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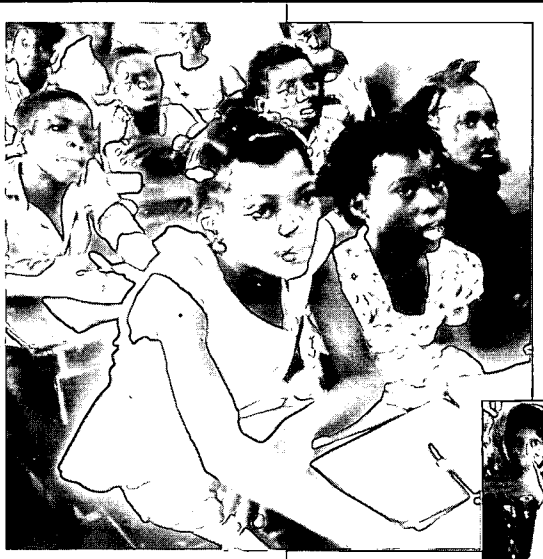
ABSTRACT

Although concern over labor market inequities in South Africa has focused almost exclusively on racial differences in labor force participation and pay, gender also has been important, since women do not enjoy the same access, opportunities, and rewards in the formal labor market as men, especially among races traditionally subject to discrimination. This report used data from the 1994 October Household Survey (OHS) to study gender differences in formal labor market participation and pay and to determine the factors that underlie the differences. The report centers on four questions: (1) Are there substantial differences in women's and men's labor market participation? (2) Do different factors influence their participation? (3) Is there a significant gender wage gap? and (4) Is there evidence that gender wage discrimination is widespread? The data are sufficiently detailed to analyze workers' educational levels, age, occupations, race, general economic status, and earnings; they also support econometric analyses that identify the most important determinants of participation and pay, and the extent to which gender pay differentials might be due to discrimination, as well as identifying issues on which more study is needed and suggesting possible policy interventions. Following an introduction and definitions (Section 1), the report contains these sections: (2) "Gender and Labor Force Participation"; (3) "Gender and Labor Market Wages"; and (4) "Summary of Findings and Policy Implications." (Contains 16 tables, 3 boxes, 7 figures, and 16 references. Extensive data are appended.) (BT)

Women Workers in South Africa

Participation, Pay and Prejudice in the Formal Labor Market

Carolyn Winter



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Women Workers in South Africa: Participation, Pay and Prejudice in the Formal Labor Market

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Table of Contents

Tables

Boxes

Figures

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SECTION I

Introduction

Concern over labor market inequities in South Africa has focused almost exclusively on racial differences in labor force participation and pay. Given the history of apartheid and its effect on education and employment, this has been reasonable. However, gender has also been important, since women do not enjoy the same access, opportunities, and rewards in the formal labor market[1] as men, especially among races traditionally subject to discrimination.

This report used data from the 1994 October Household Survey (OHS) to study gender differences in formal labor market participation and pay and determine the factors that underlie the differences. Race, of course, is central to the discussion, although it is considered only to the extent that it is associated with gender disparities. The report centers on four questions: (i) Are there substantial differences in women's and men's labor market participation? (ii) Do different factors influence their participation? (iii) Is there a significant gender wage gap? and (iv) Is there evidence that gender wage discrimination is widespread?

It is important to address differences in labor market participation and pay for various reasons. The first is equity. Participation is usually highly and positively correlated with education, which is the surest indicator of human capital. Thus, differences in participation rates and pay, which are substantially lower for women, could be explained by differences in educational attainment. Yet, South African women's average attainment is essentially the same as men's (women average 6.4 years and men 6.6 years), which suggests that other factors are involved. Indeed, discrimination against women should certainly be viewed as a causal factor, especially as it is also widespread in other countries.[2]

The second relates to poverty concerns, due to the obvious link between access to and earnings from formal labor market participation. If one group is unfairly disadvantaged, it will have less opportunity to sell its most important asset—human capital—and will more likely be poor.

The third involves economic concerns. Although the country has invested heavily in education (roughly equal amounts for females and males), the labor force participation rate is especially low in South Africa: 27 percent for women (with average weekly pay of R279.46) and 43 percent for men (average weekly pay of R318.92). Moreover, the differences indicate that returns to investments in female education are not being realized and represent significant economic costs. This is particularly true if gender discrimination explains the differences.[3]

It should be noted that the extremely low participation rate, which is even lower for the different racial groups (other than Whites), is due to the high and endemic unemployment; and,

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[1] A formal sector worker is defined as individuals from 15 to 60 who in the Household Survey reported they were employed, worked in a specific occupation from 5 to 80 hours a week, and earned a wage. To control for "outliers," those whose reported wages fell in the top and bottom standard deviation were excluded from the sample.

[2] See, for instance, Winter (1994) and Psacharopoulos and Tzannatos 1992.

[3] The costs of labor market discrimination to economic output were estimated for the U.S. in the 1970s and were shown to be substantial. See, for instance, James (1975) and Congress of the United States 1977.

current estimates of growth for the next few years do not foresee any significant change. Therefore, all policy recommendations about eliminating discriminatory practices in the labor market must be considered in this broader context of widespread joblessness.

This report uses data from the OHS to examine the gender dimensions of formal labor force participation and pay. The data are sufficiently detailed to analyze workers' educational levels, age, occupations, race, general economic status, and earnings. They also support econometric analyses that identify the most important determinants of participation and pay, and the extent to which gender pay differentials might be due to discrimination. The findings identify issues on which more study is needed and suggest possible policy interventions.

Gender discrimination in the labor market can take many forms, and some appear to have more pernicious effects than others. The most common types include:

- **Wage discrimination.** This is possibly the most common form practiced and occurs when women who have the same human capital and the same or similar jobs receive lower wages than men—solely because of their sex. It is often bolstered by cultural norms under which men are perceived to be a family's major breadwinner; in some countries, such norms are formalized in legislation governing wage rates, as was true with certain public sector jobs in South Africa through the early 1980s.

- **Occupational discrimination.** This occurs when women are arbitrarily restricted or prohibited from entering certain occupations and is rooted in cultural norms about men's and women's work: In certain countries, the norms are codified in labor laws that, for example, prohibit women from working shifts or at night or in mines, limit the weights women may lift or push, or state more broadly that work must be appropriate to women's physical and mental development. Laws may also prohibit women's employment in occupations considered hazardous to their childbearing function. Also, employers may discriminate more informally, when they believe interactions between women and men in the workplace adversely affect productivity.

- **Sex discrimination.** This occurs when women are denied employment or receive lower wages because of their childbearing function—mainly because of the economic costs employers incur when women are pregnant or take maternity leave. It may be fostered by laws which require employers to bear the economic costs of maternity leave and/or childcare.

- **Limits on the right to title**. Women are often disadvantaged when trying to start businesses because laws prevent them from holding the collateral (often land titles) needed to obtain loans.

- **Unequal investment in training**. Employers also discriminate by minimizing investments in on-the-job training for women, usually because they believe women are less attached to the labor market (because of their family responsibilities). To the extent this occurs, it adversely affects women's mobility in the labor market and their relative wages.

It is often difficult to identify if these forms of discrimination are actually practiced, and if they are sufficiently severe to warrant public intervention. Thus, quantitative and qualitative

studies, including a careful examination of the labor laws and their implementation, should be undertaken before conclusions are drawn about the nature and extent of gender discrimination in the labor market. However, drawing on the OHS, this report provides a first, though partial response to questions about the issue. It examines two aspects of such discrimination, exclusively through quantitative analysis. It reviews which factors influence participation probabilities and attempts to identify whether they operate differently for men and women. Also, it attempts to determine whether wage discrimination is practiced and determine its severity.

In Section II the paper focuses on gender differences in labor force participation rates, while Section III focuses on differences in wages. Section IV summarizes the findings from the previous two sections, identifies issues needing further study, and determines the implications for public policy. Racial differences in participation and pay are explored only insofar as they further inform the discussion of gender differences.

Where appropriate, the paper draws on information from other developing countries; most references are to Latin American countries where the economies and labor markets are most similar to South Africa's and because gender labor market discrimination has been examined most closely there.

Definitions and Caveats

- This paper reports only on participation and pay in the formal labor market. While the informal sector may be fairly important, the OHS data were not sufficient to study it. The concentration on the formal sector is not necessarily a shortcoming because labor laws, the usual recourse to gender discrimination in wages and participation, apply almost everywhere only to formal sector employers and workers. Indeed, the difficulties in identifying and remediating discrimination in the formal market are sufficiently great that extending coverage under the laws to informal sector workers is something few countries have begun to consider.

- The results of the econometric analyses should not be considered conclusive. While every effort was made to ensure the data was reliable and the models well-formulated, the findings need to be further validated through qualitative studies, further collection and analysis of data, and careful examination of labor legislation and its enforcement. Such information was not readily available.

- The report attempts to examine the links between poverty and labor force participation; the links are tentative and based on crude analyses of what constitutes " household poverty." Although common sense and general observation lead to assumptions about a strong positive relationship between participation in the formal labor market and household wealth, the findings on the participation-poverty link should be considered preliminary.

SECTION II

GENDER AND LABOR FORCE PARTICIPATION

General Observations

Participation in the formal labor market in South Africa is very low. According to the OHS, the rate is only around 34 percent. This estimate appears to be fairly sound since it approximates the rate from the 1993 Project for Statistics on Living Standards and Development Survey.[4]

Participation Rates

The OHS data show some significant gender differences in participation rates: Almost 43 percent of men participate, compared to slightly more than 27 percent of women, which are both low when compared with rates in other upper-middle income developing countries (Table 1). The women's rate is well below the 43 percent reported for Brazil and the 37 percent in both Venezuela and Chile.[5] However, the gender disparity in South Africa is considerably smaller than in the international comparator countries: The 15.7 percentage point difference in South Africa compares with that of around 40 percentage points in Brazil, 48 percentage points in Venezuela, and 29 percentage points in Chile.[6]

Table 1. Labor Force Participation Rates by Gender: International Comparisons

		Labor Force Participation Rate (%)	
Country	*GNP per capita in US$ (around 1990)*	*Women*	*Men*
South Africa (1994)	2,530	27.2	42.9
Brazil (1989)	2,680	43.0	83.0
Venezuela (1990)	2,560	37.0	85.0
Chile (1987)	1,940	36.5	68.0
Korea (1990)	5,400	45.0	74.0

Source: OHS 1994, and World Bank 1992.

Differences between women's and men's participation rates are recorded in all countries but the extent varies considerably, and reasons are not well understood. While gender differences in human capital endowments (mainly formal education) play an important role, women's participation is undoubtedly also influenced by sociocultural factors, ranging from widely accepted beliefs about what work is appropriate and whether they should work after marriage and childbearing, to formalized lower salary scales for women.. Some combination of these and possibly other factors explain why women's rates are lower than men's in South Africa. The challenge is to identify and tease out which factor is most important.

[4] Reported in Mwabu and Schultz 1995.

[5] Note: the definition of labor force participation used for these different countries is the same.

[6] Participation rates for Brazil, Venezuela, and Chile are around 1990.

As would be expected, differences are stark across the four racial groups. Participation rates are highest, at 45 percent for Whites, which contrasts sharply with 21 percent for Africans, and 39.5 percent and 35.8 percent, respectively, for Coloureds and Asians (Table 2).

Table 2. Participation Rates by Race Group

All Races	*Africans*	*Asians*	*Coloureds*	*Whites*
34.0	21.4	35.8	39.5	45.4

Source: OHS 1994.

However, these rates, aggregated across races, mask some important differences in gender participation rates within races, which can be best illustrated by the percentage point difference in women's and men's participation rates by race (Table 3). The largest disparity is found for Asians, where rates are 24.3 percent and 48.1 percent for women and men, respectively, which amounts to a 23.8 percentage point difference. Africans also present a fairly large disparity—a 19 percentage point difference. Among Whites, the difference is 11.1 percentage points. The smallest disparity, 8 percentage points, is recorded for Coloureds.

