

**THE RISE IN FEMALE LABOUR FORCE  
PARTICIPATION IN SOUTH AFRICA: AN  
ANALYSIS OF HOUSEHOLD SURVEY  
DATA, 1995 - 2001**

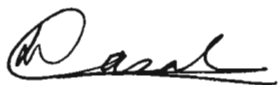
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## DECLARATION

This thesis is submitted in accordance with the requirements for the degree of Doctor of Philosophy in Economics at the University of Natal, Durban. I declare that this is my own work, except where acknowledged in the text, and that this thesis has not been submitted for a degree at any other university.



.....  
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## PREFACE

My initial interest in labour market issues was encouraged by the late Professor Julian Hofmeyr, whose dedication to his work in this field was admirable. Julian was initially co-supervisor to this thesis and although he was unable to see it completed, the countless hours he gave up over the years to offer advice on my work and to answer my many questions, are not forgotten.

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## ABSTRACT

In the 1990s nationally representative and detailed household survey data became available for the first time in South Africa, opening up opportunities to examine some of the key movements in the labour market especially. This thesis investigates one of these: the continued and dramatic rise in female labour force participation that has occurred in post-apartheid South Africa over the period 1995 to 2001. The rise in women's participation, also referred to as the 'feminisation' of the labour market, is a phenomenon that has been observed and analysed in many countries around the world, and yet has remained largely undocumented in South Africa. The 'feminisation' that has been recorded in the international literature generally refers to the rise in women's share of the labour force coupled with a rise in women's share of employment. What is striking in the South African case, however, is that over the period under review here regular employment opportunities in the formal sector of the economy have been indisputably limited, and yet female labour force participation has continued to increase. The increase in participation has translated mainly into a rise in unemployment and in generally low-paying forms of self-employment in the informal sector. This raises the question why so many more women chose to enter the labour market over this period in spite of their dismal prospects, a question that is explored as far as possible in this study given the constraints imposed by the data available. This thesis is presented in three main parts. The first part consists of a review of the economic theory of female labour supply and a review of the international literature on the trends, causes and consequences associated with the *rise* in female labour force participation over time. The second and largest part of the thesis consists of an empirical analysis of the factors driving the rise in female labour force participation in South Africa. The broad trends in the labour force between 1995 and 2001 are documented, some of the supply-side correlates of labour force participation are explored descriptively, and then the determinants of the rise in female labour force participation in South Africa over this period are tested more thoroughly in a multivariate regression and decomposition analysis. The final part of the study turns to the question of what the rise in female labour force participation has 'bought' women in terms of access to employment and earnings for those women who *did* have work in the period under review.

## INTRODUCTION

In the International Labour Organisation's review of the South African labour market, Standing *et al* (1996: 60) write that '[p]erhaps the most important change in labour supply over recent years has been the rising labour force participation rate of women'. This trend of rising female labour force participation, also referred to as the 'feminisation' of the labour force in the international literature, has been documented extensively since the late 1970s especially, for both developed and developing countries around the world. Yet very little attention has been paid to this phenomenon in the South African literature. While there has been some mention of a rise in female labour force participation occurring in the second half of the twentieth century in more general studies of the South African labour market (such as Standing *et al*, 1996), the information is scant, and to a large degree the data available for such an analysis before the 1990s precluded any accurate examination of the extent of this rise, or what may have been causing it.

In the 1990s, nationally representative and detailed household surveys were conducted for the first time in South Africa, presenting the opportunity to analyse a number of key movements in the labour market especially. The main objective of this thesis is to investigate the reasons for why there has been such a dramatic increase in female labour force participation for the period 1995 to 2001 in particular. While there are indications in the literature that the rise in female labour force participation in South Africa, as in many other countries around the world, dates back to the mid-twentieth century, the period of analysis here is restricted, as explained, by comparable and detailed data. In this study, data for 1995, 1997, 1999 and 2001 are used, the years in which the national surveys prove to be most compatible for the purposes here.

A number of reasons have been explored in the international literature for why labour force participation has been rising among women. Increased opportunities for women in paid employment, rising education, falling fertility rates, the decline in marital rates and changing norms and perceptions regarding women's traditional roles in society

are some which have been commonly referred to. Since the late 1980s especially, however, there has been a proliferation of work linking the changing global economic environment to women's increased employment in particular (see for example Standing, 1989; 1999; Cagatay and Ozler, 1995; Horton, 1999; Mehra and Gammage, 1999; Ozler, 2000). It has been argued that the adoption by many countries of neo-liberal economic policies and structural adjustment programmes, has resulted in a rise in the demand for female labour. Emphasis on trade liberalisation and export-led industrialisation has not only served to pull women into expanding light industries, but the increased competition associated with these strategies has resulted in firms hiring an increasing number of women in low-paying, flexible jobs that offer very little protection, in order to reduce costs.

It will be shown in this study that the rise in female labour force participation in South Africa, associated largely with unemployment and informal forms of self-employment, is unlikely to be driven by the greater demand for female labour. Rather, there are likely to be factors on the supply side of the labour market that have driven women to look for work, or to create work for themselves. One broad change that is explored in particular in this thesis is the fall in women's access to male income support in the household. This trend is reminiscent of the added-worker effect that has been documented in the international literature, which describes a situation where women are 'pushed' into the labour market out of economic need and in an attempt to maintain their households' living standards, following a fall in the income or employment of a male breadwinner (Lundberg, 1985).

While most of the increase in female labour force participation has been associated with rising unemployment in South Africa, there has been some increase in employment among women, albeit predominantly in informal self-employment. This study also examines for those women who did have work over the period, what this work 'bought' them in terms of access to earnings and types of employment. As will be explained in detail later in this thesis, the term 'feminisation' of the labour force has been used in a dual sense in the international literature, that is, not only to describe that an increasing proportion of the labour force is made up of women, but also that an increasing number of the jobs that are available bear the 'feminine characteristics' of low-pay, low-skill, and little protection for the worker. The rise in



the participation of women in the labour force in South Africa may be viewed as a positive trend for women. However, if the nature of this participation is such that women continue to be pulled in at the 'lower end' of the labour market, then this feminisation cannot simply be seen as an unqualified good, as women's disadvantaged position in the labour market will be reinforced.

This thesis is structured as follows. Chapter One provides a review of the economic theory of labour supply as it relates in particular to female labour supply. Women's decisions to participate in the labour force are considered in both an individual and a household framework, recognising that household structure and composition are likely to be of relevance especially to women's decision-making with respect to labour force participation. The key limitations of the theory, and the difficulties in applying the theory as a result of real-world data constraints, are also highlighted in this chapter.

Having identified the main factors that determine why individuals (and hence *which* individuals) participate in the labour market in Chapter One, Chapter Two then considers the dramatic change over time in female labour force participation that has been noted around the world. The chapter begins by examining the global trends in labour force participation, and shows how female labour force participation rates have risen dramatically since the 1950s especially. The larger part of this chapter provides a review of the various reasons considered important in driving this feminisation of labour markets in developed *and* developing economies, as it is recognised that South Africa exhibits elements of both types of economies. Following this, the chapter ends with a discussion of some of the consequences of the feminisation of the labour force. In particular, the question of how the global rise in women's employment has benefited them in terms of access to secure jobs and earnings is considered.

Chapter Three begins the empirical section of this thesis on the labour force participation of women in South Africa by describing the broad trends for men and women using household survey data for 1995, 1997, 1999 and 2001. In particular, trends in labour force participation are disaggregated into the main components of employment and unemployment, taking a closer look as well at the different types of employment and the movements in these in the economy over the period. This initial

analysis of the broad trends in labour force participation finds little evidence to support the view that women have been ‘pulled’ into the labour market due to an increase in the demand for female labour. This chapter also provides a thorough discussion of the limitations of the data available for the analysis, and points to possible biases in the measurement of labour force participation that are likely to result.

The evidence from the trends analysis of Chapter Three points to the possibility that supply-side factors in particular are likely to have driven the dramatic rise in labour force participation among women in South Africa between 1995 and 2001. Chapter Four therefore provides a descriptive analysis of some of the supply-side correlates of female labour force participation over the six-year period. Because of the predominance of Africans in the labour market, and because most of the rise in female labour force participation is due to the growth of the African female labour force, statistics are presented for all women as well as for African women specifically in this chapter.

In Chapter Five the determinants of labour force participation and its rise over the period are tested in a more rigorous multivariate framework. Labour force participation equations are estimated for the years 1995 and 2001 to identify which factors were significant in determining labour force participation in those years. Using the method of growth accounting or decomposition analysis, the factors that were most important in driving *the increase* in female labour force participation between 1995 and 2001 are then analysed. In this chapter the regression and decomposition analysis is restricted to African women who account for most of the growth in female labour force participation over the period (thus allowing for a feasible sample size in the decompositions), and who are consistently found to be the most vulnerable group in South Africa.

The final chapter returns to the question of how the rise in female labour force participation has affected the employment and earnings opportunities of women. Recognising that most of the rise in female labour force participation in South Africa has translated into rising unemployment, Chapter Six completes the picture by providing a simple descriptive analysis over time of the employment and earnings of

those women who did have work. In particular, average earnings are analysed in a univariate context by level of education, employment type and occupational category in the years 1995 and 2001. The analysis in this chapter is performed for both African women and men and white women and men. The comparison by race and gender highlights that while women's disadvantaged position in the labour market relative to men's has been reinforced on average over the period, there has been some limited scope for advancement. These opportunities have not benefited African and white women equally though.

The data used for this thesis come from two national household surveys, the October Household Survey and the Labour Force Survey, both of which are conducted by the official statistical agency, Statistics South Africa. While these data provide the opportunity for detailed empirical analysis of aspects of the labour market in South Africa, this analysis is still plagued by a number of problems. For a study of labour force participation specifically, problems of comparability arise because Statistics South Africa has sought to improve the capture of *all* types of employment over the years, through the use of more detailed questionnaires with each round of surveying. While improvements to the method of data collection are important for the efficient capture of information in any one year, they create difficulties for an analysis *over time*. In the face of limited data, therefore, the most that can be done is to try to be both explicit and thorough in disclosing the possible biases that might arise in the results. To this effect, two Appendices have also been included that detail the steps taken to ensure that comparability existed across the years as far as possible given the data available. Mention of these issues and their effects on the results is in addition a recurring feature within the main body of this thesis.

## CHAPTER ONE

### THE ECONOMIC THEORY OF LABOUR SUPPLY

#### A. *Introduction*

The objective of this first chapter is to review the economic theory of labour supply and particularly how it relates to female labour supply. This will be done with a view to understanding why female labour force participation has been increasing over the past decades, a question that will be considered in detail in the next chapter. The terms 'labour supply' and 'labour force participation' are used in a number of ways in the literature, so it is important to clarify at the outset what economists generally mean by these terms. Labour supply, in the more precise sense of the word, refers to the amount of labour offered by the employed, measured in working hours supplied at a particular wage rate for instance. In the broader sense of the word, it has been used to refer to the number of people who are economically active or who participate in the labour force. This would include both the employed and the unemployed (Joseph, 1983: 23-4; Sapsford and Tzannatos, 1993: 7). The terms labour supply and labour force participation are often used interchangeably in the literature, though. In this study it will be made clear in the context of the discussion whether hours supplied or individuals participating are being referred to.<sup>1</sup>

In very basic terms the size of a country's labour force, or the number of people participating in the labour market, depends on the size of its population and the proportion of that population participating in the labour market. The size of the population depends in turn on the excess of births over deaths and net immigration

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<sup>1</sup> Reynolds *et al* (1998: 38) use the term labour supply in a slightly different way, where it is defined as either a stock or a flow. They view the number of people in the labour force as the stock of labour and the number of worker-hours supplied as the flow of labour. So for example, in the United States (US) over the past century, the stock of labour has increased faster than the flow of labour, as the number of hours worked per person have declined while the numbers participating in the labour force have risen.

(Olsen, 1994: 60; McConnell and Brue, 1995: 50; Reynolds *et al*, 1998: 39).<sup>2</sup> There are a number of different factors affecting population growth and immigration, many of which would be specific to the individual country under review. These factors form part of a large demographic literature that will not be dealt with in this study (see for example Olsen, 1994). Instead, the focus here is on what determines the *proportion* of the population that participates in the labour market and is willing to supply hours of work, that is, the labour force participation rate.

While the overall focus of this study is on the feminisation of the labour force, and hence the change in the proportion of individuals who participate in the labour market over time, it is important to understand first what the theory tells us about which individuals participate in the labour force at any one point in time, and why. Although much of the traditional theory was originally formulated in terms of hours supplied by the employed (with zero hours supplied being considered as non-participation), it can also be applied to explain which individuals we would expect to participate and what factors affect the participation decision. Also, as interest in labour supply, and female labour supply in particular, grew, more attention was paid in the literature to the participation decision as well as the number of hours supplied, a development that will be discussed in more detail in the next section.

The outline of this chapter is as follows. Section B describes the traditional neoclassical model of individual labour supply which focuses mainly on the number of hours the individual allocates to work and to leisure, but which can also be used to explain the individual's decision to participate in the labour market or not. In Section C, a discussion is provided of how the basic neoclassical model of labour supply was extended by recognising the importance of (women's) productive work in the household, and by treating the household, rather than the individual, as the decision-making unit. In the final section, alternative models of decision-making behaviour within the household, and their implications for labour supply, are analysed. In each

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<sup>2</sup> Changes in birth rates are reflected in the size of the labour force with a lag period of about 20 years on average, the amount of time it takes for individuals to complete schooling and enter the labour force. The effect of immigration is almost immediate though as generally immigrants are already of working age (Olsen, 1994: 60; Reynolds *et al*, 1998: 39).

section the theoretical developments will be analysed in terms of their consideration of and relevance to female labour supply in particular.

## *B. The Theory of Individual Labour Supply*

### *B.1 The Basic Work-Leisure Model*

In very simple terms, the traditional neoclassical analysis of labour supply presents the decision to work and how much to work as a constrained utility maximisation problem, with time being the scarce resource. Labour supply is treated as an individual decision based on a two-way division of time between working hours and leisure hours. It is assumed that the utility-maximising individual has all the necessary information to make a rational choice between these two activities. With time as the scarce resource, the problem is then reduced to one of the individual finding the optimal solution of how many hours of each of these two activities to engage in, based on the costs and benefits of each activity.

The benefit of each hour spent working is the wage that can be earned, which in turn is used to purchase market goods and services from which the individual derives utility. The opportunity cost of each hour spent working is the leisure foregone. Conversely, the benefit of allocating one's time to leisure is the satisfaction derived from this activity, while the cost of each hour spent in leisure is the income (or consumption of goods) foregone. The number of hours devoted to work activity represents the individual's labour supply. The decision of how many hours to allocate to each activity is determined by the prevailing wage rate, the availability of non-labour income (such as a transfer payment or a spouse's income), and the individual's preferences towards the two activities (Lewis and Peterson, 1997: 68-69; Reynolds *et al*, 1998: 43).

A change in the wage rate will have two effects on labour supply. If the wage rate increases, for example, then the price of leisure relative to labour will increase (i.e. the opportunity cost of engaging in leisure will rise). So, holding constant the effect of a wage increase on the real income of the individual, the individual will then be induced

to increase the number of work hours supplied. This is known as the ‘substitution effect’, as the individual substitutes work for leisure hours. But at the same time, the increase in the wage rate raises the individual’s real income. If leisure is a normal good, then the demand for leisure will increase as the wage rate increases, resulting in a reduction of the number of hours spent working. This is known as the ‘income effect’. There are thus two competing effects of a change in the wage rate. Which of these two effects will dominate cannot be determined on a theoretical basis *a priori*, and depends on the individual’s preferences. As far as an increase in non-labour income is concerned, the model produces a less ambiguous result. An increase in non-labour income, *ceteris paribus*, will result in a pure income effect, and the individual will reduce the number of hours supplied in the labour market (Berndt, 1991: 604–6; Reynolds *et al*, 1998: 45; Ehrenberg and Smith, 2000: 184-200).

The traditional neoclassical model of individual labour supply has been criticised for not recognising institutionally determined limits on workers’ freedom to choose the number of hours they would like to work (see for example, Joll *et al*, 1983). In particular, it has been questioned on its relevance to modern-day labour markets where most employers have fixed operating hours. In this case individuals might not be able to ‘choose’ how many hours they would like to work. Instead, the choice would be binary in nature: zero or forty hours.

Some economists, while recognising this downfall, have also pointed to the fact that individuals have more scope for adjusting their hours of work than is commonly believed (McConnell and Brue, 1995: 34-37; Reynolds *et al*, 1998: 48-52).<sup>3</sup> First, self-employed business people and professionals can generally choose the hours they work (and often work more than forty hours). Second, although the forty-hour work-week is most common among salaried employees, some firms do operate either shorter or longer schedules. There are also many industries that offer part-time work, in particular the tourism and other services industries. At times it also suits firms to pay workers for overtime hours during busy periods rather than hiring new workers.

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<sup>3</sup> Also, see Joll *et al* (1983: 19-25) for a detailed graphical analysis of various labour supply strategies that individuals engage in if they are not able to choose precisely the number of hours they would like to work.

Therefore individuals have some freedom in choosing hours worked through their choice of occupation and industry. Third, individuals can also control the amount they work to some extent through moonlighting, that is, holding more than one job at a time. And finally, there is also the option of leave without pay in some jobs.<sup>4</sup>

Some individuals will choose not to spend any of their hours engaged in market work. Here, in understanding whether an individual will choose to participate or not, the notion of the reservation wage is an important one. The reservation wage is the minimum hourly wage rate that must be offered to the individual to induce him/her to give up an hour of leisure activity when he/she is not working at all. In other words, it is the marginal value placed on non-market/leisure time. If the reservation wage is greater than the prevailing market wage rate (or the value of market time), this implies that an hour of leisure offers more utility to the individual than what can be earned in an hour, and the individual will not participate. When the wage rate exceeds the reservation wage, the individual will be induced to participate in the labour force and to begin supplying hours of labour (Berndt, 1991: 603; McConnell and Brue, 1995: 30-33; Ehrenberg and Smith, 2000: 200).

This has some important implications for *which* individuals participate in the labour force. If two individuals have the same reservation wage, then the one with the higher potential wage rate, based on differences in the traditional human capital variables such as education and experience for example<sup>5</sup>, will be more likely to participate. If two individuals have identical earnings potential, then the one with a lower reservation wage will be more likely to participate. The reservation wage might be determined by some personal preference towards work; the 'workaholic' as opposed

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<sup>4</sup> Reynolds *et al* (1998) and McConnell and Brue (1995) base their argument on the variation of hours worked by US workers. The extent to which this amount of scope to choose work hours is available to South African workers, for example, is questionable. With such high rates of unemployment as well as large numbers of working poor and underemployed, many individuals would probably like to work more hours if they could. In this case, where there is a substantial labour demand shortage, an analysis of labour supply in terms of hours worked might be less appropriate than one in terms of the labour force participation decision, i.e. whether to work/look for work or not. This point will be returned to in the empirical section of this study.

<sup>5</sup> Labour demand, for example, the demand for skilled as opposed to unskilled occupations, will also affect the value of the individual's market time or potential wage rate (Lewis and Peterson, 1991: 71).



to the 'hobbyist', for example, would have a lower reservation wage. Non-labour income, in the form of, say, a spouse's earnings, would serve to raise the individual's reservation wage and lower the likelihood of participation (Berndt, 1991: 603; McConnell and Brue, 1995: 33; Reynolds *et al*, 1998: 43).

A married woman with young children in a situation where childcare facilities are costly would have a higher reservation wage and would be less likely to participate than a single woman with no children, other things held equal. Note though, that family circumstances involving marriage and children are not dealt with explicitly in the traditional model but are subsumed under the concept of 'preferences towards work or leisure'. A married woman with young children would be seen to have a preference for 'leisure' for example, while a married man with children (and hence financial responsibilities) would have a preference towards work (McConnell and Brue, 1995: 18).<sup>6</sup>

This model of the individual's decision to work and how many hours to work can be formalised through the use of a more detailed indifference curve and budget constraint analysis.<sup>7</sup> Also, a number of extensions can be made to the basic model to explain, for example, the effect of pensions on the decision to stop supplying labour/retire, the effect of social security or a change in taxation on how much labour is supplied, and so on, but the basic predictions are the same. It is not the purpose here to explain each theory, or extensions of it, in mathematical detail; more important are the implications of the model for female labour supply. The question of how useful the traditional neoclassical model is in explaining women's decisions to supply labour is considered

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<sup>6</sup> If any one of these factors affecting the potential wage rate or the reservation wage were to change, we would expect to see a change in labour force participation. So, for example, if over time education were to rise, increasing the potential wage rate or the value of market time, labour force participation would be expected to increase. Or, if the reservation wage fell to due to a decrease in the value of non-market time as a result of say less expensive childcare options, again participation would be expected to increase. These reasons for changing participation rates are discussed in more detail in the following chapter.

<sup>7</sup> Differences in preferences amongst individuals would be reflected in the shape and slope of their indifference curves (see for example McConnell and Brue, 1995: 18). Note also that for an individual, the shape and slope of the indifference curves may change depending on the period in the individual's life cycle.

next. For a mathematical derivation and more detail on the basic neoclassical model see for example Berndt (1991: 600-606), McConnell and Brue (1995: 14-45), Reynolds *et al* (1998: 44-54) or Ehrenberg and Smith (2000: 188-215).<sup>8</sup>

## B.2 *Some Criticisms of the Basic Model and Developments in the Literature*

One of the main criticisms of the basic individual model of labour supply in terms of its usefulness in explaining *female* labour supply, is its obvious bias towards the experience of men in the labour market and their decision to supply labour. This is clear from the lack of recognition in the model that the decision to supply hours of work is more complex than a simple dichotomous choice between 'labour' and 'leisure'. Dex (1985: 64, 78), in her critique of labour supply theories, summarises the argument as follows:

'Leisure in this sense is used as a label to represent all uses of time other than in the market of paid employment. It is, however, a peculiarly male choice of label... Had women's work been the subject matter under investigation when neoclassical theories were being developed, it is difficult to imagine that 'leisure' would have been the label attached to the non-market household chores which take up so much of women's time.'

This point is highlighted by an analysis of the results of the first wave of empirical research on labour supply performed mainly from the 1930s through to the early 1970s, and described as 'first-generation' studies.<sup>9</sup> These empirical studies of labour supply used generally very simple models where hours of work were dependent on, as the theory suggests, the individual's wage rate, non-labour income and the individual's preferences towards work and leisure, proxied by, for example, marital status. The range of personal preference variables initially included in these models was not very broad. Men's labour supply models were first to be estimated, using

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<sup>8</sup> For an extensive analysis on retirement from the labour force in particular, see Lazear (1986: 305-355).

<sup>9</sup> The classification of the empirical literature into 'first-' and 'second-generation' studies, depending on the attention paid to the underlying economic theory and econometric issues, was developed in Heckman, Killingsworth and MaCurdy (1979) and Killingsworth (1983).

Ordinary Least Squares (OLS) regression techniques, and often with the aim of assessing the effect of taxes on the incentive to work, for instance. When women's labour supply models were considered, it was within the same empirical framework. Generally though, because women's participation was so much lower than men's, the estimation would be run on the sample of employed females only, with the number of hours worked then regressed on similar variables to those in the male regressions (Dex, 1985; Berndt, 1991).

Though various different values were produced of the responsiveness of hours supplied to changes in the wage rate and non-labour income, the general consensus was that women, and married women in particular, were far more responsive to these changes than men (see, among others, Killingsworth, 1983; Dex, 1985; Mincer, 1985; Killingsworth and Heckman, 1986; Berndt, 1991 and McConnell and Brue, 1995).<sup>10</sup> To account for these differences in the wage and income elasticities of labour supply, it was necessary for labour economists to expand their analysis of the ways in which men and women allocate their time beyond the simple labour-leisure dichotomy.<sup>11</sup>

This involved recognition of the fact that traditionally a very high proportion of adult men are engaged in full-time employment, with the remainder of their time spent mostly in pure leisure activities rather than household work. In contrast, a much higher percentage of women are not working or are engaged in part-time employment, and traditionally have been almost solely responsible for household work. To be able to increase labour supply in response to, say, a wage increase, men would have to substitute labour market work for pure leisure, while women would be able to substitute labour market work for work in the home. Pure leisure and market work are not as highly substitutable as housework and market work, because housework can be reduced by, for example, hiring a domestic worker, buying labour-saving household equipment (washing machines, freezers, etc) or buying time-saving commodities such as prepared meals (Mincer, 1962; Killingsworth and Heckman, 1986: 134; McConnell and Brue, 1995: 28). This helps to explain why empirical studies found results

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<sup>10</sup> For an exhaustive review of empirical estimates of wage and income elasticities of supply for men and women see Pencavel (1986) and Killingsworth and Heckman (1986).

<sup>11</sup> This point had been made already in Mincer's 1962 article on 'The Labour Force Participation of Married Women', but was later formalised in Becker's (1965) work, which will be explained below.

consistent with a smaller substitution effect of a wage rate change for men (especially those of prime working age), and a larger substitution effect for married women in particular (unmarried women being less likely to be housewives or working part-time).

A major development in the analysis of labour supply in general, and women's labour supply in particular, occurred in 1965 with Gary Becker's seminal article on the theory of the allocation of time, in which he introduced the notion of 'nonmarket work' into a formal model. Not only did this enrich the analysis of individual labour supply by expanding the notion of 'leisure' and taking into account work in the home, but it also began to deal with another main criticism of the traditional model - its failure to recognise that most individuals form family units or households, and that decisions about the labour supply of individuals within the household are interdependent. Becker's framework, which was later expanded into a complete theory in his *A Treatise on the Family* (1981), treated the household, rather than the individual, as the primary unit of decision-making. This theory, as well as the criticism it attracted, also paved the way for other models of household decision-making behaviour to be developed. These developments will be explained in more detail in the sections below. Before moving on though, a note on some of the concurrent developments in the empirical literature is relevant here.

Studies of *female* labour supply not only had the important consequence of bringing to the fore essential differences between the way men and women allocate their time within the household unit, but they also exposed some fundamental problems with the empirical estimation of 'first-generation' labour supply functions. In these models labour supply decisions were initially based on the male experience, and because most men were found to be working some hours, researchers used hours of work as the dependent variable in econometric regression analysis. This meant that anyone who did not work would have been recorded with zero hours of work; in econometric terms this amounts to the problem of censored data. While there may have been no significant bias of the results for men, applying the same practice in empirical studies of women's labour supply was highly problematic because of the large proportion of women who were not working, and thus, for whom a market wage would be unobservable (Dex, 1985; Killingsworth and Heckman, 1986; Berndt, 1991).

In an attempt to avoid these specification and measurement problems, ‘first-generation’ researchers used OLS estimation only on samples of women with observed hours of work and wage information, i.e. the employed. This, however, led to the econometric problem of sample selection bias, which occurs if the sample of working women is not representative of *all* women. Because there are systematic reasons why women do not work, the problem arises that the error term is not randomly distributed and the resulting OLS parameter estimates are inconsistent (Berndt, 1991; Greene, 1997).

Essentially, it was attempts to solve this problem relating to female labour supply that led to the development of a variety of new statistical and econometric techniques, which characterised labour supply studies from the mid-1970s onwards (Dex, 1985; Killingsworth and Heckman, 1986; Berndt, 1991). In these studies, which have been labelled ‘second-generation’, close attention was paid to both the specification of functional form and the econometric techniques used in the estimation. In particular, researchers began estimating the labour supply function determining the hours supplied, *as well as* the function representing the discrete choice of whether to supply labour or not (i.e. the labour force participation decision) as part of a two-step procedure to account for sample selection (Heckman, 1979).

As a result, new statistical techniques for handling discrete choice equations were introduced (such as the logit, probit and tobit models, the latter aimed at dealing with censored samples in particular). Also, models were devised to take into account both the observed and unobserved aspects of labour supply decisions, and here the concept and measurement of the shadow/imputed wage was developed, which involved predicting a potential wage rate for women who were not working but whose labour supply decisions would be affected by this unobserved wage. (Dex, 1985; see also Killingsworth and Heckman, 1986: 179-184 and Berndt, 1991: 617-629 for a mathematical explanation of the problems as well as the corrective procedures.)<sup>12</sup>

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<sup>12</sup> Because only discrete choice labour force participation equations are estimated for women in South Africa in the empirical section of this study, for reasons which will be elaborated on in a later chapter, details of these various econometric models and techniques that deal with the number of hours

In addition, the focus on solving problems related to female labour supply estimations drew attention to the fact that the ‘personal preference’ variables used to explain men’s labour supply, were not adequate to explain women’s labour supply as well. As a result, a much wider variety of explanatory variables representing women’s individual and household characteristics began to be included in regression analysis. Along with marital status, variables such as the number and ages of children, health and race, for example, began to be seen as standard variables (Dex, 1985: 68; Mincer, 1985: S8-9).<sup>13</sup>

### *C. The Extended Model of Labour Supply: Becker’s Theory of the Allocation of Time and Joint Labour Supply Decisions within the Household*

#### *C.1 The Allocation of Time and Household Production*

The traditional labour supply model presents the individual’s labour supply decision as a choice between work and leisure. It ignores the fact that when individuals are not engaged in ‘market work’, they are not just idle as the term ‘leisure’ tends to imply. Individuals, and historically mostly women, use their non-market time to produce commodities, both goods and services, which provide utility to the households in which they live. The preparation of meals and the washing of laundry are just two examples of many. Furthermore, most individuals form households in adulthood

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supplied, are not really relevant here. It is important to mention them though insofar as the theoretical models and the empirical estimation fed into one another and brought to the fore issues around female labour supply.

<sup>13</sup> Another significant development over this period in response to the deficiencies of ‘first-generation’ models, involved the introduction of non-linear budget constraints. A variety of complex forms representing for example different income tax structures, income transfer programs, fixed costs of work or employers preferences for minimum hours of work, were introduced. Because these developments were aimed mainly at the improvement of models which assessed the effects of various tax and social security programs for men, they will not be considered in any more detail here (see Joll *et al*, 1983 and Pencavel, 1986).

through marriage and for women, the ‘obligations’ that entails, having children especially, are very important correlates of both the level of, and trends in, female labour supply.<sup>14</sup> Evidence from the US and Britain, for example, has shown that while the level of female labour supply for married women is lower than the level of labour supply for unmarried women, the trend of rising female labour supply has been stronger for married women (for e.g. Mincer, 1962; 1985; Joseph, 1983; Goldin, 1990). Understanding the interactions within the family and how they affect labour supply are therefore key to understanding the feminisation of the labour force that has occurred.

The concepts of ‘non-market work’ and ‘household production’ were formally introduced in Becker’s 1965 landmark article ‘A Theory of the Allocation of Time’. While still based in the neoclassical framework, Becker’s model was considered innovative for two main reasons: one, the household, rather than the individual, was seen as the principal unit of analysis, and two, the household was treated as a unit of consumption *and* production, whereas previously, the household had been seen largely as an unproductive unit (Malos, 1982: 11; Hart, 1992: 113; Benería, 1995; McConnell and Brue, 1995: 51; Katz, 1996). Becker’s theoretical framework has since been used in a variety of models explaining household behaviour in the areas of, among others, marriage, fertility, divorce, and education, under the general heading of ‘New Household Economics’. One of the most important applications, though, has been in the area of labour supply. The basic framework of this model will be considered below.<sup>15</sup>

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<sup>14</sup> Studies have shown that in terms of labour supply single women often behave like (single and married) men, while married women are driven by different factors, children obviously being the main factor (Dex, 1985; Cunningham, 2001). Particularly interesting is a study by Lundberg (1988) of couples in the US, which found that in the presence of young children, married men’s and women’s labour supply are jointly determined, but in the absence of young children, married men and women act independently in determining hours of work – highlighting that the most important effect of marriage on the labour market may be through the presence of children in the household.

<sup>15</sup> Becker (1965) provides a detailed mathematical explanation of these concepts, while Becker (1974b) summarises the main points of his New Household Economics framework. See also Berndt (1991: 610-613), Sapsford and Tzannatos (1993: 46-51), McConnell and Brue (1995: 50-5), Reynolds *et al* (1998: 54-7) and Ehrenberg and Smith (2000: 223-234) for more recent summaries.

Becker's theory is based on the notion that individuals aim to maximise joint household utility and that households derive utility from the consumption of market commodities, as well as the consumption of commodities produced within the household. Also, the consumption of these goods and services all involve, to a greater or lesser extent, a time factor. In this model, the traditional distinction between production at work and consumption at home no longer holds - the household is also seen as a 'small factory' that produces commodities by combining inputs of *market goods* and *time* (Becker, 1965: 496). So for example, preparing a meal at home involves the use of food (goods bought with income from market work) and the time of an individual household member. This analysis is extended to all types of commodities consumed by individuals within households. Even engaging in or 'consuming' activities considered to be leisure can be viewed in this way: for example, going to watch a film involves combining a good, the ticket, with the time spent watching the film.

In general terms then, the household aims to maximise the satisfaction derived from the consumption of a variety of commodities or activities, each of which is based on a production function involving the inputs market goods and time. The maximisation of household utility is subject to a *full income* constraint that consists of the household's non-labour income, as well as the total time of the individuals in the household, which can be translated into earnings in the labour market. The full price of a commodity is dependent on the price of the market goods and the time used in its production, time valued at foregone earnings in the labour market. Commodities differ in terms of the mix of goods and time needed to produce them. Time-intensive commodities/activities would be for example a home-prepared meal or looking after one's child. Examples of goods-intensive commodities/activities for the household would be a fast-food meal or the use of childcare outside of the home.

An increase in wage rates would serve to raise the relative price of time-intensive commodities and induce a substitution against them in favour of goods-intensive commodities. Also, in the production of commodities, goods will be substituted for time. For example, households will increase their use of washing machines, dishwashers, fast-food and so on. As a result, the time devoted to non-market activities will fall and the hours of market work supplied will rise. In contrast, the



income effect of an increase in the wage rate will bring about a decrease in the number of hours of market work supplied. This is due to the additional non-market time required for the increased consumption of commodities, assuming they are normal and not inferior commodities and that the consumption of any commodity requires a non-zero amount of time. Of course, the more time-intensive the commodity, the larger the income effect. Again, one cannot say *a priori* whether the income or the substitution effect will dominate. In the model, an increase in non-labour income, however, would have a negative effect on the number of hours supplied in the labour market as the consumption of commodities and the time required to consume them would rise.

While the conclusions from the traditional labour/leisure model about the income and substitution effects still hold, extending the analysis in this way has been recognised as providing a more realistic or inclusive view of how individuals and households allocate their time (Reynolds *et al*, 1998:57; Ehrenberg and Smith, 2000: 227). The significance of this approach lies in its recognition that individuals spend their non-market time in a variety of activities that are not sufficiently described by the term 'leisure' and that each activity involves both goods and time. To increase the number of hours supplied to the labour market, individuals will engage in activities that use more goods than time, and in addition, *within* each activity, goods will be substituted for time (Joll *et al*, 1983: 26; Dex 1985: 75). Why this is particularly relevant for female labour supply is that women are generally engaged in more *non-market* activities than men, and so have more opportunities to apply these substitutions between goods and time, especially within household production activities.

As mentioned earlier, this extended framework has been used to help explain in part the larger income and wage elasticities of supply that were estimated for women (and married women especially), as well as the large increases in female labour supply that have been observed over time, particularly since World War Two. As wages have risen, women have been able to substitute market for non-market activities by increasing their consumption of goods-intensive activities. This has been made increasingly possible by advances in technology and the increased availability of time-saving household goods which have raised productivity within the household. This framework has also been used to help explain why in more recent studies (late

‘second-generation’), evidence has been found that, in terms of hours supplied among those working, women’s responses to changes in the wage rate are no longer very different from men’s, and that it is rather in the decision of (married) women to *participate* specifically where the differences arise (Killingsworth 1983: 102; Mroz, 1987; Goldin, 1990; Berndt, 1991; McConnell and Brue, 1995: 27-8; Ehrenberg and Smith, 2000: 202–206). It is possible that as women have increased their labour supply over the years, they have substituted more and more goods for time, exhausting the opportunity for further substitutions of this kind to free up additional hours for market work (Berndt, 1991; Reynolds *et al*, 1998: 59; Ehrenberg and Smith, 2000: 202-6, 228-30).

## C.2 *The Sexual Division of Labour*

The analysis so far has sought to explain the extent to which commodities will be provided through market work as opposed to household production, in order to maximise household welfare. Becker’s framework also explains *which* individuals will allocate more of their time to market work and which to non-market work/household production.<sup>16</sup> The principle governing how individual household members allocate their time is that of comparative advantage (Becker, 1981: 32). Individuals will specialise in (that is, allocate most of their time to) activities at which they are relatively more efficient. So, individuals in the household with a lower ratio of labour market productivity (measured in terms of potential market earnings) to household productivity will specialise in non-market work, as the opportunity cost to the household of doing so is lower. Any change in the relative market efficiency for one member of the household would lead to a reallocation of the time of other household members as well. For example, if one household member experiences a wage increase he/she will allocate more time to market work and less to non-market activities, while the other household members will do the opposite. The allocation of time of one household member is thus affected by the opportunities open to the other members (Becker, 1965: 512).

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<sup>16</sup> A full description of the division of labour in households is found in Chapter Two of Becker (1981).

The sexual division of labour, which has seen women predominantly responsible for household work and men predominantly responsible for market work, is justified in these terms as being a rational strategy to maximise household welfare. According to Becker (1981), women have a comparative advantage in household production not only because their earnings potential in the labour market is on average lower than men's as a result of lower human capital investments, but because biological differences make women more productive in the household.<sup>17</sup>

Another important application of Becker's framework has been in the related area of fertility. Having children and looking after them is a highly time-intensive 'commodity', the full opportunity costs of which would be affected also by the earnings capacity of the parents, and especially of the mother.<sup>18</sup> In support of this theory, empirical evidence has shown that women with high potential wage rates have fewer children and participate to a larger extent in the labour market (Becker, 1974b: 318; Dex, 1985: 75; Berndt, 1991: 612).<sup>19</sup>

It has been argued that women's comparative advantage in non-market work cannot simply be explained in terms of human capital investments and biological differences, however. There are also other reasons for why women have traditionally been considered 'less productive' in market work. Factors such as job/occupational and wage discrimination against women in the labour market have contributed to their lower earnings potential (Dex, 1985; Goldin, 1990; Katz, 1996). This in turn may be one of the reasons why women (and their families) invest less in their human capital - their expected future returns are lower. In addition, through socialisation and the perpetuation of gender roles, women become more productive in activities such as

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<sup>17</sup> He writes 'Women not only have a heavy biological commitment to the production and feeding of children, but they also are biologically committed to the care of children in other, more subtle ways' (Becker, 1981: 37).

<sup>18</sup> A substantial body of literature has developed around issues relating to fertility, labour supply and childcare. Some of these issues will be returned to later on and particularly in the next chapter on the feminisation of the labour force. (For more details see for example Chapter 5 in Becker, 1981; Joshi, 1990; Olsen, 1994; Waldfogel, 1997.)

<sup>19</sup> The rise in women's earnings capacity over time has also been used to explain falling fertility rates and a compression of the duration of the childbearing years, which has in turn freed up time for women to increase their labour supply (Becker, 1974b: 318; Berndt, 1991: 612).

child-rearing and home-making (McConnell and Brue, 1995: 54; Ehrenberg and Smith, 2000: 232).

This analysis of the sexual division of labour and fertility also brings to the fore an important causality problem. Becker (1981) proposes that women substitute more non-market work (and especially childcare) for market work because their wage rates are lower than men's. But, it could also be argued that most of the difference in wage rates between men and women is due to women accumulating less (market) human capital because they spend less time in the labour force (see for example Mincer and Polachek, 1974). So, while Becker's framework implies that women who have higher wage rates have fewer children, it is also likely that women who have fewer children will have higher wage rates because their work experience has been less intermittent than that of women who have spent time in childbirth and child-rearing. This problem of endogeneity, which occurs when the direction of causality is unclear, plagues a number of relationships pertaining to labour supply. These will be discussed further in the following chapter, as well as in the later empirical chapters.

### *C.3 The Unitary Household Model*

Key to Becker's analysis of household production and labour supply allocation is his presentation of the household as a decision-making unit. In this section Becker's conceptualisation of how the household functions as a 'unit' is considered in more detail. A principal assumption in the model is that a *unified* household utility or welfare function can be specified (Becker, 1974a; 1981), hence the reference to this model in the literature as the *unitary* household model. The utility of each family member is integrated into a joint family welfare function, subject to a common budget constraint and production function. As explained above, the budget constraint reflects the household's *total* income and time constraints, that is, in the model all resources are assumed to be pooled. In the vein of the neoclassical firm, the household aims to minimise the costs of household production and maximise the utility of household consumption.

The problem of aggregating utilities and specifying a single welfare function when there is more than one set of individual preferences to consider, can be dealt with in

two broad ways. One is by assuming that the individuals in the household have identical preferences – that there is perfect consensus. The other is to assume that all members conform to the preferences of one household member – the ‘dictator’ model (Killingsworth and Heckman, 1986). In Becker’s model, the goals of the household are set by the head, a ‘benevolent dictator’, who acts in the interest of the household as a whole and transfers resources to its members, inducing them to act altruistically. In practice, it is the utility function of the altruistic household head that is used to reflect the interests of the rest of the household (Evans, 1991: 52-53; Hart, 1992: 114). According to Becker’s ‘Rotten Kid Theorem’, each household member or beneficiary, no matter how selfish, will find that it is in his/her best interests to maximise the family income of the benefactor, and in turn the income and consumption of the household members (Becker, 1981: 288). Hart (1992: 114) writes that effectively in the household, ‘efficiency is accomplished through paternalistic manipulation, rather than brute force or perfect consensus’.

Despite the problems with this model, some of which are discussed below, it has remained the most commonly used model in empirical studies of joint household labour supply decisions. This is not only because many of the predictions and results of the individual framework carry over into the household framework with little adaptation, but also because they are empirically relatively easy to test (unlike the bargaining models discussed below) (Dex, 1985: 75; Berndt, 1991: 607). A rise in the non-labour income of one household member, for example, will have a pure income effect and will lead to a reduction in the labour supply of *all* family members. The main difference is that in a joint household context there are now additional substitution effects on labour supply for each household member, following a wage rate change of one member. A husband and wife, for instance, will both have own-substitution effects, i.e. they will respond to a change in their own wage rate. But, they will also respond to a change in their partner’s wage rate; these are cross-substitution effects.

