarchic category, bonus rate and a variable called “order” were factored in as explanatory variables for the level of remuneration. The “order” variable is the personnel number assigned to each new civil servant at the time of recruitment: the lower the number, the greater the seniority. This variable serves as a proxy for seniority (see table 11).

The result of this estimation is unambiguous. As expected, the estimated coefficients for the hierarchic categories are significant and positive; and the same goes for the bonus rate. The “order” variable is significant and negative: all else being equal, the higher the number assigned to this variable, the lower the salary – a logical outcome given the nature of this variable, because a high personnel number implies recent entry into the civil service. By contrast, the sex variable, albeit positive, is not significant.

Table 11. Earnings equation: Titularized staff of the Ministry of Trade, Industry and Handicrafts, 2000  
Dependent variable: Log of annual pay

Exogenous variables	Total		Men		Women	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	<b>13.70</b>	218.03	<b>13.70</b>	132.89	<b>13.80</b>	139.84
Sex (ref.: female)	0.03	0.9	—		—	
Category A	<b>0.94</b>	18.35	<b>0.96</b>	10.41	<b>0.93</b>	13.64
Category B	<b>0.41</b>	8.01	<b>0.44</b>	4.63	<b>0.37</b>	6.08
Category C (ref.)	—	—				
Bonus rate	<b>0.01</b>	6.49	<b>0.01</b>	6.01	<b>0.01</b>	2.18
Order * 100	<b>-0.08</b>	-10.73	<b>-0.07</b>	-8.62	<b>-0.08</b>	-6.03
N	137		90		47	
Adjusted R <sup>2</sup> (*100)	84.5		77.6		87.2	

Note: The coefficients in bold are significant at the 1 per cent level.

Source: Payroll Office.

To check whether this result concealed differential effects of these variables between men and women, a second set of estimations was calculated separately for men and women, following the same method as that used earlier for the private sector. The resulting coefficients were all significant, though they did not differ between men and women (the statistical test is not detailed here).

In other words, if occupational category, seniority and bonus rate are taken into account, there is no significant difference between male and female salaries in this sample of civil servants.

## Concluding remarks

The foregoing analysis of patterns of female employment and wages in Mali's public and modern private sectors highlights the following points:

- women's weak labour force participation in the modern sector, accounting for only about 20 per cent of the sector's wage employment;
- concentration of female employment at intermediate skill levels;
- wide dispersion of wages, both male and female;
- a pay gap between men and women averaging 15 per cent in the modern private sector and 30 per cent in the civil service;
- a wage structure showing high returns to education and continuing training;
- the difficulty of getting a clear picture of the hierarchy of pay by occupational category;

- in the public and modern private sectors alike, the male-female gap in average pay is entirely explained by wage differentials linked to the structure of employment (civil service) or enterprise characteristics (private sector).

What now remains to be established is the actual cause of the underlying occupational segregation. The modern sector is where women seem to experience the greatest difficulty in finding employment since they account for a much larger share of employment in the informal sector and in agriculture (over 60 per cent). But the modern sector only employs about 3 per cent of the employed economically active population – 7 per cent of the combined workforce of the informal and formal sectors excluding agriculture (OEF, 1999). In other words, this article has focused on a minute fraction of the currently employed economically active female population. Nonetheless, this detracts nothing from the crucial importance of promoting occupational equality because the modern private sector is growing rapidly and should eventually spread across the entire economy, of which it probably constitutes the most efficient sector at present. Modern sector growth without female labour would put Mali's economy at a disadvantage.

The low incidence of wage employment among female labour force participants probably owes more to cultural circumstances than it does to management decision-making. Of course, if enterprises were actively to encourage women's recruitment, vocational training and promotion, they might have a stronger impact on attitudes towards work by sending a signal to the economically active population. It could also be argued that modern-sector employment growth would help to get more women into wage employment because enterprises needing to recruit workers may then be less reluctant to hire women. But while demand-side policies may well prepare the ground for greater occupational equality, they may not, on their own, suffice to bring about any significant increase in female employment in the modern sector.