The extent of the difference in participation rates for Asian women and men is worthy of further study, since both have achieved formal educational levels of about nine years. Hence, the standard labor economics precept that education is the surest predictor of labor force participation does not appear to hold true. It may be that sociocultural factors, including gender discrimination, are important, and the issue is examined further in Section III.

Table 3. Gender, Race, and Labor Force Participation

	Women (%)	*Men (%)*	*% point difference*
All Race Groups	27.2	42.9	15.7
Asians	24.3	48.1	23.8
Africans	13.0	32.1	19.1
Coloureds	31.5	39.5	8.0
Whites	39.9	51.2	11.3

Source: OHS 1994.

It is also useful to consider women's participation across races. Whites and Africans display sharply different rates: Almost 40 percent of Whites participate compared to just 13 percent of Africans. Asian women's rate of 24 percent is also considerably lower than the White's. Although the differences in men's rates across races are also marked, they are not nearly as large; in fact, the difference among Asians and Whites is relatively small, at just 3 percentage points.

Occupational Distribution

In most countries, the occupational distribution of women and men differs substantially. This is important, because average earnings differ markedly across occupations; thus, distinct differences in the occupational distribution of males and females might mean their average earnings would also differ. Also, it is expected that occupations reflect workers' educational opportunities and outcomes, and courses of study. If the relationship between occupation and educational attainment appears weak, it suggests that other, nonmarket factors, specifically race and gender, might be influencing employment opportunities.

Gender and Occupation

Most South African females work in a few occupations: Nearly 68 percent are in the service sector, which includes the occupations of administrative/clerical (28 percent), laboring/vending (24 percent), and general services, such as office cleaners (15 percent) (Table 4). Males, however, are also clustered: laboring/vending (almost 31 percent), craft and trade (18 percent), and plant and machine operations (17 percent).

Table 4. Formal Sector Workers by Occupation

	Labor Force	
Occupation	*Women (%)*	*Men (%)*
Professional/technical	9.0	4.4
Managerial	12.0	7.1
Administrative/clerical	28.2	9.3
Service	15.5	10.6
Skilled agriculture	0.6	1.9
Craft and trade	3.7	18.6
Plant and machine	7.0	17.2
Laboring/vending	24.0	30.9
Total (%)	100.0	100.0

Source: OHS 1994.

As in several other middle-income developing countries, a higher percentage of women than men are in the professional/technical and managerial occupations. These are the occupations where educational attainment and, consequently, wages are highest: 21 percent of females are in these occupations, against only 12 percent of males. If the occupational data is further disaggregated, women are clustered in a few professions, but their representation is not terribly different from men's. In the case of the professional/technical occupations, women are predominantly teachers and nurses. Men, however, are also clustered in a few professions, including teaching (Table 5).

Table 5. Professional/Technical Occupations: Workers by Gender

	Distribution (%)	
Specific Occupation	*Women*	*Men*
Physicist/chemist/math	3.1	5.1
Engineer/architect	0.6	13.5
Health/sciences/medicine	5.3	4.2
Nursing	17.1	0.8
College/university/teaching	11.3	13.2
School teaching	54.5	45.4
Business	5.9	10.2
Legal	0.5	3.1
Journalist/librarian	2.7	1.5
Religious professional	0.1	3.1
Total (%)	100.0	100.0

Source: OHS 1994.

Gender, Race, and Occupation

Gender differences in occupation undoubtedly reflect countries' sociocultural norms and practices. Girls' educational choices and women's career choices reflect what they, and broader society, believe is appropriate. This is a complex and little-studied issue. In South Africa, the relationship between gender, social norms, education, and work is more complex because race is

undoubtedly an important factor; it has largely determined the educational opportunities, and social norms (often formalized in law) have, to a large extent, governed the races' access to different occupations. Further, each groups' sociocultural norms have undoubtedly influenced women's educational opportunities, labor participation decisions, and occupational choices.

The data reveal some interesting differences in occupations of women and men within and across races (Table 6).

Table 6. Occupational Distribution of Workers by Gender and Race

	All		*Africans*		*Asians*		*Coloureds*		*Whites*	
Profession	*Women (%)*	*Men (%)*	*Women (%)*	*Men (%)*	*Women (%)*	*Men (%)*	*Women (%)*	*Men (%)*	*Women (%)*	*Men (%)*
Professional/technical	9.0	4.4	11.2	3.8	6.4	4.7	3.1	1.9	12.4	9.7
Managerial	12.0	7.1	12.5	4.4	10.3	10.9	7.1	3.4	17.0	17.2
Administrative/clerical	28.2	9.3	12.0	6.3	41.8	20.4	19.9	6.5	54.6	13.8
Service	15.5	10.6	16.4	10.2	17.3	19.0	16.2	6.0	13.0	13.0
Skilled agriculture	0.6	1.9	0.4	1.2	0.1	0.4	1.6	3.6	0.1	2.3
Craft and trade	3.7	18.6	4.6	11.6	6.1	20.0	4.3	20.8	1.2	32.8
Plant and machine	7.0	17.2	6.9	21.2	14.1	19.4	10.8	14.6	0.8	8.7
Laboring/vending	24.0	30.9	36.0	41.3	3.9	5.2	37.0	43.2	0.9	2.6
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: OHS 1994.

Based on the OHS, Africans and Coloureds work predominantly in laboring/vending, the lowest skill–lowest paying occupations. Interestingly, the heavy concentration of Africans in this area is somewhat counterbalanced by the unexpectedly large percentage working in professional/technical occupations. A larger percentage of Africans are in this category than are Asians and Coloureds; indeed, the percentage of Coloureds is exceedingly low. It is notable that, across all races, the percentage of women in the professional/technical occupations is higher than that of men. In managerial occupations, the percentage of women within each race equals or exceeds the percentage of men in that race.

When examining patterns within racial groups, the occupational distribution varies substantially for men and women. Among Africans, both are predominantly in laboring/vending (36 percent and 41.3 percent, respectively) and services (16.4 percent and 10.2 percent, respectively). However, a fairly sizable percentage of African women are in the two occupational groupings (professional/technical and managerial) where skill levels and average wages are highest. Close to 25 percent of all African working women are in these two occupational categories, compared to only 8.4 percent of men.

The distribution of genders among Coloureds shows a somewhat different pattern. Although most male and female workers are, like Africans, in laboring/vending occupations, the occupational distribution outside of this category is quite different; men are in artisan-type occupations while women tend to be in administrative/clerical and services. Among Asians, the occupational groups become more distinct than with the former two: Women are mainly in administrative/clerical occupations while men are in artisan-type jobs. Also, the representation of the two in the professional/technical and managerial occupations is more similar than is the case with Africans and Coloureds: About 16.7 percent of Asian women work in these two categories compared to 15.6 percent of Asian men, only a 1.1 percentage point difference. By contrast, a 15.5-percentage point difference exists between African women and men's participation rates in these categories. The occupational distribution of White males and females is perhaps the most distinct: Women are mainly in administrative/clerical occupations (54.6 percent) while men are in

skilled artisan occupations (32.8 percent). There is relatively little difference in their representation in the professional/technical and managerial occupations.

Determinants of Labor Force Participation

As mentioned earlier, South African women are much less likely to participate in the labor market than men; only 27 percent compared to 43 percent. For some races, notably Asians and Africans, the difference is even more marked. If the factors that affect female participation were better understood, policies could be designed to increase the rates. Improved access to the market would improve women's earnings, which would benefit households (Box 1) as well as stimulate national output and economic growth.

Box 1. Policy Interventions to Correct Gender Discrimination

Based on evidence from many countries, increasing poor women's income by expanding job opportunities is associated with lower fertility and child mortality rates and improved child health and nutrition. In India, data indicate that where women's local labor market activity and income are equal to or greater than that of adult men, the survival rate for children, especially girls, improves. In many countries, nutrition in households where mothers are in the labor market is better than those where mothers are not. In addition, a growing number of country studies of household allocations shows that women, more than men, use their earnings to improve the health, nutritional, and educational status of household members, particularly children. Where women earn their own money, the status of children is often better.

Source: Drawn from World Bank 1994a.

This section examines the role that education, age, children, region of residence, and household economic status play in determining labor force participation, by race. The analysis draws on the OHS and uses both simple cross-tabulations and more complex econometric modeling, including probit regressions and marginal effects estimates.[7] The findings are discussed separately.

Education

In general, the most important determinant of participation is education. On the supply side, individuals who have invested in education (both through direct expenditures and foregone earnings) seek returns through labor market participation. On the demand side, employers typically use education to screen prospective employees. The more open and competitive the labor market, the more education will determine market access and opportunities.

In South Africa, the relationship between education and participation is not straightforward. Certain races have suffered systematic discrimination in labor market access and opportunities, regardless of educational achievement. Moreover, it is possible that women experience even more discrimination. Thus, it is interesting to examine the relationship between education and participation by gender and within races.

Overall, average educational attainment is fairly low—6.5 years—slightly more than primary education. Also, no notable difference exists between women and men: Women average 6.4 years and men 6.6 years (Table 7), and this pattern cuts across races. For example, African

[7] Full outputs from the probit and marginal effect models are given in Appendix 1.

and Coloured men and women have almost the same amount of education. White men have a very slight advantage (0.2 years) over White women. The largest gender difference is among Asians, where men average almost one year more than women.

However, differences among the races are considerable. Average educational attainment is highest for Whites, who average almost 10 years. Asians average around eight years, and Africans and Coloureds each average slightly less than six years.

Table 7. Educational Attainment by Race and Gender: Total Population

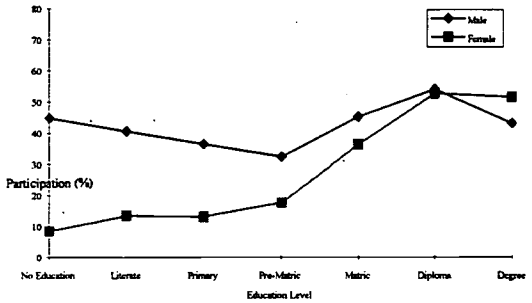
	Women (years)	*Men (years)*
All races	6.4	6.6
Africans	5.6	5.6
Asians	7.4	8.5
Coloureds	5.7	5.8
Whites	9.6	9.6

Source: OHS 1994.

Gender, education, and labor force participation

Figure 1 suggests that education might play a more direct role in determining women's participation than men's: Rates are very low among women with little formal education, but jump significantly with higher levels. Slightly more than 8 percent of women with no formal education participate, but the number rises to 13 percent for those who completed primary school and jumps sharply for those who completed secondary school (to 36 percent) and post-secondary school (over 51 percent). For men, the pattern is quite different: Participation rates are fairly high (above 40 percent) for those with limited education and actually decline with successive levels of education except for those who complete secondary school, when participation jumps to 45 percent. For those with diploma level (post-secondary school) education, participation rates peak at 54 percent.

Figure 1. Education, Gender, and Labor Force Participation (Ages 15–60)



Labor Force Participation Rates:

Education Level	*Women (%)*	*Men (%)*
No education	8.5	**44.9**
Incomplete primary (literate)	13.5	**40.6**
Primary	13.2	**36.5**
Incomplete secondary (pre-matric)	17.7	**32.5**
Secondary (matric)	36.4	**45.4**
Diploma	52.8	**54.1**
Degree	51.6	**43.2**

Source: OHS 1994.

That education is an important determinant of women's participation is also confirmed by the fact that they have an education advantage of 1.2 years over men (Table 8). Women's educational advantage, however, is more marked in some races than others: Among Whites and Asians, gender differences in average years of education are minimal. Among Africans and Coloureds, however, the story changes: African women have an advantage of almost two years, and Coloured women almost a full year, over their male counterparts.