In the framework of an aggregate household utility function, the cross-substitution effect on the wife’s labour supply of a change in the husband’s wage rate, must equal the effect on the husband’s labour supply of a change in the wife’s wage rate – the property of symmetry. While the magnitude of these cross-substitution effects must be

equal in this framework, their signs can be either positive, indicating substitutability, or negative, indicating complementarity.<sup>20</sup> And then of course there is still an income effect of a change in the wage rate of a household member. The question of how one household member's labour supply will respond to changes in another member's labour supply following a wage rate change, is therefore an empirical one (Joll *et al*, 1983: 30-36; Killingsworth and Heckman, 1986: 126-134; Berndt, 1991: 607; Ehrenberg and Smith, 2000: 231-234).<sup>21</sup>

#### *C.4 Some Criticisms of the Unitary Model*

The unitary household model has been criticised extensively for a number of reasons (see, among others, Dex, 1985; Bruce, 1989; Evans, 1991; Hart, 1992; Folbre, 1994; 1995; Benería, 1995; Katz, 1996). Only the main points are summarised here. For a joint utility function to be specified, the model depends on the existence of an altruistic household head who induces altruism in others. While altruism no doubt exists within the family, in reality so does self-interest, and therefore it is possible that the household head and other household members will act in a manner to further their own interests as well. If this main assumption of altruism of the household head is rejected, there are important implications for women's position in the household, in terms of both labour allocation and the distribution of the returns to the household's labour.

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<sup>20</sup> There is no consensus yet on the sizes and signs of these cross-effects between husbands and wives. A number of empirical studies though have rejected the hypothesis of symmetry in the cross-substitution effects of a wage change, casting doubt on the relevance of an aggregate utility function approach of this kind (Lundberg, 1988; McElroy, 1990).

<sup>21</sup> One variation on this approach, often used in empirical estimations, is to assume the cross-substitution effects are zero, and that the change in one member's wage rate only has an income effect on the labour supply of the other members. In other words, the labour supply of an individual in the household is a function of his/her own wage rate, and the sum of the other household members' labour income and the family's non-labour income. Another approach has been to assume that a change in the wife's wage rate has no effect on the husband's labour supply, but a change in the husband's wage rate does have a cross-substitution effect on the wife's labour supply (Lundberg, 1988: 225; Berndt, 1991: 607-8).

If certain members in the household have greater power than others, and if they act not only out of altruism, then they may use this power to influence decisions regarding the household's allocation of labour to further their self-interest. Therefore, while the sexual division of labour, where women specialise in non-market activities and men in market activities, may appear to look like a rational household strategy based on comparative advantage, it may also reflect the fact that men have greater influence over household decision-making than women, and hence are able to prevent their wives from engaging in market activities to further their own interests. Becker's model thus overlooks a common reality of conflicts of interest and constrained 'decisions' within families (Evans, 1991; Katz, 1996).

Furthermore, because of the division of labour, women and men will have differential access to and hence control over the returns to market work. There is no mechanism in the unitary household model, outside of altruism, that secures an equitable distribution of resources across household members. Because women's role in household work is often not considered as being as valuable as market work, women frequently do not share equally in the proceeds from men's labour. Empirical evidence on welfare inequalities within the household casts serious doubt on the notion that household members act solely out of altruism and share resources in the manner expected in the unitary model (Evans, 1991: 56; Hart, 1992: 115; Folbre, 1995: 10). Katz (1996: 5) writes, in summary of the feminist critique of the unitary household model:

'...the weakness of the New Home Economics lies not only in its failure to deal with the individuals that make up the family, but also in its failure to recognise systematic, gender (and age) –based power relations which structure household resource allocation. In other words, the household is not just a random collection of human beings, but an institution infused with historical and psychological meanings which significantly impinge upon its economic decision-making.'

The ability of certain individuals to influence household decision-making about labour allocation and the distribution of resources in turn affects how individuals are able to influence household decision-making in subsequent periods. In other words,

there are cumulative effects – for example, working in the labour force in period one may increase the likelihood of working in period two, not only because of accumulated experience but also because access to the returns to labour may increase the influence over household decision-making in the next period.

While it has been shown that the notion of a unified household utility function is highly problematic, it is important not to go to the other extreme though and reject the concept of a household altogether. Rather, critics of the unitary model have pointed to the need for an analysis of the household that better captures the complexities of household relations and decision-making. The possibility of uneven access to resources within the household and conflicts of interest between household members needs to be acknowledged. To some extent these issues have been addressed in bargaining models of household behaviour, which were developed in response to the shortcomings of the unitary model outlined here (Hart, 1992: 112; Katz, 1996). These models are still located within a household setting but at the same time they recognise that individual household members can also behave in such a way so as to further their own interests.

#### *D. Bargaining Models of Household Behaviour*

If the utility functions of the individual members of a household differ and altruism cannot be assumed, then the aggregated framework of a household utility function is not justifiable. Bargaining models of household behaviour explicitly allow for individual household members' utility functions to differ while at the same time providing the means by which these differences are reconciled, in the framework of a 'cooperative game' (the classic studies are Manser and Brown, 1979; 1980; and McElroy and Horney, 1981). While alternative approaches have been developed, bargaining models all share certain broad features as they generally draw on the Nash-bargaining framework of game theory.<sup>22</sup>

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<sup>22</sup> There is also a third type of household behaviour model that warrants mention here. Developed by Jane Leuthold (1968), it is based on the framework of a 'non-cooperative game'. Individuals act independently to maximise their own utility, but at the same time they consider the actions and



Essentially, these models all characterise household decision-making as some form of bargaining, in which individual members formally 'compete' to gain their individual ends. Within this framework, intra-household interaction is seen to contain both elements of cooperation and conflict. Household members cooperate insofar as cooperative arrangements make each of them better off than non-cooperation. However, among a set of cooperative outcomes, some are more favourable to one party than to another (although they are better than non-cooperation for all parties) - hence the underlying conflict between those cooperating. Which outcome will emerge depends on the relative bargaining power of the household members. Bargaining power is determined by the strength of the 'fall-back position' or 'threat point', which represents the position, or level of utility, that would be attained if cooperation failed. The fall-back position depends on, among others things, income (wage and non-wage), parental wealth and the legal structures governing, for example, property rights, marriage and divorce. Obviously, the individual with the stronger fall-back position will achieve the better outcome, but the individual with fewer outside options will be better off than if he/she failed to cooperate (Bruce, 1989; Hart, 1992; Katz, 1996; Agarwal, 1997).

These game-theoretic approaches have been recognised as incorporating a far more complex understanding of how family decision-making occurs than Becker's approach. They allow for individual differences in preferences, budget constraints and control over resource use, and thus can accommodate gender asymmetries far more effectively than Becker's unitary household model (Katz, 1996; Agarwal, 1997: 6). As with the unitary household model, there are a number of implications of these models for marriage, fertility, consumption and other household decisions. The focus here is on the implications of bargaining models for labour supply decisions, compared to the unitary household model.

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reactions of the other household members. Individuals' reactions to the labour supply and wage rate changes of other members are similar to the Cournot or Stackelberg reaction curves of duopolists and oligopolists. For a stable and unique equilibrium to hold though, very strict assumptions are necessary (Berndt, 1991: 608). See Killingsworth and Heckman (1986: 131-2) for a further description of this model.

Because of the pooled income assumption, in Becker's model an increase in the non-labour income of one household member has the same negative effect on the labour supply of *all* household members, and is indistinguishable from a similar change in the non-labour income of *any other* household member. The effect of an increase in non-labour income in the framework of bargaining models is somewhat different because the assumption of pooled income has been dropped. Consider the effect of an increase in the own non-labour income of an individual household member. The increase in non-labour income can still increase the household's consumption of commodities and decrease the household's labour supply, but the relative bargaining strengths of the household members have now changed. The individual who received the increase in non-labour income would be induced to reduce his/her labour supply, but the labour supply of other household members *may not be affected in the same way*. So who receives the income has an effect on the pattern of labour supply responses of the household (Ashenfelter, 1979: 38-9).

Labour allocations in one period also affect labour allocations in subsequent periods by influencing the bargaining power of respective household members. Consider, for example, the effect of a wage rate increase. In the conventional model, the effect of a wage increase of one household member will, on the one hand, lead to an increase in the consumption possibilities of all household members and so the labour supply of each household member will be reduced. On the other hand, the increase in the relative price of the non-market time of the individual with the wage increase, will lead other household members to substitute their non-market time for the individual's market time. Again, the difference in a bargaining framework is that even though these effects are allowed for, at the same time the bargaining power of the specific household member experiencing the wage increase, has strengthened (which will in turn affect his/her ability to 'compete' in the next round) (Ashenfelter, 1979: 40). Also, in bargaining models the property of symmetry is lost – cross-substitution effects are no longer required to be equal (Killingsworth and Heckman, 1986; Lundberg, 1988).

Bargaining models of household behaviour have greatly improved on the neoclassical model of the unitary household, however these models still suffer from some conceptual and empirical difficulties. While each model has had certain specific

criticisms levelled at it (see for example Gordon, 1979 and Ashenfelter, 1979), in conceptual terms the general criticism has been that bargaining models need to more fully incorporate the interactions that exist between the simultaneous decisions on marriage, children, labour force participation and consumption that these models have tried to analyse (Gordon, 1979: 35). Gordon (1979) in particular points out that more attention needs to be paid to these interactions over time so that the complex life-cycle decisions that affect women would be included.

Sen (1990) makes the point that the role of perceptions and the ability to act in self-interest are also key in determining the outcome of the bargaining problem. He observes ‘what would have looked in the format of the “bargaining problem” like a might-is-right bargaining outcome (e.g. giving a worse deal to the person with a weaker breakdown position) may actually take the form of appearing to be the “natural” and “legitimate” outcome in the perception of all the parties involved’ (Sen, 1990: 145). Social norms and women’s perceptions of their self-worth may prevent them from even recognising, much less resisting, intra-household inequality.

The empirical testing of bargaining models is also problematic. One of the reasons for this is that without very strict assumptions, the complex processes that drive bargaining models seldom generate solutions that are amenable to empirical testing (Berndt, 1991: 608). The most common form of empirical application has been to use the bargaining framework to show how the neoclassical concept of the household is inconsistent with the empirical reality (Hart, 1992: 116). For example, empirical studies of hours of work have been used to test whether bargaining models reduce to the conventional model, that is, when symmetry is obtained. Killingsworth and Heckman (1986: 133) write though that ‘precisely to the extent that bargaining models generalise the conventional model, one in effect abandons the sharp testable implications of the latter without necessarily putting alternative clearcut predictions in their place’. (See also Ashenfelter, 1979 for a specific critique of Manser and Brown’s, 1979 (unsuccessful) attempts to generate discriminating testable restrictions.)<sup>23</sup>

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<sup>23</sup> In support of bargaining models, McElroy (1990) points to empirical studies that, although not specifically based in a Nash-bargaining framework, provide evidence in line with the general

Another problem with the empirical testing of bargaining models is that the measurement of certain variables relevant to these models is very difficult, and as a result empirical studies are constrained by the availability of only the more conventional types of variables that are usually collected in surveys (McElroy, 1990). For example, a key explanatory variable in empirical estimations of bargaining models (in addition to the individual's own labour income) would be the non-labour income/wealth that falls under the control of the individual household member.<sup>24</sup> Accumulated assets/wealth, and the income that accrues from this wealth, are particularly difficult to measure for the individual though. In many households there may be joint ownership of these assets and income (even if only in legal terms), and as a result most survey questionnaires do not try to disentangle the *actual* control over these resources of the individual members of the household (Ashenfelter, 1979: 40-1; Killingsworth and Heckman, 1986: 133-4).<sup>25</sup>

Because of these difficulties most empirical models of female labour supply generally still include the explanatory variables implied by the unitary household model, although asymmetries in the cross-substitution effects are also allowed for. Nonetheless, even though it may not be possible to obtain information on for example, own assets or the social and customary norms that affect relative bargaining

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bargaining framework that the allocation of resources within the household favours those members with better opportunities outside of the household (i.e. with stronger fall-back positions). Another key area of empirical application has been the testing of the pooled income assumption. In support of the bargaining framework, outcomes in the household have been shown to depend on who earns or controls the income.

<sup>24</sup> Rejecting the hypothesis that non-labour income/wealth has the same effect on the labour supply of all household members regardless of its source or who controls it, would amount to some proof of the lack of relevance of the unitary household model to real-world household behaviour.

<sup>25</sup> Other variables that should be included in the empirical analysis of bargaining models to represent the outside options of the individual, and particularly how these are affected by the extra-marital/extra-household environment, would be for example: the employability of each household member; religion and caste; rules governing property, divorce and child support; government transfers dependent on family status; and age-specific sex ratios. Note that one of the features of bargaining models is that they analyse the marriage decision as well as behaviour within the household – which means that variables representing alternatives to the marriage are important (Killingsworth and Heckman, 1986: 133; McElroy, 1990).

power, it is important to acknowledge, at least qualitatively, that these exist. Also, when including variables that represent household income in regression analysis of female labour supply, it must be kept in mind that the distribution of or access to this income may not be equal within the household, and so the effect on labour supply of changes in these variables might not always be as predicted.<sup>26</sup>

### *E. Concluding Remarks*

In this chapter economic theories of labour supply were reviewed, focusing specifically on whether and how these theories dealt with female labour supply. As was shown, over time both the theoretical models and the empirical application of these models paid increasing attention to the issues surrounding women's participation in the labour force. It was recognised that not only individual characteristics, but also household characteristics are important in determining female labour supply especially. Education, experience and potential earnings in the labour market as well as, for example, marital status, children and access to non-labour income (through, say, a partner's income, a transfer, or a personal inheritance), are all likely to be important determinants of the female labour supply decision. As with many topics in economic analysis, however, testing the theory is constrained by the availability of appropriate data, in this case, that capture the factors relevant to women's decisions in the labour market, a problem that will be considered a number of times throughout this study.

It was also shown that explicit recognition of the household framework within which labour supply decisions are made is important for a study of the feminisation of the labour force. If there are factors other than comparative advantage determining the sexual division of labour and how much time women allocate to the labour market, then there will be other reasons for why the labour supply of women has increased so

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<sup>26</sup> Lloyd *et al* (1979: xv) pointed out two decades ago already that when these bargaining models are fully developed they will offer a more useful and realistic alternative to the neoclassical model, especially in light of the large increases in female labour force participation coupled with evidence of increases in marital instability and dissolution over time.

dramatically over the past few decades. It may not be sufficient then to explain the feminisation of the labour market simply in terms of rising productivity in the household freeing up women's time to work, or rising wage rates for women, increasing the value of their market time. It could be that women's bargaining power within the household has increased over time giving them more control over the decision of whether, and how much, to participate in the labour market.

It is difficult to disentangle the various effects, i.e. the changes in comparative advantage from the changes in bargaining power, as observable factors which increase the value of women's market time, such as education and earnings, also increase bargaining power. Nonetheless, it is important to recognise (even if only qualitatively) that there are factors that could affect labour supply through their effect on bargaining power. Holding household productivity and wage increases constant, changes in society's perceptions of women's role in the labour market and changes in women's perceptions of themselves are two other examples.<sup>27</sup> These issues will be discussed further in the following chapter.

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<sup>27</sup> As will be explained in the empirical chapters, these unobservable effects are generally reflected in econometric regression work as a structural change in the labour supply decision over time, as opposed to a change in the characteristics of the female labour force.

## CHAPTER TWO

# A REVIEW OF THE INTERNATIONAL LITERATURE ON THE FEMINISATION OF THE LABOUR FORCE: TRENDS, CAUSES AND CONSEQUENCES

### A. *Introduction*

The previous chapter reviewed economic theories of labour supply and their usefulness for understanding female labour supply in particular. This chapter is concerned with the *increasing* labour supply that has been documented around the world for women, and especially since World War Two. By labour supply here, it is meant the increase in women's *participation* in the labour market, as is evidenced by the rising labour force participation rates reported for women.

To clarify, the labour force participation rate, sometimes referred to as the economic activity rate, is measured as the percentage of the working age population that participates in the labour force. In other words, the numerator is made up of the economically active population i.e. those working or wanting to work, and the denominator consists of all those in the working age bracket. The working age bracket is defined differently in each country but usually lies somewhere between the ages of 15 and 65 years, and represents potential labour market entrants.

This chapter begins with a discussion in Section B of the trends in labour force participation rates around the world, and how these trends have resulted in a feminisation of labour markets in the majority of countries studied. Most of the chapter (Section C), however, is devoted to a review of the reasons given in the international literature for *why* female labour force participation rates have increased so dramatically. Lastly, in Section D, some of the consequences for women of this rise in female labour force participation, and the feminisation of employment, will be considered.

The overall objective of this chapter is not just to review the international literature though, but to situate changes in the South African labour market and the economy in general, in the broader international context. South Africa as a middle-income country with large earnings and human development disparities along racial lines, has elements of both developed and developing country economies. A review of the literature that looks at the changes in female labour force participation in both developed and developing economies around the world is therefore relevant here. While the empirical section of this thesis will deal with the nature of the feminisation of the labour force in South Africa in great detail, throughout this chapter reference will be made to the South African case and how it compares with other countries for which there is evidence.

It must be pointed out though that the economics literature on the determinants of labour supply and its changes over time, is vast and has multiplied a number of times over since the 1970s especially. Pencavel (1986: 3) in his review of the literature describes it as 'the most active area of all labour economics research'. A review of this literature, theoretical and empirical, in its entirety is not possible. The main points will be highlighted throughout the chapter however. If there is a slant towards evidence from the US and Britain, this is because much of the literature was and still is written in and concerns these two countries. Evidence of and from other countries is of course also included, and, as will be shown later in this chapter, there has been a proliferation of cross-country studies in the past decade especially, that consider also the experience of developing countries in response to the changing world economic order of the 1980s and 1990s.

### *B. International Trends in Labour Force Participation*

The broad trends that emerge from almost all the work that has documented female labour supply over time, is that female labour force participation rates have been increasing, with male participation rates often decreasing or at least not increasing by as much, such that there has been a changing composition of the workforce - a *feminisation* of the workforce. Initially, these trends were documented mainly for the



US and Britain and emphasis was placed in particular on the dramatic increases in female labour force participation and the number of hours worked that occurred after World War Two. Recognition of these large increases in female labour supply, and an analysis of this phenomenon only really began though in the 1970s and 1980s (for example Lloyd *et al*, 1979; Fuchs, 1983; Joseph, 1983; Dex 1985; the collection of papers reviewed by Mincer, 1985; Smith and Ward, 1985; the collection of papers in Benería and Stimpson, 1987).

Writing in 1983, Joseph (p. 1) starts his book 'Women at Work: The British Experience' with the following statement: 'During the last three or four decades, a revolution has occurred! But, in spite of the considerable public attention given to the feminist movement, this revolution – the entry into the work force of millions of women – has been largely ignored until recently.' He documents a dramatic increase in the number of women entering the labour market in the United Kingdom (UK) post-World War Two, while the number of men entering actually fell. In 1951, women made up 31 percent of the working population and by 1971 this share had risen to 37 percent, an increase of around 2.2 million women (Joseph, 1983: 6).

Similar statements have been made about the dramatic changes in the US economy. Smith and Ward (1985: S60) write, 'The American labour market has been transformed in many ways during this century, but perhaps the most far reaching is its growing feminisation.' Lewis and Peterson (1997: 67) in a similar vein state that 'One of the most important economic and social developments in the United States this century has been the tremendous influx of women into the labour market.' In the post-war period, while labour force participation rates for women rose significantly, from 32.7 percent in 1948 to 41.6 percent in 1968, male labour force participation rates fell (Berndt, 1991: 594).

Another trend that has received extensive attention in the literature (on developed countries mostly though) is the large increase in the labour force participation rates of *married* women in particular after World War Two (Joseph, 1983; Smith and Ward, 1985; Hartmann, 1987: 44; Olsen, 1994; McConnell and Brue, 1995: 60-1; Lewis and

Peterson, 1997: 78-82; Ehrenberg and Smith, 2000: 1798-183).<sup>1</sup> World War Two seemed to represent a watershed in married women's labour force participation. Many women, even those with young children, were pulled into employment because of the high demand for labour due to the war effort. Joseph (1983: 21) writes, 'Removal of restrictions on employment of married women in certain occupations, provision of childcare facilities and location of factories in areas with untapped resources from mothers with children were aimed at mobilising labour for a war-time economy.' While some women would have withdrawn after the war, many remained, beginning the dramatic long-term trend of increasing female labour force participation of the second half of this century. This phenomenon began to discredit the notion that women are only 'secondary' or 'marginal' workers that form a reserve of labour supply, to be called in only when labour is in short supply (Joseph, 1983: 3; Reynolds *et al*, 1998: 63).<sup>2</sup>

Mincer (1985)<sup>3</sup> in an overview of studies performed in the early 1980s on trends in female labour force participation, found that for a number of industrialised countries – Australia, Britain, France, Germany, Israel, Italy, Japan, the Netherlands, Spain, Sweden, the US and the USSR – labour force participation rates for women rose between 1960 and 1980, generally continuing longer-term but less dramatic trends. Although each country was at a slightly different stage in its development path and so the level of participation rates varied, another common trend was that most of the

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<sup>1</sup> For example, in the UK the rise in participation was driven largely by married women's labour supply. Married women's share of the female labour force increased from 38 percent in 1951 to 63 percent in 1971 (Joseph, 1983: 1). In the US, of the 39 million additional women in the labour market over the period 1950 to 1992, two thirds of these were married (McConnell and Brue, 1995: 60).

<sup>2</sup> For more recent statistics which show how labour force participation rates continued to increase for women and decrease for men in the US into the 1990s and how (married) women's share of the labour force increased see also McConnell and Brue (1995: 56-61), Lewis and Peterson (1997: 78-82), Reynolds *et al* (1998: 40-2, 60-1) and Ehrenberg and Smith (2000: 178-83).

<sup>3</sup> In 1985, a supplementary edition of the *Journal of Labour Economics* was published on 'Trends in Women's Work, Education and Family Building'. It consisted of a series of 17 articles which had been presented at the 1983 Conference in Sussex, England, on the increases in female labour supply in 12 industrialised countries. It had been organised in response to the growing interest in changes in female labour supply at the time and represents the first substantial compilation of literature on this topic for a variety of industrialised countries.

growth was driven by the increase in the labour force participation of married women. Mincer (1985: 52) reports that in general the participation rates for married women grew about twice as fast as the rates for all women. Even though there was some convergence between male and female rates over the period, male rates remained higher than female rates in all the countries except the USSR in which women's rates were almost as high as men's (Mincer, 1985: 53).

This particular trend of rising labour force participation among married women was noted as early as Mincer (1962) and Sweet (1973), both cross-sectional studies on the determinants of married women's labour supply. Mincer (1962: 17-18) for example writes that 'One of the most striking phenomena in the history of the American labour force is the continuing secular increase in participation rates of females, particularly of married women, despite the growth in real income.' This phenomenon was seen as surprising, as cross-sectional studies showed that for married women, their husband's incomes had a negative effect on their participation. From the perspective of the household, labour supply theory would therefore predict that married women's labour supply would fall as men's real earnings rose, as they had been on average since World War Two (Berndt, 1991: 594).

The problem is that cross-sectional studies do not have a time dimension of course, and so they hold constant certain factors that are important in driving increased female participation over time. The influence of these factors has been so strong it has outweighed any negative effect on female participation that might have been caused by rising real earnings of men/husbands (Berndt, 1991: 594; McConnell and Brue, 1995: 60-61). This apparent contradiction between cross-section and times-series information on married women's participation stimulated a substantial amount of research on the causes of the growth in married women's labour supply over time, which will be reviewed in the following section. Also discussed later in more detail is the fact that some men/husbands would not have experienced real earnings increases, hence the importance of not treating (married) women, and their experience in the labour market, as homogenous.

The evidence provided thus far has been based on studies of the industrialised economies. Since the late 1980s especially, there have been a number of studies that

have looked at the trends in labour force participation rates for developing/industrialising countries as well as the industrialised countries (for example, Standing, 1989; 1999; Cagatay and Ozler, 1995; Chen *et al*, 1999; Horton, 1999; Mehra and Gammage, 1999). In 1989, in his seminal piece on the rise of global flexibility and women's employment, Standing provided evidence from international data suggesting that female participation was rising and male participation was falling in most countries around the world, industrialised and industrialising, and particularly in those countries that had followed a path of export-led industrialisation in the recent decades (an hypothesis that will be elaborated on in the following section).

In a 1999 paper that revisits his hypothesis of 1989, Standing reiterates that this feminisation of labour markets around the world that he had documented for the late 1970s and 1980s continued into the 1990s. Of course, different factors affect the labour supply of women in different countries at any one point in time, and so the level of participation rates will be specific to each country, dependent on the stage in its economic development, as well as a host of social and cultural determinants. Because it is the general trends in, and not the levels of, labour force participation rates that are of interest here, only the direction of the change in these rates is reported below in Table 2.1, based on Standing (1999).

*Table 2.1: Trends in male and female participation rates around the world, 1975-1995*

	Percentage of countries in each category <sup>a</sup>		
	Women rose	Women fell	Women no change
<b>Men rose</b>			
- Developed	5.0%	-	-
- Developing	20.0%	5.7%	-
<b>Men fell</b>			
- Developed	65.0%	15.0%	15.0%
- Developing	51.4%	11.4%	2.9%
<b>Men no change</b>			
- Developed	-	-	-
- Developing	2.9%	-	5.7%

Source: Based on Table 1 from Standing (1999: 586).

Note: <sup>a</sup> Developed and developing countries add up to 100 percent each.

Using data from 1975 to 1995 for as many countries as possible, Standing (1999) found that in 70 percent of the developed countries surveyed female participation rates rose, while for developing countries this figure was around 74 percent. Also,

within many of these countries, the gap between male and female participation rates narrowed quite considerably. Table 2.1 shows that in 65 percent of the developed countries and 51.4 percent of the developing countries surveyed, female participation rates rose while male rates fell. Furthermore, for the majority of countries in which the male labour force participation rate fell, the female rate rose by more, so that overall the total participation rate increased – ‘suggesting a strong change in the gender division of labour and suggesting that female labour force entry was more than substituting for men’ (Standing, 1999: 588). Standing (1999) also found that the net increase in total participation was greater than over the previous decade despite the fall in male participation being greater in the later period. And, as had been noted in his earlier 1989 article, for those countries that had followed a path of export-led industrialisation especially, female labour force participation was high and had increased. These trends have been verified in other studies as well (such as Catagay and Ozler, 1995; Mehra and Gammage, 1999 and Horton, 1999, to name a few).

It is also interesting to note that these large increases in female labour force participation rates seem to have translated mainly into increased employment for women. In fact, in much of the international literature, labour force participation is almost treated as being synonymous with employment, and very little mention is given to unemployment, probably because it declined in relative terms for women. From the mid-1970s to the mid-1990s, the ratio of female to male unemployment rates decreased in most of the industrialised (72.8 percent) and developing countries (82.5 percent) surveyed in Standing (1999: 597-8). In a majority of the industrialised countries the female unemployment rate was even *lower* than the male rate. (See Tables 9-12 in Standing, 1999: 596-599, see also Kuhn and Bluestone, 1987 on the US and Mehra and Gammage, 1999: 546 on both developed and developing countries). Standing (1999: 598) writes:

‘Given that women’s labour force participation rates and employment have been rising and women’s unemployment rates have fallen, this change cannot be explained by reference to withdrawal from the labour force in times of high overall unemployment. It seems to reflect considerable erosion in the position of men in labour markets throughout the world.’

Again, this suggests that women can no longer be considered the 'labour reserve' and men the primary breadwinners employed in full-time regular jobs. As will be shown in the next chapter of this study, this general trend in unemployment in the countries reviewed by Standing (1989; 1999) and others, is in stark contrast to the trend in South Africa. While labour force participation for women has been rising in South Africa, and many more women have had to act as the breadwinners in their households, this has occurred in an era of mass unemployment, for women especially, and increasing unemployment rates for both women and men.

Returning to the international literature, the evidence reviewed seems to show that the feminisation of the labour force has been driven not only by dramatically rising female labour force participation rates but also by the relative decline in males rates of participation in many countries. Because the focus of this study is the change in female participation, reasons for declining male rates will only be mentioned very briefly here. In the US, for example, the reasons for why male labour force participation has been declining since World War Two are made clearer by disaggregating participation rates by age. While for women the increase in participation has been driven largely by married women of prime working age (around 25 to 54 years), for men the decrease has been driven by a sharp decline in rates among men aged 65 years and older, and over the past two decades among men aged 55 to 64 years as well.<sup>4</sup> It has been argued that increasing real wages and earnings have meant that more and more male workers have been able to accumulate sufficient wealth to retire at an earlier age. Also, the availability (and increased generosity) of social security for the elderly and private pensions has reinforced this trend (see Pencavel, 1986; Berndt, 1991: 594-5; Olsen, 1994: 95; McConnell and Brue; 1995: 57-60; Reynolds *et al*, 1998: 60-61).

Standing's (1989; 1999) explanation for the decline in male participation rates in the countries reviewed in his studies is demand related. He proposes that there has been a decline in the demand for male labour relative to female labour as a result of

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<sup>4</sup> Ehrenberg and Smith (2000: 181) also show rising labour force participation rates for women aged 25 to 54 years and falling rates for men over 55 years in the US, Canada, France, Germany, Japan and Sweden from 1965 to 1997.

globalisation and increased flexibility in the labour market. In other words, the rise in female labour force participation and the fall in male labour force participation could be seen almost as two sides of the same coin: in some industries women and the types of jobs traditionally held by women are substituting for men and the types of jobs traditionally held by men. This issue of demand-related factors affecting labour force participation and the feminisation of employment will be returned to below in the following discussion of why women's participation rates have been increasing.

### *C. Reasons for Rising Female Labour Force Participation*

As will be shown in this section, a number of different factors have been considered important in driving the change in female labour force participation rates. Some are economic in nature and have been referred to in the previous chapter explaining theories of labour supply, others involve institutional and attitudinal change. The reasons for rising female participation rates can also be loosely divided into 'pull factors' and 'push factors'. Pull factors are associated with changes on the demand side of the labour market, reflected in the increased job opportunities and earnings available to women in paid employment, which would in turn raise the opportunity cost of not working. Push factors derive more from the supply side of the labour market, and are reflected in increased economic need, through for example the fall in the real income available to women in their households.

It is important to point out though that these different factors might affect different groups of women in a country to varying degrees. In the US literature, for example, it is shown that the labour force experience of white women has been different to the experiences of African-American and Hispanic women.<sup>5</sup> This point is particularly relevant for a study of labour force participation in South Africa, where women are not an homogenous group, but differentiated by race, culture and income, for example. Also, many of the factors that have been highlighted in the literature as important in driving increased female participation are interrelated, and at times it is

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<sup>5</sup> See Lewis and Peterson (1997: 74-7) for a bibliography and a review of this empirical literature.

difficult to say in which direction the causality runs, an issue that will be reiterated throughout this section.

From the extensive literature that has documented the rise in female labour force participation, it seems that over the decades certain determining factors have been considered more important than others. The order in which the various reasons for rising participation rates is presented in this section is to some extent based on the attention paid to these reasons in chronological order. Of course, it is important to recognise that not all countries have followed the same path. While the literature, particularly the earlier literature of the 1970s and early 1980s focused more on industrialised countries, since then a substantial amount has been written on the experience of the industrialising economies. So ultimately, when analysing the trends in, and the causes of, changing participation rates for a particular country, it is important to consider also the specific socio-economic history of that country.

### *C.1 Rising Real Wage Rates and Education for Women*

Increases in education result in higher wages and better job opportunities for women in the labour market, in turn increasing the value of their market time, or the opportunity costs of engaging in non-market work in the home. Here the substitution effect of a real wage increase outweighs the income effect for many women, and as such, labour force participation rises (Mincer, 1962; McConnell and Brue, 1995; Lewis and Peterson, 1997; Reynolds *et al*, 1998).<sup>6</sup>

In the terminology of the unitary household labour supply model, it is the relative change in the value of time, market or non-market, of a household member that affects the decision to participate in the labour market. The possible determinants of the increase in female labour force participation, such as increased education and wages, could be seen in this light. But increased education and rising real wage rates would also serve to raise the *bargaining power* of women within their households. In addition, increased education will also affect women's attitudes to marriage and

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<sup>6</sup> The income effect of a change in the wage rate for women who were not participating would be zero, and the substitution effect would then of course dominate.



children, and their preferences for market as opposed to non-market work, as more emphasis is placed on careers outside of the home (McConnell and Brue, 1995; Lewis and Peterson, 1997).

The earlier literature on the causes of rising female labour supply in the developed economies post-World War Two placed a large emphasis on the role of increasing education and skill levels of women, and the subsequent rise in their potential wage rates (Mincer, 1985).<sup>7</sup> Fuchs (1983: 127-133), writing about the US experience, proposed that rising real wage rates and the expansion of ‘women’s jobs’ in the services industry were the two most important reasons for rising female labour force participation (see also Mincer, 1985; Hartmann, 1987). He also pointed to the importance of falling fertility rates and rising divorce rates, although he acknowledged that the cause-and-effect relationships were unclear (see discussions below). Smith and Ward (1985) concluded that rising real wage rates accounted for close to 60 percent of the increase in the female labour force that had occurred since World War Two in the US, directly by creating incentives to work, and indirectly by inducing lower fertility rates. However, it has also been argued that while the rise in real wage rates may help explain increasing female participation in the US in the earlier post-war decades, it does not help in explaining the continued increase from the 1970s onwards once real wage rates stopped increasing (Smith and Ward, 1985; Reynolds *et al*, 1998).

As mentioned earlier, economists became particularly interested in understanding the increase in labour force participation rates of *married* women, as it dominated the general rise in the participation rates of all women. Mincer (1962), in his classic analysis of the labour force participation of married women, also suggested that the rise in their participation was largely explained by the rise in women’s real wage

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<sup>7</sup> While rising real wages seem to have been considered primarily a consequence of women acquiring more skills and education (Berndt, 1991: 594; McConnell and Brue, 1995: 62), they were also driven by the economic growth of the post-war period and the expansion in certain industries that hired women (Mincer, 1962; Lewis and Peterson, 1997:72). In particular, the expansion of the public sector and the services industry during the 1950s and 1960s with the dominance of the welfare state, served to increase women’s opportunities in the labour market. This issue of increased job availability for women will be returned to in more detail in Section C.7 below.

rates, so that over time the positive effect of the increase in women's wage rates more than outweighed the negative effect of the increase in husbands' earnings power. Mincer (1962) further suggested that the dominance of the substitution effect of the rise in wages over the income effect (of both the increase in the wife's and the husband's wage) was *reinforced* by the invention of labour-saving appliances for the household, which women could use to free up their time for market work. This development is discussed next.

### *C.2 Rising Productivity in the Household*

As explained in the previous chapter, the increased availability and quality of capital goods for the household (e.g. refrigerators, washing machines, dishwashers, etc) have increased productivity in the home, freeing up time spent in household production and consumption. This has allowed more women, married women in particular, who have been predominantly responsible for non-market work, to join the labour market or increase their number of hours supplied to the labour market. Also, the ability to buy goods and services previously produced in the household (such as childcare outside of the home and restaurant meals/fast-food) has reduced the demands on (and value of) women's non-market time. The greater the possibility for substitution of market for non-market goods in the household, the greater the dominance of the substitution effect over the income effect on the number of hours spent on market work of a wage increase (Mincer, 1962; Joseph, 1983; McConnell and Brue, 1995: 62-3; Lewis and Peterson, 1997: 73; Reynolds *et al*, 1998: 62).

There is possibly some endogeneity here though. The availability of time-saving household goods and services frees up women's time, making it more possible for them to join the labour market. But, these innovations could have been made in response to the needs of women who decided for other reasons to enter the labour market (McConnell and Brue, 1995: 66; see also Fuchs, 1983, who supports the latter argument).

Joseph (1983), in his discussion of the archetypal British post-war household, suggests that these developments in Western capitalist society that made married women's roles as housewife and mother easier (such as the mass production of cheap

ready-to-wear clothing, convenience food and other convenience goods, the availability of labour-saving domestic appliances and the extensive use of plastics in particular), would have freed up their time to the extent that they might have begun feeling underemployed. He also points to the role of the increasing demand for a wide variety of goods and services in the consumer-driven post-war society. The increased preference for purchased consumer goods would have in turn reduced the value of women's non-market time. The effect of this new generation of consumerism has also been notable in American society (Malos, 1982: 20; Lewis and Peterson, 1997: 73).<sup>8</sup> It has been argued, furthermore, that urbanisation compounded this effect. Households have greater exposure and access to market-produced goods in urban areas, while there is also less opportunity to produce non-market goods in the household. This would reduce the value of women's non-market time and increase the need to earn an income from market work (Lewis and Peterson, 1997: 73-4).<sup>9</sup>

Lewis and Peterson (1997: 86-87) provide information on the percentages of households in the US with selected household appliances. The increases are dramatic from the 1940s and 1950s especially until the 1980s, by which time the majority of households had acquired the most common of these appliances. As mentioned in the previous chapter, this trend has also been used to explain why married women's responsiveness to wage rate changes in terms of the *number of hours* supplied was found to have lessened in the more recent 'second-generation' studies, as the opportunities for substitution of market for non-market goods were exhausted (Ehrenberg and Smith, 2000: 230).

There is also evidence in the US, for example, of a dramatic increase in the use of childcare outside of the home. Lewis and Peterson (1997: 85) and Reynolds *et al* (1998: 63-66) provide data which show that between 1965 and 1988 the use of

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<sup>8</sup> In addition, the creation of new jobs associated with the production, distribution and advertising of the above-mentioned goods and services, during a period where the male labour force was contracting and demand had outgrown supply, may have served in pulling (married) women into employment (Joseph, 1983).

<sup>9</sup> The movement away from rural areas to urban areas where paid employment for women is more abundant, also made jobs geographically more accessible to women (Smith and Ward, 1985; McConnell and Brue, 1995: 65).

childcare by employed women for children aged five years and younger (e.g. day-care centres, nurseries/preschools, kindergarten and extended day-care) had more than trebled, from 8.2 percent to 31.2 percent. So, even if fertility rates had stayed the same over time, the increased availability and use of childcare and labour-saving household goods would have served to make women's participation in the labour market less costly. The rise in female labour force participation rates, however, has also coincided with a fall in fertility rates, which will be discussed below.

Before moving on though, a short note on the experience of less developed economies is necessary here. While the use of labour-saving household goods has been widespread in most developed countries, it is important to remember that there are many developing countries where the household income levels of a large number of families would prevent them from purchasing any of these items. And yet female labour force participation has still increased in these countries, signalling that there are different factors driving the rise in participation of women from these poorer households. Similarly, in some countries, and again the less developed countries especially, formal childcare options while perhaps becoming more available, remain relatively costly, discouraging the use of such options. In these cases it could be that women with children enter the labour market out of need and despite the lack of affordable childcare and other facilities, as they have to earn an income to support their children. In a country like South Africa for example, where extended family relations are strong, other female relatives might then substitute for formal childcare outside of the home.

### *C.3 Declining Fertility Rates*

As explained in the previous chapter, children in the household, and especially younger children of preschool age, reduce the likelihood of women's participation in the labour market as childcare is a very time-intensive activity. One of the main reasons given in the literature (and again especially in the earlier literature) for *increasing* female labour force participation rates has therefore been the fall over time in fertility rates (Mincer, 1985). Fertility rates have been declining for reasons outside of the labour market, such as the more common use of birth control techniques, increasing preferences for fewer (but more educated) children, and changing attitudes

towards having children in general (Mincer, 1985; Hartmann, 1987; Olsen, 1994; McConnell and Brue, 1995). This fall in fertility rates has reduced the demand on women's non-market time within the household, enabling them to enter into market work; and at the same time women's comparative advantage in household production is reduced. In addition, women are having their children later in life, and the period of time over which they are having them has become more compressed, reducing the length of time women have to withdraw from the labour market (see Hartmann, 1987 and McConnell and Brue, 1995: 63 for evidence in the US; also Joseph, 1983: 10 for evidence of a similar trend in Britain).

In the US, for example, much has been written on the link between rising female labour force participation rates and falling birth rates, which decreased dramatically from the 1960s especially (Smith and Ward, 1985; Hartmann, 1987; Goldin, 1990; Olsen, 1994; McConnell and Brue, 1995; Lewis and Peterson, 1997; Reynolds *et al*, 1998). Measured as the number of live births per 1000 women, the birth rate in 1960 in the US was 118, by 1970 it had fallen to 87.9, by 1980 to 68.4 and by 1988 to 67.2 (Lewis and Peterson, 1997: 86). It is interesting to note though that the fall in fertility rates in the US had slowed down by the 1980s, highlighting that there may have been other factors driving the rise in female participation in the labour market over the last two decades.

The problem of endogeneity also arises when looking at the relationship between falling fertility rates and rising labour force participation. On the one hand, having fewer children, and over a shorter time span, would increase the likelihood of women acquiring greater education, having a higher earnings potential, and thus participating in the labour market. On the other hand, having a greater education and earnings potential and participating in the labour market could also result in women having fewer children and over a shorter period of time, as the opportunity cost of such a highly time-intensive activity is of course higher (Becker, 1974b, 1981; Fuchs, 1983; Olsen, 1994). As mentioned earlier, increased education and earnings will further serve to raise women's bargaining power in the household, and in turn their ability to influence the number and timing of births.

It is also possible that decisions about having children and participating in the labour market are simultaneous, or causally interdependent, representing women's changing preferences from household activities towards market work (Joseph, 1983: 12; Mincer, 1985: S7; Reynolds *et al*, 1998: 63). While fertility varies with a number of socio-economic characteristics and the direction of causality is not clear, there is nevertheless much evidence of more educated/working women having fewer children than full-time homemakers in almost all developed countries (Joseph, 1983: 12; McConnell and Brue, 1995: 63).

It is interesting to note that in addition there have been large increases in the labour force participation rates of married women even *with* young children (under the age of six years). This seems to signal that children are also less of a hindrance to labour force participation now than they were in the past. Again availability of childcare, greater productivity in the household, as well as changing attitudes about women's and men's contribution to the upbringing of children would be of influence here (Hartmann, 1987: 44; Olsen, 1994; McConnell and Brue, 1995: 63; Reynolds *et al*, 1998: 62; Horton, 1999). Changing preferences and attitudes in general have also played an important role in the rise in women's participation in the labour market in a number of ways. These are considered next.