The fact is that moving into wage employment – and, more generally, into market-based work – has wider implications for women than it does for men because of the different roles society assigns to them (Quiminal, 2001). In the circumstances, all that can be advanced are a few hypotheses which would need to be verified by a specific household survey. By comparison with agricultural or informal-sector work, enterprise-based wage employment generates an income that is not linked to the domestic sphere and/or family-based work; it implies a clear separation between productive market-based work and non-market domestic work (unlike agricultural work that allows women to keep an eye on their children while they work); and, lastly, it imposes a choice between occupational obligations, on the one hand, and social obligations towards a husband or family network (like staying at home

to look after a sick husband), on the other (Traoré, 1997). All of this would require a reconfiguration of the gendered division of labour that would not be without implications for women's husbands and families. A man whose wife takes up wage employment may well fail to see any direct advantage in her doing so to the extent that it is, officially at least, up to the male head of household to provide for the household's financial needs. From this perspective, any cash that a married woman might earn by working in the modern sector would contribute nothing or very little to making the household better off; meanwhile, the burden of domestic work to be done would remain undiminished. A likely outcome of such reasoning may be to discourage girls from pursuing their education and women from pursuing a steady career. If so, correcting the occupational inequality observed in the modern sector of Mali's economy probably calls for a wide-ranging debate on the factors that hamper the development of female wage employment in Malian society, coupled with a proactive government policy to increase women's participation in the modern-sector economy.

## References

- APDF (Association pour le progrès et la défense des droits des femmes maliennes). 2000. *La situation de la femme malienne*. Paris, Friedrich Ebert Stiftung.
- Arrow, Kenneth. 1973. "The theory of discrimination", in O. Ashenfelter and A. Rees (eds.): *Discrimination in labor markets*. Princeton, Princeton University Press, pp. 3-33.
- Becker, Gary Stanley. 1957. *The economics of discrimination*. Chicago, University of Chicago Press.
- Bergmann, Barbara R. 1974. "Occupational segregation, wages and profits, when employers discriminate by race and sex", in *Eastern Economic Journal* (Trenton), Vol. 1, Apr.-July, pp. 103-110.
- Blau, Francine D.; Kahn, Lawrence M. 1995. "The gender earnings gap: Some international evidence", in Richard B. Freeman and Lawrence B. Katz (eds.): *Differences and changes in wage structure*. Chicago, University of Chicago Press, pp. 105-143.
- Charmes, Jacques. 1998. *Emploi et qualifications au Mali*. OEF Report. Bamako, OEF. Feb.
- Jacobsen, Joyce P. 1994. *The economics of gender*. Oxford, Blackwell.
- Meurs, Dominique. 2001. *Egalité de rémunération entre les hommes et les femmes dans le secteur moderne au Mali*. DECLARATION/WP/5/2001. Geneva, ILO. [Available online at: <http://www.ilo.org/public/english/standards/decl/publ/papers/mali.pdf>]
- OEF (Observatoire de l'emploi et de la formation). 1999. *Bilan de l'emploi - 1997 - Etude sur le secteur moderne*. Bamako.
- Pelphs, Edmund S. 1972. "The statistical theory of racism and sexism", in *American Economic Review* (Princeton, NJ), Vol. 62, Dec., pp. 659-661.
- Piketty, Thomas. 1997. *L'économie des inégalités*. Paris, Repères, La Découverte.
- Quiminal, Catherine. 2001. "Traditions, migrations et innovation: la construction d'un marché dans la région de Kayes", in *Journal des anthropologues* (Montrouge), No. 84, pp. 61-76.
- Sen, Amartya. 1995. *Inequality reexamined*. Cambridge, MA, Harvard University Press.
- Traoré, Maïmouna. 1997. *L'offre de travail des femmes en milieu urbain: cas de Bamako*. Dakar, Université de Dakar.