Table 8. Education Attainment by Gender and Race: Formal Sector Workers (in years)

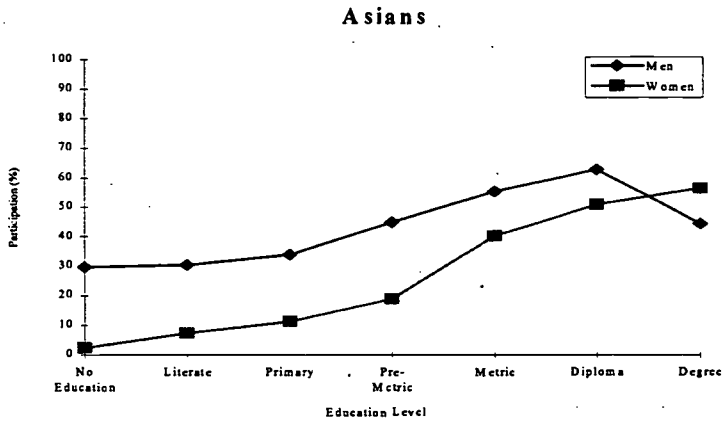
	Workers		*Total Population*	
Race Group	*Women*	*Men*	*Women*	*Men*
Africans	7.2	5.4	5.6	5.6
Asians	9.0	8.8	7.4	8.5
Coloureds	6.6	5.7	5.7	5.8
Whites	10.1	10.1	9.6	9.8
All races	8.0	6.8	6.4	6.6

Source: OHS 1994.

Gender, race, education, and labor force participation

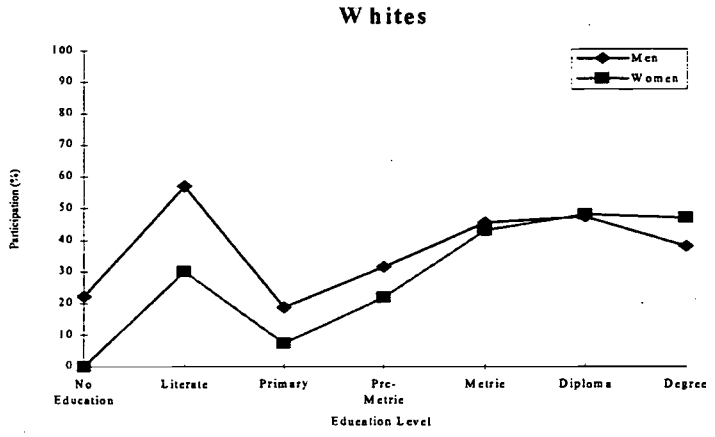
The link between education and participation becomes more complex when racial differences are considered. For example, Asians conform most closely to the expected norm: Participation rates are lowest for those with no education and rise steadily with successive levels (Figure 2a). The only exception is that Asian men with university degrees exhibit sharply lower participation rates than those with diploma level or secondary school certificates. Women's participation rates are lower than men's, but the gap narrows with higher levels of education. With university level education, Asian women's participation rates rise above those of Asian men.

Figure 2a. Education, Gender, Race, and Labor Force Participation (%)



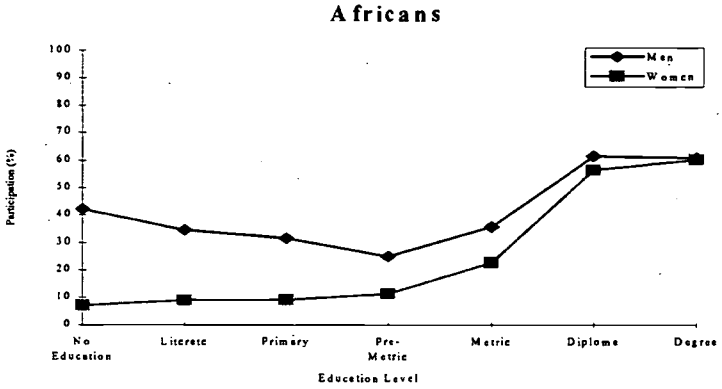
The gender gap in participation is lowest for Whites and is notably lower for women and men with more than primary level education (Figure 2b). As with Asians, rates for men with university level education are sharply lower than rates for men with diplomas. However, women's rates increase steadily with each level of education beyond primary school. The most interesting feature from the White's participation curve is the high level recorded among women and men with just a few years of formal education. Without more information, it is impossible to determine whether this is simply an aberration in the data, or due to some other factor, such as a targeted public works program.

Figure 2b. Education, Gender, Race, and Labor Force Participation (%)



Men's participation among Africans and Coloureds is somewhat atypical. African rates are fairly high for those with no formal education (slightly more than 40 percent), but decline steadily with successive levels of education through incomplete secondary level (pre-matric) (Figure 2c). After this, participation increases sharply, peaking at around 60 percent for those with diplomas and then declines slightly. African women's participation conforms more closely with the expected pattern, again suggesting that education is a particularly important determinant. Women's rates increase, although by small amounts, with additional education through secondary (matric) school, after which participation jumps sharply. Both African men and women with university education participate at the same rate (around 60 percent).

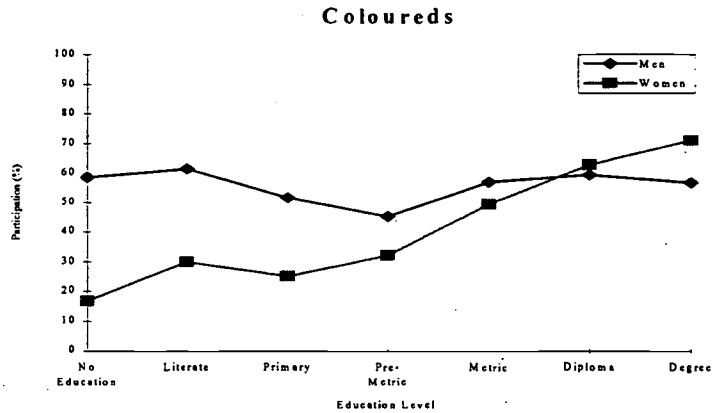
Figure 2c. Education, Gender, Race, and Labor Force Participation (%)



Coloured men exhibit the most atypical pattern, since participation appears to be relatively independent of education (Figure 2d). Rates for men with little formal education (less than primary school) differ only slightly from those with secondary or higher education. The only notable deviation occurs for those with primary and incomplete secondary education, where rates dip somewhat. Coloured women's participation, like African and Asian women's, is more typical. Except for a small rise for women with incomplete primary education, rates increase steadily with additional education, peaking at around 70 percent for those with a university education.

Participation rates for Coloured women with diploma and university level education exceed those of Coloured men.

Figure 2d. Education, Gender, Race, and Labor Force Participation (%)



For women of all races, education appears to be important in influencing the participation curve. It does not, however, seem to be as crucial in determining men's patterns; and it may be that race plays a more important role in influencing their participation rates than it does for women.

Findings from the econometric analysis

Participation probits and marginal effects were run for all male and female workers and for those of each race (see Appendix 1), and results largely confirmed earlier assumptions about the data. Overall, education determines male participation, but more education does not necessarily translate into increased probability of participation. Men who completed secondary school (matric) and diploma level education have higher probabilities of participating, but these are not greatly increased (a 5 percent increase with secondary education and an 8 percent increase with diploma level education). Men with university level education actually have a 3 percent lower probability of participating than men with just primary school.[8] This pattern is also somewhat evident in the participation probits and marginal effects run separately for each race, with the possible exception of African men, whose probabilities of participation jump fairly markedly with each level of education completed through diploma level. Interestingly, for men (all races), age appears to be a better predictor of participation than education.

Among all women, education appears to be a predictor of participation. Those with none have a much lower probability of participating (almost 6 percent lower) than women who completed primary school. Women with secondary education (matric) have a 23 percent higher probability of participating than those with primary school, and those at the diploma level have almost a 33 percent higher probability. For each race, the probability of participation increases substantially for women with post-secondary education. For example, Whites with university

[8] Note that the formal labor market is defined such that self-employed workers with university level education are included in this sample. Self employment does not, therefore, explain this aberration.

education have a probability of participation that is 42 percent higher than those with just primary school.

Age

A cursory look at participation by age cohort suggests the profile conforms to the expected pattern, both for women and men. Rates are low among the youngest ages, rise steadily thereafter to peak between 25 and 45 years and then decline steadily as workers approach retirement. A closer look by gender and race, however, reveals some interesting findings.

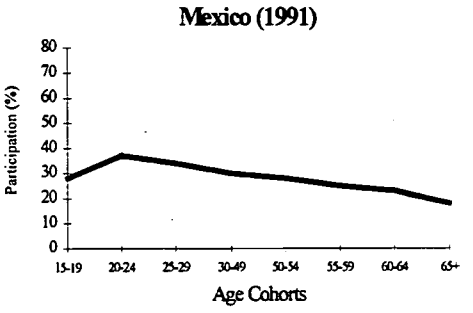
Gender, age, and labor force participation

The principal reason for considering age/participation profiles separately by gender is to examine the effect childbearing and childrearing functions have on women's attachment to the labor force. The profiles can provide some tentative insight into their participation during these years. Box 2 illustrates three different curves commonly observed for women and discusses what they might tell us about women's responses to labor market–childbearing demands. Based on the curves, it is evident that women in various countries react differently to the childbearing–working tradeoff, probably in response to differences in legislated maternity coverage, social norms, and economic circumstances.

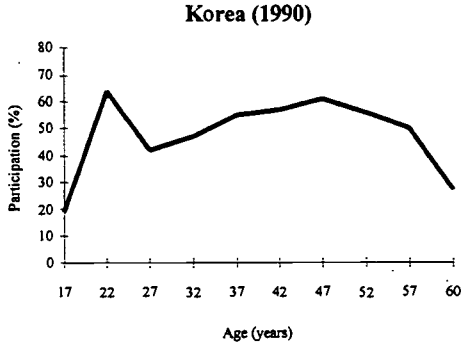
Box 2. Childbearing and Women's Labor Force Participation

It is commonly assumed that women's childbearing functions have direct and negative effects on their decisions to participate in, and remain attached to the labor market. However, emerging evidence from developing countries indicates the childbearing/participation link is not always negative. Three patterns were observed.

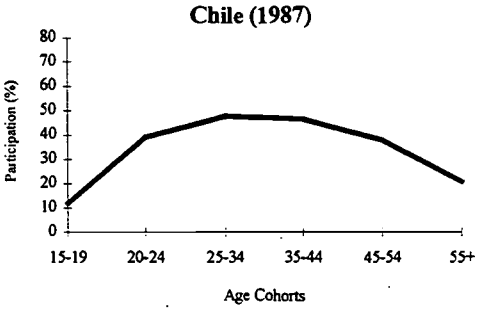
- In the first, participation rises after women leave school and then declines sharply around the prime childbearing age, indicating they are withdrawing from the labor force and generally do not reenter. This pattern was found in Mexico.



- In the second, participation rises steadily after women leave school, drops around prime childbearing age, and then resumes an upward trend, suggesting that women withdraw from the market and reenter it once these responsibilities diminish. This pattern was found in Korea and Malaysia.



- In the third, participation rises after women leave school, peaks around the prime working years (25–35) and then declines steadily until retirement, closely mirroring the men's participation curve. This suggests that women, having once elected to enter the labor market, remain attached to it, even through their childbearing years. This appears to be the pattern in South Africa.

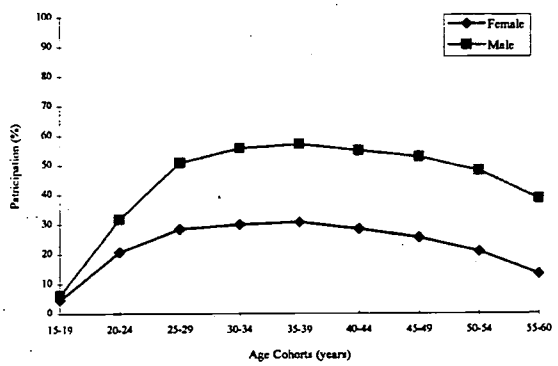


Source: Winter 1994; S. Horton 1996.

In South Africa, the age/participation curve for all women resembles that for men. It is considerably lower than men's, but rises steadily once they leave school, peaks during the principal childbearing/childrearing years (25–39), and then declines steadily (Figure 3). This smooth curve suggests that women who enter the labor force do so at a fairly young age, after completing school, and then remain attached to it through their working lives. Lacking any

appreciable dip in the participation curve during the prime childbearing years, it appears that women tend not to interrupt their careers, at least not for any appreciable length of time.