#### C.4 *Changing Preferences and Attitudes*

There has been a fundamental change in female preferences from home production towards market work in the latter half of the twentieth century. These changing preferences mirror a more general change in women's attitudes about their rights and self-worth, which culminated in the feminist movement of the 1960s and 1970s. While these changes would have had an effect on all women, they have been considered especially important in explaining why *married* women's labour force participation in developed countries has increased so dramatically in particular.

Joseph (1983: 9) writing about the British experience post-World War Two, points to the 'low esteem' in which household work began to be viewed, and by married women themselves. He writes:

‘In this regard, an important contribution of the feminist movement has been a critical examination of the ideological implications of the work done by housewives. The cult of home-maker and mother is often a disguise for both the inferior social standing of the housewife (whose status is often derived from that of her husband) and the unpaid drudgery that housework often entails.’

Similarly, in American society, changing socio-cultural views on women’s roles have diminished the value that women place on non-market roles (see the collection of women’s writings from the US and Britain in Malos, 1982; also McConnell and Brue, 1995: 62; Lewis and Peterson, 1997: 73)

In addition, society’s attitude in general towards women working, and especially married women, has changed. McConnell and Brue (1995: 62) write the following about changing attitudes in the US: ‘In the 1920s and 1930s there was general disapproval of married women working outside the home. A man would lose status and be regarded as a “poor provider” if his wife was “forced” to take a job. But in the post-World War Two period there has emerged an attitudinal turnabout such that labour force participation by married women is widely condoned and encouraged.’ Joseph (1983: 16-17) writes of a similar experience in Britain among the middle and upper classes especially, ‘... social mores demanded that the woman be “supported” by her husband. Indeed the ability to “support” was in many cases a prerequisite for consent to the marriage in the first place.’ It was mostly wives of working-class husbands that were more likely to work out of necessity (Malos, 1982; Joseph, 1983).

Husband’s attitudes to their wives working have played an important role in increased female labour force participation. In an American study in 1961 the husband’s attitude was found to have the most influence on a married women’s decision to participate, and in a 1965 British study, it was found that 58 percent of a sample of women who wanted to work, cited their husband’s disapproval as the main reason for not doing so (Joseph, 1983: 17). This disapproval may have in part been driven by society’s condemnation of a man not being able to support his wife, but may also have been driven by the man himself, concerned about the quantity and quality of household production diminishing, and who had a vested interest in maintaining the status quo.

Attitudinal change on the part of men more recently might have been driven for example, by the higher living standards and the greater personal satisfaction for women that would be associated with married women working (Joseph, 1983: 17), but it could also be a result of the increased strength of women's bargaining power within the household, and their more favourable perception of this power. Furthermore, there has been a change in the attitude of some men towards housework and childcare. Even if fertility rates stayed the same, men's more favourable attitude towards performing household activities would increase the possibility of women joining the labour market (Joseph, 1983: 14; also Lewis and Petersen, 1997: 85 and Reynolds *et al*, 1998: 65 provide empirical evidence of fathers' increased role in childcare in the US).

The effect of these changing attitudes and preferences on rising female labour force participation would have had an influence in other ways as well. For instance, legislation driven by the belief in equal rights for men and women, has played an important role in many countries. In the US, the anti-discrimination legislation of the 1960s which ratified 'equal pay for equal work' made labour market work more attractive for women relative to household work (Hartmann, 1987; McConnell and Brue, 1995: 62; Reynolds *et al*, 1998). This is of course particularly relevant to South Africa in the 1990s. The prohibition of 'unfair discrimination' and the implementation of affirmative action policies in the labour market, both features of the Employment Equity Act of 1998, were designed to favour women as one of the previously disadvantaged groups in South Africa (Nel, 2002). Also, changing attitudes would help account for the decline in fertility rates and the rise in women's education, which would in turn have positive influences on female labour force participation.<sup>10</sup>

Again, it is important to point out here that countries will differ in their experiences. While changing attitudes may be an important reason for the rise in women's participation in more developed and Westernised countries perhaps, there are still many countries, especially in Africa and Asia, where patriarchal ideologies, reinforced by culture and religion, still dominate (Cagatay and Ozler, 1995). In these

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<sup>10</sup> There is of course reverse causality here. As mentioned above, increased levels of education for women would have also *contributed* to their attitudes towards or preferences for labour market careers.



societies women's involvement in the market economy is often severely constrained by (both written and unwritten) social rules of behaviour.

On the widely recognised role of cultural determinants in women's labour force participation, Standing (1999: 587) writes, however, that 'as with the fertility determinant, most analysts would now be more skeptical than used to be the case of the strength of cultural barriers to women's economic activity, since modifications in working patterns seem remarkably rapid in the face of alterations in incentives, economic needs and opportunities.' This point is of particular relevance to South Africa, where although societal structures, in the African and Indian communities especially, are highly patriarchal, in many cases economic need is likely to override ideology.<sup>11</sup> Factors that precipitate the entry of women into the labour market out of economic necessity have also been considered key determinants of the rise in female labour force participation, and will be discussed further in the following two subsections.

### *C.5 Rising Divorce Rates and Deferred Marriage*

As explained in the previous chapter, the higher the non-labour income of individuals within a household, the lower the likelihood of their labour force participation. The most important source of non-labour income for married women with children in particular is generally their husbands' income (from employment or otherwise). This explains why labour force participation rates are higher for unmarried and divorced women compared to married women - they have less access to non-labour income and generally receive little support from their former husbands, increasing their probability of participating in the labour market (McConnell and Brue, 1995: 64; Reynolds *et al*, 1998: 63).

With the increase in divorce, separation and desertion, and the subsequent rise in female-headed households, many women have experienced a fall in non-labour

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<sup>11</sup> While the effect of cultural or ideological barriers on women's ability to participate in the labour market may have declined, these barriers might still have an effect on the nature (and continuity) of women's labour force participation, a point which will be returned to later under the discussion on the consequences of the feminisation of labour markets.

income over time, necessitating their entry into the labour market (Mincer, 1985; Hartmann, 1987; Kuhn and Bluestone, 1987; McConnell and Brue, 1995: 64; Lewis and Peterson, 1997: 73; Reynolds *et al*, 1998: 63).<sup>12</sup> In other words, the reservation wage of many women, or the value placed on their non-market time, has fallen as more and more women become financially responsible for their households. In the US, to give an example, divorce ratios among women, measured as the number of currently divorced women per 1000 currently married women with a spouse present, increased dramatically. In 1960 the ratio was 42, by 1970 it had risen to 60, over the next ten years it doubled so that by 1980 it stood at 120, and by 1990 it had increased again to 166 (Lewis and Peterson, 1997: 86; see also Hartmann, 1987: 36-7; Olsen, 1994; Kuhn and Bluestone, 1987: 27).<sup>13</sup>

There are additional effects of increasing marital instability and divorce on labour force participation. For example, an increasing number of single women, and even those contemplating marriage, are joining the labour market to insure themselves against future possible financial need in the case of marital dissolution. The *prospect* of future marital dissolution could also be another explanation for the increase in *married* women's labour supply. Becker's unitary household model, which does not deal with the possibility of marital dissolution, predicts that women will specialise in home production as a rational household utility-maximising strategy. With the increasing possibility of divorce and dissolution of households, however, investing in market work rather than just home production to increase their future earnings potential, may be a more rational strategy for married women (Gordon, 1979: 32;

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<sup>12</sup> Joseph (1983: 10) also points to the possible influence of the increase in male mortality in the UK, which has resulted in a growing percentage of married women outliving their husbands. The increase in the number of women widowed in general would also result in rising labour force participation, but not to the same extent as for divorced and separated women (see also Hartmann, 1987, on women outliving men in the US). Widows are generally older, and are more likely to receive some sort of pension/life assurance payout, while evidence has shown that many divorced/separated women struggle to get income support or child maintenance from their former partners (Gordon, 1979: 33; Hartmann, 1987; Folbre, 1994; 1995).

<sup>13</sup> See also Lewis and Peterson (1997: 87) for figures on how the percentage of married couples has been declining and the percentage of female-headed households has been increasing in the US since the 1970s especially. See Folbre (1994: 239-242) for evidence on a number of countries in Latin America and the Caribbean.

Joseph, 1983: 10; Olsen; 1994: 95; McConnell and Brue, 1995: 64; Reynolds *et al*, 1998: 63; Ehrenberg and Smith, 2000: 233-4).

One may question why all women didn't always (and still do not) act in such a rational manner to insure themselves against possible divorce, but rather 'chose' to specialise in non-market work.<sup>14</sup> One of the explanations for this might be that, in the past, divorce was frowned upon to a much greater extent and so married women behaved as if it was an unlikely occurrence, and if it should occur, they would be financially supported by their former husbands. Also, women may have lacked information on which to base their decisions.<sup>15</sup> One of the reasons for why women are more likely now to 'insure' themselves against possible divorce, is that there is much discussion alerting women to the possibility of divorce, marital conflict, the difficulties of homemakers re-entering the labour market, the lack of social security in many countries for single mothers, and the difficulties of getting former husbands to provide financial support and child maintenance. The increasing labour force participation of younger married women (including those with children) would be consistent with these explanations, as older women made decisions during times of greater marital stability and less information, while younger women have been making decisions with greater access to information and rising marital instability (Gordon, 1979: 33-4; Hartmann, 1987).<sup>16</sup>

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<sup>14</sup> It is of course also likely that if women's bargaining power has increased (due to, for example, increased education or changing perceptions of their rights and self-worth), women are now less constrained to conform to or accept the traditional sexual division of labour, or remain in bad marriages.

<sup>15</sup> Certain subjects may have been considered 'inappropriate' to discuss in a public arena, and many women would not have had the opportunity or outlet for such discussion. Joseph (1983: 9) describes married women in Britain of the past as: 'Socially isolated as a consequence of the pervasive urban ethos of privacy and the restricted communal activities found within the confines of a modern nuclear family, a housewife is often thrown upon her husband as the only source of mental and emotional sustenance.' See also the collection of writings in Malos (1982).

<sup>16</sup> It may also be that despite having adequate information about the high incidence of divorce and the costs involved to women, some women believed (and some still do believe) that it would not happen to them, what Gordon (1979: 33) calls 'selective perception', which would prevent them from acting rationally.

There are endogeneity problems here as well. In fact, the cause-and-effect relationships between divorce rates, fertility and labour force participation are quite complex. For example, women who are divorced are more likely to participate in the labour market, but women who participate in the labour market might also be more likely to be divorced, if labour force participation of women adds to marital strife, or provides women with some financial independence so that they no longer have to maintain an unsatisfactory marriage out of economic necessity (Hartmann, 1987; Reynolds *et al*, 1998: 63). Over and above the interdependence between fertility and labour market decisions explained earlier, there is also an interdependence between these factors and divorce. The greater possibility of divorce might cause women to have fewer/no children and be more likely to participate in the labour market, but the presence of few/no children and the greater likelihood of participating in the labour market might make divorce more likely, as the emotional and financial costs would be smaller (Olsen, 1994; McConnell and Brue, 1995: 65).<sup>17</sup>

Furthermore, women have been deferring marriage until a later age (Hartmann, 1987; Olsen, 1994; Joseph, 1983; Reynolds *et al*, 1998: 62). Marriage rates in Britain for example decreased for women under 30 years of age and increased for women over 30 years of age since the 1960s (Joseph, 1983: 18; see Hartmann, 1987: 36 and Olsen, 1994 for similar evidence on women in the US). While the increase in women in employment might be one of the factors influencing delayed marriage, it is likely that other factors have led to this phenomenon, such as women waiting longer to find a suitable partner (because of the rising incidence of failed marriages), spending longer in education and an increase in the number of couples living together before marriage (Olsen, 1994). Regardless of what has caused deferred marriage, it is also associated with more women participating in the labour market because of the necessity for financial independence without a husband's income to rely on.

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<sup>17</sup> The number of children a woman has and her wage potential will affect her remarriage prospects and her ability to earn an income after divorce, which in turn would affect her bargaining power within the marriage (Olsen, 1994: 76).

## C.6 *Economic Necessity and Attempts to Maintain Living Standards*

Decreases in non-labour income for women do not only occur as a result of marital dissolution, but can also occur *within* the marriage or household if husbands (or other household members) become unemployed and lose their income. When this occurs it has been noted that other members in the family, usually the wife, will enter the labour market to search for work and make up the loss in family income, what has been called the *additional- or added-worker effect*. In the developed world especially, this phenomenon has been documented as occurring mainly during recessionary times, i.e. when there is a cyclical fall in aggregate demand.<sup>18</sup> During these times, when unemployment increases and the primary breadwinner, usually the husband, loses his job, it has generally been married women, considered ‘secondary’ workers in the labour market, who have been ready to seek and temporarily take up employment as the need arises (Lundberg, 1985; Berndt, 1991: 609-10; McConnell and Brue, 1995: 69–70; Reynolds *et al*, 1998: 60; Ehrenberg and Smith, 2000: 234-6).<sup>19</sup>

Of course, increasing unemployment in general, and not just unemployment driven by cyclical changes, would have a similar effect on female participation in the labour market. This is important to point out because the added-worker effect need not occur during recessionary periods only, but can also occur due to high and rising structural unemployment. Because the added-worker effect was initially noted during periods of reduced aggregate demand, it usually refers to a *temporary* increase in female labour supply (Mincer, 1962; Lundberg, 1985; McConnell and Brue, 1995: 69), but in the case of structural unemployment the increase in female labour supply would likely be of a more permanent nature.

Furthermore, the added-worker effect does not just occur when a family member becomes unemployed (where a pure household income effect would occur), but can also be driven by a decline in the real wages of the employed members of the

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<sup>18</sup> In fact, the added-worker hypothesis first emerged around the 1930s during the period of the Great Depression (Lundberg, 1985: 12; Berndt, 1991: 609).

<sup>19</sup> Both the fall in household income and the increase in the non-market time of the husband following his loss of employment would serve to lower the relative value of the wife’s non-market time, inducing her to participate in the labour market (Lundberg, 1985).

household (where the household income effect would dominate the substitution effect).<sup>20</sup> To maintain living standards, households will therefore need to adjust by substituting market work for household production, which will usually result in both spouses participating in the labour market (McConnell and Brue, 1995: 65; Reynolds *et al*, 1998: 63). Also, additional family members may join the labour force *in anticipation of* unemployment or a real wage decrease within the household. So the effect on rising labour force participation rates may be compounded by the general increase in job and income insecurity that occurs during recessionary periods in the economy or during periods of sustained and increasing unemployment for example.<sup>21</sup>

It has been argued that in the US for example, many wives were pushed into the labour market because of the weaker economy of the 1970s onwards. Male real earnings tended to stagnate after the fast growth of the earlier decades (the 1950s and 1960s especially), and in some cases, such as for low-wage workers and those affected by import competition or in declining industries, real earnings have even fallen (Benería, 1987; Hartmann, 1987; Kuhn and Bluestone, 1987; Lewis and Peterson, 1997: 73; Reynolds *et al*, 1998: 60, 63). McConnell and Brue (1995: 65) write:

‘In this view, part of the more recent rise in the female labour force participation rate has been necessitated by the family’s desire to “make ends meet”... If spouses had not entered the labour force in record numbers during

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<sup>20</sup> Note that the income and substitution effects will also work in reverse when non-wage or wage income of family members *fall*.

<sup>21</sup> During these periods, however, there could also be a *discouraged-worker effect*, as the probability of finding a job during recessionary periods, or periods of increasing unemployment, decreases. The discouraged-worker effect would cause individuals to give up searching for work and drop out of the labour force, and would also deter those who would otherwise enter from doing so (here the substitution effect dominates the income effect). It is also possible that both the added- and discouraged-worker effects co-exist - they just affect different groups of people. Which of these two effects dominates is therefore an empirical question. It has been considered an important one in the literature not only because of the effect on the labour force participation of women, but because these changes have a significant effect on the unemployment rate, and so in turn on a country’s macroeconomic policy. (For reviews of which effect has dominated in the US, see Lundberg, 1985; Berndt, 1991: 609-10; McConnell and Brue, 1995: 69 –70; Reynolds *et al*, 1998: 59-60; and Ehrenberg and Smith, 2000: 236).

the past two decades, many households would have suffered absolute or relative declines in real income. Undoubtedly, many wives entered the labour market to prevent this from happening.<sup>22</sup>

Mehra and Gammage (1999) provide a list of studies that showed added-worker effects to have been particularly important in Latin America and the Caribbean during the debt-induced crisis of the 1980s. They also suggest that there may have been added-worker effects in Sub-Saharan Africa where growth rates were negative or minimal during the 1980s, but these effects could be masked by a shift from formal to informal sector work, which is often not recorded in official data.

In addition, it has been argued that an increasing number of women have joined the labour market to substitute for the loss in non-labour income or entitlements that has occurred in the 1980s and 1990s especially, as a result of countries having increasingly adopted neo-liberal macroeconomic policies and seeking to reduce budget deficits. This has brought about, among other things, increased ‘targeting’ and selectivity of state benefits in industrialised countries in particular, but also in many industrialising countries (Hartmann, 1987; Standing, 1989; 1999; Benería, 1995; Cagatay and Ozler, 1995). Structural adjustment programmes have in general been associated in many countries with declining real wages and rising poverty, inducing more women to enter the labour market to compensate for falling family income (see Cagatay and Ozler, 1995 and Ozler, 2000 on Mexico specifically). Standing (1999: 584) writes that: ‘This has boosted “additional worker” effects – pushing more women into the labour market in recessions and inducing more women to remain in the labour market because of the growth of *income insecurity*.’<sup>23</sup>

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<sup>22</sup> Kuhn and Bluestone (1987) present evidence of the increasing importance of women’s wages in family income over the 1970s in the US. Lewis and Peterson (1997: 88), using figures for the US on median annual incomes of families in 1979 and 1989 by family type, show that family income declined for female-headed households, and for married couples where the wife was not in paid labour, unlike in those households where the wife was in paid labour.

<sup>23</sup> In fact, studies have shown that when social security, and especially unemployment insurance benefits, exist in a country, added-worker effects are small or at least reduced (Ehrenberg and Smith, 2000: 236; Cunningham, 2001).

The reasons discussed thus far for rising female participation rates have been largely driven by supply shifts. The latter two reasons especially - the rise in marital dissolution and the real (or possible) fall in household income and employment – have served to *push* women into the labour market out of the economic need that results from a fall in their non-labour income. Labour force participation, however, is not just driven by whether individuals want to work, but also by the number and the types of jobs that are available to them (Reynolds *et al*, 1998). A number of economists have pointed to the importance of changes in the *demand* for female labour driving the rise in female labour force participation rates, by *pulling* more women into paid employment.

### C.7 *Expanding Job Accessibility/ Increase in Female Labour Demand*

As mentioned earlier in the context of rising real wages and better job opportunities for women in developed economies post-World War Two, greater accessibility to jobs was considered an important reason for the rise in women participating in the labour market during that period. With the dominant development model of the time endorsing a redistributive welfare state, there was a substantial role for the public sector, which typically has been a large employer of women. Also, the expansion of the services sector resulted in an increase in the number of ‘women’s jobs’ available as these economies moved from production in the secondary sector towards production in the tertiary sector (Fuchs, 1983; Mincer, 1985; Lewis and Peterson, 1997:72; Mehra and Gammage, 1999). The types of occupations in particular that were documented as absorbing more women into paid employment after World War Two were for example, teaching, nursing, clerical and secretarial work, and retail sales (McConnell and Brue, 1995: 65; Reynolds *et al*, 1998: 62).<sup>24</sup>

Since the late 1980s especially, and prompted in part by Standing’s (1989) article entitled ‘Global Feminisation through Flexible Labour’, there has been a new wave of cross-country and country-specific studies which have highlighted the importance

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<sup>24</sup> Also, the decline in gender discrimination (through anti-discrimination legislation in the US in the 1960s for example) and society’s changing attitude to the types of work women should do, have been considered important in increasing the opportunity for women to work in traditionally ‘male’ occupations (McConnell and Brue, 1995: 62; Lewis and Peterson, 1997: 73).



again of rising demand for female labour, and the expansion of jobs with ‘female characteristics’ pulling more women into employment (Kuhn and Bluestone, 1987; Cagatay and Ozler, 1995; Chen *et al*, 1999; Horton, 1999; Mehra and Gammage, 1999; Standing, 1999; Ertürk and Darity, 2000; Ozler, 2000; Orr, 2001, to name a few). The nature of this rise in the demand for female labour has been different to that of the post-World War Two era in developed economies though. Standing (1989; 1999) proposes that the fall of the welfare state in the 1970s and the adoption of supply-side, neo-liberal macroeconomic policies from the 1980s onwards especially, led to a number of developments which in turn had important gender implications for the labour market. Two broad changes in particular that have led to a rise in the demand for female labour can be identified.

First, the almost global strategy of structural adjustment has required countries to open up their economies to foreign markets and a large emphasis has been placed on trade liberalisation and export-led industrialisation (especially in low-income countries). This export-led industrialisation has been associated with industries that have tended to favour female labour in particular, such as textiles, garments, food processing, electronics and other light industry (Standing, 1989; 1999; Cagatay and Ozler, 1995; Horton, 1999; Ozler, 2000). Increasingly women are being employed in export-oriented services as well (Mehra and Gammage, 1999). This shift towards female-employing industries has resulted in pulling more women into the workforce. There has been substantial evidence of late that has pointed to how export-oriented countries have been industrialising by mobilising large numbers of low-paid female workers. It has been estimated, for example, that around 70 percent of the labour in free trade export-processing zones around the world is provided by women (Mehra and Gammage, 1999: 540; Benjamin, 2001: 74).

Second, the focus on market mechanisms inherent in neo-liberal policies, and the need for cost competitiveness and flexibility in production because of the emphasis on export-led growth, has led to protective labour market regulations being seen as costs and rigidities (Standing, 1989; 1999). In an attempt to stay competitive, firms in both industrialised and industrialising countries have therefore engaged increasingly in cutting costs on the labour front through the use of more flexible forms of employment. Over the past two decades especially evidence has shown that there has

been a reduction in conventional forms of employment, that is, regular, full-time wage employment, and instead firms have moved towards employment through 'more outworking, contract labour, casual labour, part-time labour, homework and other forms of labour unprotected by labour regulations' (Standing, 1999: 587). There has been what Standing (1999: 585) calls an 'informalisation' of employment around the world – a growing proportion of jobs bear informal characteristics, i.e. without regular wages, benefits and employment protection. This changing nature of employment has also been associated with the substitution of female for male labour (Standing, 1989; 1999).<sup>25</sup>

There are a number of possible explanations for why growing labour market flexibility and the rise in informal work have favoured women in particular. These types of employment, such as home-based work, part-time work or jobs with flexible hours, may help women to combine labour market work with their household and child-rearing responsibilities (Bennett and Alexander, 1987; McConnell and Brue, 1995: 65). It may be that women are more 'willing' than men to accept insecure, low-wage employment because their opportunities in the labour market have traditionally been limited. From the employer's side though, the increase in women's employment also reflects the *perception* that women's labour force participation is likely to be intermittent, they are less skilled, have lower aspirations and opportunities, and are hence more willing to accept insecure, low-wage employment in static jobs requiring little accumulation of skill and hardly any status (a perception that becomes a self-fulfilling prophecy if these are the types of jobs made available to women). As a cost-cutting strategy, employers may also prefer to employ women in this kind of work, because it may be easier to justify paying low wages to women, who traditionally have not been viewed as the primary breadwinners in households (Bennett and

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<sup>25</sup> In addition, before the 1970's trade was largely in complementary goods (primary for non-primary) or between countries with similar labour rights. This meant that there were roughly equivalent labour costs. After 1970, with the industrialisation of the developing world and the large rise in trade between all countries, labour rights in industrialised countries were increasingly seen as *costs* of production to be reduced for the sake of competitiveness. So, the 'informalisation' and 'flexibilisation' of employment has not just been a means of survival by the poor but is also a growing practice in large-scale enterprises in both industrialised and industrialising countries (Standing, 1989; 1999; Mehra and Gammage, 1999).

Alexander, 1987; Chen *et al*, 1999; Mehra and Gammage, 1999; Standing, 1999; Ozler, 2000; Orr, 2001).<sup>26</sup>

Standing (1999: 587) recognises the role of rising divorce rates, falling fertility rates and the passing in many countries of anti-discrimination legislation in driving the increase in women's labour force participation, but proposes that in recent years 'the main factor ... has been the changing nature of the labour market'. The evidence presented in Standing (1989) of the types of employment women were being pulled into seemed to support this hypothesis that much of the increase in women's share of the labour force was associated with the rise of more flexible and informal employment. When Standing (1999) revisits the evidence a decade later, he finds that, using national-level official data for as many countries as possible over the period 1975 to 1995, the trends have continued and have possibly accelerated over the past decade or so.<sup>27</sup> Evidence of the rising incidence of part-time, flexible and informal employment that has favoured women can be found in numerous other studies as well (see Bennett and Alexander, 1987, on part-time work in the US; Kuhn and Bluestone, 1987 on the rise in low-paying jobs for women in the US; Chen *et al*, 1999 on the global increase in informal work, especially home-based work; Mehra and Gammage, 1999 on the expansion of flexible, home-based and informal work).<sup>28</sup>

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<sup>26</sup> As mentioned earlier, this has important implications for male employment as well. The international trends suggest that women may not have taken over men's jobs directly, but rather that men's jobs are on the decline and are being replaced by more flexible, informal, low-paying jobs that favour women (Standing, 1999).

<sup>27</sup> The usual caveats about making cross-national comparisons apply of course, especially with regard to the different concepts and measurements used. Standing (1999: 588) writes though that: 'At best, one can paint an impressionistic picture. Fortunately, the trends do seem strong enough for us to have reasonable confidence in their validity.'

<sup>28</sup> These increasing trends in women's employment and share of the labour force are likely even to be underestimated because of the difficulty in picking up these types of work in official statistics, and the tendency to treat them as an extension of women's unpaid household activities (Chen *et al*, 1999; Mehra and Gammage, 1999; Posel and Casale, 2001).

#### *D. Some Consequences of the Feminisation of the Labour Force*

The increase in female labour force participation has been considered a positive step in the empowerment of women. It has resulted in some women being absorbed from the agricultural and informal sectors into the more formal economy, with an improvement in financial and occupational status (Mehra and Gammage, 1999; Horton, 1999). It has also provided women with access to economic resources independent of men, and in turn perhaps more control over their own lives and more say in decision-making in the household (Hartmann, 1987).

Nevertheless, a number of researchers have expressed concern about the nature of this feminisation, and of the more recent decades especially (Kuhn and Bluestone, 1987; Standing, 1989; 1999; Mehra and Gammage, 1999; Naidoo, 2001 and Orr, 2001, are some examples). They argue that the implications for women of the feminisation of the labour market depend not only on the number of jobs available to women, but also on the quality of those jobs, and, for women who depend on access to a male partner's income, on the changing job opportunities available to men as well. Standing (1989; 1999) in particular has drawn attention to the fact that an increasing proportion of available jobs are characterised by attributes historically associated with women's attachment to the labour force, i.e. irregular, low-paid, low-skill and insecure. He writes the following on his use of the term 'feminisation':

'It was intended ... to capture the double meaning and the sense of irony that, after generations of efforts to integrate women into regular wage labour as equals, the convergence that was the essence of the original hypothesis has been toward the type of employment and labour force participation patterns associated with women. The era of flexibility is also an era of more generalized insecurity and precariousness, in which many more men as well as women have been pushed into precarious forms of labour.' (Standing, 1999: 583)<sup>29</sup>

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<sup>29</sup> With the move away from labour market regulation firms have found it easier to dismiss workers, downsize, alter job description boundaries, reduce the rights of existing workers and make use of external flexible forms of employment. This has eroded the strength of 'insiders', generally unionised male workers in stable full-time jobs. Also, income security has fallen due to the weakening of

The increasing employment and income insecurity that has been associated with the feminisation of employment has resulted not only from the types of jobs that are becoming increasingly available, but also from the sectors in which women are predominantly employed (Standing, 1989: 1091-3). Outside of agriculture, which is also a particularly vulnerable sector, women make up a disproportionately large number of employees of small-scale businesses. These firms are vulnerable to bankruptcy and are generally not affected by formal labour laws, so women are often underpaid and gender-related income differentials are greater. There has also been substantial evidence of women's involvement in self-employment increasing since the mid-1970s, which historically has been a particularly insecure form of employment for women (Chen *et al*, 1999; Mehra and Gammage, 1999; Standing, 1989; 1999). These types of employment in which women are predominant, are also vulnerable to 'invisibility' and so tend to be overlooked when policies are devised (Standing, 1989: 1092).

In addition, the multinational export-oriented firms (often in export-processing zones) in which women are extensively employed, offer largely un/semi-skilled, static jobs. Women have been found to work long hours and are often exposed to 'health-sapping' working conditions, which has made them vulnerable to early ageing and in turn declining employability (Standing, 1989: 1092). Export-processing zones are also generally exempt from labour regulations and often unions are not permitted inside, reducing the ability of these workers to improve conditions (Standing, 1989; Mehra and Gammage, 1999).<sup>30</sup> These export-oriented industries are also vulnerable to

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minimum wage legislation and the growth of employment paying 'individual' rather than 'family' wages (Standing, 1989; 1999). This fall in male employment and income security, along with the general erosion of the welfare state and social protection would in turn reinforce the added-worker effect described above by inducing more family members, women especially, to join the labour market to guard against a drop in family welfare.

<sup>30</sup> Changing production techniques have often resulted in a skill polarisation that involves a minority of workers with specialist skills and a majority with minor training in jobs with little upward mobility or returns to on-the-job continuity (Kuhn and Bluestone, 1987; Standing, 1989; 1999; Mehra and Gammage, 1999). This would make women's (perceived) higher labour turnover less of a problem. Instead, for monotonous, low-skill jobs high labour turnover or job-rotating may be positive for productivity, further encouraging the use of temporary or casual labour (Standing, 1989; 1999).

fluctuations in international trade and investment decisions, and the increased flexibility in employment means that workers can be laid off quickly as firms respond to these changes (Standing, 1989: 1092).<sup>31</sup>

These changes in world labour markets will affect different women in different ways as well, depending on their marital status, number of dependents, race and income class for instance. Researchers have pointed in particular to the large and increasing numbers of single/divorced women, widows and migrants who are solely responsible for their household's survival and who have been willing to accept whatever low-quality jobs are offered. These women are often the most vulnerable to poverty, exploitation and labour marginalisation (Bennett and Alexander, 1987; Kuhn and Bluestone, 1987; Standing, 1989). The greater incidence of poverty in female-headed households in both developed and developing countries has been widely recognised (see Hartmann, 1987: 41; Kuhn and Bluestone, 1987: 26-8; Standing, 1989: 1093 and Folbre, 1994: 239-242 for evidence from various countries).

Much of the international literature on the recent feminisation of the work force shows that this feminisation has in general not bought women very much in terms of income, as the types of employment which are becoming more feminised are usually characterised by lower average earnings (Kuhn and Bluestone, 1987; Chen *et al*, 1999; Mehra and Gammage, 1999; Standing, 1989; 1999). This would suggest that the increased feminisation of the labour force will reinforce women's disadvantaged earnings position in the labour market relative to men. It is not just that women's average earnings are low because of their predominance in more informal types of employment though, as within both the formal and the informal sectors, studies have generally shown that women are concentrated at the bottom end of the earnings and

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<sup>31</sup> Naidoo (2001), in her study of women workers in the export-processing zone introduced in the 1970s in Mauritius, documents how factories have employed a large number of women in work that involved long hours, poor working conditions, low wages and no benefits. While women make up the majority, there are also men employed there, and these men receive no preferential treatment. 'Although free zone bosses and the government might boast that there is gender equality in the free zone, this equality is at a lower level of wages and benefits than previously enjoyed by Mauritian workers' (Naidoo, 2001: 62). In more recent times, the workers have had to deal with the additional problem of factory closures and unemployment as production moves to countries with lower labour costs (such as Madagascar).

occupational distributions (Benería, 1987; Kuhn and Bluestone, 1987; MacEwen Scott, 1995). These issues of earnings and occupational segmentation will be returned to in Chapter Six when some of the consequences of the rise in female labour force participation in South Africa are considered.

While the gender wage differential has generally narrowed in the US and Western Europe (although in some countries may have widened again),<sup>32</sup> the differential has been increasing in other industrialised and Eastern European countries. It is difficult to say whether wage differentials in developing countries have increased or decreased for a number of reasons (e.g. national statistics are inconsistent, international comparisons are highly problematic, etc), but it is evident that gender wage differentials have remained substantial (Standing, 1999). It seems that in the rapidly industrialising economies, where women's share of employment has risen the most, gender wage differentials are greater (see Standing, 1999: 593, Table 6; Mehra and Gammage, 1999: 545-6). This may be because women are being drawn into the labour force as cheap workers to support the industrialisation of these countries. Standing (1999: 590), referring to employers' preferences for hiring women because of their lower relative wages, writes, 'While the promotion of female employment is desirable, this is surely not the way to achieve it'.

Standing's statement highlights an important aspect of the 'feminisation' of the labour force described in this section, which is that the rise in the labour force participation of women has not been an unqualified good. While it is of course desirable that women are increasingly drawn into paid employment, the paid employment that they have been drawn into (in recent years especially it seems) has essentially been based on the perception that women are more suited to, or more willing to accept, flexible low-paid work. This increase in women's employment has therefore largely failed to

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<sup>32</sup> Where gender wage differentials have fallen, it has been suggested that this might not have so much to do with women's upward mobility, but rather with the negative effect of restructuring on men's wages (Kuhn and Bluestone, 1987 on the US). Also, while it has been argued that there must have been real labour market gains for women as reflected in the decline in gender-based occupational segregation that has been documented for some countries (Hartmann, 1987), others have suggested this might also be the result of men's position weakening rather than women's position strengthening (Kuhn and Bluestone, 1987; Standing, 1999).

challenge in any fundamental way traditional perceptions of what constitutes 'women's work'.

The increase in women's employment would be desirable also if it freed married women from some of the responsibilities of housework and child-rearing, and afforded them a more equal standing within the household. While in some households this has no doubt occurred (Hartmann, 1987), time-use surveys have shown that when both paid work and social reproduction activities are taken into account, women on average still work a substantially larger number of hours per week than men, in some cases more than 20 extra hours a week (Malos, 1982; Folbre, 1994: 238; Floro, 1995). Folbre (1994: 238) writes 'Most women wage-earners work a "double-day", performing a disproportionate share of family work, and they clearly have little choice in the matter.' This indicates that within many households, the sexual division of labour has not fundamentally changed, and that women's entrance into paid employment does not necessarily provide them with equal decision-making power within the household.<sup>33</sup>

It has been suggested that one of the benefits of the increasing availability of part-time, flexible and home-based work for (married) women with children is that a more flexible schedule makes it possible for women to combine income-earning opportunities with domestic responsibilities. Also, it provides women the opportunity to remain in the work force when their household responsibilities are highest, rather than withdraw altogether (Hill, 1983; Bennett and Alexander, 1987: 225). Some believe the negative effects are greater though, because in these types of jobs women most often do not receive, or lose, their health and maternity benefits, they have lower levels of unionisation and protection, the employment generally involves irregular working hours and wage cuts (for comparable work), and little prospect of advancement (Bennett and Alexander, 1987; Orr, 2001). The benefits accrue mainly to firms as '...the employer's responsibility towards the social wage and reproduction

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<sup>33</sup> Traditional perceptions of women's role in the household and the threat of domestic violence, in conjunction with the poor employment opportunities that many women still face in the labour market, are likely to have continued to place women in a weaker bargaining position in the household (Folbre, 1994).



of labour is dissolved' (Orr, 2001: 32).<sup>34</sup> Kuhn and Bluestone (1987: 23) write, 'For women who already work the "double day" of wage work and home work, it is a higher hourly wage, not the ability to choose among marginal jobs, or increased hours of work at a low wage, that is needed.'

In a similar vein, with the lack of, or reduction of late in, social security in many countries, women tend to suffer the most. They absorb the impact of the state reducing its responsibility for social benefits by spending more time on unpaid reproductive work (Orr, 2001). This is happening at a time when social security is most needed in the context of a more flexible labour market, where the family wage/breadwinner model of the labour force can no longer be assumed to be the norm, and male income support for women is less consistent (Chen *et al*, 1999; Mehra and Gammage, 1999; Standing, 1999). Standing (1999: 600) writes:

'Social insurance predicated on regular, stable full-time wage labour with "temporary interruptions in earning power" does not provide women, and increasingly men, with social protection. ... Women's growing involvement in labour force activities is to be welcomed as facilitating a trend toward gender equality, and should be strengthened. But the conditions in which women and men are typically in the labour market do not seem to have been improving. The trend is toward greater insecurity and inequality. Reversing that trend, which is associated with labour flexibility, is the most important labour market and social policy challenge of them all.'

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<sup>34</sup> Chen *et al* (1999), also note how home-based workers often subsidise capitalist growth not only through the acceptance of below-minimum wages but through the use of their own infrastructure, tools and equipment (see also Mehra and Gammage, 1999: 541).

## *E. Concluding Remarks*

From the evidence presented in this chapter, it is clear that the large increase in women entering into paid employment has been one of the defining features of labour markets around the world since the 1950s especially. What is also clear though is that the global feminisation of labour markets has not been a uniform, linear process. While in some cases it has reflected economic growth and prosperity, in others it has reflected growing need and insecurity. Looking at the experience of just one country *over time* reveals in addition that different factors have contributed to the rise in female labour supply at different periods along a country's development path.

Furthermore, within a country, different groups of women have reacted differently in terms of labour supply responsiveness, and women's experiences of being in the labour market have also varied, as was highlighted in the last section of this chapter. For some women the increase in labour force participation might reflect choice, for others it reflects necessity. While the overall picture painted in the last section might have been rather bleak, it is important to remember that the feminisation of the labour market has resulted in some women entering into higher-paying sectors and occupations, and for others, whose employment is low-paid and insecure, their situation may have improved. It is therefore fundamental in a study of labour supply changes to understand the specific characteristics of the country in question, how these play out over the period under review, and how different groups in the female population are likely to be affected. These points are particularly relevant to a study of female labour force participation in South Africa.

In this chapter it was explained how the more recent emphasis in the international literature has been on demand-side factors pulling women into paid employment following the adoption by many countries of neo-liberal macroeconomic policies and structural adjustment programmes. In the 1990s, the post-apartheid government in South Africa embarked on a similar process of restructuring. This is evident in the signing of the World Trade Organisation (WTO) agreement in 1994, in which the government committed to the lowering of tariff barriers to the WTO-accepted levels by the end of the decade, and in the implementation of the 1996 Growth, Employment

and Redistribution (GEAR) strategy, which to a large extent embodied the neo-liberal ideology. It might appear, therefore, that the feminisation of the labour market in South Africa could be linked to the experience of other developing or middle-income countries that have adopted similar policies in recent decades.

In South Africa, however, the above-mentioned policies do not seem to have resulted in the creation of employment that has ‘pulled’ women into the labour market. Instead the absorptive capacity of the formal sector has been indisputably limited, and some industries that have traditionally employed many women (textiles, clothing and footwear, for example) have even tended to shed jobs over this period.<sup>35</sup> South Africa is now in the distinctive position of having one of the highest recorded unemployment rates in the world, which has been rising in the period leading up to and during the period under review here. While in this chapter mention of the South African case has revealed that there are similarities with the experiences of other (developed and developing) countries, it is also clear that South Africa differs in some important respects from the other countries that have been reviewed. In the following chapter it will be shown that, in line with global trends, South Africa has experienced a dramatic rise in *female labour force participation* over the most recent stage in the country’s history. However, an analysis of the shifts in the labour force components of employment and unemployment will reveal that the feminisation of the labour force in South Africa is also quite distinct from that experienced in many other parts of the world.

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<sup>35</sup> Unlike in many of the countries that have similarly attempted to restructure, the South African government has implemented a set of rather stringent labour laws in contrast to the global trend of increasing flexibility and the deregulation of labour markets. It has been argued that these laws place too much power in the hands of labour and trade unions, and that this has resulted in a rise in the cost of labour during a period when firms are needing to cut costs in response to import competition, exacerbating the employment crisis (see, for example, Barker, 1999b; Natrass, 2000b; Hofmeyr, 2001). Why the absorptive capacity of the formal sector of the economy has been declining over the years is a highly debated question that will not be explored any further in this thesis. Rather the focus is on why an increasing number of individuals, women in particular, entered the labour market in South Africa over a period when their employment prospects were so dismal.

## CHAPTER THREE

### TRENDS IN LABOUR FORCE PARTICIPATION IN SOUTH AFRICA

#### *A. Introduction*

As the review in the previous chapter showed, much has been written over the past decade in particular on the feminisation of the labour force in both developed and developing countries around the world. In the international literature this feminisation has referred to the rise in female labour force participation rates relative to male rates, which has resulted in an increase in women's share of the labour force coupled with an increase in women's share of employment. There is very little mention of unemployment trends in the international literature on the feminisation of labour markets, as in most of the countries reviewed female unemployment fell relative to male unemployment, and in many cases unemployment rates for women were even lower than for men.

There has been some evidence in the South African labour market literature of a similar trend of increasing female labour force participation rates and a rise in women's share of the labour force, yet there has been very little discussion on the *nature* of women's changing participation in the labour market. In other words, there has been no thorough attempt to analyse changes in the main components of the labour force over time, *viz.* employment and unemployment, nor any investigation into possible reasons for these movements in the labour market.

This first chapter on the South African labour market therefore begins the empirical analysis of this thesis by disaggregating the broad trends in the labour force into the main components of employment and unemployment for the period 1995 to 2001. A more thorough examination of the broad trends in labour force participation will begin to reveal those factors which are likely (and unlikely) to be driving the large growth in

the female labour force documented for this period.

As was pointed out in the first chapter as well, it is important to clarify at the outset what measures of labour supply or participation are used in the analysis. In addition, any examination of labour market trends in South Africa requires a recognition of the different definitions of unemployment that are used. It has become customary in South Africa to include in labour market analyses discussion of both the strict and the broad/expanded definitions of unemployment. The former (currently the official rate) considers as unemployed only those individuals who report having actively searched for work in the previous four weeks, while the latter also includes those individuals who report wanting to work even if they had not engaged in active job search in the previous four weeks. This group of non-searching unemployed, sometimes referred to as the 'discouraged' unemployed, is particularly large in South Africa (because of, for example, persistent unemployment and the inability to fund the high costs of job search by many of the unemployed) and thus warrants inclusion in the analysis (see Kingdon and Knight, 2000a; Natrass, 2000a and Dinkelman and Pirouz, 2002, for further discussion). Because there is a strict and a broad definition of unemployment, there is therefore also a strict and a broad definition of the labour force or the economically active population. In this study, participation in the labour force will be examined using both of these definitions of economic activity.

This chapter proceeds as follows. Section B provides a brief summary of prior evidence of the feminisation of the labour force in South Africa. Section C contains a discussion of the national data available for a study on trends in labour force participation in the country, identifying also some of the limitations of the data. The results of the descriptive analysis of movements in labour force participation for the period 1995 to 2001 are then presented in Section D. Following this, Section E looks at whether these trends are credible given some of the problems with the data that were highlighted. The final section concludes by summarising the main findings from the trends analysis of this chapter, and how they inform the remainder of this study.

## B. *Some Prior Evidence of the Feminisation of the Labour Force in South Africa*

There is some limited evidence of a feminisation of the labour force in South Africa occurring in the latter half of the twentieth century. In Sadie (1991); Sadie and Martins (1994), Standing *et al* (1996) and Barker (1999a), measures of female labour supply are given for the period 1960-1996 using data from the five-yearly Population Census. These studies show that female labour force participation was increasing over the period, and at a much faster rate than male labour force participation. In 1960 the labour force participation rate among women aged 15 to 65 years was estimated to be around 27 percent, by 1980 this had increased to 36 percent, and by 1996 to 49 percent (Barker, 1999a: 60). This rise in female participation rates resulted in women's share of the economically active population growing. In 1960 women accounted for 23 percent of the labour force in South Africa, by 1985 this had risen to 36 percent, and by 1991 it had reached 41 percent (Standing *et al*, 1996: 60; see Sadie and Martins, 1994: 8 for similar figures).<sup>1 2</sup>

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<sup>1</sup> Note that these figures from the Census data do not consistently take into account the TBVC states (Transkei, Bophuthatswana, Venda and Ciskei). Also, it is not clear which definition of participation, the strict or the broad, is being reflected in these figures as the questions in the Census on which the labour market status of individuals is based, are much less detailed than those in the other household surveys and do not allow for a clear distinction to be made between the two types of unemployment (see Section C below). Nonetheless, they give us some sense of the *increase* in women's economic activity.

<sup>2</sup> Sadie (1991) and Sadie and Martins (1994) also provide projections of labour force participation rates for both men and women in South Africa up to 2005 and 2011 respectively. They correctly predicted that female labour force participation would continue to rise but the increase they proposed is much lower than what the available national survey data show for 1995 to 2001, the period under review in this study. Their projections are based on extrapolated values of the two determinants of the labour force – the population size and age structure (that is, the purely demographic factor); and the labour force participation rate. Sadie and Martins (1994: 3) write that '[a]mong males, of whom it is expected and assumed that ... they will enter the labour market at some stage or other of their lives, the demographic variable is the predominant one. In the case of females, the large majority of whom are married, the homemaking function offers competition to participation in the labour force and renders the second determinant paramount.' There are a number of problems with their extrapolated values however. First, the demographic projections are based on information from the 1991 and earlier Censuses, which were not representative and thus substantial adjustment to the figures are required.

Posel and Todes (1995) also provide evidence from the Census data of an increase in women's share of the 'economically active work force' (which includes the employed and those frictionally or temporarily out of work), as well as increases in their share of various sectors of employment in KwaZulu-Natal between 1980 and 1991. They find, for example, that while women's share in the total population changed by less than one percentage point between 1980 and 1991, in 1980 women made up 33.7 percent of the 'economically active work force' in KwaZulu-Natal and by 1991 this had risen to 42.9 percent (Posel and Todes, 1995: 229).

There is also some support for female labour supply increasing over the latter half of the 1990s in South Africa as a whole. Klasen and Woolard (2000) find female broad labour force participation rates to be rising based on data from the 1991 and 1996 Census and the 1995, 1996 and 1997 October Household Surveys.<sup>3</sup>

Most of the prior national evidence of a feminisation of the labour force in South Africa, however, is present in studies where this was not the main focus of the research, but was instead exposed in the process of analysing more general trends in the labour market. As a result, the available information is at a highly aggregated level and there is almost no exploration of the nature of this feminisation over time, that is,

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Second, the labour force participation rates used seem unsuitable, and particularly those for women in light of their above statement. Their extrapolated *female* labour force participation rates are justified as follows: 'there has been an unusually substantial leap in the labour force participation rate levels between 1985 and 1991... In the light of this, a projection of the course of the labour force participation rates over the 1960-1985 period (to exclude 1985-1991) was undertaken to serve as a frame of reference' (Sadie and Martins, 1994: 31). This would help to account for why their projections are lower than current national statistics would suggest.

<sup>3</sup> While the trends are similar, the figures obtained in Klasen and Woolard (2000) are slightly different to those obtained in this study using the 1995 and 1997 OHSs. This is due to the use of different age ranges in the analysis (Klasen and Woolard (2000) use 16 to 64 years as opposed to 15 to 65 years used here), different population weights for 1995 (Klasen and Woolard (2000) create their own set of weights using the 1996 Census population totals, while in this study the more recently released Census 1996-adjusted weights for the OHS 1995 provided by Stats SA are used), and slightly different definitions of employment and unemployment (see Klasen and Woolard (2000) and Appendix 1 of this study for more details).

no discussion on trends in both employment and unemployment, nor on the reasons for why such a feminisation might be taking place.

In addition, the figures from these various studies are not directly comparable because of the use of different data sources, varying definitions of employment and unemployment, as well as changes in the data collection process itself over the years. It is therefore difficult to say anything concrete about the *extent* of this feminisation over time based on these various studies. Nonetheless, they do give us some indication that the trend observed in this study from the mid-1990s onwards is not a new trend, but rather represents the continuation of an already established phenomenon.

The lack of any comprehensive analysis of the changing nature of women's labour force participation in South Africa has perhaps been partly due to the problematic nature of the data and its incomparability over the years.<sup>4</sup> While a number of problems remain, the availability and quality of data to study labour market issues over time have improved since the mid-nineties, making more in-depth research in this field a possibility. The choice of data for this study and some of the limitations encountered are explained in more detail in the next section.

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<sup>4</sup> Another likely reason for the lack of discussion around female labour force participation is the more general exclusion of gender from economic analysis historically. This is particularly relevant for studies on labour market activity, where women's participation has traditionally been considered secondary to men's participation as the primary breadwinners in households. In South Africa, it is also possible that racial issues have received more attention to the detriment of gender issues in economic analyses.



### C. *The Data*

The two main possible sources of data to study labour force participation *over time* at a national level are the five-yearly Census and, from 1993, the yearly October Household Survey, which from 2000 onwards was reformulated and replaced by the bi-annual Labour Force Survey. Both the Census and the surveys are conducted by Statistics South Africa (Stats SA), the official national statistical and data collection agency in the country.<sup>5</sup> Neither data source is without problems, but the Census is less appropriate for a study of labour market activity.<sup>6</sup> Some of the problems with the Census data are outlined below.

First, the Census is only conducted every five years and there is also a substantial lag between data collection and the release of the data for public use. The most current data available are from the 1996 Census. Second, the Census coverage has not been consistent over time. For example, up to 1970 the Census included the former TBVC states, but between 1980 and 1991, as ‘independence’ was gained, they were excluded (Barker, 1999a: 49). Then, in 1996 the TBVC states were once again assimilated into the Census coverage. These two problems essentially preclude any analysis of the more recent *trends* in labour force participation in South Africa until the data from the 2001 Census are released. Even if the more recent data were available, however, there are still other problems with the Census that would make a study of *labour force participation* over time difficult.

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<sup>5</sup> Prior to September 1998 Statistics South Africa was called the Central Statistical Services.

<sup>6</sup> In 1993 (August to December), a household survey was conducted by the South African Labour and Development Research Unit (SALDRU) in conjunction with the World Bank, referred to as the Project for Statistics on Living Standards and Development (PSLSD). It consists of a nationally representative sample of approximately 44 000 individuals from 9 000 households in 360 primary sampling units (or clusters), and asks a detailed set of individual and household questions. This survey was unfortunately not repeated, except for a sample of African and Indian households in KwaZulu-Natal only, which were revisited in 1998 as part of the KwaZulu-Natal Income Dynamics Survey (KIDS). The way in which the data were collected and the questions asked make it difficult to achieve comparability with Stats SA’s household surveys, and consequently could not be used either in a trends analysis here.

A third problem is that because the Census asks only a limited number of questions on labour force participation specifically, the measurement of the labour force is rather rudimentary, and the reliability of reported information cannot be checked. In 1996, for example, classifications of employment and unemployment status were each based on a single question. It is also difficult to make a clear distinction between strict and broad unemployment because of the wording of the question on labour market status in the Census questionnaire.<sup>7</sup>

Fourth, there have been changes in definitions as well as inconsistencies in the way in which the economic status of men and women has been classified within and across the years, particularly with respect to subsistence farming. For example, the 1951 Census and the 1960 Census treated men of working age in the former homelands as employed in subsistence farming if another occupation was not specified, while women in the same position were treated as 'housewives' and hence not economically active. The 1970 Census continued to classify the wives of male household heads in the former homelands as 'housewives', but classified other females of working age as employed in subsistence farming. After 1970, women in subsistence agriculture were again treated as not working, and therefore as not economically active (Knight, 1978: 120; Standing *et al*, 1996: 59; Barker, 1999a: 62; see Posel and Casale, 2001 for more details).

Fifth, until the 2001 Census, no distinction was made between formal and informal sector employment. Both subsistence farming and informal sector work are found to be important activities, for women especially, in South Africa (Posel and Casale, 2001). As a result, it would be very difficult to provide a reliable and up-to-date

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<sup>7</sup> The Census questionnaire attempts to distinguish the strict from the broad definition of unemployment based on whether individuals responded that they were 'unemployed and looking for work' or 'unemployed, not looking for work, but would accept work'. As Klasen and Woolard (2000: 10) point out, '[t]he distinction is not very helpful since "looking for" work is not really the same thing as *actively searching* which should be the requirement for being strictly unemployed.' In comparing unemployment statistics from the Census 1996 with those from the national household surveys, they find that 'not surprisingly, very few ... respondents described themselves as unemployed but *not* looking for work' in the Census.

analysis of either the extent or the nature of the feminisation of the work force in South Africa using the Census data.

A study of this kind which examines labour force participation more thoroughly, has been made possible with the introduction in 1993 by Stats SA of the annual October Household Survey (OHS) and then in 2000 of the bi-annual Labour Force Survey (LFS). One of the principal aims of these surveys, which involve a sample of generally 30 000 households, is to provide a more reliable and detailed picture of employment and unemployment in the country. Entire modules in the questionnaires are devoted to labour market questions, permitting more textured definitions and analyses of labour market activity. Compared to the Census, the OHS and the LFS also include far more detailed questioning on the socio-economic characteristics of individuals and the households in which they live, making it possible to examine, for example, how changes in household composition and structure affect the individual's decision to participate in the labour market.

As with the Census, one has to be particularly cautious though when comparing the OHSs and the LFSs over the years, as well as when comparing the OHS and the LFS with each other. Looking first at the OHSs, in 1993 the TBVC states were not included in the sample, and for the 1993 and 1994 surveys a different sampling methodology was used compared to the later years.<sup>8</sup> Population weights based on information from the 1996 Census are also only available from 1995 onwards, making the later years of the survey more suitable for a comparative analysis.<sup>9</sup> However, the 1996 and 1998 surveys were based on a sample of only 16 000 and 20 000 households respectively due to time and financial constraints experienced by Stats SA in those years, and there has been some concern over whether the results from these surveys

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<sup>8</sup> In 1993 and 1994, a sample of 30 000 households was drawn from 1000 enumerator areas (or primary sampling units), i.e. 30 households per enumerator area. From 1995 onwards, the sample was drawn from 3000 enumerator areas, i.e. 10 households per enumerator area. Increasing the number of primary sampling units reduces the standard errors of population estimates.

<sup>9</sup> Initially, Stats SA published the 1995 OHS data with population weights based on the 1991 Census. Later they released updated weights for the OHS 1995 based on the results from the 1996 Census. These updated weights have been used in this study.

are consistent with those provided by the other OHSs (Klasen and Woolard, 2000).<sup>10</sup> The data provided by the 1995, 1997 and 1999 OHSs appear to be most compatible in terms of sampling methodology and scope. These three years of data from the October Household Surveys are therefore used for the analysis of labour force participation in this study.

Similar problems of compatibility exist within the LFSs. The LFS, a bi-annual (February and September) rotating panel survey, was introduced in 2000 to replace the OHS. One of the main aims of this new survey was to provide more reliable measures of employment and unemployment by improving, in particular, the collection of information on informal sector activities and subsistence/small-scale agriculture. The pilot LFS, conducted in February 2000 used a sample of only 10 000 households however, while the successive surveys used a sample of 30 000 households.<sup>11</sup> Also, the pilot survey did not contain a household module, which provides important socio-economic information, while the successive surveys (up to the September 2001 LFS) did (although the extent of the household questions asked differs across these surveys).

Furthermore, Stats SA has experienced some teething problems with the initial LFSs. Large discrepancies in the numbers of small-scale agricultural and informal sector workers in particular have been noted (Aliber, 2003; Muller, 2003a). The most striking of these is evident in the February 2001 data where informal sector employment rises dramatically, only to fall again in the successive survey. According to Stats SA, more probing questions asked about self-employment and small businesses in a follow-on survey conducted only in February 2001, might have resulted in more individuals than usual classifying themselves as employed in the informal sector. How this survey was conducted and then incorporated into their official statistics has not been made clear by Stats SA, however.

The reliability of the February 2001 survey has also been called into question because

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<sup>10</sup> The 1996 OHS was actually conducted in November because Stats SA ran the Census 1996 in October.

<sup>11</sup> In conducting the LFS, Stats SA also applies a random sampling technique to select 10 households from each of 3000 primary sampling units in the master sample.

of interviewee fatigue reported in the field. As a result a completely new sample was drawn in September 2001. (A panel analysis using the rotation system of 20 percent of this new sample is therefore only possible beginning with the fifth round of the LFS in February 2002.) The September 2001 data was thought to be the most appropriate for use in this study to complement the OHS data. This is because not only was a completely new sample drawn, thereby avoiding the problem of interviewee fatigue, but because the September survey (from now on referred to as the LFS 2001:2) most closely follows on from the October 1999 survey with a two year interval, thereby avoiding as far as possible seasonal effects on employment.

There are, of course, still problems with comparing information over the 1995, 1997, 1999 OHSs and the LFS 2001:2. With each subsequent survey and in particular with the changeover to the LFS, attempts were made by Stats SA to improve the questionnaires. In the worker modules some new questions have been included, some have been excluded, while others have been reworded for the sake of greater clarity. In some cases the order of the questions has also changed. Although improvements to the questionnaire are useful if one is looking at the data for a single year, they create problems of comparability when trying to study changes over time.

Furthermore, Stats SA has not been consistent over the years in how they have defined and derived measures of employment and unemployment from the various questions relating to labour market status.<sup>12</sup> For the empirical analysis in this study, employment and unemployment variables for the four years in question therefore had to be recreated using the various questions relating to economic activity that were available in the surveys. This ensures that *as far as possible* these measures are consistent over the surveys, and that the observed increases in measures of economic activity represent 'real' changes in the economy rather than definitional changes. Appendix 1 provides details of the method used to reclassify each individual as employed, strictly unemployed or 'discouraged' (and therefore part of the broadly

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<sup>12</sup> Klasen and Woolard (2000: 9) found, for example, that the unemployment definitions used by Stats SA in the 1994 and 1995 OHSs were not consistent with those of 1996 and 1997. During the course of this study it was also found that the 1997 as well as the 1999 OHS unemployment definitions, while consistent with each other, were not consistent with the earlier years, while the LFS 2001:2 was different from all of the OHSs (see Appendix 1 for details).

unemployed) for the four years under review here. It also shows how these adjusted classifications of labour market status differ from those provided by Stats SA.

Despite efforts made to ensure comparability over the years, it is still important to approach the results with some caution. The suspected underestimation<sup>13</sup> in each year of informal and small-scale agricultural activities has resulted in Stats SA increasing their efforts over the years, and in particular with the introduction of the LFS, to clarify what counts as work in the surveys so as to capture *all* types of economic activity.<sup>14</sup> It is therefore difficult to say how much of the change in measures of economic activity might be due to better data capture of these types of irregular, informal activities, and to what extent these activities are still being underestimated, issues that are revisited in Section E. Nonetheless, given these data constraints, as consistent a picture as possible is provided here of trends in labour force participation between 1995 and 2001. Where possible, the probable biases that exist in the data, and the direction in which these biases are likely to operate, are highlighted.

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<sup>13</sup> The figures for small-scale agricultural and other types of informal activity have been considered to be uncharacteristically 'low' for a developing country like South Africa with especially high unemployment (see, for example, Schlemmer and Levitz, 1998).

<sup>14</sup> The question of 'what counts as work' is especially pertinent for South Africa where a large and rising number of individuals are engaged in irregular types of employment in response to the declining labour absorption capacity of the formal labour market. While it is clear that those engaged in full-time permanent or contract employment should be counted among the employed, there is some ambiguity around how those engaged in the more ad hoc, temporary and irregular types of work should be defined. While Stats SA has committed in recent years to capturing all types of economic activity as work in their household surveys, there is still likely to be uncertainty in the minds of the respondents themselves as to whether their activities constitute work, especially if these activities involve odd jobs of only a few hours a week. This is particularly relevant for women engaged in subsistence farming, whose work might also be seen as an extension of their household duties. There might also be reluctance on the part of respondents themselves to disclose that they are working, if, for example, the work that they are doing is illegal. (See Natrass, 2000a and Posel and Casale, 2001, for a more thorough discussion of these issues.)

#### D. Trends in Labour Force Participation, 1995-2001

Using consistent classifications of labour market status for the four years under review, there is clear evidence of a continued feminisation of the labour force over the period 1995 to 2001. A greater proportion of both women and men of working age (i.e. between the ages of 15 and 65 years) were working or willing to work in 2001 than in 1995, but the increase for women was greater than the increase for men. The share/proportion of all economically active individuals who were women therefore increased over the years. As mentioned earlier, because there is a strict and a broad definition of unemployment, the latter including both the searching *and* the non-searching (or 'discouraged') unemployed, there is also a strict and a broad definition of the labour force. Strict and broad labour force participation rates are calculated by dividing the respective labour forces by the working age population. The data are presented in Table 3.1 below.<sup>15</sup>

Table 3.1: The working age population and labour force participation

	Female				Male			
	1995	1997	1999	2001	1995	1997	1999	2001
<b>Thousands</b>								
Working age population	12 686 (150)	13 295 (119)	13 656 (163)	14 364 (169)	11 545 (144)	12 212 (120)	12 607 (142)	12 957 (147)
Strict labour force	4 857 (82)	4 999 (76)	6 375 (97)	7 280 (103)	6 771 (104)	6 832 (95)	7 708 (103)	8 256 (111)
Broad labour force	6 067 (92)	6 576 (83)	8 287 (110)	9 235 (119)	7 606 (110)	7 917 (97)	8 904 (111)	9 349 (115)
<b>Rates</b>								
Strict participation rate	38.3 (0.47)	37.6 (0.42)	46.7 (0.49)	50.7 (0.48)	58.6 (0.53)	55.9 (0.47)	61.2 (0.51)	63.8 (0.49)
Broad participation rate	47.8 (0.44)	49.5 (0.38)	60.8 (0.40)	64.4 (0.38)	65.9 (0.45)	64.8 (0.39)	70.7 (0.42)	72.2 (0.38)
<b>Shares/proportions of</b>								
Working age population	52.4 (0.22)	52.1 (0.18)	52.0 (0.22)	52.6 (0.22)	47.6 (0.22)	47.9 (0.18)	48.0 (0.22)	47.4 (0.22)
Strict labour force	41.8 (0.34)	42.3 (0.29)	45.3 (0.32)	46.9 (0.31)	58.2 (0.34)	57.7 (0.29)	54.7 (0.32)	53.1 (0.31)
Broad labour force	44.4 (0.31)	45.4 (0.26)	48.2 (0.28)	49.7 (0.28)	55.6 (0.31)	54.6 (0.26)	51.8 (0.28)	50.3 (0.28)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

<sup>15</sup> All data are weighted using the individual weights provided by Stats SA to arrive at population estimates. Note also that the standard errors presented in the tables that follow take into account the clustered survey design.

It is important to make clear here that when using cross-sectional data in an analysis of labour force participation, it is only possible to pick up overall changes that have occurred. Any churning that has taken place in the labour market cannot be identified. For instance, it may be that a large number of men and women also left the labour market over the period, but because a *larger* number entered, an increase in participation is observed. With cross-sections one can only say, for example, that in 2001 there were approximately 5 million *more* men and women participating in the labour force than in 1995. Also, *which* women or men were participating in 2001 and not in 1995 cannot be identified.

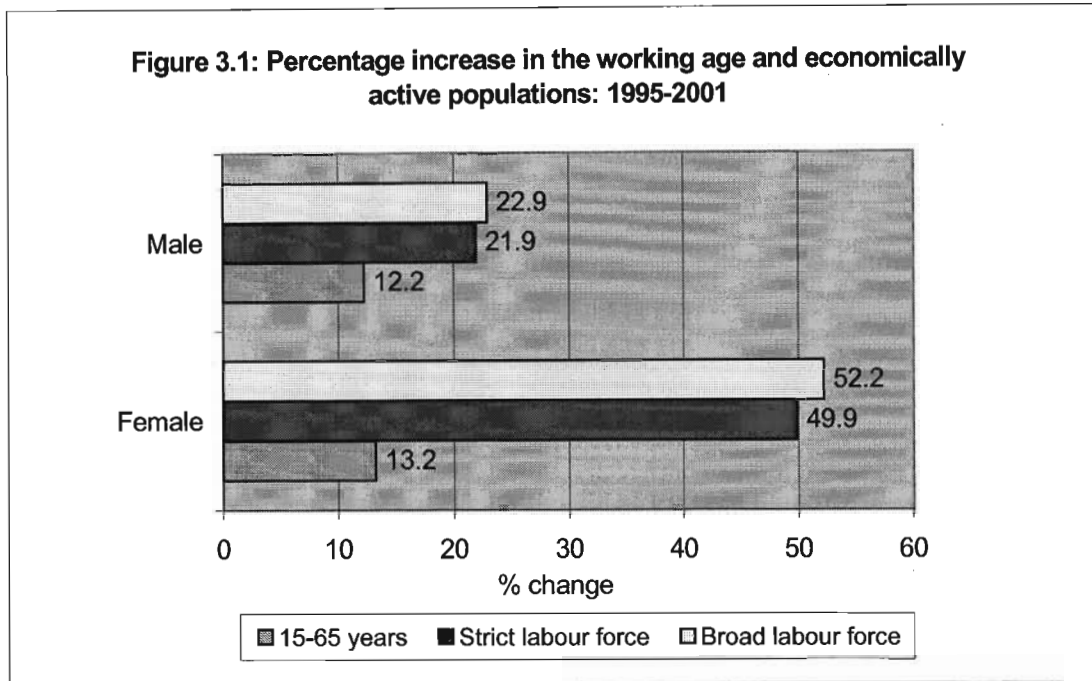
Between 1995 and 2001, the female population of working age increased by almost 1.7 million. But the number of strictly defined economically active women increased by around 2.4 million and the number of broadly defined economically active women increased by around 3.2 million over the same period. This shows that the growth in the economically active population cannot simply be attributed to an increase in the number of 15 to 65 year-old women. Rather, a considerably large number of individuals who had not been economically active in 1995 were being reported as either working or wanting to work in 2001.

As would be expected then, labour force participation rates for women increased dramatically between 1995 and 2001. Table 3.1 shows that, according to the strict definition, some 38 percent of all women of working age were economically active in 1995, while nearly 51 percent were active in 2001. In terms of the broad definition this increase is more pronounced: while approximately 48 percent of all women of working age were economically active in 1995, just over 64 percent were part of the economically active population in 2001.

The male population of working age, and the proportion of these men who were economically active, also increased between 1995 and 2001, but by proportionately less than for women. The number of men between the ages of 15 and 65 years increased by around 1.4 million, while the number of strictly defined economically active men increased by close to 1.5 million and the number of broadly defined economically active men increased by just over 1.7 million. These increases are detailed in Figure 3.1 below, which shows the percentage changes in the working age



and economically active populations over the period for both men and women. While the percentage increases in the working age population between 1995 and 2001 were almost the same for men and women, the percentage increases in the strict and broad labour forces were over twice the size for women compared to men.



Male labour force participation rates therefore increased between 1995 and 2001, but not by nearly as much as for women. Table 3.1 shows that, according to the strict rate, some 59 percent of all men of working age were economically active in 1995, while around 64 percent were active in 2001. In terms of the broad definition, approximately 66 percent of all men of working age were economically active in 1995, while just over 72 percent were part of the economically active population in 2001.

Although male participation rates were still significantly higher than female participation rates in 2001, the gap narrowed over the period, as has been the case in many other countries around the world (see Chapter Two). Consequently, women's share of the economically active population rose. As Figure 3.2 highlights (see also Table 3.1), while women's share of the working age population remained relatively constant, their share of both the strict and broad labour forces increased over the years. In 1995, women comprised approximately 42 percent of the strict labour force;

by 2001 this had risen to around 47 percent. According to the broad definition: in 1995 approximately 44 percent of the labour force consisted of women, by 2001 *half* of all those recorded as working or willing to work were women.



The increase in the labour supply of both women and men was not matched by an equivalent increase in employment, however. In fact, *most* of the increase in labour force participation translated into an increase in unemployment, the absolute increase being significantly larger for women. This is illustrated more clearly in Figure 3.3 below, which shows the breakdown of the *change* in labour supply that was recorded between 1995 and 2001. There were an additional 2.2 million broadly unemployed women (i.e. including the searching and non-searching unemployed), which accounts for approximately 69 percent of the additional 3.2 million female labour force participants that were reported over the period 1995 to 2001. There were 1.57 million more broadly unemployed men, which accounts for close to 90 percent of the 1.7 million additional male labour market participants recorded. The unemployed make up a larger component of the change in male labour supply because of the much lower reported increase in employment for men over the period, also shown in the figure below.

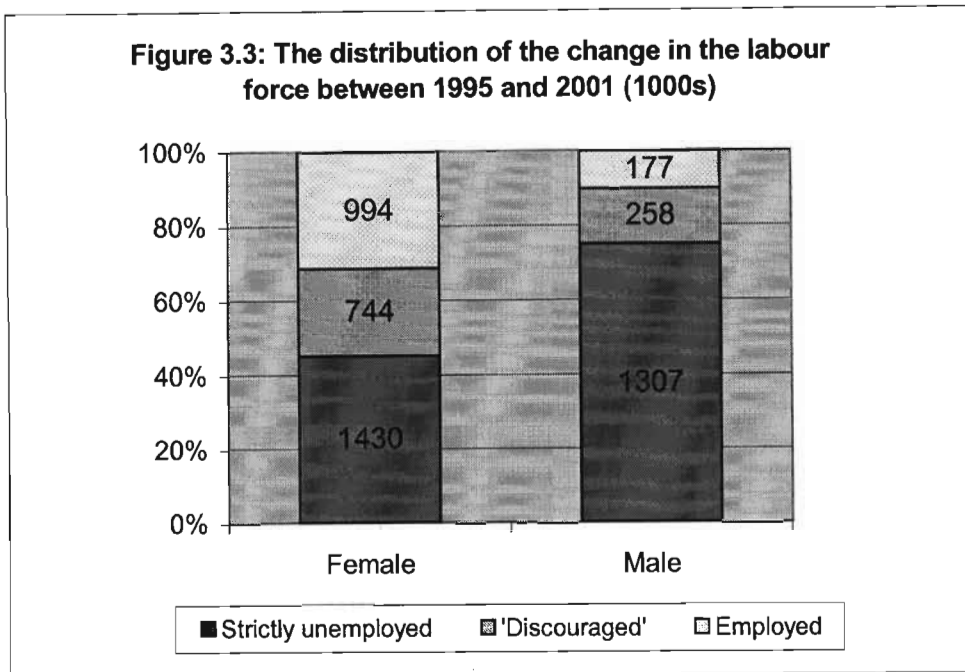


Figure 3.3 illustrates that not only did more women than men join the ranks of the unemployed over the period in absolute terms, but that they were also more likely than men to become non-searching or 'discouraged' unemployed. Roughly 744 000 women, or 34 percent, of the 2.2 million growth in broadly unemployed females represents an increase in the number of 'discouraged' unemployed. Male unemployment rose by some 1.57 million men over the period, only around 17 percent, or 258 000, of whom were reported as 'discouraged'.<sup>16</sup>

Because the majority of the increase in labour supply translated into unemployment, rates of unemployment, both strict and broad, rose dramatically over the period. These data for all four years under review are summarised below in Table 3.2. In 1995, some

<sup>16</sup> That a larger proportion of the additional women recorded as unemployed are not searching for work or are discouraged compared to men, is an interesting observation. It could suggest that women entering the labour market are less optimistic about their employment prospects and so are reporting wanting to work but not having searched for work. It could also mean that women who have been searching for some time and have not found work have 'given up' searching, again perhaps because of dismal job opportunities. This raises the question why so many more women are still reporting wanting to work over this period despite the high probability that they will not find employment. The fact that more women compared to men are not *actively* searching for work is also likely to be due to the constraints posed by children and, of course, lack of finances, issues which are returned to in Chapter Five.

38 percent of all economically active women were broadly unemployed; by 2001, this had increased to 48 percent. Although the proportion of economically active men who were broadly unemployed rose over the period, from 23 percent in 1995 to 35 percent in 2001, men remained significantly less likely than women to be unemployed. In other words, women remain over-represented in unemployment, which is also evident when comparing their shares of strict and broad unemployment (in the table below) to their shares of the working age population and the labour force (from Table 3.1).

*Table 3.2: The labour force disaggregated by employment and unemployment*

	Female				Male			
	1995	1997	1999	2001	1995	1997	1999	2001
<b>Thousands</b>								
Employed	3 785 (67)	3 561 (64)	4 368 (74)	4 779 (76)	5 858 (94)	5 543 (85)	6 022 (89)	6 035 (90)
Strictly unemployed	1 071 (34)	1 438 (33)	2 006 (47)	2 501 (53)	913 (31)	1 288 (32)	1 686 (40)	2 220 (51)
Broadly unemployed	2 282 (50)	3 015 (50)	3 918 (70)	4 456 (79)	1 748 (45)	2 373 (47)	2 882 (57)	3 313 (65)
<b>Rates</b>								
Strict unemployment rate	22.1 (0.65)	28.8 (0.61)	31.5 (0.61)	34.4 (0.58)	13.5 (0.45)	18.9 (0.46)	21.9 (0.49)	26.9 (0.54)
Broad unemployment rate	37.6 (0.67)	45.8 (0.63)	47.3 (0.61)	48.2 (0.58)	23.0 (0.54)	30.0 (0.54)	32.4 (0.55)	35.4 (0.58)
<b>Shares/proportions of</b>								
Employed	39.3 (0.38)	39.1 (0.35)	42.0 (0.38)	44.2 (0.38)	60.7 (0.38)	60.9 (0.35)	58.0 (0.38)	55.8 (0.38)
Strictly unemployed	54.0 (0.78)	52.7 (0.63)	54.3 (0.59)	53.0 (0.56)	46.0 (0.78)	47.3 (0.63)	45.7 (0.59)	47.0 (0.56)
Broadly unemployed	56.6 (0.55)	56.0 (0.45)	57.6 (0.43)	57.4 (0.43)	43.4 (0.55)	44.0 (0.45)	42.4 (0.43)	42.6 (0.43)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

Using cross-sectional data over time, it is not possible to say how many (or which) of these unemployed individuals lost their jobs and are thus unemployed, and how many are additional entrants into the labour market that have not found work. Some indication that a large part of the rise in unemployment is due to ‘new’ participants is provided by the information in the surveys on whether those who were not working had *ever* worked before or not.<sup>17</sup> The proportion of the unemployed in each age cohort

<sup>17</sup> ‘New’ is used here in the sense that there are additional participants in the labour market in 2001 that were not participating in 1995. Of course, it is possible that there is a lot of churning in the labour market so that some of these individuals would have moved between inactivity and unemployment quite frequently over the period, and hence are not joining *for the first time*. Also, some of these

that reported never having worked before ‘for pay, profit or family gain’ is shown in the table below for men and women in 1995 and 1999, two years in which the question was asked in a comparable way (Q3.31 in the OHS 1995 and Q3.34 in the OHS 1999).

*Table 3.3: Proportion of the unemployed who have never worked before, 1995 and 1999*

	Female				Male			
	Strict		Broad		Strict		Broad	
	1995	1999	1995	1999	1995	1999	1995	1999
<b>Age cohort</b>								
15-19	86.7 (2.39)	85.2 (2.45)	89.9 (1.54)	87.8 (1.56)	89.2 (2.29)	88.6 (2.16)	89.6 (1.65)	89.7 (1.50)
20-24	83.3 (1.51)	80.8 (1.42)	85.4 (1.03)	84.7 (0.97)	79.8 (1.97)	81.8 (1.47)	85.1 (1.26)	85.8 (1.01)
25-34	66.4 (1.87)	66.3 (1.37)	72.9 (1.13)	71.3 (0.97)	59.2 (1.94)	62.4 (1.60)	66.9 (1.46)	67.0 (1.28)
35-44	49.0 (2.43)	56.8 (1.78)	61.6 (1.61)	60.8 (1.32)	32.0 (2.55)	40.9 (2.27)	40.7 (1.97)	46.8 (1.81)
45-54	49.6 (3.57)	48.1 (3.05)	56.9 (2.26)	56.3 (2.03)	25.3 (3.31)	39.6 (2.91)	40.8 (2.65)	43.2 (2.15)
55-65	36.0 (7.01)	59.3 (5.94)	49.7 (4.59)	61.0 (3.70)	24.3 (5.41)	39.7 (5.04)	38.0 (3.93)	37.6 (3.40)
<b>Total</b>	<b>67.2</b> (1.26)	<b>67.6</b> (0.96)	<b>72.8</b> (0.81)	<b>72.0</b> (0.70)	<b>57.7</b> (1.37)	<b>62.3</b> (1.06)	<b>65.0</b> (1.02)	<b>66.5</b> (0.82)

Source: Own calculations using OHS 1995 and 1999

Note: Standard errors in parentheses

Interestingly, a large proportion of the unemployed had never worked before in both 1995 and 1999 according to the strict and broad definitions of unemployment, suggesting that these individuals are ‘new’ entrants into the labour market. In other words, they are not unemployed because of being retrenched, laid off or fired from a previous job, but unemployed because they are now reporting wanting to or needing to work. This might be expected of the youngest age cohorts, and indeed, with each age cohort the unemployed are generally more likely to have worked before. What is striking though is that a large proportion of those in the older age cohorts also report never having worked before, and a larger proportion of unemployed women than unemployed men have no previous work experience.

Looking at unemployed women in particular, over two thirds of the strictly unemployed and almost three quarters of the broadly unemployed, report never

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unemployed are likely to be experiencing long durations of unemployment and so might not be new participants that have *just* joined.

having worked before. Also noteworthy is that although the proportions of unemployed women with no work experience did not change significantly between 1995 and 1999 for women in the younger age cohorts, for women in the oldest age cohort in particular there was some *increase*, especially among those who reported having actively searched for work. This is consistent with the evidence provided in the following chapters that part of the rise in participation is being driven by older women entering the labour market, coinciding with a decline in the proportion of the inactive who report being housewives (a group of women most likely to have no previous work experience). These issues will be elaborated on though in the chapters that follow.

Also illustrated in Figure 3.3 shown earlier is the *rise in employment* that occurred over the period. Increasing rates of unemployment have often been associated with jobless growth in South Africa (Barker, 1999a; 1999b; Hofmeyr, 2001). The household survey data, however, suggest that there has been a net increase in employment over this period, albeit small in relation to the growth in labour supply. Total recorded employment grew by approximately 1.17 million jobs between 1995 and 2001 (see also Table 3.2).<sup>18</sup> Close to 85 percent of this increase (994 000 workers) reflects greater female employment. Women's share of overall employment therefore also increased over the period. In 1995 the proportion of the employed who were women was approximately 39 percent; by 2001 this had risen to 44 percent (Table 3.2).

The growth in total recorded employment, however, derives principally from a considerable growth in the number of people who are *self-employed*. This is evident

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<sup>18</sup> Table 3.2 shows that for men and women total employment was generally increasing over the period 1995 to 2001. However between 1995 and 1997 there was a decline in total employment. It seems that this was mainly due to the lower numbers of domestic and unskilled agricultural workers captured in 1997 (from Table 3.4). These figures for 1997 seem unusually low considering the overall trend between 1995 and 2001. There is no obvious reason for why this year in particular should lie outside of the trend. Also, as Muller (2003a: 23) points out in her analysis of the household surveys' employment figures, in which she documents a similar decline between 1995 and 1997, no visible changes were made over this earlier period to the questionnaires that would account for these recorded *decreases*. It therefore seems sensible to approach the 1997 employment data with some caution.

from Table 3.4, which shows the number of people in various disaggregated employment categories for the four years under review, and Table 3.5 which shows the absolute and percentage changes in these types of employment between 1995 and 2001. Details of how each of these categories was defined to ensure comparability across the years are provided in Appendix 2.<sup>19</sup> Note that the employment trends presented here will be taken at face value in the analysis that follows, leaving a discussion of whether or not these trends are credible for the next section.

*Table 3.4: The distribution of the employed by employment type (1000s)*

	Female				Male			
	1995	1997	1999	2001	1995	1997	1999	2001
Employees	2 610 (60)	2 542 (55)	2 764 (62)	2 785 (63)	4 599 (91)	4 729 (77)	4 717 (80)	4 531 (82)
Informal self-employed	184 (10)	247 (11)	488 (20)	692 (23)	216 (11)	292 (13)	525 (21)	613 (22)
Formal self-employed	65 (6)	103 (9)	127 (10)	138 (10)	237 (12)	269 (17)	360 (18)	355 (20)
Domestic workers	689 (22)	549 (19)	753 (24)	873 (25)	21 (4)	40 (4)	35 (4)	26 (4)
Unskilled agriculture	193 (15)	103 (10)	187 (16)	172 (15)	689 (33)	184 (15)	317 (21)	347 (22)
More than one job	44 (5)	12 (3)	47 (5)	110 (10)	96 (7)	19 (3)	60 (6)	149 (11)
<b>Total employment</b>	<b>3 785</b>	<b>3 556</b>	<b>4 365</b>	<b>4 771</b>	<b>5 858</b>	<b>5 534</b>	<b>6 015</b>	<b>6 021</b>

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

<sup>19</sup> Important to note here, though, is that the category 'employees' refers to all those employed in both registered *and* non-registered businesses, but excludes domestic workers, unskilled agricultural workers and those who have more than one job. Because of the particular nature of each of these groups, they have been placed in categories of their own. It is not possible, however, to place subsistence/small-scale farmers in a category of their own consistently across the years. In 1995 and 1997 hardly any individuals were recorded as subsistence farmers according to the occupational codes available in the surveys and were more than likely classified as economically inactive. As expected, due to the more thorough attempts by Stats SA to capture subsistence farmers over the years, in 1999 and 2001 there are workers classified as subsistence farmers according to the occupational codes provided. Nearly all of these individuals are being captured here in the category 'informal self-employment' rather than 'unskilled agriculture' (with a very small number captured in the categories 'formal self-employment' and 'more than one job'). See Appendix 2 for more details and an additional note on the capture and classification of subsistence farmers in particular.

Table 3.5: The change in employment between 1995 and 2001 by employment type <sup>20</sup>

	Absolute change (1000s)		Percentage change	
	Female	Male	Female	Male
Employees	174	-68	6.7	-1.5
Informal self-employed	508	397	276.4	183.7
Formal self-employed	73	118	111.4	49.7
Domestic workers	185	5	26.8	23.2
Unskilled agriculture	-21	-342	-10.7	-49.6
More than one job	66	54	151.9	56.0
<b>Total employment</b>	<b>986</b>	<b>163</b>	<b>26.0</b>	<b>2.8</b>

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

These tables illustrate that most of the growth in self-employment is in the *informal sector*. This type of employment recorded the largest increases in both absolute and relative terms. For both men and women, the number of people reported with unregistered self-employment more than doubled, but the change was considerably larger for women. Between 1995 and 2001 there were approximately 508 000 more women and 397 000 more men recorded with informal self-employment, representing an increase of around 276 percent and 184 percent respectively.<sup>21</sup> More than half of the growth in female employment between 1995 and 2001 can therefore be attributed to the growth in women ‘making work’ for themselves in the informal sector.

Registered or formal self-employment also increased dramatically and particularly for women in relative terms, but from a much smaller base (such that the absolute rise over the period was still larger for men). The same can be said of the increase in those engaged in more than one job, and here both the absolute and relative increases were significantly larger for women. Also notable is the increase in absolute terms of the number of female domestic workers. An additional 185 000 women were recorded in this type of employment between 1995 and 2001, although in relative terms this only amounted to an increase of around 27 percent over the six-year period.

<sup>20</sup> The total employment figures in Tables 3.4 and 3.5 do not correspond exactly to those in Table 3.2 because of missing values in the data sets for sector and type of employment.

<sup>21</sup> Of the 397 000 additional men recorded in informal self-employment in 2001, 93 000 were coded as subsistence farmers, while of the 508 000 additional women recorded in informal self-employment in 2001, 77 000 were coded as subsistence farmers (see also Appendix 2).



The data suggest that there has been a net increase in the number of female ‘employees’<sup>22</sup> working in both registered and unregistered businesses over the period, while for men the trend has been less consistent with a net decrease recorded between 1995 and 2001. Although the rise in the number of female employees amounted to approximately 174 000, the relative change in this employment over the six-year period, at just under 7 percent, was small (and particularly when considered in relation to the increase in informal self-employment and the more general rise in labour supply).<sup>23 24</sup>

The percentage changes in Table 3.5 clearly illustrate that during this period of dismal overall employment creation in South Africa (relative to the large increase in labour supply), by far the fastest-growing categories of employment were informal and formal self-employment and those who engaged in more than one job (although these latter two categories represent much smaller numbers). The rates of increase are particularly striking for women. Table 3.6 below shows how this has resulted in a

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<sup>22</sup> Recall that the term ‘employees’ here excludes domestic and unskilled agricultural workers as well as those with more than one job.