Figure 3. Age, Gender, and Labor Force Participation



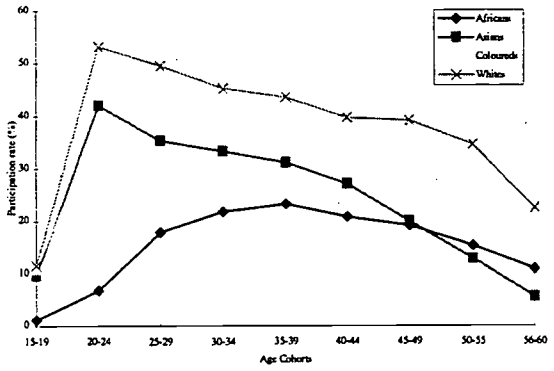
Age Cohort	*Women (%)*	*Men (%)*
15–19	4.6	6.2
20–24	20.7	31.7
25–29	28.5	50.8
30–34	30.0	55.7
35–39	30.8	57.1
40–44	28.5	54.9
45–49	25.6	52.8
50–54	20.9	48.1
55–60	13.3	38.6

Source: OHS 1994.

Gender, race, age, and labor force participation

However, when age/participation profiles are presented separately by gender and race, some marked differences in the women's profiles appear (Figure 4); the main one is the age at which women's participation peaks for the different races. With Whites and Asians, participation peaks early, at 20 to 24 years, after which rates decline steadily for both races, towards retirement. The pattern is more marked for Asian women, whose participation rate of 42 percent for ages 20 to 24, drops to around 35 percent for those from 25 to 29, then levels off to around 30 percent until age 40, after which it declines sharply. This early peak and sharp decline during the key childbearing years suggests (but does not confirm) that Whites and Asians might be more likely to withdraw from the labor market for family reasons. By contrast, Coloured women's participation peaks later, between 25 to 29 years, drops between ages 30 to 34, and then plateaus through age 44. This profile yields no real insight as to how Coloured women might be responding to the dual pressures of work and childbearing. African women's participation curve differs markedly from the others: Their rate is very low for the youngest age group (15 to 19) and remains low (below 7 percent) for those from 25 to 29. It peaks at a late age (35 to 39) at around 23 percent, considerably below the peaks recorded for the other races. Indeed, African women's age/participation profile remains well below the other curves, except for the oldest age cohorts; apparently they are less likely to withdraw from the market at older ages. Further, their profile may suggest either that they enter the labor market only after childbearing—hence the late "peak," or they have a hard time entering it at any age and, once working, remain there. At this level of analysis, it is not possible to determine which explanation is more correct.

Figure 4. Age, Race, and Participation: Women



Age Cohorts	*Africans (%)*	*Asians (%)*	*Coloureds (%)*	*Whites (%)*
15–19	1.1	9.6	10.9	11.5
20–24	6.7	42.0	38.6	53.2
25–29	17.8	35.2	46.4	49.5
30–34	21.7	33.2	41.0	45.2
35–39	23.2	31.1	40.5	43.5
40–44	20.7	27.1	39.6	59.6
45–49	19.1	19.9	30.1	39.1
50–54	15.3	12.8	24.5	34.5
55–60	10.8	5.5	13.9	22.5
All ages	13.0	24.3	31.5	35.9

Source: OHS 1994.

Findings from the econometric analysis

Econometric analyses shed additional light on the role different factors play in influencing women and men's age/participation profiles (Appendix 1). Among men, the age/participation probits follow the expected pattern: They rise steadily after males leave school, peak when they reach their mid- to late-30s, and decline steadily towards retirement age. Coloured men are the exception: Their participation does not differ much across age cohorts and remains fairly steady until they reach 50 to 54 years, when it begins to decline. Among women, probits confirm the age-participation relationship seen in the curves.

However, the participation probits and marginal effects show that the presence of young children (under six years) in the household has a negative effect on the probability of women's participation. The extent of this effect differs across racial groups. The marginal effects estimated for Whites show the presence of young children has a strongly negative effect, as women are almost 8 percent less likely to participate. Asian women's probability of participation also drops quite sharply, by almost 5 percent. By contrast, the effect is very small for Coloureds and negligible in the case of Africans. The findings of the econometric analysis therefore support the assumptions drawn from "eyeballing" the age/participation curves of Whites and Asians—that they probably withdraw from the labor market to assume childbearing/childrearing functions. The explanation for this may be that these women are better positioned to assume full-time childrearing roles, since their average household incomes are considerably higher than those of Coloureds and Africans, and they may have easier access to the market.

Except for African men, where the presence of young children in households has a small negative effect, this appears not to affect the probability of men's participation. This finding, though, likely reflects the interplay of lower average household incomes, larger average household size, and lower participation rates among African men.

Household Heads

Until recently, it was widely assumed that female-headed households were synonymous with poverty: This translated into a smaller proportion of household members engaged in formal sector work, a higher proportion of unemployed members, lower average household wealth, and

larger average household size. However, recent research has shown these assumptions are not necessarily true. In some countries, female-headed households do not suffer these disadvantages and do not have a greater propensity to be poor.

This paper does not intend to launch a detailed examination of the relationship between household heads and poverty, and the OHS data would not support such an analysis. But, it is useful to obtain a picture, albeit rather tentative, of the relation between household headship, market participation and household income. This could at least indicate if female-headed households are more likely to be poor and whether the poverty might be associated with household members' ability to participate in the formal labor market. Unfortunately, the picture cannot be complimented by econometric analysis, as the variables for household headship and wealth did not contribute to the development of sound participation probit models. Thus, the discussion of household heads and economic status is rather simplistic and warrants further study. It would be incorrect, for instance, to conclude that female household headship is either an important or unimportant determinant of formal sector participation.

Table 9 provides information about household heads, their educational attainment, and market participation by household members. It suggests that in South Africa, female-headed households have fewer household members working in the formal labor market than male-headed households (0.6 versus 1.1 workers, on average), and higher reported unemployment rates among household members (0.55 versus 0.32 individuals). Also, it suggests that female heads have considerably less formal education than male heads, almost one and a half years less.

Table 9. Gender, Household Heads, and Labor Market Participation

	Workers per HH		*Income (weekly) from Formal Employment*		*Head of HH*	
HH Type[a]	*Employed*[b]	*Unemployed*	*Head*	*All HH Workers*	*Age*	*Schooling*
Female-headed	0.6	0.55	282.30	219.67	44.6	5.2
Male-headed	1.1	0.32	378.30	570.04	42.3	6.6
All HHs	1.0	0.39	353.98	467.47	43.1	6.0

Notes:

a. Households in this sample include only those with adults of prime working age (15 to 65 years). Households consisting only of persons aged above 65 years or below 15 years are not included.

b. Formal sector workers only.

Source: OHS 1994.

When households are grouped into quintiles based on household income derived from formal labor market participation (Table 10), those that are female-headed fall mainly into the poorest quintile, in which market earnings are lowest. Indeed, the differences between female- and male-headed households in terms of average number of market participants and average income derived from market participation are stark. The 46 percent of female-headed households in the "poorest" quintile (Quintile 1) report that no household member works in the formal market, while only 18 percent of male-headed households are in this position. And, approximately 25 percent of male-headed households fall in the wealthiest quintile (Quintile 5) compared to around 8 percent of female-headed households. Interestingly, the household heads' average years of schooling in Quintile 1 are not much below that for households in Quintile 3.

Table 10. Gender, Household Heads, and Household Economic Status[a]

Quintile	*Age of HH Head*	*Female-headed HHs (%)*	*Male-headed HHs (%)*	*Workers per HH[b]*	*Unemployed per HH*	*Earnings (weekly) of HH Head (Rand)*	*Schooling of HH Head (years)*
1	46	45.9	18.1	0.00	0.68	0.00	4.7
2	41	14.0	14.0	0.96	0.36	67.86	4.1
3	42	16.9	21.7	1.28	0.38	161.54	5.1
4	42	14.8	21.6	1.43	0.28	356.71	7.2
5	43	8.4	24.6	1.80	0.16	816.51	9.2
6	—	100.0	100.0	—	—	—	—

Notes:

a. Households in this sample include only those with adults of prime working age (15-65 years). Households consisting only of persons aged above 65 years or below 15 years are not included. A Household's economic status is determined here only on the basis of wages derived from formal labor market participation.

b. Formal sector workers only.

Source: OHS 1994.

SECTION III

GENDER AND LABOR MARKET WAGES

General Observations

Women's average wages from formal sector employment are lower than men's in almost all countries and South Africa is no exception. Women's average weekly wages are R279.46, which amounts to approximately 87 percent of men's average weekly wages of R318.92. Interestingly, this is not easily explained by differences in educational attainment or in the number of hours worked: On average, women work the same number of hours as men and have an educational advantage of 1.2 years. Thus, it is reasonable to question whether gender discrimination might account for some part of the wage differential; this issue is examined below.

However, it must be noted that while a gender wage differential (for all races) exists, it is not especially large. The female/male hourly wage ratio of 0.85 is very much in line with hourly wage differentials reported in several Latin American countries where per capita GNP is roughly similar (Table 11). For example, in Chile and Colombia, the female/male hourly wage ratios were 0.71 and 0.86, respectively, in the late 1980s.

Table 11. Ratio of Female/Male Hourly Wages: Selected Countries

	Ratio Female/Male Hourly Wages
South Africa (1994)	**0.85**
Brazil (1990)	0.55
Chile (1987)	0.71
Colombia	0.86
Honduras	0.68
Venezuela (1990)	0.93

Source: OHS 1994; Carolyn Winter 1994.

However, another picture emerges when wage ratios are reported separately by gender and race for South Africa (Table 12). Perhaps the most striking and unexpected finding concerns the gender wage differential for Africans, which favors women, since their average wages are higher than African men's. This may be partly explained by the fact that African women have an educational advantage of almost two full years over their male counterparts. But, other factors are likely to contribute to their pay advantage, including possible differences in African women and men's occupational distribution.

Table 12. Workers by Gender, Race, Education, and Wages

	Education (years)		*Weekly Wages (Rand)*		
Race Group	*Women*	*Men*	*Women*	*Men*	*Ratio F/M Wages*
African	7.2	5.4	236.52	234.26	1.01
Asian	9.0	8.8	315.37	390.77	0.80
Coloured	6.6	5.7	222.66	252.38	0.88
White	10.1	10.1	379.49	561.34	0.67

Source: OHS 1994.

Another surprise is the gender wage differential observed for Whites: The ratio of female/male average wages is just 0.67, well below the 0.80 ratio for Asians and 0.88 ratio for Coloureds. What makes the White wage differential especially interesting is that White women

and men have the same amount of education. It seems rather unlikely, then, that gender differences in human capital endowments could explain the differential.

The gender wage differential is smaller for Asians and Coloureds than for Whites and is more in line with differentials reported in the Latin American countries. As for Whites, these differentials exist despite Asian and Coloured women's educational advantage over their male counterparts.

What accounts for the differential? Standard human capital theory posits that wage differentials are due to differences in endowments: It is assumed that individuals with more human capital will be better positioned to find jobs and better placed to negotiate higher wages. Since the most important contributor to human capital is formal education, it stands to reason that, in general, individuals with more education will earn more than those with less.[9] However, recent studies in Latin American countries suggest that other factors, including, very possibly, gender discrimination, distort the assumed human capital–wage link.[10] In these countries, employers appear to systematically discriminate against women by paying them lower wages, even when they have the same qualifications and experience. Data in Table 12 suggest this might also be the case in South Africa. Women, regardless of race, average more education than men but, with the exception of African women, receive lower wages.

In the rest of this section, OHS data are used to further investigate the factors which contribute to the gender wage differential. As in Section II, the discussion is based both on a simple "eyeballing" of the data and on more detailed and reliable econometric analyses.