<sup>23</sup> Because the 1995 OHS did not distinguish between those employees working for formal/registered businesses versus those working for informal/unregistered businesses, the category of ‘employees’ was not disaggregated any further in the tables. The data for 1997 to 2001 however provide no evidence that the increase in the number of female employees is due to a greater demand for female labour by informal businesses compared to formal businesses. For the years 1997, 1999 and 2001 a relatively consistent eight percent of female ‘employees’ and ten percent of male ‘employees’ were being employed in unregistered businesses. Some studies have pointed to the growing practice by firms in South Africa of outsourcing and (sub-)contracting work, and particularly women’s work, to avoid protective labour regulations (Orr, 2001; Skinner and Valodia, 2001). If such a ‘casualisation’ or ‘informalisation’ of work is occurring, then given the figures above, the individuals in these types of work are clearly not being classified as ‘employees working in unregistered businesses’ in the household surveys. Unfortunately, there is no satisfactory way of accurately capturing the casualisation of work using these data (see Esselaar, 2003, for a more detailed discussion of these data capture problems).

<sup>24</sup> It might have been useful here to disaggregate ‘employees’ into union and non-union members. Unfortunately, it is not possible to ascertain with any certainty the change in the relative size of these groups over the period because of the large numbers of missing values for union membership especially in the years after 1995. For example, in 1999 there were approximately 1500 missing observations for union membership. When weighted, this amounted to some 680 000 individuals.

shift in the composition of the female economically active population. Between 1995 and 2001 a growing proportion of those women who were either working or wanting to work were broadly unemployed, or self-employed in the formal and informal sectors.

*Table 3.6: The composition of the female labour force (broadly defined)*

	1995	1997	1999	2001
Broadly unemployed	37.6 (0.67)	45.9 (0.63)	47.3 (0.61)	48.3 (0.58)
Employees	43.0 (0.70)	38.7 (0.63)	33.4 (0.60)	30.2 (0.57)
Informal self-employed	3.0 (0.15)	3.8 (0.16)	5.9 (0.23)	7.5 (0.23)
Formal self-employed	1.1 (0.10)	1.6 (0.13)	1.5 (0.12)	1.5 (0.11)
Domestic workers	11.4 (0.36)	8.4 (0.27)	9.1 (0.27)	9.5 (0.26)
Unskilled agriculture	3.2 (0.25)	1.6 (0.15)	2.3 (0.20)	1.9 (0.16)
More than one job	0.7 (0.08)	0.2 (0.04)	0.6 (0.06)	1.2 (0.10)
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

Looking next at female and male shares in the various types of employment, Table 3.7 shows that, as would be expected given the above discussion, there does not seem to be a major shift towards firms employing proportionately more women in the South African economy. Even though there was an increase recorded for women in this type of employment, it was relatively small, and consequently still close to two thirds of those recorded as ‘employees’ are men, with women remaining under-represented in this type of employment relative to their share in the labour force and their share in total employment. Similarly, men also remain over-represented in formal self-employment, work that is generally associated with larger earnings (see Chapter Six). The only particularly low-paying sector in which men are over-represented is unskilled agriculture, although their share in this type of employment has decreased dramatically over the period due to large decreases in male employment in this sector.<sup>25</sup> Women, in contrast, remain over-represented in domestic work and self-employment in the informal sector, work that offers low returns and little security or

<sup>25</sup> Using the OHS data, Klasen and Woolard (2000) also find a large decrease in this sector over the period 1995 to 1997.

protection for the worker, issues which are revisited in more detail in Chapter Six.

*Table 3.7: Share of unemployment and types of employment*

Share of:	Female				Male			
	1995	1997	1999	2001	1995	1997	1999	2001
<b>Broad labour force</b>	44.4	45.4	48.2	49.7	55.6	54.6	51.8	50.3
<b>Broad unemployment</b>	56.6	56.0	57.6	57.4	43.4	44.0	42.4	42.6
<b>Total employment</b>	39.3	39.1	42.0	44.2	60.7	60.9	58.0	55.8
Employees	36.2 (0.47)	35.0 (0.41)	36.9 (0.47)	38.1 (0.50)	63.8 (0.47)	65.0 (0.41)	63.1 (0.47)	61.9 (0.50)
Informal self-employed	46.0 (1.57)	45.8 (1.36)	48.2 (1.20)	53.0 (1.06)	54.0 (1.57)	54.2 (1.36)	51.8 (1.20)	47.0 (1.06)
Formal self-employed	21.6 (1.30)	27.7 (1.53)	26.0 (1.34)	28.0 (1.41)	78.4 (1.30)	72.3 (1.53)	74.0 (1.34)	72.0 (1.41)
Domestic workers	97.1 (0.51)	93.1 (0.70)	95.5 (0.49)	97.1 (0.42)	2.9 (0.51)	6.9 (0.70)	4.5 (0.49)	2.9 (0.42)
Unskilled agriculture	21.9 (1.18)	35.8 (1.82)	37.1 (1.79)	33.2 (1.81)	78.1 (1.18)	64.2 (1.82)	62.9 (1.79)	66.8 (1.81)
More than one job	31.4 (2.78)	38.0 (6.06)	44.3 (3.34)	42.5 (2.16)	68.6 (2.78)	62.0 (6.06)	55.7 (3.34)	57.5 (2.16)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

It would seem, therefore, that the continued rise in female labour force participation in South Africa between 1995 and 2001 is associated largely with rising rates of female unemployment and the expansion of generally low-paying and insecure forms of employment. The total increase in female employment has not been large enough to absorb the growth in female labour supply, and where net employment has increased, then this derives principally from women ‘making work’ for themselves, and particularly in the informal sector (Casale and Posel, 2002).

#### *E. Some Data Concerns: Are These Trends Credible?*

As argued earlier, one of the problems that complicates the interpretation of these trends concerns the reliability and comparability of the OHS and LFS data, particularly with respect to measures of employment (Casale and Posel, 2002; 2003). Most of the increase in employment derives from growth in informal sector self-employment, a category of work that is likely to be more prone to measurement errors and bias. In addition, as Stats SA sought to improve data collection over the 1990s,

increasing attention was paid to the capture of all types of work and, in particular, small-scale agricultural and other informal activities. The 1997 and 1999 OHSs were more explicit than the 1995 survey in identifying informal activities as employment, with the LFS making even greater attempts at capturing these types of work.<sup>26</sup> It is therefore likely that *some* of the observed increase in informal sector self-employment reflects the more probing questions over the years, rather than a real change in this type of work.

It could be argued then that the observed feminisation of *employment* over this period is simply a product of the better data capture of informal and small-scale agricultural activities, in which women have traditionally been relatively more active. However, even if all of these 'new' jobs in the category of informal self-employment were assumed to be the result of a more efficient capture of such activities, a feminisation of employment would still be recorded. Excluding all informal self-employment from the analysis, female employment would have risen by approximately 478 000 jobs, while male employment would have fallen by about 234 000 jobs between 1995 and 2001.

In addition, it is unlikely that improved data collection alone accounts for the considerable increase in reported self-employment in the informal sector. One would expect informal employment to have risen over this period in South Africa, given the limited labour absorption capacity of the formal sector in the face of such large increases in labour supply. Furthermore, there has been a relaxation of controls in urban areas that in the past would have served to discourage (what now seem to be

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<sup>26</sup> Unlike in 1995, the 1997 and 1999 questionnaires included a prompt on what should be counted as employment in the first question on the individual's activity of the previous seven days. Work was defined as: 'formal work for a salary, wage or profit; informal work, such as making things for sale, selling things or providing a service; work on a farm or land, whether for a wage or as part of the household's farming activities; and casual/seasonal work.' In the LFS questionnaire the main labour market question is more probing than those of all the previous household surveys. The first question on employment provides a relatively detailed list of the various categories of work that should be considered as employment, with subsistence farming and running a small business, for example, placed in categories of their own (see Appendix 1 for details). In addition, as the respondent proceeds to answer the other labour market questions, wherever applicable, it is reiterated that 'agricultural work on own/family farm/plot' should be treated as employment.

common forms of) informal activity, such as street trading, hawking and peddling.<sup>27</sup> Finally, between 1997 and 1999, the two years in which the questionnaires were almost identical in the way in which they asked for information on employment, a large increase in informal self-employment was recorded, suggesting again that the rise in this type of employment is unlikely to be purely an artefact of better data collection.<sup>28</sup>

It is also probable that informal sector activities remain underestimated even in 2001 (Stats SA, 2001b: 52). Given the irregular (and perhaps in some cases illegal) nature of this type of employment, respondents themselves might be reluctant to classify their activities as 'real' work, despite the more probing questions in the surveys. This is likely to be particularly problematic in the case of small-scale and own-account agriculture, which could also be seen as an extension of the individual's household chores rather than as actual work (see Standing *et al*, 1996; Natrass, 2000a and Posel and Casale, 2001 for a more detailed discussion). Because women are more likely than men to be self-employed in the informal economy, the implication of this bias would be that women's share of employment (and of informal sector employment in particular) is underestimated.

All of this aside, *most* of the increase in the economically active population in South Africa between 1995 and 2001 has been associated with an increase in the number of *unemployed* individuals. The data show that there were 3.2 million more women as part of the broad labour force in 2001, 2.2 million of which were broadly unemployed, while the increase in the number of women engaged in informal self-employment amounted to just over 500 000.

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<sup>27</sup> In addition to increases in the more common types of informal activity, new types of informal activity have sprung up. A highly visible example of this is 'car guarding'. In 1995 informal car guarding was not at all common in South Africa; by 2001 there would have been a car guard (and often more than one) on almost every busy street in the main urban areas in South Africa.

<sup>28</sup> Between 1997 and 1999 informal self-employment grew by 474 000 jobs for men and women combined. Even if one excludes all the subsistence farmers from the calculation (112 000 workers), as it is possible that interviewers would have placed more emphasis on capturing small-scale agricultural work as employment in 1999, the rise in informal self-employment would still have amounted to 362 000 jobs.

It could also be argued that the broad unemployment figures are inflated. This would be the case if some of the non-searching unemployed were in fact ‘choosing’ to be unemployed. There is little empirical support for this argument, however (Kingdon and Knight, 2000a; Dias, 2002). But, even if there was some merit to this argument, it is not clear why the number of ‘voluntarily’ unemployed would have increased so dramatically over this six-year period. The questions asked on unemployment in the household surveys have not changed that much over the years so as to warrant such a large increase in the figures (Casale and Posel, 2003).<sup>29</sup>

Furthermore, in more general terms, the growth in the economically active population between 1995 and 2001 is driven largely by the increase in female labour supply. This is hardly an implausible result, considering that this trend has been observed in many other countries over the past 50 years in particular, and has already been documented for South Africa since around the 1960s. The issue of whether these recorded trends for the period 1995 to 2001 are credible is returned to in the next chapter, in which some of the changing characteristics of the economically active population that may help explain *why* more women are looking for work, are explored.

## *F. Key Conclusions*

Although there are some measurement concerns, the national household data seem to be telling a consistent story. The picture that emerges thus far from the descriptive statistics is that a significantly larger proportion of women than men was available for work in 2001 compared to 1995, which has resulted in a narrowing of the gap between male and female participation rates. Most of the increase in female labour force participation in South Africa, however, has translated into an increase in unemployment. There were significantly more women reported as wanting to work

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<sup>29</sup> Note that while the questions asked over the years regarding unemployment are not very different, it is Stats SA’s use of these questions to define and derive employment status variables that has not been consistent (as detailed in Appendix 1). See also Klasen and Woolard (1999) and Natrass (2000a) for a discussion of how unemployment rates over the years seem to show a generally consistent picture, after adjustments are made for comparability across the various data sets.

but not finding work, than there were additional women actually working.

There was some growth in the number of women with employment over the period, but as the figures have shown, this was relatively small compared to the growth in labour supply, and just over half of these 'new' jobs were recorded in informal sector self-employment. From the information provided by the national household surveys, therefore, there is no strong evidence that women are being 'pulled' into the labour market by an increase in firm demand for female labour. The increase in female participation has largely been characterised by unemployment and generally insecure and traditionally low-paying forms of employment. It is interesting then that so many more women still joined the labour market, or at least reported wanting to work, over a period when their employment prospects were so limited.

It seems plausible, therefore, that there are factors on the supply side of the labour market that are perhaps 'pushing' women into looking for work, and in the case of not finding regular employment, into 'creating' work for themselves in the informal economy especially. In the next chapter the question of why an increasing number of women were wanting to work over this period is explored descriptively in more detail. Specifically, some of the supply-side correlates of women's increased labour force participation are examined.

## CHAPTER FOUR

# WHY ARE MORE WOMEN LOOKING FOR WORK IN SOUTH AFRICA? DESCRIBING CHANGES ON THE SUPPLY SIDE OF THE LABOUR MARKET

### A. *Introduction*

Despite the problems encountered when trying to put together an accurate picture of the changes in economic activity in South Africa, the evidence provided in Chapter Three points quite clearly to an increase in the labour force participation of women in particular. A much larger proportion of women of working age wanted to work in 2001 compared to 1995. An important question, that has been given inadequate attention in the South African literature, is *why* so many more women were wanting to work and entered the labour market over this period.

In the international literature much emphasis has been placed on the growth in the demand for female labour as a key reason for why there has been an observed increase in female labour force participation and in women's share of employment around the world in the more recent decades especially. To summarise from Chapter Two, studies of the labour force participation of women in both developing and developed countries identify two broad changes in the demand for female labour as driving the more recent feminisation. First, there has been a shift towards female-employing industries as a result of industrialisation based on light industry such as textiles, garments and electronics, for example, 'pulling' women into the workforce. Second, growing labour market flexibility, and the rise in casual and informal work that is not protected by labour regulations, has been associated with the substitution of female for male labour.

While the observed increase in women's *labour force participation* in South Africa is in line with the global trends, there does not seem to have been a similar increase in



the *demand* for female labour in this country between 1995 and 2001.<sup>1</sup> Although some jobs previously held by men may have been held by women in 2001 (a shift that would be masked by cross-sectional data), the net increase in the number of women employed by firms (registered or unregistered) was small for a six-year period, and women's share of this type of employment hardly changed over the period. The national data suggest that the increase in women's employment is associated largely with the growth in informal sector work, but this is specifically in *self-employment* and small scale-scale/subsistence farming, generally survivalist activities. Furthermore, unlike in the countries surveyed in the international literature, female unemployment rates in South Africa have not been falling. Rather, as was shown, female unemployment rates continued to rise between 1995 and 2001.

It seems highly unlikely therefore that the feminisation of the labour force in South Africa can be explained only, or even principally, in terms of increased job opportunities for women, 'pulling' them into the labour market. There is no convincing evidence that demand-side factors are driving a feminisation of the labour force that has resulted in increases predominantly in unemployment and in informal forms of self-employment. In trying to answer the question of why an increasing number of women were wanting to work over this period it is therefore necessary to turn to an analysis of supply-side factors.

In this chapter, the analysis is simply descriptive. Supply-side correlates of female labour force participation are explored, and, where possible, the changes in these factors are examined over the four years under review. It is important to point out here that in using cross-sectional data to explore the reasons for the increase in labour

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<sup>1</sup> In fact, there is evidence that some sectors that have traditionally employed many women have been on the decline, such as the community, social and personal services sector, driven probably by public sector restructuring (Bhorat, 2001). Also, industries that are usually associated with female employment in trade-liberalising economies such as textiles, clothing and footwear have been contracting in South Africa. It has been argued that with the lowering of tariff barriers beyond the WTO requirements from the mid-1990s onwards (Jenkins *et al*, 1999; Holden and Casale, 2002), these industries have been unable to restructure in time and compete on the international markets against the low-wage (and especially East-Asian) economies (Benjamin, 2001; Horn, 2001; Orr, 2001; Smith, 2001).

force participation over time, one is limited to an analysis of how the *average* characteristics of the sample have changed. Because it is not possible to ascertain from the cross-sectional household data *which exact individuals* were the new entrants into the labour market, it is also not possible to map these individuals' personal or household characteristics to their changing labour force participation over the years. The most that can be done using cross-sectional data, is to look at the labour force's characteristics on average and how these have changed over the period, to infer any likely causes for the change in labour force participation in general.<sup>2</sup>

The chapter begins by presenting labour force estimates for women by race, and thereafter some of the possible determinants of labour force participation are examined for all women and African women specifically. In particular, Section B provides an analysis of trends in education, age, children living with women, and women's access to resources within the household over time, and the relationship between these factors and labour force participation.

### *B. Trends in Some Supply-Side Correlates of Female Labour Force Participation*

Before looking at some of the more specific characteristics of the economically active population on the supply side of the labour market, it is important to note the racial breakdown of the labour force. Table 4.1 shows that the size of the economically active population, broadly defined, increased for women of all race groups over the six-year period, as did labour force participation rates.<sup>3</sup> The increase in the size of the labour force in percentage terms between 1995 and 2001 was largest for Indian women: the Indian female labour force increased by almost 75 percent (but from a

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<sup>2</sup> In the future some panel data analysis will be possible at the national level, as more of the Labour Force Surveys following September 2001 become available (the LFS 2001:2 being the round in which a completely new sample was drawn).

<sup>3</sup> In this section the descriptive analysis uses only the *broad* definition of the labour force to avoid repetition of the results. In any case, all those who report working or wanting to work are of interest here initially. Differences in the decision to actively search for work or not will be considered in detail in the following chapter.

very small base), while the African female labour force increased by around 61 percent. The increase over the period was by far largest in absolute terms for African women, such that African women accounted for 85 percent of the total increase in the broad labour force (Indian women accounted for only 4 percent). Because of the predominance of African women in the labour force, the descriptive statistics discussed below will be presented for women of all races as well as for African women specifically.<sup>4</sup>

*Table 4.1: Labour force participation (broad) by race*

	1995	1997	1999	2001	Change between 1995 and 2001	
Race	Female labour force (1000s)				Absolute	Percentage
African	4 404 (98)	4 914 (85)	6 228 (113)	7 069 (123)	2 665	60.5
Coloured	678 (37)	683 (37)	852 (49)	924 (54)	246	36.2
Indian	151 (16)	153 (18)	219 (28)	263 (30)	112	74.5
White	834 (42)	826 (50)	981 (51)	979 (51)	145	17.3
<i>Total</i>	<i>6 067</i>	<i>6 576</i>	<i>8 280</i>	<i>9 235</i>	<i>3 167</i>	<i>52.2</i>
	Female Labour Force Participation Rates					
African	46.0 (0.54)	48.7 (0.45)	59.8 (0.47)	64.4 (0.44)	-	40.0
Coloured	57.3 (0.81)	54.9 (0.85)	67.6 (0.89)	67.6 (0.91)	-	18.0
Indian	40.9 (1.50)	40.5 (1.64)	55.9 (2.03)	55.5 (2.15)	-	35.7
White	53.7 (0.99)	52.2 (1.13)	62.9 (1.09)	63.9 (1.05)	-	19.0
<i>Total</i>	<i>47.8</i>	<i>49.5</i>	<i>60.8</i>	<i>64.4</i>	<i>-</i>	<i>34.7</i>

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

### *B.1 The Role of Education*

One of the most important factors highlighted in the theoretical and empirical literatures is education, in determining both whether or not a woman will participate in the labour market, and the rise in female labour force participation over time. The data show that in South Africa as well, higher levels of education are associated with higher levels of participation. In addition, women's average education has been

<sup>4</sup> All the figures presented in this chapter have been weighted using the person weights (or the household weights where applicable) based on the 1996 Census, provided by Stats SA.

increasing in South Africa over time and this change has been associated with rising labour force participation.

Table 4.2 below provides mean years of education for men and women in 2001 across a number of age cohorts. It shows that the older age cohorts (both male and female) have less education on average than the younger age cohorts, indicating that education has been rising in South Africa over time.<sup>5</sup> Average years of education among women have increased faster and from a lower base than among men, such that younger women are on average even more educated than younger men. Average years of education for Africans are much lower than the national average for the older age cohorts but are closer to the national average for the younger cohorts, as might be expected as a result of the restructuring of the apartheid education system.

*Table 4.2: Mean years of education by age cohort and gender in 2001*

Age Cohort	All Races		African	
	Female	Male	Female	Male
15-19	8.6 (0.040)	8.0 (0.046)	8.3 (0.041)	7.7 (0.046)
20-24	9.9 (0.054)	9.6 (0.057)	9.7 (0.056)	9.4 (0.062)
25-34	9.6 (0.056)	9.7 (0.059)	9.2 (0.062)	9.3 (0.064)
35-44	8.1 (0.076)	8.6 (0.079)	7.3 (0.083)	7.6 (0.081)
45-54	6.7 (0.099)	7.4 (0.107)	5.3 (0.095)	5.7 (0.100)
55-65	5.7 (0.115)	6.7 (0.135)	4.0 (0.102)	4.5 (0.119)

Source: Own calculations using LFS 2001:2

Note: Standard errors in parentheses

A similar pattern of rising female education that is noted for women in general is evident for African women, with the two youngest female cohorts being more educated than their male counterparts. Mlatsheni and Leibbrandt (2001: 4-5) find similar results for African men and women using the OHS 1995. They propose that the lower average years of education among women compared to men of the older age cohorts, represents the traditional view that daughters offered a lower return to their

<sup>5</sup> Men and women in the younger age cohorts may still be acquiring education, accounting for the lower average years of education among 15 to 19 year-olds.

parents' investment in education than sons. Daughters would marry and their education would benefit the husband's family, while it was believed that sons would use their education to help their own family. They suggest that a reduction in the gender difference in education among the younger age cohorts represents changing socio-cultural views among African families about women's roles.

Table 4.3 below shows the distribution (in absolute numbers) of the broad labour force across levels of education for women of all races and for African women in the four years.<sup>6</sup> It has been suggested that labour supply has been increasing in post-apartheid South Africa because of the backlog of African school-goers who were delayed in finishing school (that is, those 'behind schedule' in terms of grade-for-age), now being released into the labour market (Klasen and Woolard, 2000; Stats SA, 2001c: 48). The data do indeed provide some support for such an argument: of the additional 3.2 million female labour market participants in 2001, approximately 794 000 women had completed a matric.

While increasing education is certainly likely to be an important factor explaining the rise in female labour force participation in South Africa, it is unlikely, however, to tell the *full* story about why there has been such a large increase in female participation over this period. It is clear from the figures in Table 4.3 that more women of all education levels had joined the labour force by 2001. Figure 4.1 illustrates that the number of additional female labour force participants aged 15 to 65 years recorded between 1995 and 2001 with less than a matric was much greater than the additional female participants with a matric or higher.

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<sup>6</sup> Note that if the total labour force figures in this chapter do not always correspond exactly to those provided in aggregated form in Chapter Three, it is because of missing values for variables such as education, age, marital status, etc.

Table 4.3: The broad labour force by education level (1000s)

Education level	Women of all races				African women			
	1995	1997	1999	2001	1995	1997	1999	2001
No schooling	533 (20)	601 (18)	626 (22)	615 (21)	498 (20)	565 (17)	578 (21)	583 (21)
Incomplete primary	1 020 (28)	1 044 (24)	1 408 (34)	1 476 (36)	890 (25)	936 (22)	1 264 (32)	1 325 (34)
Primary	459 (15)	529 (15)	633 (20)	733 (21)	375 (13)	451 (14)	541 (19)	638 (20)
Incomplete secondary	2 008 (50)	2 260 (44)	2 728 (55)	3 190 (61)	1 507 (46)	1 763 (41)	2 142 (50)	2 565 (57)
Matric	1 276 (35)	1 466 (38)	1 861 (45)	2 069 (47)	707 (28)	872 (27)	1 157 (34)	1 314 (36)
Diploma	536 (22)	472 (19)	607 (24)	704 (25)	306 (17)	258 (13)	346 (17)	433 (19)
Degree	175 (11)	184 (13)	306 (17)	373 (19)	67 (8)	58 (5)	114 (9)	156 (11)
<b>Total</b>	<b>6 007</b>	<b>6 558</b>	<b>8 169</b>	<b>9 161</b>	<b>4 350</b>	<b>4 903</b>	<b>6 143</b>	<b>7 014</b>

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

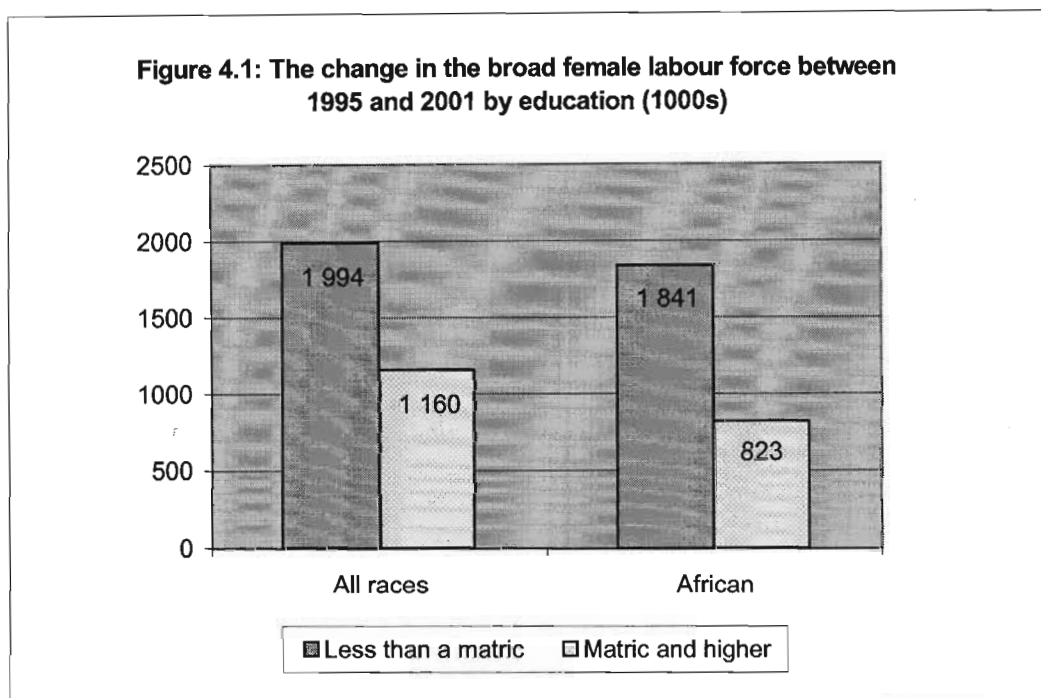


Table 4.4 below, which compares female labour force participation rates across the different levels of education for the four years under review, shows that the increases evident above are not simply due to the changing distribution of education across the population. As expected, broad labour force participation rates are higher among

women with more education than among women with less education.<sup>7</sup> However, the table shows also that between 1995 and 2001, labour force participation rates have been rising among women at all levels of education. Even among women with little or no education, an increasing proportion were reported as being economically active over the years. For example, in 1995 nearly 39 percent of women with no schooling were either working or wanting to work; by 2001 this had risen to close to 52 percent. Among women who had only completed primary schooling, around 45 percent were participating in the labour force in 1995, but by 2001 close to 58 percent of women with this level of education were participating.

*Table 4.4: Female labour force participation rates (broad) by education level*

Education level	Women of all races				African women			
	1995	1997	1999	2001	1995	1997	1999	2001
No schooling	38.9 (0.97)	41.0 (0.80)	49.7 (1.05)	51.7 (1.05)	39.3 (1.03)	41.5 (0.83)	49.5 (1.09)	52.2 (1.09)
Incomplete primary	48.7 (0.81)	49.0 (0.69)	57.8 (0.80)	62.7 (0.75)	49.0 (0.89)	49.8 (0.74)	58.5 (0.86)	63.5 (0.80)
Primary	45.4 (1.02)	46.8 (0.91)	55.2 (1.10)	57.9 (1.06)	44.8 (1.16)	47.2 (1.00)	54.9 (1.21)	58.6 (1.16)
Incomplete secondary	39.6 (0.60)	41.6 (0.53)	52.9 (0.60)	57.2 (0.59)	38.8 (0.72)	41.8 (0.61)	53.1 (0.68)	58.3 (0.67)
Matric	61.7 (0.79)	65.6 (0.76)	76.8 (0.71)	78.2 (0.70)	60.6 (1.14)	68.4 (0.91)	80.0 (0.83)	83.4 (0.74)
Diploma	73.7 (1.23)	75.3 (1.32)	86.8 (1.08)	88.1 (0.92)	73.1 (1.81)	79.0 (1.84)	91.0 (1.14)	93.0 (0.81)
Degree	79.1 (1.67)	77.0 (2.01)	82.8 (1.66)	89.3 (1.36)	80.7 (2.85)	90.8 (2.03)	90.9 (1.73)	93.7 (1.24)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

## *B.2 Female Labour Force Participation by Age Cohort*

That more women with little or no education are joining the labour force, is supported by the fact that additional women from all the age cohorts had joined the labour market by 2001, as shown in Table 4.5 below. Of the total increase in the labour force, around 757 000 women of all races (719 000 African women) were between the

<sup>7</sup> Note that the participation rates for those with incomplete secondary schooling are lower than those with less schooling because the working age population of 15 to 65 years is likely to include a number of school-goers still acquiring secondary education in the youngest age cohort who would be considered economically inactive, and not because the returns to this level of education are any smaller than the returns to lower levels of education.

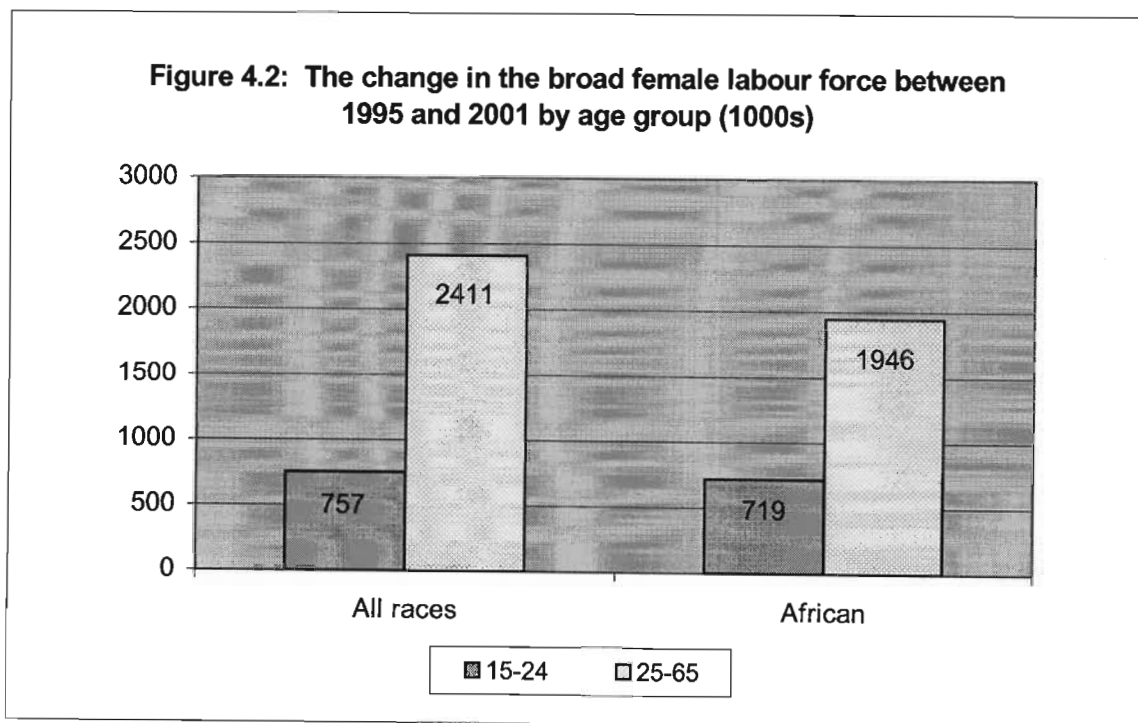
ages of 15 and 24 years, 24 years being the age by which it would be expected that most (African) school-goers would have matriculated. However, of the additional labour market participants, 2 411 000 women of all races (1 946 000 African women) were 26 years and older (see Figure 4.2).

Table 4.5: The broad labour force by age cohort (1000s)

	Women of all races				African women			
	1995	1997	1999	2001	1995	1997	1999	2001
<b>Age cohort</b>								
15-19	196 (9)	212 (9)	324 (13)	418 (17)	126 (8)	131 (7)	215 (11)	307 (15)
20-24	954 (25)	965 (22)	1 439 (34)	1 489 (34)	649 (22)	686 (19)	1 085 (30)	1 186 (31)
25-34	2 272 (44)	2 474 (40)	3 033 (54)	3 312 (55)	1 709 (41)	1 909 (36)	2 344 (49)	2 590 (52)
35-44	1 588 (33)	1 778 (31)	2 092 (37)	2 339 (42)	1 171 (30)	1 359 (27)	1 584 (33)	1 774 (36)
45-54	780 (20)	873 (20)	1 024 (23)	1 272 (28)	547 (17)	633 (16)	724 (19)	925 (24)
55-65	278 (11)	274 (11)	375 (14)	405 (15)	202 (10)	195 (8)	276 (12)	288 (12)
<b>Total</b>	<b>6 067</b>	<b>6 576</b>	<b>8 287</b>	<b>9 235</b>	<b>4 404</b>	<b>4 914</b>	<b>6 228</b>	<b>7 069</b>

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses





It would be expected of course that a larger number of women of *prime* working age would enter the labour market over a particular period of time compared to the numbers of women entering from the youngest and oldest age cohorts especially (see also Figure 4.4 which plots labour force participation by age cohort and marital status). The prime working age varies across countries depending on women's childbearing patterns, and hence the productivity over their lives of market versus non-market time (Smith and Ward, 1985; Goldin, 1990; Horton, 1999; Ehrenberg and Smith, 2000). In South Africa, participation for women tends to peak in the 25 to 34 and 35 to 44 year age cohorts (Table 4.6 below; also see Barker, 1999a; Winter 1999).

However, the changing age distribution figures presented above are not just the result of life-cycle effects in the labour force participation patterns of women. The increase in economic activity of women of *all ages* is confirmed by the labour force participation rates presented in Table 4.6 below. Labour force participation rates increased dramatically even for women in the oldest age cohorts. For example, in 1995 around 54 percent of women between the ages of 45 and 54 years were either working or hoping to work, by 2001 this had increased to as much as 68 percent according to the broad definition of economic activity. For those in the oldest age cohort of 55 to 65 years, the labour force participation rate increased from 21.5 percent in 1995 to just under 32 percent in 2001.

Table 4.6: Female labour force participation rates (broad) by age cohort

Age cohort	Women of all races				African women			
	1995	1997	1999	2001	1995	1997	1999	2001
15-19	9.3 (0.42)	9.7 (0.40)	14.2 (0.54)	18.0 (0.63)	7.3 (0.43)	7.3 (0.36)	11.5 (0.54)	16.1 (0.66)
20-24	45.3 (0.86)	46.0 (0.75)	63.4 (0.86)	69.4 (0.86)	38.5 (0.94)	40.7 (0.79)	59.3 (0.94)	66.9 (0.95)
25-34	67.9 (0.65)	70.3 (0.53)	83.9 (0.52)	85.9 (0.45)	66.9 (0.78)	70.1 (0.60)	84.2 (0.57)	86.5 (0.50)
35-44	66.6 (0.73)	68.6 (0.65)	81.3 (0.58)	81.5 (0.58)	68.0 (0.88)	71.5 (0.71)	83.5 (0.63)	83.6 (0.64)
45-54	54.0 (0.85)	53.8 (0.81)	65.6 (0.86)	67.5 (0.82)	56.3 (1.03)	57.1 (0.92)	68.1 (1.00)	70.2 (0.92)
55-65	21.5 (0.74)	21.6 (0.75)	28.0 (0.86)	31.9 (0.95)	21.7 (0.91)	22.0 (0.82)	28.4 (1.01)	33.2 (1.09)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

### *B.3 Fertility Rates and the Number of Children in the Household*

As discussed in the first two chapters of this thesis, the number of children a woman has and her likelihood of participating in the labour force have been found to be negatively correlated. The fall in fertility rates over time has therefore been considered an important factor in the rise in female labour force participation in the developed world especially (although there is some concern about identifying the direction of causality). The increase in female education and the decrease in fertility rates have also been shown in the international literature to be related. In addition to the non-economic effects that education has on fertility, rising levels of education among women increase their employment opportunities and earnings in the labour market. This in turn raises the opportunity cost of having children. Higher average education and a decrease in fertility rates therefore have been associated with the growth in women's labour force participation.<sup>8</sup>

Mlatsheni and Leibbrandt (2001) provide evidence for South Africa using the 1995 OHS data that fertility is lower for African women who are more educated, and that especially for women born after 1955, levels of educational attainment have improved, while the mean number of births by the age of 30 years had fallen. They also show that more educated women are more likely to move out of non-market activities and into the labour market.

Unfortunately though, it is not possible to examine consistently with the OHS and LFS data whether women of working age had fewer children between 1995 and 2001, because one cannot link all children living in a household to their respective biological parents in these surveys. In the 1995 and 1997 OHSs, it is possible to identify from a separate section of the questionnaire the number of children ever born (live) to women younger than 55 years. However, in the 1999 OHS, women aged 55 years and younger are only asked for information on the number of children (live

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<sup>8</sup> This trend may be offset however if a decrease in the number of children is associated with an increase in investment in children (Olsen, 1994; Lam and Duryea, 1998; Mlatsheni and Leibbrandt, 2001).

births) they gave birth to in the previous 12 months. In 2001, there is no information on children born to women.

There is evidence from other data sources that fertility rates in South Africa have been declining steadily over time (Lötter, 1990; Udjo, 1998; Barker, 1999a; Moultrie and Timeaus, 2002).<sup>9</sup> The decline in fertility rates in South Africa began in the mid-1960s though and accelerated in the 1980s, according to Census data (Moultrie and Timeaus, 2002). While fertility rates have no doubt had an effect on the rise in female labour force participation over the decades, the process is usually a gradual one, and therefore is unlikely to account specifically for why there was such a large increase in the labour force participation of women between 1995 and 2001.<sup>10</sup>

It is possible, however, to calculate the average number of children in general living in households with women of working age. With cases of more than one family living in the same household, and the prevalence of skip-generation and three-generation households among Africans in particular (Kinsella and Ferreira, 1997; Case and Deaton, 1998), the number of children in the household (whether born to the working-age woman in question herself or not) might be in any case a more suitable variable of analysis here to study the constraints on a woman's time.

The data on the average number of children aged six years and younger and the average number of children aged seven to fourteen years living in households with women of working age (for participants and non-participants) are presented in Table 4.7 below. On the one hand, it might be expected that the average number of children living in these households would be declining, as fertility rates have been declining steadily over time. On the other hand, though, this trend might be offset by a rise in the average number of children living in a household if households have been joining over time (perhaps in the face of rising HIV/AIDS deaths and generally dire economic conditions). The data provided do not present a consistent or one-directional trend

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<sup>9</sup> By fertility rates it is generally meant the number of children born in a year, usually expressed per thousand women in the reproductive age group.

<sup>10</sup> Interestingly, and in contrast to the trends that have been documented in developed countries especially, the interval between births has been increasing in South Africa over the past 25 years based on information from the 1998 Demographic and Health Survey (Moultrie and Timeaus, 2002).

however. It seems that initially, between 1995 and 1997, the average number of children living with women of working age generally rose, but thereafter declined. The net effect was that between 1995 and 2001 the average number of children aged six years and younger living with women of working age declined, but only very slightly (for African women especially), while the average number of children aged seven to fourteen years in these households actually grew. It is not clear from the simple analysis here why this should have occurred, and it is beyond the scope of this thesis to explore these changes any further.

*Table 4.7: Average number of children living with women aged 15-65 years*

	<b>Women of all races</b>			
<b>Children aged 6 years and younger</b>	<b>1995</b>	<b>1997</b>	<b>1999</b>	<b>2001</b>
Female participant	0.82 (0.014)	0.95 (0.015)	0.83 (0.014)	0.81 (0.014)
Female non-participant	0.85 (0.015)	0.97 (0.014)	0.88 (0.016)	0.80 (0.016)
T-test <sup>a</sup>	2.29**	1.85***	2.94*	-1.36
<b>Children aged 7 to 14 years</b>				
Female participant	0.97 (0.014)	1.05 (0.015)	0.98 (0.016)	1.00 (0.015)
Female non-participant	1.10 (0.015)	1.18 (0.015)	1.18 (0.020)	1.16 (0.019)
T-test	8.99*	8.79*	11.14*	9.43*
	<b>African women</b>			
<b>Children aged 6 years and younger</b>	<b>1995</b>	<b>1997</b>	<b>1999</b>	<b>2001</b>
Female participant	0.91 (0.017)	1.08 (0.018)	0.93 (0.016)	0.90 (0.016)
Female non-participant	0.95 (0.017)	1.12 (0.015)	1.01 (0.019)	0.92 (0.018)
T-test	2.56*	2.64*	4.12*	0.86
<b>Children aged 7 to 14 years</b>				
Female participant	1.07 (0.017)	1.18 (0.018)	1.10 (0.019)	1.11 (0.017)
Female non-participant	1.21 (0.017)	1.32 (0.016)	1.34 (0.023)	1.32 (0.021)
T-test	8.28*	8.60*	11.23*	10.59*

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

<sup>a</sup>T-test of difference in means between participants and non-participants: \*significant at one percent level \*\*significant at five percent level \*\*\* significant at ten percent level

What is evident from the national survey data though is that, as expected, women who do not participate in the labour market generally live on average with a larger number of children aged six years and younger and aged seven to fourteen years than women

who do participate in the labour market.<sup>11</sup> For children aged six years and younger this relationship seems to be weakening over time however, such that in 2001 there was no significant difference between the average number of children living in households with female participants compared to non-participants.

It is interesting to note that of the approximately 3.2 million additional women in the labour market by 2001, half of these (around 1.6 million women) lived with at least one child aged six years or younger, while just under a half (about 44 percent or 1.4 million women) lived with at least one child aged between seven and fourteen years. For those additional women in the labour market living with children, it may be that they are either forced to enter the labour market out of a need to provide for these children, or it may be that they find it easier to enter the labour market due to certain enabling factors. For instance, the availability of childcare may have increased (perhaps from a grandparent or a sister), or there may be improved infrastructure and (educational) facilities, which could make working or looking for work with children easier (or could free up some of women's time to join the labour market).<sup>12</sup> The effect of children in the household on women's labour force participation (and the decision to actively search for work or not) will be dealt with more extensively in a multivariate context in the following chapter.

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<sup>11</sup> There is possible endogeneity here (over and above that explained earlier): women living in households with children are less likely to participate in the labour market, but women who participate in the labour market might be less likely to live in households with children if they leave their children in the care of female relatives (mothers or sisters, for example) and migrate to other households in search of work.

<sup>12</sup> The international literature highlighted the role of time-saving household goods in freeing up time for women, and (married) women with children especially, to join the labour market. Not only do these inventions precede the period of analysis here, but as will be shown later, households in South Africa seem to be getting poorer on average, making the purchase of such goods in any great quantity unlikely under the circumstances of this period.

#### B.4 *Changes in Women's Access to Resources within the Household*

The fact that more women at all levels of education and of all ages, and even those living with children of a young age, are entering the labour market (and despite the rising probability of not being able to find regular employment), suggests that there may be other factors on the supply side that are 'pushing' women into participating in the labour market. While an exhaustive answer to the question of why these women entered the labour force during this period requires a multivariate analysis (presented in the following chapter), the simple descriptive analysis of the data provided here does expose some likely causes. One broad change in particular that is investigated in this section is the fall in women's traditional access to resources outside the labour market (Casale and Posel, 2001).

Theories of labour supply have emphasised that *women's* participation in the labour market in particular, is likely to be affected by household factors in addition to individual characteristics. Other than the fall in fertility rates, the international literature on the rise in female labour force participation has pointed to the role of women's changing access to men's income as a factor within the household that has driven women's increased entry into the labour force over time. Some of the reasons for the decline in women's access to resources within the household in South Africa are explored in this section. More specifically, the decline in marital rates and women's co-residence with men, and the fall in employment among men living with women, are considered here. These changes in household composition, particularly evident among African households, are likely to influence women's labour market decisions through the resultant fall in household income that women have access to.

Table 4.8 shows that between 1995 and 2001, a decreasing proportion of women lived with employed men. In 1995 the percentage of all females between the ages of 15 and 65 years living with at least one employed male of working age in the household was just under 53 percent; by 2001 this had fallen to about 42 percent. The figures show that a smaller proportion of African women of working age live with at least one

employed male in the household, and that there was also a larger decrease in this proportion over the years for African women compared to the national estimates.<sup>13</sup>

*Table 4.8: Proportion of women (15-65 years) living with at least one employed male*

	Proportion living with at least one employed male			
	1995	1997	1999	2001
All women of working age	52.8 (0.61)	44.9 (0.58)	44.0 (0.60)	42.2 (0.57)
African women of working age	46.7 (0.72)	36.9 (0.58)	36.0 (0.61)	34.3 (0.57)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

This finding can be attributed readily to the dramatic increase in the number of unemployed men in the economy over this period. In Chapter Three, it was shown that according to the broad definition of unemployment, there were approximately 1.57 million more unemployed males in 2001 compared to 1995. With unemployment rates for men rising over the period, there has been a fall in the average number of employed men in households containing women of working age. Table 4.9 shows that between 1995 and 2001 there was a large decrease recorded in the average number of employed men per household that contained at least one woman of working age, and in African households in particular.<sup>14</sup>

<sup>13</sup> These descriptive statistics include only 'resident' household members, defined in the surveys as those who 'normally reside at least four nights a week' in the household. It is not possible to capture migrant workers (who are still considered part of the household and who may even remit income to the household) within the household roster consistently across the years used here (see Posel, 2003 and Posel and Casale, 2003 for more details). This might raise the question of whether women live with fewer (employed) men because more men have migrated to find work. However, from the limited information that is available from various household surveys, Posel and Casale (2003) find that between 1993 and 1999 the proportion of African females who were migrants seemed to have increased, but the proportion of African males who were migrants hardly changed (and may even have declined).

<sup>14</sup> There did not seem to be much change over the period in the proportion of working age women living with at least one other employed woman of working age in the household. For all women, the proportion living with at least one other employed woman fell from about 24.4 percent in 1995 to about 22.5 percent in 2001. For African women, the fall was slightly more pronounced from 24.4 percent in 1995 to 21.4 percent in 2001. While the average number of other employed women in households containing at least one woman of working age also fell, the fall was nowhere near as large as for the

*Table 4.9: Average number of employed men (15-65 years) in households containing at least one woman of working age*

	Average no. of employed men per household			
	1995	1997	1999	2001
All households	0.66 (0.0071)	0.55 (0.0070)	0.53 (0.0070)	0.50 (0.0066)
African households	0.58 (0.0088)	0.44 (0.0068)	0.42 (0.0069)	0.41 (0.0068)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

When women are living with men, therefore, it is less likely that these men will have employment. This erosion in the household's resource base is likely to place increased pressure on women to earn or generate an income. Data from the OHS 1995 and the LFS 2001:2 show that over the six-year period the household income from employment that women had access to (apart from their own) fell quite dramatically in real terms in households containing women of working age. In 1995 average real monthly adult equivalent income in the household, after excluding the woman's own income if she was employed, was around R340; by 2001 this had fallen to R260. As would be expected, the figures are lower in African households specifically that contain women of working age: in 1995 this income measure was R195; by 2001 it had fallen to R122, again taking into account inflation.<sup>15</sup>

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average number of employed men per household (shown in Table 4.9). In 1995 there were 0.38 other employed women (on average) in these households; by 2001 this had fallen to approximately 0.33. For African households specifically, the fall over the period was from 0.33 to 0.26. For the much smaller proportion of women that rely on other women (rather than just men) for income, this fall (as well as the fall in the average wages of working women over the period which is discussed in detail in Chapter Six) might also affect female labour force participation. The smaller effect of other women in the household on participation is returned to in the following chapter though.

<sup>15</sup> Other average monthly adult equivalent income from employment in households containing women of working age was calculated by dividing all earnings from employment received by household members (less the earnings of the woman in question if she was employed) by the number of adult equivalents living in the household (including the woman in question though). Household size was converted into an adult equivalent figure by giving all children under the age of 12 years a weighting of 0.5. Note that it is only possible to estimate household income from *employment* with these surveys, so the figures here are underestimated insofar as pensions, grants, and remittances, for example, are important sources of income for these households. These issues around measuring household income are given more attention in the following chapter.



Even when women are living with employed men, increased job and income insecurity, associated with rising levels of unemployment, are likely to place additional pressure on women to enter the labour market to supplement household income, or at least act as insurance in the case of possible future job loss. Studies have shown that this added-worker effect is most evident in countries where universal unemployment insurance or income support programmes do not exist, as in the case of South Africa, and that in such circumstances women often engage in informal forms of (self-)employment (Cunningham, 2001).<sup>16</sup>

There is also more anecdotal evidence supporting the notion that women are being ‘pushed’ into supporting their households in South Africa. Pat Horn (2001: 48), founder and general secretary of SEWU (Self-Employed Women’s Union) and an active member in Streetnet, WIEGO (Women in Informal Employment: Globalising and Organising) and Homenet (all institutions which help organise informal workers), proposes that as secure formal sector jobs have been lost in South Africa, a greater burden has fallen on the informal sector to absorb those needing to work, and women in particular. She writes:

‘More informal sector workers now become the sole supporters of larger and larger extended families, instead of having assistance from family members in formal employment. As more men lose their jobs, more women are finding themselves in this position, since ... it is common for women to go out and create informal work for themselves to support their families when the men lose their formal jobs.’ (Horn, 2001: 48)

However, the decrease in the proportion of women living with employed men is explained not only by an increase in male unemployment. It reflects also a fall in the proportion of women who are living with *any* men, employed or not (see Table 4.10).

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<sup>16</sup> Klasen and Woolard (1998) report that only 2.5 percent of households containing unemployed people were receiving unemployment support according to the PSLSD 1993 data. That few households benefit from the Unemployment Insurance Fund (UIF) is not surprising seeing as only those unemployed who have worked in formal employment before and have contributed to the fund, are eligible to draw from it.

In 1995, for example, roughly 82 percent of women between the ages of 15 and 65 years were living with at least one male of working age in their household. By 2001 this had fallen to approximately 76 percent. For African women the fall was more pronounced.

*Table 4.10: Proportion of women (15-65 years) living with at least one male*

	1995	1997	1999	2001
<b>Proportion living with at least:</b>				
<b>- one male aged 15-65 years</b>				
All women	82.4 (0.36)	79.1 (0.35)	76.9 (0.42)	75.5 (0.42)
African women	81.0 (0.45)	76.7 (0.41)	74.3 (0.48)	72.6 (0.49)
<b>- one male aged 15 years and older</b>				
All women	85.0 (0.34)	81.7 (0.34)	79.4 (0.40)	77.7 (0.41)
African women	83.6 (0.43)	79.2 (0.39)	76.8 (0.47)	74.8 (0.47)

Source: Own calculations using OHS 1995, 1997, 1999 and LFS 2001:2

Note: Standard errors in parentheses

An important factor accounting for this change in women's co-residence with men in South Africa is a decrease in the proportion of females who were married (civil or traditional) over this period, echoing trends that have been documented in the international literature as well. Table 4.11 shows that the percentage of all women between the ages of 15 and 65 years who were married fell from around 40 percent in 1995 to approximately 35 percent in 1999.<sup>17</sup> A significant decline was observed across all the age cohorts except for the youngest (15 to 19 years). Marital rates are lower among African women specifically, and a similar fall is evident in the proportion of African women who were married over the four-year period, again for all the age cohorts except the youngest.

<sup>17</sup> Comparable information for 2001 was not available because in the LFS 2001:2 the question on marital status is asked differently from the OHSs. In the OHS question 'married' and 'living together' are separate categories. In the LFS these two categories are collapsed into one. These two forms of marital status are not combined here because the OHSs show that while a decreasing proportion of women reported being married, an increasing proportion reported living together with their partner, and so the figures in 2001 would be biased upwards.

Table 4.11: Proportion of women in each age cohort who are married

Age cohort	All women			African women		
	1995	1997	1999	1995	1997	1999
15-19	1.9 (0.17)	1.1 (0.13)	1.8 (0.24)	1.8 (0.20)	1.1 (0.14)	1.8 (0.27)
20-24	13.6 (0.56)	11.4 (0.49)	10.8 (0.54)	10.3 (0.57)	9.3 (0.46)	9.0 (0.54)
25-34	43.5 (0.73)	41.3 (0.70)	38.1 (0.75)	37.1 (0.79)	35.7 (0.70)	32.2 (0.79)
35-44	64.3 (0.71)	58.9 (0.69)	58.0 (0.77)	59.2 (0.86)	53.2 (0.76)	52.8 (0.86)
45-54	66.5 (0.77)	61.3 (0.78)	60.6 (0.86)	61.6 (0.97)	55.1 (0.88)	53.6 (1.01)
55-65	56.6 (0.84)	51.8 (0.87)	52.2 (0.97)	54.3 (1.02)	46.1 (0.90)	48.1 (1.13)
<b>Total</b>	<b>39.5</b> (0.40)	<b>36.8</b> (0.39)	<b>35.2</b> (0.39)	<b>34.2</b> (0.40)	<b>31.5</b> (0.34)	<b>30.1</b> (0.39)

Source: Own calculations using OHS 1995, 1997 and 1999

Note: Standard errors in parentheses

It is beyond the scope of this study to examine comprehensively why proportionately fewer women were married over the period. However, an important change seems to be that an increasing proportion of women are ‘choosing’ to remain unmarried and are either living together with men as partners, or are not forming any permanent attachments with men. Although not shown here, the OHS data show an increase over the period 1995 to 1999 in the proportion of women who report either living together with a partner or never having been married, across all the age cohorts.<sup>18</sup>

The decrease in marital rates has also paralleled an increase in the proportion of all households headed by women. This trend has been documented in earlier work (Posel and Todes, 1995; Posel, 2001a) and has continued into the latter half of the 1990s.<sup>19</sup> The national household data show that the percentage of household heads between the

<sup>18</sup> While it is possible that women are ‘choosing’ to not get married or to rather live together with their partners without getting married, it has also been proposed that among African couples marriage is declining because of economic hardship. In particular, it has been reported that with rising unemployment many African men cannot afford to pay *ilobolo* (payment for one’s bride) to the prospective bride’s family, and therefore marital rates are declining (Hunter, 2002; 2004; see also ‘A new sexual identity’, *Mail and Guardian*, 8 to 14 August, 2003).

<sup>19</sup> Posel (2001: 658) provides evidence of an increase in the percentage of female-headed households from the SALDRU 1993 and KIDS 1998 surveys for KwaZulu-Natal. In 1993, approximately one third of African households were headed by women; by 1998 this had risen to just over 42 percent.

ages of 15 and 65 years who are female increased from around 28 percent in 1995 to approximately 36 percent in 2001 (see Figure 4.3 below). African households are more likely than other households to be headed by females. In 1995, around 33 percent of African household heads were female; by 2001 this had risen to about 41 percent.

Most female household heads are not married or living with a partner: in all the years under review close to 70 percent of women reported as household heads were either widowed, divorced or had never married. As the proportion of households headed by women increases, and in light of the fact that these women are likely to be the sole, or at least primary, breadwinner in their households, so it would be expected that the proportion of women entering the labour market would rise over the period.

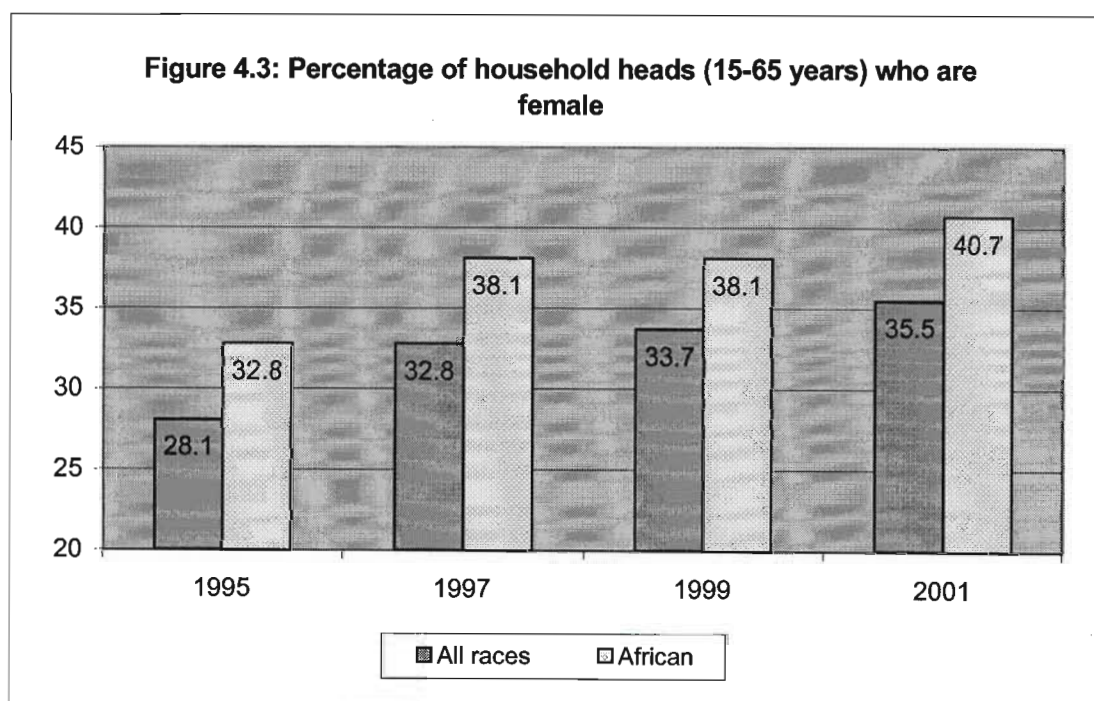
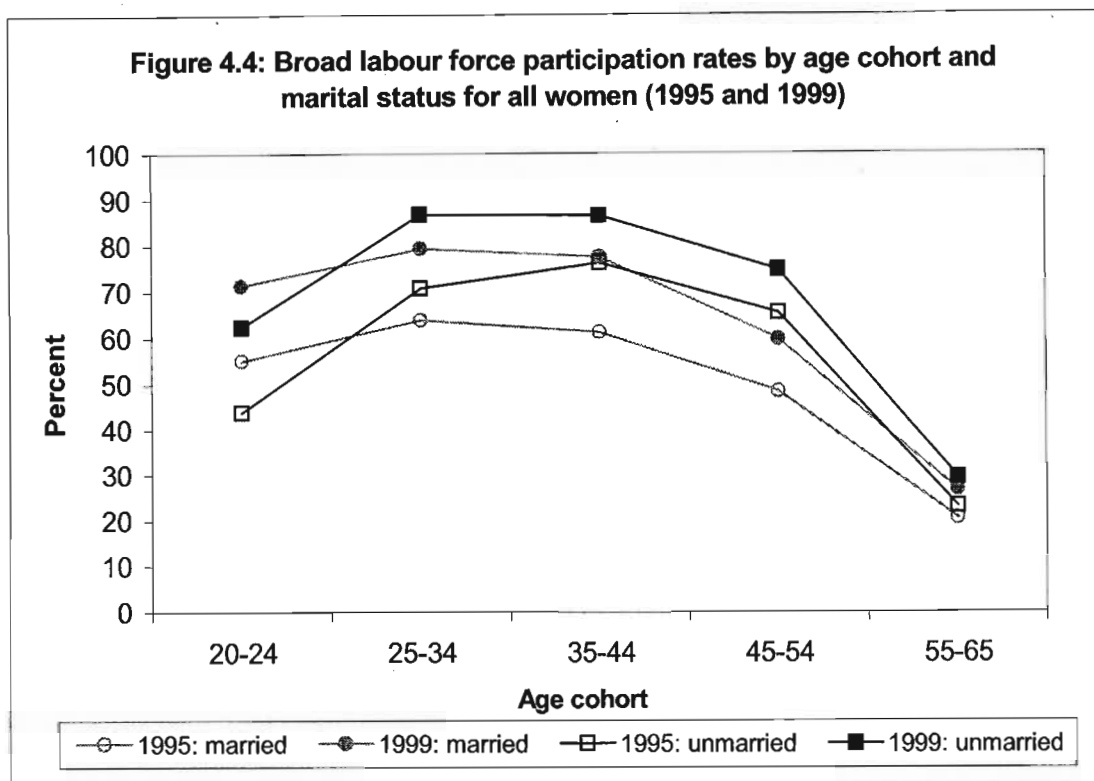


Figure 4.4 below confirms that, as expected, labour force participation rates are significantly lower among women who are married than among women who are not married (i.e. divorced, separated, widowed, or never married). The only exception is among the youngest cohort, but a downward bias in participation rates for females who have never married is expected, if a large number of these women under 25 years are still engaged in schooling/tertiary education. Taking the cohort 35 to 44 years as

an example, the part of the female life cycle in which economic activity is often highest for married women (Barker, 1999a; Winter, 1999), in 1995 around 61 percent of married women in this age group were economically active compared to about 76 percent of unmarried women in the same age group. Although not shown here, the patterns that emerge across the age cohorts for married and unmarried women are similar when looking at African women specifically.<sup>20</sup>



While a similar pattern to that in 1995 emerges across the age cohorts for married and unmarried women in 1999, what is very clear from the graph is that labour force participation rates rose between 1995 and 1999 among women of both types of marital status. The increase in the labour force participation of married women in particular may be reflecting for example that women are less likely to be married to

<sup>20</sup> Mutedi (2002), in a Stats SA report on marital status and the labour market, concludes that married women are *more* likely to participate in the labour market than unmarried women using the Census 1996 data. This result is of little value though as the analysis is based on all individuals aged 15 to 65 years (whereas here participation rates are disaggregated by age cohort as well). As mentioned, a downward bias in the participation rates of unmarried women would be expected if a large number of individuals in the age cohort 15 to 24 years, who are still engaged in schooling, are included.

men with employment, and for those who are, that there is increased income and job insecurity associated with high levels of unemployment in the economy. This argument may also apply to women who are living with men as partners but are not married to them, but it does not account for the considerably large increase in the labour force participation rates of women who are divorced/separated, widowed or not married in all the age cohorts.

Of the additional 3.2 million female participants between 1995 and 2001, around 1 million were married or living with their partners while the other 2.2 million were either divorced, separated, widowed or not married. This resulted in a fall in the proportion of the broad labour force who were married/living together from 48 percent in 1995 to about 42 percent in 2001. This is in contrast to the trend of a rising share of the labour force comprising married women that was highlighted for many of the countries reviewed in the international literature. Also note that there is a possible problem of reverse causality here. Unmarried women are more likely to participate in the labour force because they do not have access to a husband's income; but it may also be that women who participate in the labour force are less likely to be married if they are able to support themselves financially, independent of men.

### *C. Concluding Comments*

While it is clear that a more thorough examination of the supply-side forces behind the feminisation of the labour force is necessary, some possible causes have been suggested in this chapter. One of the likely determinants highlighted in the descriptive analysis was the increasing levels of education among women over the period, which would serve to increase women's (expectations about) potential earnings and employment in the labour market and hence the opportunity cost of not working. However, the data show that over the period 1995 to 2001 the change in female labour supply was driven to a large extent in absolute terms by women with little or no education and in the age cohorts beyond the school-leaving age. This signals that there are also likely to be other factors driving the increased labour force participation of women over this period.

In particular, the changing nature of household composition in post-apartheid South Africa was explored in this chapter, suggesting a fall in women's traditional forms of income support within the household, *pushing* them into the labour market. Fewer women were living in households with at least one employed male in 2001 compared to 1995, not only because fewer men were employed over the period, but because fewer women were living with men in general, employed or not. One of the reasons for this seems to be that fewer women are getting married, reducing the safety net associated with being part of a dual-adult/income household. This is also reflected in the increasing number of households headed by women over the period.

What has become evident while exploring the various correlates of labour supply independently though, is that the reasons for an increase in female labour force participation over the period cannot be explained by identifying only one set of changing characteristics at a time. The determinants of female labour supply for the period under review need to be tested more rigorously in a multivariate context. This forms the subject of the subsequent chapter. Labour force participation regressions are run for the years 1995 and 2001, following which a decomposition analysis is performed to try and reveal which determinants were predominantly responsible for the increase in women's economic activity over the years.

Of course, there are also likely to be other factors that are important in determining the rise in female labour force participation, but that cannot be measured. For instance, the international literature highlights the role of changing attitudes and norms within society regarding women participating in the labour market. While it is not possible to quantify these factors, a key correlate of changing attitudes towards women working, in society in general and among women themselves, is education. It was shown in this chapter that levels of education have been rising in South Africa, and especially for women. In addition, it is possible that as men lose their employment and hence access to income, they also lose decision-making power and perhaps control over women within their households, blurring the traditional distinction between the gender roles.

Furthermore, the international literature points to the role of institutional change and the passing of anti-discrimination legislation in the rise in female labour force participation, which is particularly relevant to this country. In South Africa, the Employment Equity Act was passed in 1998 to redress the imbalances of the apartheid years in which white males were favoured above other groups in the labour market. The purpose of the act is twofold: to eliminate unfair discrimination in the workplace and to promote the employment of designated groups through affirmative action.<sup>21</sup> The latter policy requires the preferential treatment of previously disadvantaged individuals, i.e. Africans, coloureds, Indians and females, if suitably qualified for the work (Nel, 2002). These measures may therefore have served to raise women's perceptions of their employment opportunities, encouraging them to join the labour market, and especially those women at the upper end of the educational/skills ladder (a point that is returned to in Chapter Six). Changes in social norms and institutions generally reflect structural change in the function determining female labour force participation, which will be shown in the following chapter to also be an important aspect of the changing nature of labour force participation in South Africa.

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<sup>21</sup> Section 2 of the Employment Equity Act (No. 55 of 1998) reads as follow:

'The purpose of this Act is to achieve equity in the workplace by-

(a) promoting equal opportunity and fair treatment in employment through the elimination of unfair discrimination; and

(b) implementing affirmative action measures to redress the disadvantages in employment experienced by designated groups, in order to ensure their equitable representation in all occupational categories and levels in the workforce.' (Taken from Nel, 2002: 296.)



## CHAPTER FIVE

### ESTIMATING THE DETERMINANTS OF, AND THE CHANGE IN, FEMALE LABOUR FORCE PARTICIPATION IN SOUTH AFRICA, 1995 – 2001

#### A. *Introduction*

In the previous chapter, a descriptive analysis of some of the supply-side correlates of labour force participation for the period under review was provided. The analysis pointed to the likely contribution of a number of factors to the large increase in female labour force participation documented for the period 1995 to 2001. One of these factors was rising education among women, which would be expected to increase their potential earnings and job opportunities in the labour market, and facilitate their entry into the labour market.

While education has undoubtedly played a key role in the changes in the labour market in post-apartheid South Africa, the simple descriptive evidence from the previous chapter suggested that there are likely to be other factors at play as well. That there has also been a large increase in the labour force participation rates of older women and of women with little or no education, suggests that changes in education would explain a portion of the overall change, but not the total change over the years.

The evidence that is available from the national household surveys points to the importance of household characteristics in determining female labour force participation and its rise over the period. In particular, there have been changes in household composition that are likely to have *pushed* women into the labour market. For instance, between 1995 and 2001, a declining proportion of the female adult population reported being married or living with another male, and of those who did, a declining proportion were living with employed men. In addition, household income from employment was shown to have fallen over this period. These factors are likely

to have precipitated an increase in female labour force participation through the increased economic pressure placed on households.

The aim of this chapter is to test these effects more rigorously in a multivariate analysis of female labour force participation. In the South African literature there are some examples of multivariate analysis of participation, however these studies have been restricted to the determinants of labour force participation at one point in time, generally using one year of cross-sectional household survey data. While the information gleaned from the examination of cross-sectional determinants is key (to this study as well), the interest here also lies with the *change* in the determinants of labour force participation *over time*. One of the main contributions of this study, therefore, is the investigation into which factors or behavioural relationships, if at all observable, were most important in determining the increase in female labour force participation over the period under review. This is attempted by applying the method of growth accounting or decomposition analysis to two cross-sectional data sets for the years 1995 and 2001, for both the strict and broad definitions of economic activity.

The chapter is organised as follows. Section B summarises the prior empirical literature on the determinants of female labour force participation in South Africa, highlighting also some of the general problems in the literature. This is followed by a description of the methodology in Section C, which outlines the choice of estimation model used here, and the method of decomposing the model to identify the driving forces behind the rise in participation over the period. Section D provides an explanation of the choice of data, the explanatory variables used and the sample of women included in the regression analysis. The results of the individual regressions and of the decomposition analysis are then provided in Section E. The chapter concludes with a summary of the general findings.

## *B. The South African Literature on Determinants of Female Labour Force Participation*

As pointed out earlier in this thesis, there has been no comprehensive study of the rise in female labour force participation in South Africa. In more general analyses of the South African labour market (for example, Standing *et al*, 1996; Barker, 1999a; Klasen and Woolard, 2000), statistics emerged which illustrated that a feminisation of the labour force had been taking place. However, in these studies no attention was paid to the relative increases over time in the components of the labour market, that is, unemployment and (the types of) employment, nor to what may have been driving these changes for women over time.

There are studies in which the determinants of female labour force participation have been analysed in a multivariate context. In these studies, participation is analysed at one point in time, generally using household survey data of a particular year, hence the concentration of studies in the second half of the 1990s when these data started becoming available. Often the purpose of estimating the female participation equation though, has been to obtain the inverse Mills ratio to correct for sample selection bias when estimating either employment or wage equations, rather than to understand the determinants of the participation decision itself (for e.g. Hofmeyr, 1994; Mwabu and Schultz, 2000; Bhorat and Leibbrandt, 2001). A few studies have been undertaken where the analysis of labour force participation itself was at least part of the main focus (Winter, 1999; Mlatsheni and Leibbrandt, 2001; Naudé and Serumaga-Zake, 2001). Still, these studies are based on one year of cross-sectional data precluding any analysis of changes over time, and as will be discussed below, some have not been explicit in defining participation, or at least in distinguishing it from employment. Only the main studies will be summarised here.

One of the few studies to focus on ‘participation’ in South Africa, and one of the only studies to focus on women in particular, is a 1999 World Bank paper by Carolyn Winter, entitled ‘Women workers in South Africa: Participation, Pay and Prejudice in the Formal Labour Market’ which was based on data from the 1994 OHS. The labour force participation rates that Winter (1999) refers to, however, represent the

proportion of the labour force *employed in the formal labour market* only. In other words, participation here is treated as being synonymous with employment, and formal sector employment in particular, leaving the sample of the unemployed and those employed in the informal sector unexplored. As would be expected the 'participation' that Winter (1999) analyses is found to be both racially and gender biased, and very low in comparison to other countries' participation rates. This type of analysis doesn't tell us very much though about *why* women enter the labour market but rather about *which type* of women, once they have decided to enter, end up at the upper end of the labour market in formal employment. Much of the study is also focused on what women earn in this employment, the determinants of these earnings and earnings discrimination by gender.

In Naudé and Serumaga-Zake's (2001) paper entitled 'An Analysis of the determinants of labour force participation and unemployment in South Africa's North-West Province', the focus is mainly on what determines *employment* among African males and females, again suggesting that there is some confusion around the conventional use of the term 'labour force participation' in the South African empirical literature. Using the OHS 1995 and data they collected in a 1997 survey of 593 African households in the North-West province, two sets of employment probits are estimated. It is not clear, however, what the zeros of the dependent variable represent.

Using their own data Naudé and Serumaga-Zake (2001) also estimate one set of labour force participation probits for African men and women separately. The dependent variable is defined as being equal to one if the individual is a participant (it is not specified whether this is according to the strict or broad definition of economic activity) and zero if a non-participant (although again it is not clear what constitutes a non-participant) (Naudé and Serumaga-Zake, 2001: 272). From the female probit they conclude that women are more likely to participate as age and completed years of schooling increase, and are less likely to participate if married.<sup>1</sup> Other per capita

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<sup>1</sup> For both the employment probits and the participation probits, the results shown in their tables seem contradictory to their argument in the text. In fact, the signs on the coefficients are in the opposite direction to what one would expect if the employed/participants were represented by the ones of the

income in the household has no effect. A closer look at the number of observations in the female regression, though, reveals that the dependent variable consisted of 375 ones and only 47 zeros (Naudé and Serumaga-Zake, 2001: 276, Table 18). Whether the figures given represent predicted or actual values of participation, there is likely to be a problem with the sample used here or at least with the way in which the individuals were classified.

Mlatsheni and Leibbrandt (2001) is the only other example (other than Winter, 1999) that focuses on *female* labour force participation in particular. They use the 1995 OHS to explore the links between childbearing, education, participation and employment for African women aged 16 to 54 years. In particular, they try to investigate whether rising education has been associated with a fall in fertility in South Africa and if so whether this fall in the quantity of children born to women, may have been accompanied by a rise in the 'quality' of children, as a result of more time invested in children by their mothers. This negative effect on participation of the rise in investments in children might then cancel out the positive effect of (rising education and) falling fertility on participation (see also Lam and Duryea, 1998 on Brazil).<sup>2</sup>

Among the various models that are estimated is a participation logit, where the dependent variable is equal to one if the woman was a participant (strictly unemployed and employed) and zero if a non-participant. The explanatory variables included in the model were age, its square, years of education, a married dummy, the number of children under six years, and a dummy variable equal to one if there was another source of income in the household. While the results are generally sensible, there are two unexpected effects. They find that children under the age of six have no significant effect on female participation and that having another source of income in

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dependent variable as stated in the paper. It is assumed here that the dependent variables were defined incorrectly, and the author's argument in the text is followed rather.

<sup>2</sup> It is not clear, however, that the methodology used is adequate to answer these questions, or that this is at all possible. Not only is it difficult to separate the direct effect that education has on participation from the indirect effect it has on participation through fertility, but there are also endogeneity effects that complicate the problem. For example, women may be more likely to participate if they are more educated and have fewer children, but they may also have fewer children because they are more educated or because they are participants and the opportunity costs of child-bearing are now higher.

the household has a positive effect on participation, both effects being contrary to what is found in this study and to what has been found elsewhere using the same data (Bhorat and Leibbrandt, 2001). It seems likely that the set of explanatory variables included in the analysis was too sparse and that some of the effects of omitted variables are being picked up by those variables included in the regression. Also, it is likely that the dummy variable representing whether there was another source of income in the household is not a sufficient proxy for the degree of access to economic resources in the household.

The study that has proved most useful in corroborating the cross-sectional results found in this analysis is that by Bhorat and Leibbrandt (2001). They estimate both strict and broad labour force participation equations for African men and women separately using the 1995 OHS, as the first step in a three-step procedure in modelling earnings for South Africa. They first estimate the probability of participating in the labour market and in the process obtain the inverse Mills ratio, then used to correct for sample selection bias in their estimation of the probability of being employed once part of the labour market. Even though the ultimate purpose of estimating the participation (and employment) equations is to account for sample selection bias in the earnings functions, considerable attention is paid along the way to each stage as part of the more general aim of modelling vulnerability in the labour market. As such, this study can be distinguished from the others mentioned above where the estimation of the participation decision is secondary to the analysis of employment or earnings. Bhorat and Leibbrandt (2001) include an array of individual, household and regional variables in their participation estimations and the results obtained are mostly as would be expected. These will be commented on in more detail later, during the course of the discussion on the results found here.

There are two other studies, which do not strictly look at participation in the sense that it is used here, but are still useful in substantiating the results found in this study. In a paper entitled 'Individual, Household and Regional Determinants of Labour Force Attachment in South Africa: Evidence from the 1997 October Household Survey', Dinkelman and Pirouz (2002) investigate the labour force attachment of, in particular, *jobless* African men and women of working age. They estimate a multinomial logit model to determine which factors affect whether individuals are in one of three states:

strict/searching unemployment, 'discouraged'/non-searching unemployment or inactivity. The exclusion of the employed means that the results found by Dinkelman and Pirouz (2002) are not directly comparable to those found in this study, which explores why women, employed *and* unemployed, want to work. Nonetheless, the results from their analysis are useful to corroborate the findings here when moving between the strict and broad labour force participation regressions, as Dinkelman and Pirouz (2002) provide evidence of how the likelihood of being in one of the two states of unemployment differs from each other.

The other is a study by Kingdon and Knight (2000a) which looks at whether or not searching and non-searching unemployment are distinct states and whether or not the non-searching unemployed are 'discouraged' and should be considered part of the labour force. They find evidence to the affirmative in both cases. Of interest to this study in particular is the binary logit regression they run using the PSLSD 1993 data where the dependent variable is equal to one if the unemployed individual engaged in job-search and zero if the unemployed individual did not. While they did not run separate regressions for African men and women, again the results are useful here in that they indicate how these two groups of unemployed differ from each other.

## C. *The Model*

### C.1 *The Estimation Model*

From the discussion above it appears that researchers have used a number of different measures and definitions of labour supply or labour force participation in the South African empirical literature. This is the case in the international empirical literature as well.<sup>3</sup> As was mentioned in Chapter Two, there is also a tendency in the international empirical literature to equate labour supply or labour force participation with employment, which implicitly amounts to assuming that all unemployment is voluntary and can consequently be grouped with being out of the labour force. It is

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<sup>3</sup> Berndt (1991: 596) quotes an early survey of the literature by Glen Cain and Harold Watts in 1973, in which they identified 18 different measures of labour supply that had already been used.

therefore important to elaborate a bit here on the rationale behind the choice of dependent variable in this study.

The traditional theory of labour supply explains the decision to supply labour as an individual's choice between leisure and working hours, so that commonly empirical studies of labour supply in the international literature used some variation on *hours of work* as the dependent variable. Because the countries on which these studies were performed were not suffering from the same scale of unemployment experienced currently in South Africa, it was less problematic to equate labour force participation with employment (and assume voluntary unemployment), as long as sample selection from the greater pool of potential labour market participants was accounted for in the estimations.

However, estimating labour supply equations with hours of work as the dependent variable in a country like South Africa with high rates of involuntary unemployment, would result in both those who have not found employment but still *want to work* (i.e. the unemployed) and those who report *not wanting* to work (i.e. the inactive) being grouped together and recorded with zero hours of work. A regression analysis with hours of work as the dependent variable would in any case be inappropriate here as it assumes that participants have more control over their circumstances than would exist in a country like South Africa with such high levels of unemployment and probable underemployment.<sup>4</sup>

In this study the discrete choice of whether or not women supply their labour at all in the labour market is therefore investigated. The aim here is to understand *why* women want to, or need to, work, rather than how much of their labour is offered if they find

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<sup>4</sup> As explained in Chapter One, labour supply regressions that use hours of work as the dependent variable assume that individuals who have found work have some degree of control over the number of hours they work. While there may be some flexibility in the number of hours worked in certain jobs, this is definitely not the norm in South Africa. It seems that workers in more developed economies have a greater degree of control over hours worked (see Berndt, 1991: 598). Furthermore, the number of hours an individual actually supplies might not equal the number of hours the individual would supply if more work were available, which is particularly relevant to the South African case where there is likely to be also considerable underemployment.



employment, or what determines whether they find employment.<sup>5</sup> The dependent variable is therefore a binary categorical variable equal to one if the individual is a participant in the labour force (i.e. employed or unemployed) and zero only if the individual is inactive. Strictly speaking then, this analysis should be seen as one of labour force participation, rather than labour supply, the latter perhaps more commonly interpreted in the theoretical literature as *how much* labour the individual would offer if employed.

To test the determinants of the female labour force participation decision in 1995 and 2001 where the dependent variable is a binary categorical variable, a probit model is therefore used (Maddala, 1983; Greene, 1997; Long, 1997). It takes the following form:

$$\Pr (y_{it} = 1 | X_{it}) = \Phi (\alpha_t, X_{it}) \quad (1)$$

where  $X_{it}$  is a vector of observed characteristics for individual  $i$  in period  $t$ ,  $\alpha_t$  is a vector of parameters,  $y_{it}$  is a binary categorical variable which takes the value one if the individual is a participant and zero if a non-participant, and  $\Phi$  is the standard cumulative normal distribution.  $X_{it}$  consists of a set of individual, household and regional explanatory variables, similar to those included by others in participation equations estimated for South Africa (see Borat and Leibbrandt, 2001, in particular). However, there are some variations on, as well as some additions to, the set of household variables in particular that are used here, in an attempt to capture more adequately the effect of household composition and household access to resources on female participation. Also, because identical equations for 1995 and 2001 are necessary to carry out the decomposition analysis, the choice of variables and the way in which they are defined are at times restricted by the availability of comparable data in the household surveys of 1995 and 2001. A more detailed explanation of the choice of data and the variables used in the analysis will follow though in Section D, after the decomposition technique is explained below.

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<sup>5</sup> What determines which of the women who enter the labour market actually find employment is a separate question and one that is deserving of an analysis of its own. While it is beyond the scope of this thesis to explore what factors result in women finding employment, and how these have changed over time, a study of this kind presents an interesting area of future research.

## C.2 *Decomposition Analysis*

Once the female participation equations have been estimated individually for 1995 and 2001, it is then possible to investigate what is driving the change over the years, using a decomposition technique, sometimes referred to as growth accounting (Gomulka and Stern, 1990).<sup>6</sup> Simply looking at the coefficients in the individual regressions for 1995 and 2001 and trying to identify any changes between the two years, is informative, as is an analysis of changing characteristics of the female sample over time. However, it is not immediately clear from such an analysis if it is mainly the changing coefficients in the regressions or the changing characteristics of the sample that is driving the increase in female participation between 1995 and 2001. *Which* of the explanatory variables are mostly responsible for the increase in female participation, whether through their changing relationship to the dependent variable (i.e. the coefficients) or their changing values (i.e. the characteristics), is also not easily discernible from simply looking at the individual regressions or sample characteristics separately.

Using the decomposition method outlined below, it is possible not only to separate the effect of the changing coefficients from the changing characteristics on the rise in female labour force participation, but also to identify which explanatory variables were mostly responsible for this rise. If the coefficients are found to have a large effect, this would suggest that the functional relationship between female labour force participation and the explanatory variables had changed such that, overall, women with the same characteristics in 2001 as in 1995 would be more likely to participate in 2001. Using the 1995 functional relationship with 2001 data of a similar sample of women would then under-predict labour force participation in 2001. If the characteristics of the women in the sample are found to have a large effect on the rise in female labour force participation, this would suggest that overall the values of the

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<sup>6</sup> When estimating non-linear probability models, such as the probit model, it is not possible to use the familiar Oaxaca (1973) method of decomposition. Although the rationale is the same, this method is only appropriate in decompositions of linear models.

explanatory variables had changed in such a way that would encourage labour force participation.

Using the standard method of decomposition of a probit model (see Gomulka and Stern, 1990; Even and Macpherson, 1993; Altonji and Blank, 1999; Rospabé, 2001a; 2001b), the increase in labour force participation is at first decomposed into the change associated with changes in the structure of the model, i.e. the estimated coefficients, and the change associated with changes in the observed characteristics of the population. Using the notation from Equation 1 above, the predicted change in participation between period 0 (1995) and period 1 (2001) is computed as follows:

$$\Delta\hat{y} = \hat{y}_1 - \hat{y}_0 = \bar{P}(\hat{\alpha}_1, X_1) - \bar{P}(\hat{\alpha}_0, X_0). \quad (2)$$

With  $\bar{P}(\hat{\alpha}_t, X_t)$  representing the average across the sample  $X_t$  of the predicted probabilities using the estimated coefficients  $\hat{\alpha}_t$ , the decomposition is carried out as follows:

$$\hat{y}_1 - \hat{y}_0 = \{\bar{P}(\hat{\alpha}_1, X_1) - \bar{P}(\hat{\alpha}_1, X_0)\} + \{\bar{P}(\hat{\alpha}_1, X_0) - \bar{P}(\hat{\alpha}_0, X_0)\}. \quad (3)$$

The first term on the right-hand side of Equation 3 represents the change that arises due to the changing characteristics of the population from period 1 to 0 values, i.e. the change in participation that occurs if the coefficients were held constant at 2001 values (2001 being the reference year) and only the sample's *characteristics* were to change from 2001 to 1995 values (1995 being the comparison year). The second term describes the change arising due to the changing coefficients from period 0 to 1 values, i.e. the change in participation that occurs if the sample is held constant at 1995 values (1995 now being the reference year) and only the estimated *coefficients* were to change from 1995 to 2001 values (2001 now being the comparison year).