Occupational Distribution and Wage Rates

First, the question that must be pursued is whether women's lower average earnings can be explained by the fact that they tend to be clustered in different, generally lower-paying, occupations than men. Based on the discussion of occupational distribution in Section II, there is some propensity for South African women and men to work in different occupations. Thus, this might account for some of the observed differential. Unfortunately, the gender/earnings/ occupation relationship was not readily amenable to econometric analysis. Hence, this discussion makes rather simplistic extrapolations from cross-tabulations of the OHS data.

[9] It should be remembered that while education is the most important contributor to human capital, other factors such as on-the-job training, individual aptitude, market tenure, etc. also contribute. Survey data, however, rarely provides any measure of these other factors. Such is the case with the 1994 OHS Survey.

[10] Winter 1994; Winter 1999 (forthcoming); and Psacharopoulos and Tzannatos (eds.) 1992.

Box 3. Occupational Distribution and the Gender Wage Differential

It is generally assumed that women in developing countries work mainly in a few "traditionally female" occupations where required skill levels and wages are lowest and that this explains much of the gender wage differential. New data from several middle-income developing countries suggests this assumption may be incorrect. A closer look at their occupational distribution shows some interesting twists: While women tend to be slightly over-represented in the lower-skill, middle-to-lower-income occupations (services, clerical/sales) they are also often overrepresented in the high-skill, high-income occupations (professional/technical and managerial). Men tend to dominate the intermediate level, artisan occupations (craft/trade/operatives) and are overrepresented in what is typically the lowest-paying occupation (laboring/vending). Data from Brazil and Venezuela illustrate this, as do data in South Africa. Thus, while there are "women's" and "men's" occupations, women's representation in the middle- and higher-paying occupations suggests that factors other than occupational distribution probably explain gender wage differentials.

	Brazil (1989) (%)		*Venezuela (1990) (%)*	
	Women	*Men*	*Women*	*Men*
Professional/technical	16.3	6.5	26.6	6.6
Managerial	19.7	19.5	2.6	5.9
Administrative/clerical/sales	12.0	10.2	39.4	17.1
Services	26.8	2.3	22.8	9.7
Skilled agriculture			2.4	14.0
Artisan/craft/operatives	16.3	45.1	7.1	37.1
Laboring/vending	11.7	24.6	0.5	13.4

Source: OHS 1994; World Bank 1994a; and Carolyn Winter 1994.

Table 13 suggests there might be a strong, positive relationship between educational attainment, occupation, and wage rates. Men's average wages are highest in those occupations where educational attainment (in years) is greatest and lowest in occupations where the attainment is the least. Men in the professional/technical occupations, for instance, average more years of education (12.2) and have higher average weekly wages (R602.25) than men in the laboring/vending trades, who average 3.7 years of formal education and earn R149.77. The same pattern holds for women; the association between years of education, occupation, and wages is straightforward.

Table 13. Formal Sector Workers by Gender, Occupation, Education, and Wages

	Labor Force (%)		*Education (years)*		*Average Earnings (Rand)*		
Occupation	*Women*	*Men*	*Women*	*Men*	*Women*	*Men*	*W/M*
Professional/technical	9.0	4.4	12.0	12.2	459.03	602.25	0.76
Managerial	12.0	7.1	10.4	10.3	405.57	527.47	0.76
Administrative/clerical	28.2	9.3	9.4	9.1	318.82	378.78	0.82
Service	15.5	10.6	7.7	8.0	245.36	332.22	0.73
Skilled agriculture	0.6	1.9	4.1	5.3	133.74	254.16	0.52
Craft and trade	3.7	18.6	6.7	7.3	232.67	389.98	0.59
Plant and machine	7.0	17.2	6.6	5.9	247.44	281.79	0.87
Laboring/vending	24.0	30.9	4.3	3.7	132.46	149.47	0.88
Total (%)	100.0	100.0					

Source: OHS 1994.

Yet, while the education/occupation/wage relationship appears clear for each gender, it becomes less so when comparisons are made across gender. In the professional/technical and managerial positions, no real difference emerges in women and men's educational attainments, but their average wage rates are quite different. In both occupations, women earn just 76 percent of what men earn, and the same is true of the other occupations (although there are some interesting anomalies). For example, with occupations where women's average educational attainment is above men's (the administrative/clerical, plant and machine, and laboring/vending),

the latter's wages are consistently higher than women's, but not much higher. The female/male wage ratio is above 0.80 in each case. However, in occupations where men have even a small educational advantage (in services, skilled agriculture, and crafts and trade), their wages are considerably higher. For instance, the female/male wage ratios are 0.52 and 0.59 for skilled agriculture and craft and trade occupations, respectively, where men have a 1.2 and 0.6 year education advantage. This suggests that the market may be rewarding male and female labor differently, and not necessarily according to their formal education.

The occupational categories in Table 13, however, are quite inclusive, and each subsumes a number of specific occupations. It may be that women and men are clustered in distinct occupations within the broader categories, and that women are clustered in the lower-paying fields. If this is so, it might explain some of the observed gender wage differentials. However, from a quick look at the data, this does not appear to be the case. Consider Table 14 which shows the distribution and earnings of men and women for specific occupations grouped in just one occupational category, professional/technical. Women are indeed clustered in here, mainly as school teachers (almost 55 percent). But men are also largely in this category, again as teachers (over 45 percent). Although a gender wage differential exists between female and male school teachers, it is negligible (0.96). Interestingly, though, as is the case in other categories, the gender wage differential tends to be smaller in those traditionally considered to be "men's occupations" (engineering/architecture) and larger in those considered to be "women's" (female nurses earn just 59 percent of male nurses). Observations of other categories provided much the same picture.

Table 14. Professional/Technical Workers, by Gender and Wages

	Distribution (%)		*Average Earnings (Weekly)*		*Ratio W/M*
Profession	*Women*	*Men*	*Women*	*Men*	*Earnings*
Physicist/chemist/mathematician	3.1	5.1	567.92	608.85	0.93
Engineer/architect	0.6	13.5	913.30	825.77	1.10
Health/sciences/medical profession	5.3	4.2	515.03	825.79	0.63
Nurse	17.1	0.8	397.12	669.30	0.59
College/university instructor	11.3	13.2	498.41	628.00	0.79
School teacher	54.5	45.4	457.16	475.13	0.96
Businessmen/women	5.9	10.2	509.03	690.58	0.73
Legal professional	0.5	3.1	811.91	694.14	1.16
Journalist/librarian	2.7	1.5	457.25	650.38	0.70
Religious professional	0.1	3.1	285.11	628.49	0.45
Total (%)	100.0	100.0			

Source: OHS 1994.

Earnings Functions and Wage Decompositions

The most reliable way to look at women's and men's earnings and establish how factors influence their wage level is to use earnings functions based on the standard Mincerian model (see Appendix 2). OHS data was used to estimate separate earnings functions for each sex (for each and all races). The same variables were included in each earnings function to help compare returns to human capital. The earnings functions show the effects human capital characteristics have on wages and can also be used to identify the effects of other variables, such as race and region of residence, while individual characteristics are controlled for. Including regional variables also helped standardize for differences in regional pay structures.

The earnings functions show that rates of return to education (the increase in wages resulting from an additional year of education) are slightly higher for women than men when all races are considered together (Table 15). This finding supports the earlier assumptions drawn from "eyeballing" the data—that, for women, the education–earnings relationship is strong and positive. Women (all races), with a return of 12.7 percent, have a 1.5 percentage point advantage in returns to education over men's return of 11.2 percent. Thus, an extra year of schooling for women increases earnings by close to 13 percent, while for men it increases earnings by only slightly more than 11 percent. These returns are high relative to the U.S., but in line with those reported for many Latin American countries.

When earnings functions were run separately for women and men of each race, other aspects emerge. For Asians, the returns to education for women are low, at 8.2 percent, and are lower than men's returns of 10.8 percent. Conversely, for African and Coloured women, returns are high (above 13 percent) and considerably above men's returns (10.7 percent for men in both race groups). For Whites, the returns to women's education are 12 percent, again higher than men's, at 11.1 percent.

Table 15. Returns to Education: Estimates from the Earnings Functions

Race Group	*Women*	*Men*
All races	12.7	11.2
Africans	13.1	10.7
Asians	8.2	10.8
Coloureds	13.4	10.7
Whites	12.0	11.1

Source: Appendix 2.

The earnings functions run for women and men of all races show some interesting, but not unexpected, effects. With women, wages were highest for Whites, followed by Asians and Coloureds. African women's average wages were lowest. The same pattern held true for men. White women earned 20 percent more than African women while White men earned 43 percent more than African men. Also, White men's wage advantage over Asian and Coloured men was substantially larger than the wage advantage White women had over Asian and Coloured women. The wage advantage one race had over another may be partly attributed to race differences in education: White women had almost three years more education than African women. And, White men had an educational advantage over African men of almost five years.

Regional variables in the earnings functions run for men and women (all race groups) suggest that workers in the Eastern Transvaal and Guateng are paid more, on average, than workers in other areas. For women, these regional effects are about 30 percent, but for men they are somewhat lower. This regional difference in wage rates may be partly explained by the greater number of employment opportunities available there.

Women's wages are about 87 percent of men's wages. However, the gender wage differential varies considerably by race: African women have a very slight pay advantage over men while Asian, Coloured, and White women's wages are 80 percent, 88 percent, and 67 percent of their male counterparts', respectively. The earnings function estimates provide the input needed to decompose[11] the respective races' gender wage differentials into the part attributable to gender differences in human capital endowments (education and experience) and

[11] These decompositions are based on the Oaxaca method, as described in Appendix 3.

the part that seems to be due to differences in the way women and men are rewarded by the market for their human capital endowments, i.e., "wage discrimination" [12] (Table 16). The decompositions thus provide a tentative "measure" of the extent of gender wage discrimination exercised within each race group.[13] The evidence broadly indicates that women receive lower wages for the same human capital endowments. In the case of Whites, the decomposition suggests that the wage differential can be entirely attributed to this factor; the negative sign on the endowments figure indicates that working women have a slight advantage in terms of endowments, while the 100.27 percent figure indicates that the wage differential may be due to the fact that women with the same endowments receive lower wages than men. Decompositions for Africans and Asians suggest that somewhat more than 70 percent of the gender wage differential in each group might be attributed to the wage structure (or "wage discrimination")—the fact that women receive lower payments for their endowments than men. With Coloureds, "wage discrimination" appears less severe; slightly more than 40 percent of the wage differential might be explained this way.

Table 16. Decomposition of the Gender Wage Differential by Race Group

Race Group	*Endowments (%)*	*Wage Structure (%)*	*Female/Male Wage Ratio*
African	27.7	72.3	1.01
Asian	20.8	79.2	0.80
Coloured	58.9	41.0	0.80
White	(0.27)	100.27	0.67

Note: Estimates derived from male means obtained from standard Mincerian earnings functions.

[12] Note that the decompositions are based on race-specific, Mincerian earnings functions in which the independent variables were limited to education (years), experience, experience squared, and log hours.

[13] It is important to note that this "measure" of discrimination is an "upper bound" measure. If the earnings functions fail to include human capital characteristics in which men have a premium over women, this will bias the "wage structure" estimate upwards. Since the earnings functions employed undoubtedly failed to capture all human capital variables, the estimates presented here should be taken to be representative, not precise, indicators of "wage discrimination."

SECTION IV

SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

This report sought to examine four aspects of labor force participation and pay in South Africa. Using the OHS, considerable and fairly detailed information was obtained on women's and men's labor market involvement. Much of the data was amenable to more detailed and reliable econometric analyses, whose results were reported in Sections II and III. Section II briefly summarizes the findings and the implications for policies; it also identifies issues worthy of further study.

Question 1: Do substantial differences exist in male and female labor market participation?

Analysis of the OHS data supported information obtained from other labor market studies showing that labor force participation rates are very low—around 34 percent in 1994. But, disaggregating the participation rate by gender revealed that women's participation rates were alarmingly low, and well below men's. Only 27 percent of women participate in the formal sector compared to 43 percent of men. The issue becomes even more startling when the information is disaggregated by race and considered together with other reports which suggest that informal labor market participation is neither extensive nor a reliable source of income for participants. While almost 40 percent of White women participate—a rate which compares fairly favorably with Latin American comparator countries—just 13 percent of African women participate. The fact that women's participation is so much below men's, and that African women's rates are staggeringly low, even relative to African men's, suggests the issue needs to be addressed.