By swapping the reference and comparison years, an alternative formulation to Equation 3 can be derived as follows:

$$\hat{y}_1 - \hat{y}_0 = \{\bar{P}(\hat{\alpha}_1, X_1) - \bar{P}(\hat{\alpha}_0, X_1)\} + \{\bar{P}(\hat{\alpha}_0, X_1) - \bar{P}(\hat{\alpha}_0, X_0)\}. \quad (4)$$

Equation 4 is identical to Equation 3 except that now the first term on the right-hand side represents the change associated with the coefficients while the second term represents the change associated with the characteristics, as the reference and comparison years have changed to the opposite year. More specifically, the first term on the right-hand side of Equation 4 represents the change in participation that would occur if the sample was held constant at 2001 values (2001 being the reference year) and only the estimated *coefficients* were to change from 2001 to 1995 values (1995 being the comparison year). The second term on the right-hand side of the equation describes the change in participation that would occur if the coefficients were held constant at 1995 values (1995 now being the reference year), and only the sample's *characteristics* were to change from period 1995 to 2001 values (2001 now being the comparison year).<sup>7</sup>

Practically, this procedure involves subtracting from the average predicted probability of participation in the reference year, the average predicted probability over the reference year's sample when the coefficients are constrained to the comparison year's estimated coefficients. This measures the increase in participation arising from the changing coefficients. The remainder of the increase in participation is then attributed to the changing characteristics.

Having identified whether the change in the coefficients or the change in the characteristics is responsible for most of the overall increase in female labour force participation, it is then useful to explore which particular coefficients or characteristics, or groups of coefficients or characteristics, carry the greatest weight in the decomposition.

In terms of the coefficients, this entails decomposing further the second term on the right-hand side of Equation 3 or the first term on the right-hand side of Equation 4. For Equation 3 this involves the following decomposition:

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<sup>7</sup> Both formulations are provided here because in Section E, to simplify the discussion, the results are presented where 1995 is the reference year and 2001 the comparison year for *both* the decompositions of the coefficients and of the characteristics. In other words, the second term on the right-hand side of Equation 3 and the second term on the right-hand side of Equation 4 are estimated in the empirical analysis.

$$\bar{P}(\hat{\alpha}_1, X_0) - \bar{P}(\hat{\alpha}_0, X_0) = \{\bar{P}(\hat{\alpha}_1, X_0) - \bar{P}(\hat{\alpha}_{h0}, X_0)\} + \{\bar{P}(\hat{\alpha}_{h0}, X_0) - \bar{P}(\hat{\alpha}_0, X_0)\} \quad (5)$$

where  $\hat{\alpha}_{h0}$  represents the vector of estimated coefficients containing all the coefficients from the reference year 1995, except for those of the variable or group of variables  $h$ , where the 2001 coefficients are used (Gomulka and Stern, 1990). The second term on the right-hand side of Equation 5 indicates how much of the overall increase in participation associated with the coefficients can be attributed to the particular coefficient or group of coefficients of interest. In practical terms, this requires calculating the mean of the predicted probabilities of participation using the sample for the reference year with its associated estimated coefficients, except for those on the variable or group of variables of interest, which take on the value of the estimated coefficient/s associated with the comparison year.

For Equation 4 the procedure is as follows:

$$\bar{P}(\hat{\alpha}_1, X_1) - \bar{P}(\hat{\alpha}_0, X_1) = \{\bar{P}(\hat{\alpha}_1, X_1) - \bar{P}(\hat{\alpha}_{h1}, X_1)\} + \{\bar{P}(\hat{\alpha}_{h1}, X_1) - \bar{P}(\hat{\alpha}_0, X_1)\} \quad (6)$$

where  $\hat{\alpha}_{h1}$  represents the vector of estimated coefficients containing all the coefficients from the reference year 2001, except for those on the variable or group of variables  $h$ , where the 1995 coefficients are used. Now the first term on the right-hand side of Equation 6 indicates how much of the overall change associated with the coefficients can be attributed to the particular coefficient or group of coefficients of interest.

To decompose the overall change caused by the characteristics further, requires a similar procedure to the one described above for the coefficients. Theoretically, this now involves expanding the first term on the right-hand side of Equation 3 or the second term on the right-hand side of Equation 4. The difference here, however, is that it is clearly not possible to keep the coefficients constant and change just one variable's values in the reference sample to the values of the same variable from the comparison sample for each individual observation. To isolate the effect of the characteristics associated with a particular variable or a group of variables, the predicted probability of participating in the labour market is thus obtained by varying

the *mean value/s* of the variable/s of the comparison year with the estimated coefficients of the reference year. To the extent that the pattern of distribution of each variable has changed, and not just the average value of these variables, the predicted probability of participation will either be overestimated or underestimated.<sup>8</sup>

For Equation 3 this involves the following decomposition:

$$P(\hat{\alpha}_1, \overline{X}_1) - P(\hat{\alpha}_1, \overline{X}_0) = \{P(\hat{\alpha}_1, \overline{X}_1) - P(\hat{\alpha}_1, \overline{X}_{h1})\} + \{P(\hat{\alpha}_1, \overline{X}_{h1}) - P(\hat{\alpha}_1, \overline{X}_0)\} \quad (7)$$

where  $P(\hat{\alpha}_1, \overline{X}_1)$  now represents the predicted probability of participation of an individual with the average characteristics of the sample. The first term on the right-hand side of Equation 7 represents the change in the predicted probability of participation if all else was held constant at 2001 values and only the mean value/s of the specific variable or set of variables of interest, denoted  $h$ , were restricted to the 1995 values.

For Equation 4 the following is obtained:

$$P(\hat{\alpha}_0, \overline{X}_1) - P(\hat{\alpha}_0, \overline{X}_0) = \{P(\hat{\alpha}_0, \overline{X}_1) - P(\hat{\alpha}_0, \overline{X}_{h0})\} + \{P(\hat{\alpha}_0, \overline{X}_{h0}) - P(\hat{\alpha}_0, \overline{X}_0)\}. \quad (8)$$

Here the second term on the right-hand side of Equation 8 represents the increase in predicted participation that can be attributed to the changing mean value/s of the variable or group of variables represented by  $h$ , if all else was held constant at the 1995 values, and only the mean values of  $h$  were restricted to the 2001 values.

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<sup>8</sup> The only way of using the information about the distribution of the actual values of a variable rather than just the mean value of the variable in the decomposition of the characteristics, is if an imputed value for each individual woman in the reference year's sample is estimated for the particular variable of interest, based on the information from the comparison year. For example, if the variable of interest was the presence of young children in the household, then for each woman in 1995 a new value for this variable could be estimated conditional on a number of characteristics such as age, marital status, etc using the information provided from 2001. This methodology has its own estimation problems however and is also highly time-consuming which perhaps explains why it is not used extensively. Gomulka and Stern (1990), for example, choose to look at the contribution of only one variable's changing values in their study.

It is important to note though that the results from the decomposition of the coefficients and the characteristics should be treated with more caution than those from the overall decomposition. Gomulka and Stern (1990: 175) write: ‘The statistical properties of “composite” models made up from two sets of estimates are not clear-cut, and we should not claim for this exercise the status of legitimacy enjoyed by the previous one. Nevertheless we think that it has considerable heuristic value.’ One should also be cautious in particular when looking at the influence of variables that have no significant effect on participation in the individual regressions. This will be pointed out again though where necessary in the discussion of the results.

## *D. Choice of Data, Explanatory Variables and Regression Samples*

### *D.1 The Data*

Using the 1995 and 2001 data sets both strict and broad labour force participation equations are estimated for African women aged 15 to 59 years.<sup>9</sup> It was decided to focus on the participation decisions of African women only, because they make up the vast majority not only of the female labour force, but also of the absolute increase in the female labour force over this period. As was shown in the previous chapter, by 2001, African women comprised over three quarters of the female labour force, and accounted for around 85 percent of the increase between 1995 and 2001. Also, African women have been shown repeatedly to be the most (economically) vulnerable group in South Africa (Bhorat and Leibbrandt, 2001; Dinkelman and Pirouz, 2002). Furthermore, running regressions and decompositions separately for women of the other race groups in some cases results in degrees of freedom problems, as the (unweighted) sample sizes are substantially smaller.

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<sup>9</sup> While the working age bracket 15 to 65 years was used earlier when estimates for men and women were being compared, the sample for the estimations is restricted to the female working-age bracket of 15 to 59 years. Although Stats SA defines the official working-age population as 15 to 65 years, women qualify for a state pension in South Africa from the age of 60 years onwards and so theoretically should not be considered part of the working-age population. Because the number of women of pension age is used in the regressions as a proxy for pension income in the household, it was not possible to also include these women in the sample being investigated.

The decision to use the data from the OHS 1995 and the LFS 2001:2 in the econometric and decomposition analysis was based on the availability of comparable sets of variables in these two survey years while still allowing for a sufficient time period between the two years so that the *change* in female labour force participation could be examined.

It could be argued that using the data for 1995 and 2001 is problematic because they come from two different households surveys, the October Household Survey and the Labour Force Survey. However, both surveys are based on the same sampling procedure, and according to Stats SA, both are nationally representative. In addition, the weights that Stats SA provides, to convert the sample to population values, are based on the Census 1996 for both surveys.

The main reason why the OHS 1999 (which would have been perhaps the most likely choice of survey years to use with the OHS 1995) could not be included in the econometric analysis, was that the income data in this year are particularly problematic. In 1999 Stats SA asks for the *gross* income of employees *and the self-employed*, while in the other years the self-employed are either asked to give an estimate of their gross income/turnover as well as their monthly expenses (OHS 1995 and OHS 1997), or they are simply asked for their salary or pay from their employment (LFS 2001:2).<sup>10</sup> Without an estimate of the self-employed's expenses in 1999, it is not possible to calculate an earnings value for them, which means it is also not possible to create a variable representing the total income earned through employment by other members of the household. Because the theory predicts that one of the more important factors affecting female labour force participation is likely to be access to other income in the household, and because this variable is of particular interest here in studying the effect of changing household characteristics on female

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<sup>10</sup> It is assumed that in the LFS 2001:2 respondents understand from the question/interviewer that for self-employment 'total salary/pay' would mean gross income/turnover less their expenses.



labour force participation, it was not possible to use the OHS 1999 in the regression analysis.<sup>11 12</sup>

With the OHS 1999 excluded as a possibility, the other options were to use the OHS 1995 with the OHS 1997 or the OHS 1997 with the LFS 2001:2. This does not leave a sufficient period between the two data points though. In addition, the total employment estimates based on the OHS 1997 data were shown in the descriptive analysis of Chapter Three to be lower than expected in light of the overall trend across the other years. If this underestimation of employment was concentrated among certain groups of the population or types of employment, then using the 1997 sample

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<sup>11</sup> One option would have been to use household expenditure as a proxy for the individual's access to other resources in the household. There are a number of problems with this however. Household expenditure estimates are only available in the OHS 1997 and 1999 and the LFS 2001:2, and in each year the information was elicited in a different manner. In the OHS 1997 a household expenditure estimate is based on one very simple question; in the OHS 1999 the questioning is more detailed, and then in 2001:2 the estimate is again based on one single question (albeit with a more detailed explanation of what expenditure should be included in the estimate than in 1997). In addition, the OHS 1997 asks for a single absolute estimate, while the OHS 1999 and the LFS 2001:2 asks households which expenditure bracket they fall into. The information is therefore unlikely to have been collected accurately in each year or comparably across the surveys. Evidence supporting this was found in an analysis using the PSLSD 1993 and OHS 1997 household expenditure figures; the OHS 1997 estimates were found to have been grossly underestimated (see Posel and Casale, 2003). Another obvious problem with using household expenditure in 1999 to obtain an estimate of access to *other* resources in the household, is that one needs to subtract from this value the expenditure resulting from income received by the individual in question, otherwise one runs into endogeneity problems. Again this is not possible if only a gross income/turnover figure for the self-employed is available.

<sup>12</sup> A set of regressions was run using the 1995 and 1999 OHS data, where instead of excluding household income altogether from the equations, other *wage* income in the household and other *gross self-employment income* in the household were included separately in the regressions for both years. The inclusion of gross income generated through self-employment assumes that the ratio of gross income to expenses is the same across all types of self-employment. The most that could be done to account for this in the face of limited data was to include other gross self-employment income in the household as two variables in the regressions, one for informal self-employment and one for formal self-employment. These variables did not prove to be very good predictors of female labour force participation, however, and it was decided that the measurement error they introduced was more problematic than using the OHS 1995 and the LFS 2001:2 in a comparative analysis (see Casale and Posel, 2001 for more details).

would introduce additional problems.<sup>13</sup> Of course, over and above this problem in 1997 there was likely to have been an underestimation in the capture of informal activities and subsistence farming in each survey year, and, with the improvements made to the LFS questionnaire especially, there were likely to have been additional workers picked up in 2001 that would not have been picked up in 1995 for instance.<sup>14</sup> The difference in this case though is that at least it is known which types of employment are likely to have been underestimated, which makes commenting on probable effects of the bias slightly easier.

One particular source of bias that has been found in the household survey data is the difference in capture of subsistence and small-scale farmers between the OHSs and the LFSs, with far more attention being paid in the LFSs to this type of employment (refer to Appendix 2; or Posel and Casale, 2001 for more details). To try and reduce the bias in employment capture and improve comparability between 1995 and 2001, participation regressions are therefore also run where the individuals who reported subsistence farming as their main job in 2001 were recoded as inactive (i.e. the dependent variable was changed from one to zero for these individuals). It is possible to do this because, as explained in detail in Appendix 2, it is likely that most subsistence farmers were coded as inactive in 1995.<sup>15</sup> Unfortunately, nothing can be done to account for the increase over the years in the capture of other informal sector workers as this type of employment, even though underestimated, *was* still picked up

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<sup>13</sup> Another reason for not using the 1997 OHS data in a more detailed analysis is that the urban/rural definitions used by Stats SA also changed over the period. In 1995, 1999 and 2001, semi-urban areas were coded as being part of the 'rural' category. In 1997, semi-urban areas were coded by Stats SA as being part of the 'urban' category. There is no disaggregated information on enumerator area type in 1997 to be able to recode the data for comparability with the other years. Whether a woman lives in a rural or urban area is expected to be important in determining her participation decision, hence the need for comparable data on location in the years used for the analysis here.

<sup>14</sup> This would have been a problem for any two years of data used, though, as changes in the way the employment questions were asked were made even across the OHSs, as explained in detail in Appendix 1. The better capture of employment is therefore not a problem that is exclusive to using the OHS 1995 and the LFS 2001:2 together.

<sup>15</sup> Recoding subsistence farmers from active to inactive in 2001 resulted in the reclassification of 145 individual observations for the sample of women analysed in the regressions. When weighted, this amounted to approximately 68 800 female subsistence farmers.

to some extent in 1995. It is also highly improbable that the increase in informal employment between 1995 and 2001 derives simply from better data capture of this work in light of the inability of the formal sector to create sufficient jobs to absorb the additional labour market participants over this period.<sup>16</sup>

## D.2 Explanatory Variables

The estimations presented in this chapter include sets of individual, household and regional characteristics as explanatory variables. There are a number of different ways in which to define or specify these characteristics in the regressions. The choice of explanatory variables included here was informed largely by the descriptive analysis of the previous chapter, but was also to some degree restricted by the need for comparability between 1995 and 2001. As already mentioned, to perform the decomposition analysis, identical equations have to be estimated in both years.

The individual characteristics in the regressions include a set of educational level dummies and a set of age dummies, which correspond to the categories used in the descriptive analysis of Chapter Four.<sup>17</sup> A dummy variable equal to one if the woman was married or living together with her partner was also included.<sup>18</sup> The equations

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<sup>16</sup> It is necessary to point out here that subsistence farmers are not being recoded from employed to inactive because it is believed that this is not a relevant form of economic activity. It is a positive step that more emphasis is being placed on capturing small-scale and subsistence farmers in the surveys, and that this group of individuals that were previously overlooked are now being included in measures of labour force participation (if for nothing else but to expose the 'need' for income/food generating activities). The recoding is carried out simply to create more comparable samples across the two years for the estimations.

<sup>17</sup> It was decided to include educational effects as a set of dummy variables that correspond to the *levels* defined in the previous chapter, that is, no schooling, incomplete primary, complete primary, incomplete secondary, complete secondary/matric, degree and diploma. Because each year of schooling is unlikely to be 'worth' the same in returns to education, levels of completed education are considered more useful in capturing these effects than years of schooling (Hofmeyr, 1994).

<sup>18</sup> Being married and living with one's partner had to be grouped together in both years because the variable available in 2001 did not distinguish between these two states. The omitted category consists of women who are divorced, separated, widowed or who have never married. These marital states could not be included separately as variables in the regressions because of the multicollinearity

contain a set of regional or locational variables made up of dummies representing the nine new provinces and a variable equal to one if the woman lived in an urban area.

Household composition is captured by including the number of children under seven years of age, the number of children between the ages of seven and fourteen years, the number of men of working age (15 to 64 years), the number of other women of working age (15 to 59 years), the number of men over the age of 64 years and the number of women over the age of 59 years, in the household.<sup>19</sup> Other real monthly income from employment in the household (per adult equivalent), and its square, are also included.<sup>20</sup> Because in some of the regressions subsistence farmers are recoded as

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between them and the variable representing the number of adult men in the household, which is also included in the regression analysis.

<sup>19</sup> Bhorat and Leibbrandt (2001) point to the importance of including variables in the participation equations that distinguish them from equations specifying the probability of being employed, employment comprising the largest component of labour force participation (see also Chamberlain and van der Berg, 2002). To this purpose they also include a set of household composition and income variables (similar to those included here) that would not normally be found in an employment-unemployment probit, especially in a situation where unemployment is likely to be involuntary. They point out for example, that other income in the household is likely to be important in determining whether a woman is a labour market participant or not, but *should* have no effect on whether she is employed or unemployed, unless unemployment is considered to be voluntary, which it is not here. (The exception to this would be if other income in the household was used by women to help start up self-employment.) This is not to say that other income in the household could not have an effect on whether the individual is able to (i.e. can afford to) actively search for work or not, that is, whether the individual is part of the strictly unemployed or part of the 'discouraged'. Both strict and broad unemployment can be involuntary (Kingdon and Knight, 2000a).

<sup>20</sup> Other real monthly adult equivalent income from employment in the household was measured here as the sum of the household members' earnings from all types of employment, less the earnings of the individual herself, divided by the number of *other* adult equivalents in the household. Household size was converted to an adult equivalent estimate by giving children younger than 12 years of age a weighting of 0.5, and all other individuals aged 12 years and older a weighting of one. Note that in both 1995 and 2001 not all respondents reported an absolute income figure, but some rather chose to disclose their income bracket (just under 30 percent of the employed in both years). Where this was the case missing absolute values were substituted with the mid-point of the income bracket. The income figures were converted to real values using the average yearly Consumer Price Index calculated by Stats SA, which was 72.4 in 1995 and 105.7 in 2001 (2000 being the base year). This conversion to real values was necessary for the decomposition analysis of the increase in participation over time.

inactive in 2001, an additional dummy variable is included in these regressions which is equal to one if the household in which the woman lived had access to land for farming. This should then pick up the influence of subsistence farming (or the possibility thereof) on labour market participation as it is defined in these regressions, in other words the effect of this activity on wanting to find other work, or on being able to look for other work.<sup>21</sup>

Unfortunately data on the sources and values of any *unearned* income received by household members are not available in both the 1995 and the 2001 surveys, so some of these household composition variables are likely to also act as proxies for other unearned income in the household. In the 2001 survey, however, households were asked what their *main source* of income was (Q6.24), although not for an actual amount. The responses to this question indicate that for African households containing at least one woman of working age (the sample of interest here), the majority of households, 56.4 percent, rely on salaries and/or wages as their main source of income. Another 17.6 percent rely on pensions and grants, 17.3 percent on remittances, 1.1 percent on the sale of farm products, 5.1 percent on ‘other non-farm income’ as their main source of income in the household, and the remaining 2.5 percent of these households report no income.

After earnings from employment the other main source of income for these African households is income from pensions and grants, and most of this is likely to be coming from state pensions. The variables representing the number of men over the age of 64 years and the number of women over the age of 59 years are therefore likely to serve as proxies for pension income. The number of younger children in the household might also be picking up some of the effects of the child support grant, which, by 2001, was available for all children aged eight years and younger living in poverty. The effect would not be expected to be very large, though, as not only is the

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<sup>21</sup> In the OHS 1995 households were actually asked if they had access to land for farming, including growing food for the household (Q1.26). In the LFS 2001:2, an additional section on farming activities was included in the questionnaire where each individual aged 15 years and over was asked if he/she had grown or helped to grow produce or keep cattle for sale or household use in the past year (Q5.1). The ‘household access to land for farming’ variable in 2001 was therefore given the value of one if at least one household member had engaged in such activities in the previous 12 months.

grant much smaller than the pension and take-up rates much lower, but children themselves are expected to reduce women's participation in the labour market in any case because of their need for care.<sup>22</sup> Although the sale of farm products as a main source of income for the household is very small, the household's access to land for farming variable would be likely to capture some of the effect of this income.<sup>23</sup> Unfortunately, there is no way of proxying for the value of remittance income available to each individual or household. No information was gathered on migrant workers from their households of origin in either of these surveys (Posel, 2003; Posel and Casale, 2003).

### D.3 Regression Samples

In this study both *strict* and *broad* labour force participation equations are estimated for African women aged 15 to 59 years. The samples used and the resulting classifications of the dependent variables are summarised in Table 5.1 below. While the non-searching or 'discouraged' have been shown to be a legitimate part of the

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<sup>22</sup> In 2001, for instance, the maximum value of the state pension was R570, while the value of the child support grant was R110 (Budget Speech, March 2001). Based on the 1993 PSLSD data, Case and Deaton (1998) found that around 80 percent of African individuals of pension age were receiving the social pension, and of those, most received the maximum amount. According to the OHS 1999 data, in which individuals were asked if they had received an old age pension from the government in the previous year, close to 84 percent of age-eligible African individuals were receiving the pension (based on own calculations from Q.4.1, OHS 1999). While the state pension was already in full operation by 1993, the extension of the child support grant to all race groups only began after the starting point of this study. It has been reported, for instance, that there were only around 60 000 non-white children receiving the then state maintenance grant of R75 a month in 1999. Take-up rates for the child support grant are also believed to be much lower than for the pension because of problems with registration and other administrative complications. It has been reported that in 2003, while close to 3.4 million children, mostly African, are now benefiting from the extended child support grant, approximately 11 million children live in poverty (' "Milestone" as 3.4 million children receive state support grants', *Daily News*, 1 August 2003).

<sup>23</sup> While the sale of farm produce as a *main* source of income may not be common, probably because the returns to this activity are too low and variable, growing farm produce as an *extra* form of income or as a main or extra source of food for the household is much more common in households in which a member is engaged in subsistence farming (based on own calculations from the LFS 2001:2, Q5.3; see also Aliber, 2003).

labour force, and that they differ from non-participants, they have also been shown to differ from the strictly or searching unemployed (Kingdon and Knight, 2000a; Dinkelman and Pirouz, 2002), necessitating estimations using both definitions of economic activity. Both sets of equations measure the determinants of why women want to, or need to, work; however moving from the strict to the broad definition, and in the process reclassifying the non-searching from non-participants to participants, highlights some differences between why women are either actively searching for work or not.

Table 5.1: Description of the samples and dependent variables

<b>Strict Participation</b>			
Dependent variable	<b>Sample 1a: all inactive, subsistence <i>not</i> recoded</b>	<b>Sample 1b: all inactive, subsistence recoded</b>	<b>Sample 2: housewives, subsistence recoded</b>
<b>Active (= 1)</b>	-employed -strictly unemployed -subsistence farmers (2001)	-employed -strictly unemployed	-employed -strictly unemployed
<b>Inactive (= 0)</b>	-‘discouraged’ -housewives -in education -ill/disabled, retired, etc -subsistence farmers (1995)	-‘discouraged’ -housewives -in education -ill/disabled, retired, etc -subsistence farmers	-‘discouraged’ -housewives <sup>a</sup> -subsistence farmers
<b>Broad Participation</b>			
Dependent variable	<b>Sample 1a: all inactive, subsistence <i>not</i> recoded</b>	<b>Sample 1b: all inactive, subsistence recoded</b>	<b>Sample 2: housewives, subsistence recoded</b>
<b>Active (= 1)</b>	-employed -strictly unemployed -‘discouraged’ -subsistence farmers (2001)	-employed -strictly unemployed -‘discouraged’	-employed -strictly unemployed -‘discouraged’
<b>Inactive (= 0)</b>	-housewives -in education -ill/disabled, retired, etc -subsistence farmers (1995)	-housewives -in education -ill/disabled, retired, etc -subsistence farmers	-housewives <sup>a</sup> -subsistence farmers

Note: <sup>a</sup> The subsistence farmers recoded as inactive are now treated as a subset of the group who reported being housewives, which is most likely the case as this type of activity tends to be treated as an extension of women’s household chores.

Three sets of regressions are estimated each for the strict and the broad definitions of labour force participation in both years, also shown in Table 5.1. The first two columns of the table describe the dependent variables when the full sample of African women is used in the regressions, i.e. all the active and inactive. Of the women who were classified as inactive here the vast majority reported being in education or housewives as their reason for not working, with a larger proportion reporting being

in education.<sup>24</sup> While the other options that respondents could choose from were slightly different between the two years, the main other reasons given for not working were 'retired', 'ill/disabled' or 'too young or too old to work'. The first column of the table represents the set of regressions where the subsistence farmers that were captured as employed in 2001 are *not* recoded (referred to as Sample 1a), while the second column represents the set of regressions where they *are* recoded to inactive in 2001 for the sake of comparability with 1995 (referred to as Sample 1b).

The third column describes a set of regressions where subsistence farmers are still recoded as inactive in 2001, but that are now run on a smaller sample of women, where those who reported being in education, retired or ill/disabled as their reason for not working (and who were not coded as unemployed) are excluded altogether from the inactive (Sample 2).<sup>25</sup> The sample of the inactive is now dominated by those women who were not working and not wanting to work, and who classified themselves as homemakers (subsistence farming being recoded to inactive, is now considered a subset of this). By restricting the sample in this manner, the decision by women of whether or not to move out of the household and into the labour market is being explored specifically. In their study, Borat and Leibbrandt (2001) only run strict and broad participation regressions on this restricted sample using the 1995 OHS, and their results are therefore useful in corroborating the results found here for this set of estimations only.

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<sup>24</sup> Those who reported still being in education (and preferring not to work) in 1995 comprised approximately 48 percent of the broadly inactive, while by 2001 this had increased to around 52 percent. The proportion of the broadly inactive that reported being housewives fell from around 28 percent in 1995 to about 17 percent in 2001. Unfortunately the remaining categories are not really comparable because the way the questions were asked in the two years, and the category options that were given, changed somewhat.

<sup>25</sup> A small number of women placed themselves in an unspecified category 'other' instead of choosing one of the specified categories as a reason for being inactive. These women were excluded as well. The small group of individuals who said they were 'too young or too old' to work and yet were between the ages of 15 and 59 years and did not report being in education or retired were left in the sample, as this category is more than likely picking up women whose perceptions about their job opportunities are not very positive due to either lack of experience or necessary skills for the jobs available.



## *E. Results*

The results of the strict and broad labour force participation estimations are presented below in Tables 5.2 and 5.3 respectively in the same order given above in Table 5.1. All the regressions were run taking into account clustering and weighting of the sample.<sup>26</sup> For the dummy variables in the regressions, the omitted categories are no schooling, 15 to 19 years old, not married, living in a rural area, Gauteng, and no access to land for farming (where applicable).<sup>27</sup> Table 5.4 then presents the results of the six decompositions which explore the change in participation between 1995 and 2001, each one corresponding to a set of estimations shown in the previous two tables. Table 5.5 shows the mean values of the variables for the samples of women used in the regressions, as this information is particularly useful when interpreting the effects of the individual variables in the decomposition of the characteristics. In this section, the results of the regression analysis and the decompositions will be commented on first in general terms, and then the effect of each variable or set of variables in each year, and over time, will be considered separately in more detail.

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<sup>26</sup> The households surveyed were collected from 3000 primary sampling units or clusters (10 households from each cluster). This procedure generates groups of observations that cannot be treated as independent, as the observations within clusters show a degree of homogeneity, i.e. they are positively correlated. If clustering is not taken into account the variance of the parameters will be too small, and the significance levels overestimated (Deaton, 1997). Stratification has not been accounted for though, as it is not clear how the sample was stratified in 1995. Accounting for stratification does not affect the point estimates however, and usually results in smaller standard errors, so if anything conservative estimates of significance are produced here.

<sup>27</sup> The statistical programme used here (STATA) automatically excludes from the regressions individuals with missing data. In addition to this, all households in which individual members had missing age, gender, access to farmland or income information were also dropped from the sample, because household composition and income variables were then missing for working-age women in these households (around 320 observations in 1995, and 770 observations in 2001 were dropped). The income data, as expected, had the greatest number of missing values, and there were also a considerably larger number of missing income values in 2001 than in 1995. This is probably because individuals were given the additional options in the 2001 questionnaire to respond 'don't know' or 'refuse', which were not available in the 1995 questionnaire.

Tables 5.2 and 5.3 indicate that overall the regression results are highly significant. Not only are most of the coefficients significant at the one percent level at least, but they almost all have the expected signs. The second to last row of each table also presents the proportion of observations incorrectly predicted. The figures obtained are remarkably similar to those found in Gomulka and Stern (1990) and Hofmeyr (1994), two examples of studies in which this measure was calculated for participation equations, suggesting an acceptable level of predictive power of the equations.

Table 5.4 presents the results from the decompositions where the reference year is 1995 and the comparison year is 2001.<sup>28</sup> Referring back to Section C.2, to obtain the change due to the specific coefficients, the second term on the right-hand side of Equation 3 was decomposed further. For the change due to the specific characteristics, the second term on the right-hand side of Equation 4 was decomposed further.

The results suggest that it is predominantly the change due to the *coefficients* that is driving the overall growth in female labour force participation between 1995 and 2001. To give an example of how to interpret the figures, for the first decomposition (column one of Table 5.4) the average predicted probability of participation using the 2001 coefficients with the 1995 sample was 46.17 percent, *10.47 percentage points* (the figure shown in the table) higher than if the 1995 coefficients were used. The remaining portion of the 13.76 percentage point change over the six-year period can be attributed to the changing characteristics. That is, if the 1995 coefficients are used and only the characteristics change from 1995 to 2001 mean values, then the predicted probability of participation would be about 3.29 percentage points higher.

Looking across the six decompositions, the change in the coefficients is predominantly responsible for the growth in female labour force participation, regardless of the definition of participation or the sample of the inactive that is used. The changing coefficients account for between 76 and 84 percent of the total increase in participation in the decompositions. Women in 2001, with the same characteristics as in 1995, were much more likely to participate in the labour market than women in

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<sup>28</sup> The decompositions using 2001 as the reference year and 1995 as the comparison year produced very similar results and are therefore not shown here.

1995. In other words, it is the change ‘in the function describing the underlying relation’ that is contributing the most to the increase in participation over this period (Gomulka and Stern, 1990: 173).<sup>29</sup>

Prior to examining the effect of each explanatory variable/set of variables separately, it is interesting to look at which of these were mostly responsible for the increase in female participation due to the coefficients and due to the characteristics. While some of the variables included in the equations had a negative effect on the change in female participation, as would be expected, the influence of those variables that had a positive effect on participation greatly outweighed this negative effect. In general, across the decompositions, the largest consistent positive influence of the coefficients is associated with the set of education dummies, the set of age dummies, the variable representing the number of males in the household and the set of province dummies. Even though the change due to the characteristics is relatively small it is still informative to look at which variables were mostly responsible for this change. Although there are some variations across the decompositions, in general the largest positive influence is associated with the set of education dummies, the set of age dummies, the marital dummy, the number of males in the household, other per capita income in the household and the urban dummy.<sup>30</sup> Each of these effects will now be explained in more detail.

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<sup>29</sup> The predominance of the coefficients in driving the overall change was also found in a set of decompositions run using the OHS 1995 and the OHS 1999 data (they were found to account for between 76 and 79 percent of the overall change) (Casale and Posel, 2001). While this is reassuring in that it suggests a consistent result rather than just being a product of using the OHS 1995 and the LFS 2001:2 together, as mentioned above, these results were not used here and had to be treated with reservation because of the problems with the income data which were likely to have introduced large measurement error into the equations.

<sup>30</sup> When comparing the values of the positive change due to the coefficients or the characteristics it is important to note that some of these values represent *groups* of variables while some represent *single* variables. So, when comparing the effect related to education, age and the provinces, with the effect of the number of males in the household and the urban dummy, for example, it must be seen in the context of the set of education variables consisting of six dummies, the set of age variables consisting of five dummies, and the set of province variables consisting of eight dummies in the regressions. It would be expected that the larger the number of dummies, the greater the overall effect of the group of variables.

Before continuing though, one important qualification needs to be made here concerning the problem of endogeneity in the labour supply decision, which has been referred to throughout this study. The variables most likely to be affected by endogeneity would be whether a woman is married or not, the number of children in the household, and some of the other household composition variables. For example, women who live in certain households are more likely to participate but perhaps because women participate in the labour market they are more likely to live in certain kinds of households: Women who are unmarried or living without men, for instance, may be more likely to participate in the labour market, but women who participate in the labour market may also be less likely to (have to) get married or live with men. The effect of endogeneity is that the estimators obtained will be biased and inconsistent. Nonetheless, there is little that can be done to address this concern because there are no independent variables in the data with which to instrument for endogenous variables that are not already part of the participation equations.

Table 5.2: Strict participation regressions for African women (15-59 years), 1995 and 2001

Inactive includes:	Sample 1a all inactive, subsistence farmers <i>not</i> recoded		Sample 1b all inactive, subsistence farmers recoded		Sample 2 housewives, subsistence farmers recoded	
	1995	2001	1995	2001	1995	2001
Incomplete	0.21880	0.23599	0.22017	0.24384	0.17343	0.17672
Primary	(5.91)*	(5.90)*	(5.95)*	(5.99)*	(4.52)*	(4.06)*
Primary	0.12941	0.24681	0.13396	0.24310	0.07038	0.18480
	(2.83)*	(5.32)*	(2.93)*	(5.15)*	(1.47)	(3.60)*
Incomplete	0.11525	0.29929	0.11937	0.30695	0.19939	0.30563
Secondary	(2.84)*	(7.48)*	(2.94)*	(7.54)*	(4.86)*	(6.86)*
Matric	0.48701	0.66258	0.49370	0.66690	0.53197	0.57529
	(9.89)*	(13.79)*	(10.01)*	(13.77)*	(10.03)*	(11.03)*
Diploma	0.93555	1.14761	0.94179	1.16267	1.37863	1.12559
	(13.79)*	(15.51)*	(13.86)*	(15.59)*	(16.46)*	(12.53)*
Degree	1.11192	1.40641	1.12417	1.42256	1.87218	1.45740
	(8.70)*	(13.17)*	(8.76)*	(13.20)*	(8.22)*	(10.33)*
20-24 years	0.95270	1.12214	0.95252	1.12631	0.30321	0.37505
	(21.88)*	(27.49)*	(21.86)*	(27.41)*	(4.79)*	(6.69)*
25-34 years	1.62818	1.71890	1.62636	1.71958	0.55961	0.70237
	(37.07)*	(41.03)*	(37.03)*	(40.80)*	(8.92)*	(12.68)*
35-44 years	1.87314	1.91742	1.87316	1.92545	0.76055	0.94263
	(39.04)*	(43.29)*	(38.97)*	(43.23)*	(11.64)*	(16.76)*
45-54 years	1.74538	1.69688	1.74938	1.67435	0.72338	0.73083
	(33.93)*	(35.87)*	(33.92)*	(35.07)*	(10.66)*	(12.47)*
55-59 years	1.35344	1.36826	1.35842	1.35018	0.60256	0.49521
	(22.03)*	(22.78)*	(22.03)*	(22.31)*	(7.34)*	(6.87)*
Married	-0.16605	-0.19560	-0.16526	-0.20527	-0.38596	-0.38115
	(-6.20)*	(-7.71)*	(-6.17)*	(-8.14)*	(-13.41)*	(-13.94)*
No. children under 7 in the household	-0.03266	-0.03063	-0.03056	-0.03175	-0.07293	-0.08744
	(-2.91)*	(-2.30)**	(-2.73)*	(-2.39)**	(-5.75)*	(-5.92)*
No. children aged 7-14 in the household	-0.04170	-0.06421	-0.03889	-0.06678	-0.02829	-0.06668
	(-4.24)*	(-5.92)*	(-3.97)*	(-6.25)*	(-2.53)*	(-5.43)*
No. men aged 15-64 in the household	-0.05672	-0.02400	-0.05540	-0.02352	-0.05000	-0.02522
	(-5.87)*	(-2.18)**	(-5.72)*	(-2.13)**	(-4.49)*	(-2.06)**
No. other women aged 15-59 in the household	-0.03442	-0.01952	-0.03426	-0.01612	-0.00890	-0.00038
	(-3.14)*	(-1.65)**	(-3.12)*	(-1.37)	(-0.71)	(-0.03)
No. men over 64 in the household	-0.18534	-0.16326	-0.18075	-0.18432	-0.19542	-0.19009
	(-4.71)*	(-3.57)*	(-4.57)*	(-4.01)*	(-4.29)*	(-3.74)*
No. women over 59 in the household	-0.08116	-0.12700	-0.07643	-0.11550	-0.09998	-0.11444
	(-2.74)*	(-3.81)*	(-2.59)*	(-3.51)*	(-2.94)*	(-3.04)*
Other adult equivalent household income	-0.00004	-0.00010	-0.00004	-0.00010	-0.00004	-0.00006
	(-3.24)*	(-4.70)*	(-3.28)*	(-4.76)*	(-2.46)*	(-2.13)**
Other ad eq household income squared	1.31e <sup>-10</sup>	3.24e <sup>-09</sup>	1.36e <sup>-10</sup>	3.28e <sup>-09</sup>	1.14e <sup>-10</sup>	3.95e <sup>-09</sup>
	(2.65)*	(1.70)**	(2.74)*	(1.71)**	(1.97)**	(1.19)
Household access to farmland	-	-	-0.16728	-0.05632	-0.17292	-0.03111
			(-3.64)*	(-1.78)**	(-3.50)*	(-0.89)
Urban	0.22314	0.28073	0.19258	0.28883	0.26528	0.38060
	(7.09)*	(8.70)*	(6.00)*	(8.49)*	(7.39)*	(9.86)*
Constant	-1.43186	-1.40219	-1.41442	-1.41573	-0.14291	-0.17796
	(-18.35)*	(-19.05)*	(-18.18)*	(-18.91)*	(-1.54)	(-2.03)**
F statistic	106.41*	106.76*	102.47*	105.53*	40.81*	45.72*
Observed participation	35.64	49.44	35.64	48.81	53.22	64.73
Predicted participation	35.70	49.50	35.71	48.87	53.24	64.75
% incorrectly predicted <sup>a</sup>	27.2	28.1	27.3	28.0	34.9	29.3
No. of observations	28308	24810	28308	24810	18795	18531

Notes: The untransformed probit coefficients are presented here, with t-statistics shown in parentheses.

\* significant at the 1 percent level

\*\* significant at the 5 percent level

\*\*\* significant at the 10 percent level

<sup>a</sup> This shows the proportion of wrong predictions, where 1 is predicted if the probability is 0.5 and over and 0 otherwise.