What sort and level of attention might be appropriate? The most practical and politically acceptable action, and the one most likely to have an impact, albeit in the longer-term, would be to focus energy and resources on increasing educational attainment and quality. This action would serve the population at large (despite the current high unemployment rates). But, to improve girls' future labor market prospects, these broad efforts will need to be complemented with special school-level initiatives, and especially for Africans. Such initiatives might include mentoring programs that aim to increase girls' knowledge of the world of work, inform them about requirements for entry, and perhaps most important, build their self-esteem. Studies from many different countries are showing that low self-esteem is an especially important factor—far more so than for boys—in explaining girls' failure to prepare for and pursue market work and a career. Another school-level initiative could be introducing science/math clinics which provide special tutoring for girls and have been shown to succeed (in Ghana and Tanzania) in encouraging girls to pursue subjects which lead to higher-skill, higher-paying careers. Career counseling in schools would also help girls make the transition from school to market.

An option with a more immediate impact, however, would be to ensure that equal opportunity laws are approved. While the labor laws are in the process of being revised, they need to be thoroughly reviewed to learn if they create incentives that promote equal hiring of women and men. Provisions which require employers to respond differently, such as regulations that require them to provide and subsidize childcare facilities for their female workers or to subsidize maternity leave, increase the cost of women employees relative to men. Studies in Latin American countries have confirmed that where such laws exist, even where they are weakly enforced, they have encouraged employers to hire men. To avoid such discrimination, two

options can be considered: Either childcare and maternity leave are subsidized heavily by the state (which raises public expenditures substantially) or these benefits are offered equally to males and females (as in Scandinavia).

Of course, even the most carefully crafted equal employment legislation will be limited if no enforcement mechanisms exist. Thus, any study of labor laws should include a review of labor inspections, and the role other labor market "watchdogs" (public agencies, NGOs, or trade unions) might play to ensure the laws are enforced.

Question 2: Do different factors influence male and female participation?

The OHS data suggest that the factors affecting women's and men's labor market participation differ somewhat. For women, education clearly plays a central role: Their participation increases steadily with higher levels of education. However, this is not necessarily true for men. Certainly, when men have not completed secondary school (matric), the education–participation relationship is not direct or clear. With Coloureds, there is little evidence to suggest that education at any level affects participation.

The analysis showed that the presence of young children in the household had a negative effect on women's participation, but that no such relationship existed for men. White and Asian women are most likely to withdraw from the labor market upon childbearing/childrearing, which partly reflects social norms and the fact that their reserve wages (the perceived value of their time in the home) are above their market wages. A highly subsidized public education system might contribute to explaining why these women's reserve wages might be high; if direct costs of education are low and social pressure to withdraw high, they are less likely to seek returns to education in the market. Among African and, possibly, Coloured women, the effect of having young children is much smaller, as they probably remain in the market after childbearing. The policy implications are fairly clear, however, regardless of race: Access to good quality childcare is important in encouraging women's labor market participation, and probably most for Whites and Asians. But, it is also likely to be important for Africans and Coloureds who continue to work and undoubtedly have limited access to childcare. A study of childcare services and access in South Africa and a review of other countries' (probably Venezuela and Colombia) experiences in improving access would be important for future policies.

The question of which factors influence women's and men's participation decisions is probably the one that would benefit most from further qualitative studies. These could confirm the findings of the econometric analysis and provide more detailed explanations about this complex interplay of social, cultural, and economic decisions that affect women's participation decisions.

Question 3: Is there a significant gender wage gap?

Although a wage gap exists, it is not especially large. Women (all races), on average, earn about 87 percent of men's wages. The data indicated the differential is not explained by variations in educational attainment (women workers actually have an educational advantage), in the hours worked by, or, apparently, by differences in their occupational distribution.

When the data was disaggregated by race, it became evident that the gender wage gap is very large for White women and men and essentially insignificant for African women and men. This was an unexpected and interesting finding. African women's educational advantage of almost two years over African men undoubtedly partly explains the absence of a wage differential. But among Whites, no obvious explanation exists, since the women reach the same educational level as the men. Asian and Coloured women's educational advantage also fails to translate into a wage advantage.

Question 4: Does evidence point to widespread gender wage discrimination?

The econometric analysis indicates that women are generally paid less than men for their labor, even when they have the same human capital endowments (measured here principally as years of formal education). Interestingly, such discrimination appears to be more severe for Whites than women of other races, and the wage differential is probably due to wage discrimination. A good percentage of the wage differential (of over 70 percent) observed for Africans and Asians is also attributed largely to discrimination. Wage discrimination appears to be lowest for Coloureds, where it is attributed to less than half the differential.

Is wage discrimination sufficiently severe to warrant policy interventions and, if so, of what form? If the econometric analysis is reliable, then it is fairly severe. In the case of Whites, it may be important in explaining why women's reserve wages appear high and why they decide to withdraw from the market on childbearing. It could also be that they have a difficult time finding employment when they want to re-enter the labor market. But, regardless of race, such discrimination implies lost returns on human capital investments. Given ongoing national interest in revising the labor regulations, it is probably timely and appropriate to address wage discrimination.

If wage discrimination is addressed through labor provisions, these will only be as effective as the mechanisms which enforce them. Thus, the labor inspection systems need to be reviewed and other public and nongovernmental agencies' involvement assessed.

Creating a nexus for women's affairs at the central and/or provincial government levels might also be considered. In other countries, small bureaus of this type have considerably succeeded in promoting women's rights in the workforce, in pushing girls' education issues and promoting women's rights in other areas (Chile's Ministry of Women's Affairs has been especially effective). Such bureaus can cost very little; if located in a central ministry (typically ministries of planning), and if their heads are accorded minister status, they are well-placed to attract international donor financing. Also, they are well-placed to establish the cross-sectoral links often needed to promote issues such as women's rights in the labor force.

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Appendix 1

Probit Equations for Participation

African Women

	B	*Std. Error*	*Significance*[a]
Constant	-2.6396	0.0745	-35.397
Age 20–24	0.7579	0.0680	11.134
Age 25–29	1.3143	0.0657	20.002
Age 30–34	1.5497	0.0656	23.575
Age 35–39	1.6450	0.0666	24.691
Age 40–44	1.6408	0.0683	24.010
Age 45–49	1.6136	0.0713	22.620
Age 50–54	1.4905	0.0746	19.966
Age 55–60	1.3061	0.0769	16.971
No education	-0.2022	0.0448	-1.641
Literacy	-0.0786	0.0479	-4.511
Incomplete Secondary	0.2858	0.0318	8.984
Matric	0.7229	0.0409	17.671
Diploma	1.5615	0.0519	30.065
Degree	1.5890	0.1092	14.556
North Cape	-0.1454	0.0643	-2.259
Western Cape	0.2018	0.0625	3.228
Eastern Cape	-0.1059	0.0478	-2.216
Free State	-0.0570	0.0576	(-0.989)
Kwazulu Natal	0.0823	0.0446	1.845
North West	-0.8681	0.0685	-12.669
Guateng	0.1928	0.0477	4.041
North Province	-0.1369	0.0498	-2.748
Children < 6 years	-0.0317	0.0110	-2.868

Log Likelihood: -7450.7

a. t-ratio: insignificant effects in parentheses.

African Men

	B	*Std. Error*	*Significance*[a]
Constant	-2.0277	0.0574	0.0001
Age 20–24	1.0375	0.0505	0.0001
Age 25–29	1.6862	0.0503	0.0001
Age 30–34	1.9881	0.0511	0.0001
Age 35–39	2.1197	0.0520	0.0001
Age 40–44	2.0767	0.0523	0.0001
Age 45–49	2.0230	0.0560	0.0001
Age 50–54	2.0012	0.0588	0.0001
Age 55–60	1.7669	0.0600	0.0001
No education	0.1140	0.0363	0.0017
Literacy	-0.0282	0.0390	(0.4700)
Incomplete Secondary	-0.0661	0.0282	0.0193
Matric	0.0948	0.0378	0.0122
Diploma	0.6218	0.0577	0.0001
Degree	0.5985	0.1001	0.0001
North Cape	0.3375	0.0531	0.0001
Western Cape	0.6015	0.0560	0.0001
Eastern Cape	-0.2857	0.0435	0.0001
Free State	0.0077	0.0508	(0.8788)
Kwazulu Natal	0.0759	0.0409	(0.0632)
North West	-0.6902	0.0512	0.0001
Guateng	0.1865	0.0431	0.0001
North Province	-0.1314	0.0460	0.0043
Children < 6 years	-0.0344	0.0109	0.0016

-2 Log l/df 19243.83 / 23

a. Pr > Chi Square: insignificant effects in parentheses.

Asian Women

	B	*Std. Error*	*Significance*[a]
Constant	-2.1501	0.1815	-11.844
Age 20–24	0.9994	0.0953	10.483
Age 25–29	0.9919	0.1047	9.475
Age 30–34	1.0332	0.1022	10.107
Age 35–39	0.9909	0.1001	9.900
Age 40–44	0.9266	0.1019	9.095
Age 45–49	0.7513	0.1124	6.684
Age 50–54	0.5053	0.1290	3.918
Age 55–60	0.1281	0.1603	(0.799)
No education	-0.6083	0.2297	-2.649
Literacy	-0.1491	0.1991	(-0.749)
Incomplete Secondary	0.3051	0.0876	3.481
Matric	0.8277	0.0955	8.668
Diploma	1.0480	0.1343	7.802
Degree	1.1775	0.1726	6.822
North Cape	-3.3427	49.95	(-0.067)
Western Cape	0.2748	0.1647	1.669
Eastern Cape	0.5179	0.1667	3.106
Free State	0.0700	0.6621	(0.106)
Kwazulu Natal	0.3224	0.1457	2.213
North West	0.1060	0.2279	(0.466)
Guateng	0.2679	0.1511	1.774
North Province	0.0008	0.2733	(0.003)
Children < 6 years	-0.1749	0.0351	-4.974

Log likelihood: -1734.2

a. t-ratio: insignificant effects in parentheses.

Asian Men

	B	*Std. Error*	*Significance*[a]
Constant	-1.6802	0.1745	0.0001
Age 20–24	1.4609	0.0929	0.0001
Age 25–29	1.9091	0.1021	0.0001
Age 30–34	1.9152	0.1028	0.0001
Age 35–39	1.7639	0.1002	0.0001
Age 40–44	1.7260	0.0971	0.0001
Age 45–49	1.6201	0.1005	0.0001
Age 50–54	1.4157	0.1069	0.0001
Age 55–60	1.2963	0.1122	0.0001
No education	-0.3114	0.2602	(0.1489)
Literacy	-0.3051	0.2113	(0.2313)
Incomplete Secondary	0.2625	0.0994	0.0083
Matric	0.3319	0.1049	0.0016
Diploma	0.4336	0.1348	0.0013
Degree	-0.0238	0.1449	(0.8693)
North Cape	-6.4555	2.8191	(0.9982)
Western Cape	-0.3616	0.1496	0.0157
Eastern Cape	-0.2613	0.1582	(0.0986)
Free State	-0.9307	0.5164	(0.0715)
Kwazulu Natal	0.1401	0.1325	(0.2904)
North West	-0.7356	0.2125	0.0005
Guateng	-0.1936	0.1375	(0.1587)
North Province	-0.1573	0.2414	(0.5147)
Children < 6 years	0.0041	0.0329	(0.8995)

-2 Log 1:4015.41 / 23

a. Pr > Chi Square: insignificant effects in parentheses.

Coloured Women

	B	*Std. Error*	*Significance*[a]
Constant	-1.8327	0.1933	-9.480
Age 20–24	1.1030	0.0624	16.223
Age 25–29	1.2406	0.0640	19.378
Age 30–34	1.1660	0.0639	18.226
Age 35–39	1.1429	0.0654	17.455
Age 40–44	1.1213	0.0680	16.479
Age 45–49	0.9728	0.0746	12.443
Age 50–54	0.7152	0.0820	8.715
Age 55–60	0.3756	0.0878	4.277
No education	-0.1379	0.0699	-1.973
Literacy	0.0673	0.0636	(1.059)
Incomplete Secondary	0.2482	0.0404	6.133
Matric	0.5603	0.0575	9.734
Diploma	0.8943	0.1060	8.434
Degree	0.9383	0.2200	4.266
North Cape	-0.5992	0.1943	-3.084
Western Cape	0.5044	0.1863	2.707
Eastern Cape	0.1582	0.1886	(0.839)
Free State	0.0391	0.2067	(0.189)
Kwazulu Natal	0.4545	0.1963	2.316
North West	-0.2613	0.2227	(-1.174)
Guateng	0.2516	0.1898	(1.326)
North Province	0.2285	0.2708	(0.844)
Children < 6 years	-0.0436	0.0175	-2.493

Log likelihood: -4253.9

a. t-ratio: insignificant effects in parentheses.

Coloured Men

	B	*Std. Error*	*Significance*[a]
Constant	-1.3165	0.1948	0.0001
Age 20–24	0.2857	0.6000	0.0001
Age 25–29	0.7223	0.6340	0.0001
Age 30–34	0.6441	0.0644	0.0001
Age 35–39	1.7714	0.0677	0.0001
Age 40–44	1.5883	0.0688	0.0001
Age 45–49	1.5363	0.0748	0.0001
Age 50–54	1.2990	0.0784	0.0001
Age 55–60	0.9951	0.0792	0.0001
No education	0.1417	0.0670	0.0038
Literacy	0.1859	0.0643	0.0345
Incomplete Secondary	-0.0783	0.0424	(0.0650)
Matric	0.0503	0.0608	(0.4085)
Diploma	0.0165	0.1087	(0.8796)
Degree	-0.0986	0.1987	(0.6198)
North Cape	-0.3685	0.1927	0.0559
Western Cape	0.3193	0.1880	(0.0893)
Eastern Cape	0.0692	0.1905	(0.7165)
Free State	-0.5443	0.2088	0.0091
Kwazulu Natal	-0.0873	0.1982	(0.6597)
North West	-0.6006	0.2197	0.0063
Guateng	-0.2479	0.1915	(0.1953)
North Province	0.0244	0.2756	(0.9294)
Children < 6 years	0.0205	0.0185	(0.2683)

-2 Log 1:8000.00 / 23

a. Pr > Chi Square: insignificant effects in parentheses.

Women—All Races

	B	*Std. Error*	*Significance*[a]
Constant	-2.3076	0.0446	0.0001
Age 20–24	0.8542	0.0331	0.0001
Age 25–29	1.1314	0.0333	0.0001
Age 30–34	1.2292	0.0334	0.0001
Age 35–39	1.2726	0.0339	0.0001
Age 40–44	1.2300	0.0351	0.0001
Age 45–49	1.1584	0.0373	0.0001
Age 50–54	1.0192	0.0397	0.0001
Age 55–60	0.7514	0.0422	0.0001
No education	-0.2108	0.0356	0.0001
Literacy	-0.0359	0.0359	0.3180
Incomplete Secondary	0.2951	0.0222	0.0001
Matric	0.8180	0.0249	0.0001
Diploma	1.1667	0.0336	0.0001
Degree	1.0575	0.0493	0.0001
North Cape	-0.0424	0.0433	0.3279
Western Cape	0.1930	0.0359	0.0001
Eastern Cape	0.1930	0.0359	0.0001
Free State	0.1706	0.0428	0.0001
Kwazulu Natal	0.1778	0.0343	0.0001
North West	-0.4102	0.0463	0.0001
Guateng	0.3031	0.0353	0.0001
North Province	-0.0330	0.0403	0.4128
Children < 6 years	-0.0744	0.0081	0.0001

-2 Log 1:37185.99 / 23

a. Pr > Chi Square: insignificant effects in parentheses.

Asian Men

	B	*Std. Error*	*Significance*[a]
Constant	-1.7689	0.0396	0.0001
Age 20–24	1.1570	0.0302	0.0001
Age 25–29	1.6538	0.0311	0.0001
Age 30–34	1.7837	0.0313	0.0001
Age 35–39	1.8268	0.0322	0.0001
Age 40–44	1.7640	0.0324	0.0001
Age 45–49	1.7037	0.0345	0.0001
Age 50–54	1.5943	0.0361	0.0001
Age 55–60	1.3515	0.0371	0.0001
No education	0.1164	0.0302	0.0001
Literacy	0.0237	0.0316	(0.4524)
Incomplete Secondary	-0.0293	0.0209	(0.1617)
Matric	0.1418	0.0241	0.0001
Diploma	0.2201	0.0335	0.0001
Degree	-0.0988	0.0419	0.0183
North Cape	0.0863	0.0381	0.2360
Western Cape	0.4572	0.0329	0.0001
Eastern Cape	-0.0616	0.0332	(0.0637)
Free State	-0.0627	0.0398	(0.1152)
Kwazulu Natal	0.1398	0.0314	0.0001
North West	-0.4995	0.0399	0.0001
Guateng	0.1091	0.0324	0.0008
North Province	-0.1485	0.0377	0.0001
Children < 6 years	-0.0251	0.0081	0.0019

-2 Log 1:4015.41 / 23

a. Pr > Chi Square: insignificant effects in parentheses.

White Women

	B	*Std. Error*	*Significance*[a]
Constant	-2.5198	0.2689	-9.371
Age 20–24	1.4117	0.0737	19.147
Age 25–29	1.4307	0.0766	18.673
Age 30–34	1.2983	0.0741	17.501
Age 35–39	1.2316	0.0715	17.221
Age 40–44	1.0670	0.0729	14.630
Age 45–49	1.0595	0.0738	14.338
Age 50–54	0.9483	0.0766	12.368
Age 55–60	0.6214	0.0807	7.697
No education	-3.6542	0.5560	(-0.093)
Literacy	0.6837	39.42	(1.230)
Incomplete Secondary	0.6507	0.2590	2.513
Matric	1.0709	0.2584	4.144
Diploma	1.1333	0.2607	4.347
Degree	1.1060	0.2633	4.200
North Cape	0.2165	0.0821	2.638
Western Cape	0.1516	0.0745	2.034
Eastern Cape	0.4260	0.0805	5.299
Free State	0.4549	0.0814	5.587
Kwazulu Natal	0.2529	0.0723	3.499
North West	0.1389	0.0863	(1.610)
Guateng	0.3503	0.0695	5.036
North Province	0.2712	0.0855	3.170
Children < 6 years	-0.2046	0.0272	-7.507

Log likelihood: -4078.6

a. t-ratio: insignificant effects in parentheses.

Coloured Men

	B	*Std. Error*	*Significance*[a]
Constant	-1.7296	0.1666	0.0001
Age 20–24	1.5797	0.0752	0.0001
Age 25–29	1.8024	0.0780	0.0001
Age 30–34	1.6650	0.0770	0.0001
Age 35–39	1.5075	0.0746	0.0001
Age 40–44	1.4850	0.0747	0.0001
Age 45–49	1.4723	0.0754	0.0001
Age 50–54	1.3549	0.0771	0.0001
Age 55–60	1.0661	0.0795	0.0001
No education	-0.2375	0.3722	(0.1986)
Literacy	0.6788	0.5279	(0.5234)
Incomplete Secondary	0.3074	0.1518	0.0429
Matric	0.3650	0.1512	0.0159
Diploma	0.3776	0.1542	0.0144
Degree	0.1493	0.1562	(0.3391)
North Cape	-0.3075	0.0797	0.0001
Western Cape	-0.4259	0.0711	0.0001
Eastern Cape	-0.1392	0.0759	(0.0667)
Free State	-0.1783	0.0784	0.0229
Kwazulu Natal	-0.0962	0.0680	(0.1570)
North West	-0.0126	0.0809	(0.8759)
Guateng	-0.0874	0.0648	(0.1778)
North Province	-0.1468	0.0820	(0.0735)
Children < 6 years	-0.0395	0.0268	(0.1404)

-2 Log 1:8195.13 / 23

a. Pr > Chi Square: insignificant effects in parentheses.

African Women

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-53.10
Age 20–24	0.1634	15.25
Age 25–29	0.1368	26.44
Age 30–34	0.1195	31.17
Age 35–39	0.1004	33.09
Age 40–44	0.0834	33.01
Age 45–49	0.0628	32.46
Age 50–54	0.0546	29.89
Age 55–60	0.0585	26.27
No education	0.1355	-4.47
Literacy	0.0910	-1.58
Incomplete Secondary	0.3997	5.75
Matric	0.0983	14.54
Diploma	0.0348	31.41
Degree	0.0061	31.96
North Cape	0.0583	-2.93
Western Cape	0.0390	4.06
Eastern Cape	0.1802	-2.13
Free State	0.0720	(-1.15)
Kwazulu Natal	0.2153	1.66
North West	0.0966	-17.46
Guateng	0.1198	3.88
North Province	0.1323	-2.75
Children < 6 years	0.9265	-0.64

a. Insignificant effects in parentheses.

African Men

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-70.98
Age 20–24	0.1688	36.32
Age 25–29	0.1246	59.03
Age 30–34	0.1176	69.60
Age 35–39	0.0938	74.20
Age 40–44	0.0889	72.70
Age 45–49	0.0618	70.82
Age 50–54	0.0504	70.06
Age 55–60	0.0479	61.85
No education	0.1220	-0.99
Literacy	0.1008	(3.99)
Incomplete Secondary	0.3919	-2.31
Matric	0.1050	3.32
Diploma	0.0308	21.77
Degree	0.0914	20.95
North Cape	0.0595	11.81
Western Cape	0.0475	21.06
Eastern Cape	0.1720	-10.00
Free State	0.0729	(0.27)
Kwazulu Natal	0.2049	(2.66)
North West	0.0979	-24.16
Guateng	0.1341	6.53
North Province	0.1214	-4.60
Children < 6 years	0.7574	-1.20

a. Insignificant effects in parentheses.

Asian Women

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-66.79
Age 20–24	0.1422	31.04
Age 25–29	0.1028	30.81
Age 30–34	0.1109	32.09
Age 35–39	0.1106	30.78
Age 40–44	0.1117	28.78
Age 45–49	0.0898	23.34
Age 50–54	0.0741	15.70
Age 55–60	0.0684	(3.98)
No education	0.0335	-18.90
Literacy	0.0479	(-4.63)
Incomplete Secondary	0.4600	9.48
Matric	0.2620	25.71
Diploma	0.0411	32.55
Degree	0.0192	36.58
North Cape	0.0016	(0.21)
Western Cape	0.0803	8.54
Eastern Cape	0.0648	16.09
Free State	0.0160	(2.18)
Kwazulu Natal	0.5665	10.02
North West	0.0189	(3.30)
Guateng	0.2180	8.32
North Province	0.0122	(0.03)
Children < 6 years	0.4720	-5.43

a. Insignificant effects in parentheses.

Asian Men

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-66.90
Age 20–24	0.1460	58.49
Age 25–29	0.1050	76.01
Age 30–34	0.1060	76.25
Age 35–39	0.1040	70.24
Age 40–44	0.1090	68.73
Age 45–49	0.0930	64.51
Age 50–54	0.0738	56.73
Age 55–60	0.0655	51.60
No education	0.0105	(-12.40)
Literacy	0.0160	(-12.14)
Incomplete Secondary	0.4830	10.47
Matric	0.3270	13.22
Diploma	0.0570	17.27
Degree	0.0400	(-0.96)
North Cape	0.0011	(0.02)
Western Cape	0.0910	-14.41
Eastern Cape	0.0604	(-10.40)
Free State	0.0022	(-37.07)
Kwazulu Natal	0.5526	(5.58)
North West	0.0191	-29.31
Guateng	0.2286	(-7.71)
North Province	0.0131	(-6.26)
Children < 6 years	0.4349	(0.17)

a. Insignificant effects in parentheses.

Coloured Women

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-64.20
Age 20–24	0.1528	35.49
Age 25–29	0.1299	43.46
Age 30–34	0.1264	40.85
Age 35–39	0.1113	40.04
Age 40–44	0.0952	39.28
Age 45–49	0.0728	32.50
Age 50–54	0.0579	25.06
Age 55–60	0.0639	13.16
No education	0.0880	-4.83
Literacy	0.0830	(2.36)
Incomplete Secondary	0.4325	8.70
Matric	0.1056	19.63
Diploma	0.0215	31.33
Degree	0.0470	32.87
North Cape	0.1349	-20.99
Western Cape	0.4263	17.67
Eastern Cape	0.1988	(5.54)
Free State	0.0313	(1.37)
Kwazulu Natal	0.0505	15.92
North West	0.2110	(-9.16)
Guateng	0.1242	(8.81)
North Province	0.0570	(8.00)
Children < 6 years	0.8254	-1.53

a. Insignificant effects in parentheses.

Coloured Men

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-52.52
Age 20–24	0.1590	51.29
Age 25–29	0.1320	68.70
Age 30–34	0.1203	65.58
Age 35–39	0.1017	70.66
Age 40–44	0.0958	63.36
Age 45–49	0.0676	61.28
Age 50–54	0.0569	51.82
Age 55–60	0.0580	39.70
No education	0.0807	5.65
Literacy	0.0882	7.42
Incomplete Secondary	0.4490	(-3.12)
Matric	0.1095	(2.01)
Diploma	0.0237	(0.66)
Degree	0.0062	(-3.93)
North Cape	0.1302	-14.70
Western Cape	0.4345	(12.74)
Eastern Cape	0.1881	(2.76)
Free State	0.0333	-21.71
Kwazulu Natal	0.0538	(-3.48)
North West	0.0226	-23.96
Guateng	0.1237	(-9.89)
North Province	0.0063	(0.97)
Children < 6 years	0.7095	(0.82)

a. Insignificant effects in parentheses.

White Women

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-93.95
Age 20–24	0.1602	52.64
Age 25–29	0.1088	53.34
Age 30–34	0.1196	48.41
Age 35–39	0.1180	45.92
Age 40–44	0.1069	39.78
Age 45–49	0.0996	39.50
Age 50–54	0.0866	35.36
Age 55–60	0.0816	23.17
No education	0.0038	(0.00)
Literacy	0.0014	(25.49)
Incomplete Secondary	0.3635	24.26
Matric	0.4158	39.93
Diploma	0.1318	42.26
Degree	0.0746	41.24
North Cape	0.0840	8.07
Western Cape	0.1356	5.65
Eastern Cape	0.0905	15.88
Free State	0.0851	16.96
Kwazulu Natal	0.1689	9.43
North West	0.0733	(5.18)
Guateng	0.2147	13.06
North Province	0.0712	10.11
Children < 6 years	0.3412	-7.63

a. Insignificant effects in parentheses.

White Men

	Mean	*Marginal Effect[a] (%)*
Intercept	0.0000	-66.63
Age 20–24	0.1064	60.85
Age 25–29	0.0974	69.43
Age 30–34	0.1161	64.14
Age 35–39	0.1150	58.07
Age 40–44	0.1055	57.20
Age 45–49	0.1000	56.71
Age 50–54	0.0903	52.19
Age 55–60	0.0829	41.07
No education	0.0025	(-9.15)
Literacy	0.0010	(26.15)
Incomplete Secondary	0.3373	11.84
Matric	0.3737	14.06
Diploma	0.1539	14.55
Degree	0.1156	(5.75)
North Cape	0.0796	-11.85
Western Cape	0.1337	-16.41
Eastern Cape	0.0942	(-5.36)
Free State	0.0836	-6.87
Kwazulu Natal	0.1461	(-3.71)
North West	0.0728	(-0.49)
Guateng	0.2175	(-3.37)
North Province	0.0697	(-5.65)
Children < 6 years	0.3268	(-1.52)

a. Insignificant effects in parentheses.

Appendix 2

Results of Earnings Functions (All Races)
Dependent Variable = Log (Weekly wages)

	Women	*Mean*	*Men*	*Mean*
Schooling (Years)	0.1279	8.0	0.1127	8.8
Experience	0.0272	20.58	0.354	23.23
Experience Squared	-0.0003	547.25	-0.0004	678.40
Ln (Hours)	0.2710	3.71	-0.1012	3.77
Asian	0.1690	0.098	0.1989	0.118
Coloured	0.1140	0.27	0.1406	0.249
White	0.2008	0.283	0.4348	0.194
West Cape	0.2744	0.215	0.2242	0.119
East Cape	0.2155	0.136	0.1300	0.124
Free State	0.2081	0.057	0.0731	0.054
Kwazulu Natal	0.4002	0.209	0.3209	0.212
North West	0.2596	0.029	0.2575	0.039
North Province	0.3385	0.068	0.3299	0.063
East Transvaal	0.4306	0.051	0.4485	0.067
Guateng	0.4835	0.190	0.3738	0.171
Constant	2.5355	1.000	4.1364	1.000
R-Squared	0.33		0.39	
Adjusted R-Squared	0.33		0.39	

Note: Coefficients in parentheses are insignificant at the 5 percent level.

Results of Earnings Functions (Asians)
Dependent Variable = Log (Weekly wages)

	Women	*Men*
Schooling (Years)	0.0824	0.1083
Experience	0.0252	0.0270
Experience Squared	-0.0003	-0.0003
Ln (Hours)	0.3109	0.1811
West Cape	(-0.0419)	(0.0293)
East Cape	(-0.0169)	0.3461
Free State	(-0.7618)	(-0.4891)
Kwazulu Natal	0.2554	0.1547
North West	-0.6830	-0.3139
North Province	(0.2554)	(0.1547)
East Transvaal	0.1861	0.5885
Guateng	0.3368	0.4160
Constant	3.3157	3.7676
R-Squared	0.21	0.22
Adjusted R-Squared	0.20	0.21

Note: Coefficients in parentheses are insignificant at the 5 percent level.

Results of Earnings Functions (Coloureds)
Dependent Variable = Log (Weekly wages)

	Women	*Men*
Schooling (Years)	0.1342	0.1074
Experience	0.0436	0.0409
Experience Squared	-0.0006	-0.0005
Ln (Hours)	0.1731	-0.4154
West Cape	0.3330	0.3160
East Cape	(0.1330)	0.0898
Free State	0.2842	0.3065
Kwazulu Natal	0.5548	0.8829
North West	(0.1738)	(0.0736)
North Province	0.8250	0.8927
East Transvaal	0.5967	0.8087
Guateng	0.4774	0.6072
Constant	2.7844	5.3523
R-Squared	0.33	0.37
Adjusted R-Squared	0.33	0.37

Note: Coefficients in parentheses are insignificant at the 5 percent level.

Results of Earnings Functions (Africans)
Dependent Variable = Log (Weekly wages)

	Women	*Men*
Schooling (Years)	0.1312	0.1079
Experience	0.0122	0.0269
Experience Squared	0.0001	-0.0002
Ln (Hours)	0.1888	-0.1546
West Cape	0.2829	0.2451
East Cape	0.3018	0.1338
Free State	(0.1128)	(-0.0375)
Kwazulu Natal	0.4256	0.2680
North West	0.3913	0.1321
North Province	0.3911	0.2510
East Transvaal	0.4117	0.2806
Guateng	0.4716	0.2603
Constant	2.9343	4.5261
R-Squared	0.34	0.29
Adjusted R-Squared	0.34	0.29

Note: Coefficients in parentheses are insignificant at the 5 percent level.

Results of Earnings Functions (Whites)
Dependent Variable = Log (Weekly wages)

	Women	*Men*
Schooling (Years)	0.1209	0.1117
Experience	0.0315	0.0461
Experience Squared	-0.0005	0.0006
Ln (Hours)	0.3678	0.2211
West Cape	0.1719	0.1915
East Cape	0.2164	0.1735
Free State	0.2591	0.1957
Kwazulu Natal	0.3868	0.4586
North West	0.2712	0.4434
North Province	0.1963	0.4044
East Transvaal	0.4506	0.6343
Guateng	0.4464	0.3296
Constant	2.4758	3.2092
R-Squared	0.25	0.28
Adjusted R-Squared	0.24	0.27

Note: Coefficients in parentheses are insignificant at the 5% level.

Appendix 3

The Oaxaca Decomposition

Oaxaca's (1973) technique decomposes the male/female earnings differential into two parts: a part which can be explained by gender differences in human capital endowments (E) (years of education, work experience, etc.) and a part that cannot be explained by differences in these productive characteristics (U). This second part is commonly taken to represent the "upper bound" or upper extent of "discrimination."[14]

The decomposition in performed as follows:

Let the mean log wages (W) of Men (M) and women (F) be replaced by:

$$W_i = \beta_i' \bar{x}_i \qquad I = M,F \qquad (1)$$

Where:

$\bar{x}_i$ = a vector of human capital characteristics if men and women
β = a vector of coefficients to be estimated

The Oaxaca technique then decomposes the wage differential as follows:[15]

$$W_M - W_F = \beta_M' (X_M - X_F) + (\beta_M - \beta_F)' X_F$$
$$(E) + (U) \qquad (2)$$

Where

X_M= a vector of average endowments for men
X_F = a vector of average endowments for women
E = the portion of the wage differential explained by differences in male/female human capital endowments
U = the portion of the wage differential that is not explained by differences in human capital endowments. U is actually the difference between women's present earnings and the earnings they would receive if they were paid the same wages as men for their human capital. Hence, the higher the value of U, the greater the level of labor market "discrimination."

---

[14] One caveat about the Oaxaca decomposition should be noted here. The vector of mean human capital characteristics ($\bar{X}_i$) in the equations may not capture all skill components that influence wage levels. Any omitted explanatory variable will cause the part of the wage differential not explained by human capital differences (U) to be larger. Hence, it must be recognized that the unexplained pay gap represents an upperbound to "discrimination." The difficulties in interpreting U are well documented in Cain (1986).

[15] Note that the Oaxaca decomposition could be estimated in two ways:

$$B_m X_m - B_f X_f = (B_m - B_f) X_m + B_f (X_m - X_f)$$
$$= (B_m - B_f) X_f + B_m (X_m - X_f)$$

Where B_i I = m,f are the estimated coefficients of the earnings functions and X_i I = m,f are the average of the explanatory variables in the earnings functions. There is no "best solution" to this index number problem which is frequently experienced in applied economics. The country studies in this study estimate the Oaxaca using the male means and report the results in this way in all tables.

Appendix 4

Earnings Functions

The returns to human capital characteristics are estimated here for men and women in order to investigate the wage differential. The standard Mincerian earnings function[16] is used:

$$\log Y_i = a + b_1 \text{ Schooling}_i + b_2 \text{ Experience}_i + b_3 \text{ Experience Squared}_i + b_4 \log \text{hours}_i + b_5 e_i$$

Where

Y is weekly wages

Schooling is in years of formal schooling completed

Experience is a variable constructed as Age – Years of Schooling – 6

Log hours is the log of weekly hours worked

ei other variables (race and geographic region of residence).

The standard model, uncorrected for selectivity, was used since selectivity corrections in most runs were insignificant.

It begins by simply describing the pattern of labor force participation (by gender and race group) and by describing the occupational distribution of women and men workers by race group. It then presents more detailed information on each of the principal determinants of labor force participation—education, age (and, by implication, childbearing/childrearing functions), household headship and household economic status, and area of residence. The discussion of each of these determinants draws extensively on data from the 1994 October Household Survey (hereafter referred to as the OHS) and also reports on what econometric analysis infers about the interaction and relative importance of these various determinants of participation.

This section first describes average wages from formal sector employment for women and men and for women and men separately by race group. It also presents information on relative wages by occupational category. It then goes on to present information on some of the principal determinants of wage rates, including education, race and geographic region of residence. Section III concludes by presenting results from an econometric model used to determine the extent to which the gender wage differential might be attributed to gender discrimination.

16 Mincer 1974.

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