Table 5.3: Broad participation regressions for African women (15-59 years), 1995 and 2001

Inactive includes:	Sample 1a all inactive, subsistence farmers <i>not</i> recorded		Sample 1b all inactive, subsistence farmers recorded		Sample 2 housewives, subsistence farmers recorded	
	1995	2001	1995	2001	1995	2001
Incomplete Primary	0.20106 (5.25)*	0.36099 (8.90)*	0.20185 (5.27)*	0.36506 (8.95)*	0.14179 (3.55)*	0.28551 (6.14)*
Primary	0.10487 (2.26)**	0.35244 (7.42)*	0.10780 (2.32)**	0.34400 (7.20)*	0.02400 (0.48)	0.28243 (4.93)*
Incomplete Secondary	0.01755 (0.43)	0.31420 (7.78)*	0.02040 (0.50)	0.31610 (7.76)*	0.18184 (4.23)*	0.40582 (8.52)*
Matric	0.38042 (7.67)*	0.74253 (14.24)*	0.38450 (7.74)*	0.73766 (14.13)*	0.50795 (8.79)*	0.69879 (10.60)*
Diploma	0.54679 (8.01)*	1.17273 (14.39)*	0.55048 (8.06)*	1.18340 (14.53)*	1.07720 (11.33)*	1.53528 (8.08)*
Degree	0.71363 (5.68)*	1.26907 (10.75)*	0.72173 (5.74)*	1.28324 (10.80)*	1.78261 (5.23)*	1.69768 (6.75)*
20-24 years	1.08033 (29.26)*	1.34392 (37.88)*	1.08031 (29.24)*	1.34213 (37.74)*	0.37587 (5.62)*	0.59681 (8.41)*
25-34 years	1.85769 (46.97)*	2.03064 (53.75)*	1.85615 (46.94)*	2.01458 (53.18)*	0.57371 (8.85)*	0.70384 (10.73)*
35-44 years	1.98883 (45.94)*	1.99185 (47.80)*	1.98867 (45.89)*	1.98644 (47.38)*	0.61986 (9.31)*	0.66569 (9.72)*
45-54 years	1.72056 (36.72)*	1.61347 (36.47)*	1.72322 (36.72)*	1.57963 (35.70)*	0.44282 (6.34)*	0.20641 (2.92)*
55-59 years	1.19167 (21.27)*	1.11774 (19.65)*	1.19489 (21.29)*	1.09214 (19.18)*	0.18144 (2.20)**	-0.27078 (-3.34)*
Married	-0.22626 (-8.48)*	-0.14438 (-5.18)*	-0.22588 (-8.47)*	-0.15174 (-5.45)*	-0.62858 (-20.66)*	-0.62916 (-17.99)*
No. children under 7 in the household	0.00836 (0.77)	0.03478 (2.82)*	0.00977 (0.91)	0.03463 (2.82)*	-0.05486 (-4.14)*	-0.08343 (-5.39)*
No. children aged 7-14 in the household	-0.04345 (-4.77)*	-0.05637 (-5.48)*	-0.04149 (-4.58)*	-0.05670 (-5.64)*	-0.02337 (-2.05)**	-0.06346 (-4.71)*
No. men aged 15-64 in the household	-0.05331 (-5.63)*	-0.01192 (-1.09)	-0.05254 (-5.53)*	-0.01073 (-0.98)	-0.05015 (-4.24)*	-0.00607 (-0.40)
No. other women aged 15-59 in the household	-0.02707 (-2.69)*	-0.00690 (-0.59)	-0.02697 (-2.68)*	-0.00305 (-0.26)	0.01948 (1.50)	0.06342 (4.11)*
No. men over 64 in the household	-0.15960 (-4.55)*	-0.17154 (-4.22)*	-0.15682 (-4.46)*	-0.18542 (-4.54)*	-0.18119 (-3.91)*	-0.22831 (-4.19)*
No. women over 59 in the household	-0.01862 (-0.68)	-0.05404 (-1.84)***	-0.01531 (-0.56)	-0.03871 (-1.33)	-0.02368 (-0.66)	0.00754 (0.16)
Other adult equivalent household income	-0.00006 (-4.83)*	-0.00015 (-6.07)*	-0.00006 (-4.85)*	-0.00016 (-6.15)*	-0.00007 (-4.31)*	-0.00016 (-3.98)*
Other ad eq household income squared	2.11e <sup>-10</sup> (4.23)*	5.63e <sup>-09</sup> (1.96)**	2.14e <sup>-10</sup> (4.28)*	5.67e <sup>-09</sup> (1.98)**	2.27e <sup>-10</sup> (3.81)*	1.05e <sup>-08</sup> (2.02)**
Household access to farmland	-	-	-0.10825 (-2.75)*	-0.10190 (-3.25)*	-0.09994 (-2.13)**	-0.06797 (-1.67)***
Urban	0.21645 (7.18)*	0.13342 (4.38)*	0.19605 (6.33)*	0.12854 (3.96)*	0.35003 (8.77)*	0.29655 (6.62)*
Constant	-1.10881 (-15.20)*	-1.06572 (-14.84)*	-1.09691 (-15.04)*	-1.05579 (-14.51)*	0.54897 (5.77)*	0.86348 (8.32)*
F statistic	133.66*	151.63*	128.77*	147.77*	46.91*	50.30*
Observed participation	47.94	66.26	47.94	65.63	71.58	87.04
Predicted participation	47.98	66.30	47.98	65.67	71.56	87.06
% incorrectly predicted <sup>a</sup>	29.6	21.1	29.6	21.3	27.8	12.8
No. of observations	28308	24810	28308	24810	18795	18531

Notes: The untransformed probit coefficients are presented here, with t-statistics shown in parentheses.

\* significant at the 1 percent level

\*\* significant at the 5 percent level

\*\*\* significant at the 10 percent level

<sup>a</sup> This shows the proportion of wrong predictions, where 1 is predicted if the probability is 0.5 and over and 0 otherwise.

Table 5.4: Decomposition of the change in labour force participation between 1995 and 2001 (percentage point change shown)<sup>a</sup>

Definition of active:	Strict			Broad		
Inactive sample:	1a	1b	2	1a	1b	2
<b>Total change in participation<sup>b</sup></b>	<b>13.76</b>	<b>12.42</b>	<b>11.01</b>	<b>19.40</b>	<b>18.54</b>	<b>16.54</b>
<b>Change due to coefficients:</b>						
<b>Total change</b>	<b>10.47</b>	<b>10.08</b>	<b>8.84</b>	<b>15.74</b>	<b>15.61</b>	<b>13.43</b>
Education dummies	3.66	3.71	1.62	7.46	7.4	4.63
Age dummies	2.05	2.01	3.72	2.89	2.53	0.65
Married	-0.39	-0.53	0.09	1.07	0.97	-0.01
No. of children	-0.67	-0.93	-1.97	0.32	0.19	-2.28
No. of males (15-64)	1.42	1.38	1.26	1.88	1.90	1.87
No. of other females (15-59)	0.58	0.70	0.36	0.83	0.99	1.44
No. of male pensioners	0.06	-0.01	0.02	-0.04	-0.09	-0.13
No. of female pensioners	-0.25	-0.22	-0.09	-0.22	-0.14	0.16
Other real ad eq hhold income	-0.71	-0.71	-0.24	-1.17	-1.17	-0.92
Household access to farmland	-	0.41	0.66	-	0.03	0.14
Urban	0.77	1.27	1.61	-1.06	-0.86	-0.53
Provinces	2.82	2.78	3.17	2.88	3.03	1.88
Constant	0.89	-0.04	-1.22	1.32	1.26	8.46
<b>Change due to characteristics:</b>						
<b>Total change</b>	<b>3.29</b>	<b>2.34</b>	<b>2.17</b>	<b>3.66</b>	<b>2.93</b>	<b>3.11</b>
Education dummies	0.50	0.51	1.31	0.45	0.45	1.00
Age dummies	1.14	1.15	-0.62	1.33	1.33	-0.35
Married	0.23	0.23	1.44	0.35	0.35	1.84
No. of children	-0.03	-0.02	0.04	-0.07	-0.06	0.02
No. of males (15-64)	0.45	0.45	0.42	0.48	0.47	0.34
No. of other females (15-59)	0.27	0.27	0.05	0.23	0.23	-0.09
No. of male pensioners	0.15	0.15	0.13	0.15	0.14	0.10
No. of female pensioners	0.04	0.04	0.04	0.01	0.01	0.01
Other real ad eq hhold income	0.26	0.27	0.25	0.44	0.44	0.37
Household access to farmland	-	-0.93	-1.08	-	-0.68	-0.50
Urban	0.54	0.47	0.68	0.59	0.54	0.72
Provinces	-0.26	-0.25	-0.49	-0.30	-0.30	-0.36

Notes: <sup>a</sup> Using 1995 as the reference year and 2001 as the comparison year.

<sup>b</sup> These total change values are different (by about 0.5 to 1 percentage point) to the actual change in observed participation that can be calculated from the values given in the last rows of Tables 5.2 and 5.3. This is due to two reasons: 1) the second term on the right-hand side of *Equation 3* and the second term on the right-hand side of *Equation 4* are being added together here, so that for the sake of the discussion, 1995 is the reference year for both the decompositions of the coefficients and of the characteristics, and 2) as explained, the *mean* values of the characteristics are being used to calculate the change due to the characteristics here and so will be slightly different compared to when the predicted probability is estimated on the actual sample.

Table 5.5: Mean/frequency values of the independent variables (and standard deviations) for the 1995 and 2001 samples of African women aged 15 to 59 years

	Samples 1 a & b: active and all inactive				Sample 2: active and mainly housewives as inactive			
	1995		2001		1995		2001	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
No schooling	0.114	(0.317)	0.088	(0.284)	0.141	(0.348)	0.099	(0.299)
Incomplete primary	0.187	(0.390)	0.187	(0.390)	0.221	(0.415)	0.201	(0.401)
Primary	0.090	(0.286)	0.102	(0.302)	0.096	(0.294)	0.095	(0.293)
Incomplete secondary	0.426	(0.494)	0.416	(0.493)	0.339	(0.473)	0.359	(0.480)
Matric	0.129	(0.335)	0.149	(0.356)	0.138	(0.345)	0.172	(0.378)
Diploma	0.046	(0.209)	0.043	(0.204)	0.054	(0.226)	0.054	(0.227)
Degree	0.009	(0.096)	0.015	(0.121)	0.011	(0.106)	0.019	(0.136)
15-19 years	0.191	(0.393)	0.182	(0.386)	0.035	(0.184)	0.048	(0.214)
20-24 years	0.187	(0.390)	0.170	(0.375)	0.143	(0.350)	0.162	(0.369)
25-34 years	0.281	(0.449)	0.287	(0.452)	0.369	(0.483)	0.357	(0.479)
35-44 years	0.190	(0.393)	0.201	(0.401)	0.269	(0.443)	0.249	(0.432)
45-54 years	0.106	(0.308)	0.124	(0.330)	0.140	(0.347)	0.146	(0.353)
55-59 years	0.045	(0.207)	0.036	(0.187)	0.044	(0.205)	0.039	(0.193)
Married	0.375	(0.484)	0.336	(0.472)	0.509	(0.500)	0.415	(0.493)
No. children under 7	0.934	(1.085)	0.914	(1.082)	0.957	(1.089)	0.932	(1.100)
No. children 7-14	1.147	(1.170)	1.182	(1.236)	1.111	(1.162)	1.137	(1.230)
No. men 15-64	1.460	(1.173)	1.234	(1.153)	1.438	(1.164)	1.223	(1.146)
No. employed men 15-64	0.549	(0.659)	0.375	(0.576)	0.577	(0.661)	0.390	(0.586)
No. broadly unemployed men 15-64	0.280	(0.604)	0.413	(0.730)	0.288	(0.617)	0.420	(0.739)
No. inactive men 15-64	0.635	(0.886)	0.445	(0.734)	0.576	(0.864)	0.412	(0.705)
No. other women 15-59	1.395	(1.277)	1.177	(1.247)	1.207	(1.272)	1.066	(1.235)
No. other employed women 15-59	0.291	(0.558)	0.236	(0.493)	0.238	(0.525)	0.197	(0.462)
No. other broadly unemployed women 15-59	0.528	(0.832)	0.839	(0.992)	0.628	(0.903)	0.943	(1.028)
No. other inactive women 15-59	0.800	(0.986)	0.477	(0.750)	0.675	(0.926)	0.423	(0.706)
No. men over 64	0.101	(0.303)	0.078	(0.269)	0.090	(0.289)	0.073	(0.262)
No. women over 59	0.199	(0.417)	0.187	(0.407)	0.183	(0.403)	0.172	(0.395)
Other ad eq hhold income	521.4	(2663.1)	321.7	(905.1)	516.5	(2284.9)	327.5	(917.7)
Other ad eq hhold income sq	7363856	(6.21e <sup>+08</sup> )	922718	(1.45e <sup>+07</sup> )	5487694	(5.26e <sup>+08</sup> )	949381	(1.52e <sup>+07</sup> )
Hhold access to farmland	0.144	(0.351)	0.303	(0.460)	0.129	(0.335)	0.285	(0.452)
Urban	0.410	(0.492)	0.478	(0.500)	0.434	(0.496)	0.499	(0.500)
Gauteng	0.178	(0.383)	0.169	(0.375)	0.201	(0.401)	0.185	(0.388)
Western Cape	0.030	(0.172)	0.032	(0.175)	0.033	(0.178)	0.032	(0.177)
Eastern Cape	0.169	(0.375)	0.171	(0.377)	0.154	(0.361)	0.162	(0.369)
Northern Cape	0.009	(0.096)	0.009	(0.095)	0.010	(0.100)	0.009	(0.094)
Free State	0.074	(0.262)	0.070	(0.256)	0.078	(0.268)	0.070	(0.255)
KwaZulu Natal	0.221	(0.415)	0.223	(0.416)	0.228	(0.420)	0.227	(0.419)
North West	0.099	(0.298)	0.088	(0.284)	0.101	(0.301)	0.088	(0.283)
Mpumalanga	0.079	(0.269)	0.082	(0.275)	0.080	(0.271)	0.079	(0.270)
Northern	0.140	(0.347)	0.156	(0.363)	0.115	(0.320)	0.147	(0.354)
No. of observations	28308		24810		18795		18531	

Notes: Samples are weighted.



## E.1 Education

Regardless of the definition of economic activity or of the sample of women used, in all the regressions the coefficients on the education dummies are positive and generally highly significant in both years. This is to be expected in light of the discussion of the previous chapters, and points to the important role of education in determining whether or not a woman is a labour market participant in South Africa. Furthermore, looking at the coefficients within each regression, the likelihood of participation generally increases as completed levels of education rise (with this relationship proving to be stronger in 2001).<sup>31</sup>

There are two exceptions. Moving from samples 1 to 2, the results now show that having only a completed primary education is not significantly different from having no schooling when considering the decision to participate rather than to remain in the household in 1995.<sup>32</sup> This is probably because the non-participants are now dominated by a sample of less educated housewives. In other words, it is likely that a larger proportion of women who never continued their studies beyond a primary school education are housewives, especially if they withdrew from school to engage in household activities. Bhorat and Leibbrandt (2001) also find using the OHS 1995 that for both the strict and broad definitions on a similar sample of women, primary education has no significant effect on female participation. That this is not the case in 2001 (completed primary education has a positive and significant effect) might be signalling the relative rise in the group of *participants* with only a completed primary

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<sup>31</sup> A question that is not explored in this study is what determines the probability that a female labour market participant is employed (rather than unemployed). In particular, one would expect education to have an important influence on the likelihood of finding employment.

<sup>32</sup> For convenience sake samples 1a and 1b will be commented on together as recoding the subsistence farmers to inactive makes very little difference to the coefficients overall. The main differences between the two sets of regressions are evident when looking at the decompositions over time, and these will be commented on later where applicable. Moving from samples 1 to 2 here therefore refers to the move from the sample that includes all the inactive (of which the largest component is those in education) to the sample of inactive dominated by housewives. It is also useful when moving between definitions of economic activity and samples of inactive to refer back to Table 5.1 where the differences between these are made clear.

education as an increasing number of housewives move into the labour market over time.

The other exception, again for 1995, is when moving from the strict to the broad definition of economic activity for the samples that include all the inactive. Having an incomplete secondary education is no longer significantly different from having no schooling in the participation decision, when the non-searching are considered participants rather than non-participants. This is because now the group of non-participants consists of a large proportion of females 15 years and older who are still in education, those most likely to have an incomplete secondary schooling. That this is no longer the case in 2001 (incomplete secondary schooling has a positive and significant effect) could be signalling a relative rise over time in the proportion of participants with an incomplete secondary education among the non-searching/‘discouraged’.

Turning to the results of the decomposition analysis, the set of educational dummies are found consistently to be responsible for a large portion of the positive change in female labour force participation resulting from both the coefficients and the characteristics. As far as the coefficients are concerned, the substantial change in the structure of the participation decision in relation to the educational variables, suggests that women were not simply more educated on average in 2001 compared to 1995, but that women in 2001 were more likely than equally educated women in 1995 to enter the labour market.

This seems plausible in the environment of the latter half of the 1990s in South Africa, in which employment equity policies favouring Africans and females would be expected to raise African women’s (perceptions of their) employment opportunities and the returns to their education. Also, if education makes women more aware of their self-worth or affords them greater bargaining power within the household to choose whether they offer their labour in the market or not, then perhaps the coefficients on this set of variables are picking up immeasurable changes in women’s (and society’s) preferences and attitudes towards women working.

The effect of the education coefficients is stronger when moving from the strict to the broad definition of participation. This could be signalling that while individuals with the same education are more likely to participate in the labour market in general, they are even more likely to be 'discouraged' in 2001, perhaps highlighting the persistence of dire employment conditions over time. The effect of the education coefficients is weaker when moving from samples 1 to 2. A closer look at the coefficients themselves in the regressions indicates that for the sample including all the inactive, the effect of all the education coefficients has strengthened over time. For the sample of inactive dominated by housewives, the effect of the coefficients has strengthened mainly for the lower education levels, highlighting what was found in the descriptive statistics, that women even with little education are more likely to be participating in the labour market. That this effect is stronger when looking at the decision to move between household work and market work is consistent with the argument that these women are likely to be pushed into the labour market to support their families.

Not only are women with the same education more likely to participate, but the relatively large positive effect of the changing characteristics in the decompositions indicates that the female population is on average more educated in 2001. Table 5.5, in which the mean characteristics of the samples are displayed, shows that the increase is driven mainly by the rise in the proportion of the female sample with a matric. That the effect of the characteristics is more pronounced for the sample consisting mainly of housewives as inactive is because the large number of females still in education who would have incomplete secondary schooling have been excluded from this sample.

## *E.2 Age*

In all of the regressions the coefficients on the age dummy variables are generally positive and significant at better than the one percent level in both 1995 and 2001, indicating that, as expected, the probability of either working or wanting to work is greater for all the age cohorts compared to the youngest age cohort (15 to 19 years). The labour that women supply over their lifetimes would also be expected to differ as their market productivity and household productivity differ over the life cycle. The coefficients *within* each regression exhibit these life-cycle effects, with the probability

of labour force participation first strengthening, such that women between the ages of 25 and 44 years of age are most likely to participate, and then weakening, as this positive effect dampens for the two oldest age cohorts (45 to 54 years and 55 to 59 years).

The one exception to this general pattern is for the oldest age cohort (55 to 59 years) in the *broad* participation regressions, when women are making the choice between housework and market work. The coefficient on the oldest age cohort dummy in 1995 is positive but only significant at the five percent level, while in 2001 it is *negative* and significant at the one percent level. Although they use slightly different age cohort brackets, Bhorat and Leibbrandt (2001: 118) obtain a similar result in their broad participation regression using 1995 data. Referring to the fact that the positive age effect weakens with a move from the narrow definition to the broad definition of activity, they state that this 'is alarming, as it suggests that a significant proportion of the youth cohort are discouraged work-seekers' (see also Dinkelman and Pirouz, 2002: 876).<sup>33</sup> In other words, women aged 55 to 59 years may be more likely to be actively searching for work compared to those aged 15 to 19 years, the omitted category, but when the 'discouraged' are included as participants in the broad participation regressions, women aged 55 to 59 years are actually less likely to be participating or 'discouraged' than those aged 15 to 19 years. That the effect is more pronounced here when moving from the 1995 to the 2001 broadly defined participation regression would support this further, as it highlights the discouraging effects on the youth of high and sustained unemployment rates over a longer period in South Africa.

Turning now to the effect of the age cohort dummies on the increase in female labour force participation between 1995 and 2001, the results from all of the decompositions indicate that the changing coefficients on this set of variables contribute positively to the overall change in participation. In other words, women of the same age in 2001 as in 1995 were more likely to be working or looking for work in 2001. While the large

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<sup>33</sup> Bhorat and Leibbrandt (2001) use the age cohort 16 to 25 years as their omitted category so the negative effect of the older age cohort on being a 'discouraged' participant is more obvious in their results for 1995.

contribution to the rise in female labour force participation of the coefficients associated with education, male household members and even other females in the household are more easily interpreted and would indeed be expected in light of the descriptive statistics of the previous chapter, it is not as easy to assign a particular change in the structure of participation to the set of age variables.

Looking at the coefficients in the individual regressions for the two years suggests that most of the change is due to the changing structural effect of the age dummies representing women aged 20 to 44 years (i.e. the first three dummies included in the regressions). It could be that these age cohort variables are picking up that women of prime working age are more likely to be working or looking for work in 2001 as households' livelihoods become threatened and poverty rises. More generally, though, it could be that subsumed within these estimated coefficients are changes in social norms and attitudes towards women working that would result in women of the same age being more likely to participate in 2001. In a similar vein, on the use of the decomposition technique to understand the change in employment over time in their study, Gomulka and Stern (1990: 172) point out that part of the overall change could also be 'due to other factors which are not included in our specification and are reflected in our models through changes in their coefficients. These changes may be associated with any aspects of behaviour or the environment, economic or otherwise, that we have not been able to capture adequately in our model.'<sup>34</sup>

Turning to the changing characteristics of the sample, the effect of the age variables is the only effect to swap signs when moving between samples 1 and 2 consistently for both the strict and broad regressions. It is evident from the mean values of the characteristics presented in Table 5.5, that the positive effect on participation of the age cohort variables for the sample that includes all the inactive as non-participants, is the result of a rise in the proportion of women of prime working age (the middle age cohorts) in the sample, and a fall in the proportion of women in the age cohorts on either end of the distribution (i.e. 15 to 19 years, 20 to 24 years and 55 to 59 years). The negative effect on participation of these variables when moving to the sample that

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<sup>34</sup> The large contribution of the coefficient on the constant term in the last decomposition might also be a product of this.

includes predominantly housewives as non-participants, is the result of the rising proportion of women in the sample in the age cohorts 15 to 19 years and 20 to 24 years, and the declining proportion of women in most of the other age cohorts. The changing age distribution of the population, though, is likely to be affected by Stats SA's weighting system based on the 1996 Census information. Whether the age distribution has actually changed in this way over the period, as for example HIV/AIDS deaths rise among the working age population, will only become evident when the results of the 2001 Census are made available.<sup>35</sup>

### *E. 3 Marital status*

As expected, marital status is an important determinant of the probability that women will be either working or wanting to work. In all the regressions, the coefficient on the married dummy is negative and highly significant, confirming that women who are married or living together with their partners are less likely to either want to, or need to, work, as their husbands are likely to be the main breadwinners. If married women are under the control of their husbands, then this effect might also be picking up that men do not want their wives to work or look for work, but prefer them to stay home to carry out household and child-minding duties. The results also show that the negative relationship is stronger for sample 2, as women who are housewives are more likely to be married (see Table 5.5).<sup>36</sup>

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<sup>35</sup> If Stats SA's demographic model used to calculate the population weights for the surveys is accurate, then the changing age distribution of the women in sample 2 (i.e. excluding those in education) raises the question why a *larger* proportion were in the age cohorts 15 to 19 years and 20 to 24 years in 2001 compared to 1995. This change is consistent with more young women becoming housewives, a trend that runs contrary to what would be expected from a society of more educated young females. It is possible though that if older women of prime working age are leaving the household to work/search for work or are perhaps dying from AIDS-related illnesses, then younger women are having to leave education and substitute for the older women in the household. This is an interesting question that requires more attention when the results from the latest Census can be used to corroborate the age distribution of the working-age population shown here.

<sup>36</sup> In other words, the inactive that have been selected for sample 2 (mainly housewives) are more likely to be married than the inactive of sample 1. This means that the dummy variable representing marriage will be equal to one for a greater proportion of the zeros of the dependent variable in the regressions

The results of the decomposition of the coefficients indicate that the effect of the marital dummy over time is not consistent across definitions or samples. For the sample that includes mainly housewives as inactive, the coefficient on the married dummy has a negligible effect on the change in participation, regardless of the definition used, suggesting that for women who were making the choice between the household and the labour market, the relationship between marriage and participation did not change over this period.<sup>37</sup>

For the samples that include all the inactive, however, the changing coefficients on the married dummy have a negative effect on the change in participation for the strict definition, while for the broad definition the changing coefficients have a positive effect on the change in participation. This suggests that married women were less likely to be working or actively searching for work in 2001 compared to 1995, but more likely to be wanting work in terms of the broad definition, that is, more likely to be 'discouraged'. One possible reason for this may be that the married dummy is picking up some of the effects of children born to married women, if the variable representing the number of children in the household that was also included in the regressions is not a reliable proxy for the number of children actually belonging to the individual female.

However, the decomposition of the characteristics shows that the decline in marital rates over the period had a substantial positive effect on the overall increase in participation in all the decompositions, as would be expected from the descriptive statistics of the previous chapter. This effect is stronger, though, when the sample of non-participants is dominated by housewives. Referring to the mean values of the characteristics in 1995 and 2001 (in Table 5.5), it is clear that the percentage of women in sample 2 who were married decreased considerably and more so than among women in sample 1. The change in marital rates is in fact the single largest

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using sample 2 than those using sample 1. This would account for the stronger negative effect of being married on participation that is picked up in the regressions using sample 2.

<sup>37</sup> It is possible that any change associated with being married is already being picked up by the variables representing the number of men of working age in the household and other household income from employment.

positive contributor to the overall change due to the characteristics for this sample of women.<sup>38</sup>

#### E.4 *Number of Children in the Household*

As expected, the greater the number of children under the age of seven years and between the ages of seven and fourteen years in the household, generally the less likely women are on average to participate. This effect is more pronounced, in other words, children are more of a constraint, when looking at the sample of women who are effectively choosing between housework and market work, and when looking at the decision to work or actively search for work (i.e. in the strict participation regressions). In their study, Bhorat and Leibbrandt (2001: 119) report similar findings for a sample that included predominantly housewives as non-participants in 1995.

When including all non-participants though, it is found here that the effect of pre-school children on participation in 1995 is no longer significant for the broad definition of economic activity and in 2001 is even positive and significant. This would suggest that children under the age of seven years act mainly as a constraint on *active* job search and that having young children in the household increases the likelihood of wanting work but not actively searching for it.<sup>39</sup>

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<sup>38</sup> The larger decrease in marital rates among women in sample 2 compared to among women in sample 1 is because of the exclusion of all those inactive in education and generally from the younger age cohorts. This latter group of women are not only less likely to be married than those reporting to be housewives, but the marital rates for this group of inactive have also not decreased by as much as for the group of inactive housewives. Why marital rates are declining at a faster rate over time among those who report being housewives is not clear, and again, although beyond the range of this study, would make up part of an interesting future research question on the changing characteristics over time of those who are 'becoming' housewives in South Africa.

<sup>39</sup> As noted earlier, an important qualification is that it is not at all possible to establish biological ties between women and children within a household from the 2001 data. The 1995 OHS does ask women aged 55 years and younger how many children they had ever given birth to and if these children were still living in the household at the time. To test whether one's own children have a different effect on the labour supply decision than do the children of others, the same regressions were run for 1995, but now including a variable representing *own* children living in the household. It was found that for the strict definition (in all three of the regressions run for 1995) own children aged six years and younger



The results of the decomposition analysis suggest a change in the functional relationship between women living with children in their households and labour force participation. It seems that women living with children in their households were even less likely to *actively* participate in 2001 than in 1995. In other words, children seem to be more of a constraint on labour market participation in 2001. This might also be partially picking up the effect of the *increase* in the number of women collecting the child support grant (even though the value of the grant is relatively small). As would be expected in light of the discussion of the coefficients above, this result no longer holds when moving to the broad definition of participation for the full of sample of inactive women. The relationship between living with children and participation no longer has a negative effect on the change in women's participation, as women living with children are even more likely to be *not actively* searching for work in 2001 compared to 1995.<sup>40</sup>

The average number of children in households that contain women of working age has not changed much over this six-year period according to the national survey data,

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still had a negative effect on participation, but the negative effect of own children aged 7 to 14 years was now no longer significant (in all three of the regressions). For the broad definition, the coefficients on the variables representing number of own children aged six years and younger were also positive but now significant for samples 1a and 1b, and for sample 2 a negative and significant effect was also obtained. Again, the number of children aged 7 to 14 years was no longer significant in any of the three regressions although the sign remained negative. It could be that this difference between own children and all children living in the household between the ages of 7 and 14 years only, is due to women being financially responsible for their own children's education only and therefore more likely to need to work (whereas the results for children aged six years and younger are similar because caring for one's own child need not exclude caring for someone else's child in the household).

<sup>40</sup> The main differences between the regressions when moving from samples 1a to 1b, other than the effect of the urban dummy (discussed later), are the effects of the coefficients on the married dummy and on the number of children variables. The negative effects of being married and living with children weaken somewhat because subsistence farmers, likely to be women combining household and child-minding duties with their farming activities, are now part of the non-participants rather than the participants, and some of this negative effect might be picked up by the household access to farming variable.

and as a result the effect of the average values of the children variables on participation over time is negligible regardless of the sample or the definition used.<sup>41</sup>

### *E.5 Number of Adults of Working Age in the Household*

Variables representing the number of men of working age and the number of other women of working age in the household were also included in the regressions. These variables might represent a number of different influences on female participation depending on whether the men and women in the household were employed, unemployed or inactive. Unfortunately, it was not possible to disaggregate these variables further by labour market status for the regressions because of the multicollinearity among the disaggregated variables themselves, and between these variables and some of the other variables in the regressions, such as marital status and other household income.<sup>42</sup> The breakdown of the number of men and other women of working age in the household by labour market status can therefore only be analysed descriptively. For this purpose, Table 5.5 also includes the values for the average

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<sup>41</sup> In fact, referring to the mean values in Table 5.5, it is evident that the average number of children under the age of 7 years per household decreased slightly while the average number of children aged 7 to 14 years per household increased slightly over the period (as was shown in the descriptive statistics in Chapter Four). When looking at the influence of the mean values of the children variables *in general* in the decomposition of the characteristics, these effects therefore cancel each other out.

<sup>42</sup> Regressions were also run where a set of these variables, representing the number of adults in the household disaggregated by labour market status, was used to proxy for other household income. The number of employed, unemployed and inactive males and other females in the household were included as variables in a number of different combinations, but proved to be no better at predicting participation. The direction and significance of the signs were also not robust to changes in the specification. This is probably due, once again, to the problem of (non-linear) multicollinearity between this set of variables as well as with variables such as marital status. Another possible reason for these results is the problem of endogeneity. For example, it might be expected that the number of unemployed males in a household would positively influence a woman's decision to participate in the labour market (according to the added-worker effect). But, the number of unemployed males in the household could also be positively affected by the presence of a female labour market participant, if the woman was employed and the unemployed tend to cluster in households that contain workers, or if the woman was unemployed and, as Wittenberg (1999) and Dinkelman and Pirouz (2002: 879) have both found evidence of, the unemployed tend to be clustered in households with other unemployed (see also Rospabé, 2001b).

number of employed, broadly unemployed and inactive men and other women in households that contain women of working age (shown in italics).<sup>43</sup>

The number of men of working age in the household has a negative effect on a woman's probability of participating in the labour force, according to both the strict and the broad definitions of economic activity for all the regressions in 1995. Interestingly though, the significance levels in 2001 are not as strong as in 1995 across all the regressions using the strict definition, while for the broad definition the coefficients in 2001 are not at all significant. A closer look at the labour market status of these men reveals the likely reason for why this effect had dissipated by 2001. The average number of employed men in these households decreased dramatically, while the average number of unemployed men increased dramatically. Both of these changes would be expected to reduce the negative effect of having a male in the household on women's participation in 2001.

It is not clear what influence the number of inactive males in the household would have on female labour force participation. If these males were inactive because of illness (as the effect of HIV/AIDS takes hold in South Africa), this might reduce the likelihood of women participating, as they are needed at home to care for the ill. If these inactive (especially from the youngest age cohort, i.e. 15 to 19 years) were in education then they might not have a negative effect on participation, and might even have a positive effect if women need to earn money for school fees/education. It is therefore not obvious what influence the decreasing average number of inactive men of working age in the household over time would have on the change in female labour

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<sup>43</sup> The regressions were also run including a dummy variable equal to one if the woman was the head of her household. The coefficient on this dummy was positive and significant but similar problems of multicollinearity to those mentioned above were encountered, and so it was decided to exclude this variable from the regressions. In addition, whether a woman is the head of her household might be the outcome of her labour market status. Dinkelman and Pirouz (2002: 881) also report excluding from their multinomial logit regression of labour force attachment, the variables representing labour market status of other household members, particularly the number of employed persons in the household, and household headship due to such endogeneity effects.

force participation.<sup>44</sup> In whichever direction these various influences work, the negative effect of having men of working age in the household is found to be weakening.

This descriptive analysis of the labour market status of men in the household also helps to explain the large effect of the coefficients on this variable in the decomposition of the change in participation over time. The changing functional relationship between the number of males in the household and female participation consistently accounts for a substantial portion of the increase in predicted participation between 1995 and 2001 in all the decompositions. In other words, even if the number of males in the household had stayed the same over this period, the way in which the presence of males of working age in the household relates to female participation has changed. With the increase in male unemployment there is less security attached to having an adult male in the household, and this is likely to precipitate women's entry into the labour market to maintain (or at least try to maintain) the household's income. Also if men without employment or income lose some of their decision-making power within the household, then they will have less of a say over whether women can leave the home to work or search for work.

Turning to the decomposition of the characteristics, the fall in the average number of adult men in the household also accounts for a consistently large portion of the increase in predicted participation caused by the changing characteristics. This is because, even though the effect is weakening as shown above, the number of men of working age in the household still has a negative effect on participation (the coefficient remains negative in 2001), so that if the average number of men in the household is declining, all else equal, then the predicted participation of the sample would increase as a result.

The number of other women of working age in the household has a less consistent effect in the regressions. Looking at the decision to participate when the full sample

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<sup>44</sup> It is interesting that the average number of inactive men has also fallen quite considerably. This could be simply because fewer women are living with men in general, as was highlighted in the descriptive statistics. It is also likely to be picking up that, although not to the same extent as among women, labour force participation among men has also increased.

of inactive are included (regardless of the definition of economic activity used) other women of working age in the household have a negative and significant effect in 1995 *but not* in 2001. When moving to the restricted sample of inactive dominated by housewives, other women in the household do not have a significant effect on strict participation in both years (although the coefficients are still negative), and for the broad definition the coefficients on this variable are now both positive but only the coefficient in 2001 is significantly different from zero.<sup>45</sup>

Here again there are likely to be competing positive and negative effects on participation at play, with the negative effect weakening over time. Where other women in the household have employment, the effect on female participation might be negative. But, referring to Table 5.5, the average number of other employed females in the household has decreased over the period (although not as dramatically as for men), while the average number of other unemployed females has increased substantially.<sup>46</sup> Also, if some of the women in the household who are inactive or unemployed (and therefore likely to be at home much of the time) are engaged in home production, this might free up the time of other female adults to work or search for work. Again, if these other females in the household were still in education in the youngest age cohort, women might need to enter the labour market to pay for the costs of education. That the positive effect on participation is more pronounced when moving to the sample of women that are effectively choosing between housework or market work, would support this view.

It is not surprising then that in the decompositions of both the coefficients and the characteristics, the number of other females of working age in the household

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<sup>45</sup> In their study using the 1995 data, Borat and Leibbrandt (2001) also find for both the strict and broad participation regressions that men aged 15 to 59 years have a negative effect on female participation (when the inactive sample consists predominantly of housewives). However, they find that women aged 15 to 59 years in the household have a *positive* and significant effect on participation for both definitions of economic activity. It seems, however, from their description of the variable, that they included *all* women aged 15 to 59 years in the household, rather than just the *other* women in the household, which would then explain this positive effect.

<sup>46</sup> A positive relationship between the number of other adult women in the household and participation, if these women were employed, would also be consistent with the argument that social networks reduce women's barriers to entry into the labour market (Wittenberg, 1999; Kingdon and Knight, 2000a).

contributes positively to the change in female participation. The effect is much smaller though compared to the effect of the number of males in the household. One also needs to be careful not to place too much emphasis on the actual magnitudes because some of the coefficients on this variable were not significant.

#### *E.6 Number of Pensioners in the Household*

Access to economic resources within the household is an important determinant of a woman's participation in the labour market. As explained above, using the OHS 1995 and the LFS 2001:2, it is only possible to measure other household income from employment. This means that the negative effect of other household income could be underestimated to the extent that African women also have access to non-earned income in the household. For African households, the most important source of non-earned income though is the social pension. Because most Africans of pension age receive the pension, the number of women over the age of 59 years and the number of men over the age of 64 years should act as a sufficient proxy for unearned income from the pension (Case and Deaton, 1998).

For all the regressions in both 1995 and 2001, the number of men over the age of 64 years significantly decreases a woman's probability of participating in the labour market. This is in all likelihood highlighting the importance of the social pension in African households, although there may also be other negative effects. For example, if these older men were ill they may require looking after by a female in the household, or if they were the head of the household in question they may exert some control over whether a woman works or leaves the home to look for work.

The number of female pensioners in the household has a negative and significant effect on a woman's decision to work or *actively search* for work in both years and using both samples.<sup>47</sup> But when discouraged work-seekers are included as

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<sup>47</sup> Bertrand *et al* (2001) investigate the effect of the pension in particular on the labour supply of prime-age individuals (16 to 50 years) in South Africa using the PSLSD data. They measure labour supply in terms of the number of hours worked and whether the individual was employed or not, which means the results are not directly comparable to those found here. Nonetheless, they find that the presence of a pensioner in the household reduces the labour supply (as they define it) of prime-age individuals. They

participants, female pensioners have no effect on female labour force participation in either of the two years or when using either sample.<sup>48</sup> There does not seem to be any obvious reason for why female participation is not negatively affected by the number of female pensioners in the household when the 'discouraged' are included as part of the economically active population. It may be that women are more likely to be non-searching when there is a female pensioner in the household because the pressure to find work is not as great. But it may also be the case that 'discouraged' work-seekers are more likely to be in households where there is a female pensioner present who can help support them, whereas perhaps older men are less willing to help support the discouraged unemployed. This endogenous effect might help explain why there is no negative effect on women being 'discouraged' in households where there are female pensioners present.<sup>49</sup>

That the smallest effect on the overall change in participation between 1995 and 2001 caused by the coefficients, is associated with the number of male and female pensioners in the household suggests that the structural relationship between these variables and the participation of women of working age has hardly changed over the period. This might be because the income from the state pension is considered a generally reliable and regular source of monthly income for the household (for as long as the pensioner is alive). Again, not too much emphasis should be placed on the

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also find that the female pension has a stronger negative effect than the male pension (suggesting imperfect pooling of resources amongst household members), and that the negative labour supply response of men of prime working age to the presence of a pensioner in the household is greater than the negative labour supply response of women of prime working age (suggesting that men have greater bargaining power in the household, or are favoured by pensioners in the household).

<sup>48</sup> Bhorat and Leibbrant (2001) include one variable representing the number of adults (male and female) over 60 years of age in the household in their regressions. They find that for 1995 the coefficient on this variable is negative and significant when using the strict definition of participation, but that it is insignificant (although still negative) when using the broad definition. This may be caused by the same insignificant effect of female pensioners on broad participation that is found here.

<sup>49</sup> If the variable for other household income from employment does not adequately pick up a household's access to economic resources, it may be that having a female pensioner in the household is acting as a proxy for poorer households (Kinsella and Ferreira, 1997 and Case and Deaton, 1998, find that households containing a pensioner are poorer on average than all households). Kingdon and Knight (2000a) and Dinkelman and Pirouz (2002) find that the non-searching unemployed are more likely to be living in poorer households.

changing magnitude of the effect of the female pensioner coefficients if they were not significant in the broad participation regressions.

In the decomposition analysis, the changing mean values of these variables also have a minimal effect on the rise in participation, especially for female pensioners. The small positive effect on the rise in participation over the period due to male pensioners in the household may reflect a small decline in the average number of men of pension age in households that contain women of working age.

### *E.7 Household Income*

In all the regressions the effect on female participation of other adult equivalent household income from employment is negative and highly significant, as would be expected. The positive and generally significant effect of the squared income term on participation indicates that the effect is dampened as this income increases. Borat and Leibbrandt (2001: 121) found a similar effect in their strict and broad participation regressions for 1995.<sup>50</sup>

It is clear that a woman's access to income within the household is an important factor in her decision not to work or look for work. What is interesting though, is that over time the effect of this functional relationship has strengthened, as is evident from the decompositions of the coefficients. What this effectively means is that women with access to the same household income in 2001 as in 1995 were even less likely on average to participate in 2001. A possible reason for this might be that some women in 1995 with access to other household income were still hoping to work, but that by 2001, after a number of years faced with dire prospects in the labour market, had

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<sup>50</sup> Because the income data are particularly prone to measurement error, and because of some of the contradicting evidence found in the South African empirical literature on the influence of income on female participation (Mlatsheni and Leibbrandt, 2001; Naudé and Serumaga-Zake, 2001), a number of variations on the income variable were included in the regressions to test the robustness of the negative relationship found here. The effect of household income from employment on female participation was found to be negative regardless of, for example, whether total, per capita, or adult equivalent estimates were used for the measure of other income in the household.



given up these hopes and were more likely to withdraw from the labour market because of the smaller possibility of actually finding work.<sup>51</sup>

Despite the strengthening over time of the negative effect of income on female labour force participation for those with access to other household income, other adult equivalent household income from employment in households containing women of working age declined in real terms over the six-year period (refer to Table 5.5). This explains the substantial positive effect on the increase in participation of the income variables when looking at the decomposition of the characteristics. In other words, even though over time women are less likely to participate when they have the same access to household income, women's access to household income on average declined, precipitating a rise in female labour force participation over this period.

#### *E.8 Household Access to Land for Farming*

In the regressions in which subsistence farmers in 2001 are recoded to inactive, a variable representing the household's access to land for farming was also included as it is recognised that in a developing country like South Africa women's involvement in informal agriculture is still an important activity (Mwabu and Schultz, 1996; Posel and Casale, 2001). It would be expected that women who live in households with access to land for farming would be less likely to participate in the labour force (as participation is now defined), as they might engage in subsistence farming instead of other work. This is generally found to be the case in the regressions that included this variable, although the significance levels weaken somewhat in 2001, especially for sample 2.

The effect of the coefficients on the rise in participation as shown in the decomposition is positive but the magnitude varies quite considerably across the samples. The positive effect might be signalling that although having land to farm on has a negative effect on looking for other work, this effect is weakening, perhaps

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<sup>51</sup> That this negative effect of the coefficients is not as strong when moving from the full sample of inactive to the restricted sample of inactive might be signalling that this is more of a consideration for women choosing between education and participation than for women choosing between housework and participation.

because the quality of the land is worsening due to increased pressure over the decades, and the returns to this type of work are proving to be insufficient for the household's survival (Wilson and Ramphela, 1989; Van Zyl *et al.*, 1996).

Counteracting this positive effect of the coefficients on the change in participation is the negative effect of the change in the average number of households with access to land for farming. The average number of households with access to land for farming increased over this period according to the data used, which, combined with the negative coefficient, means that more individuals would be engaged in subsistence farming and not working or looking for other work. It may be, however, that the variable used to proxy for the household's access to land for farming in 2001 is not directly comparable to the variable in 1995, as it is not clear why the average number of households with access to land for farming should have actually increased by so much over the period.<sup>52</sup> As a result it would be unwise to place too much emphasis on these results without their corroboration from other sources.<sup>53</sup>

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<sup>52</sup> As explained, in 1995 households were asked if they had access to land for farming (including growing food for the household) (OHS 1995, Q.1.26). In 2001 individuals were asked the following: 'Did .... grow or help to grow any produce, e.g. maize or other crops, vegetables or fruit, or keep any stock, such as cattle, sheep, goats, horses, even chickens, for sale or for household use during the last 12 months?' (LFS 2001:2, Q5.1). Because of the very detailed nature of the question in 2001 it is possible that there were individuals in households who, for example, kept chickens for household use in 2001, but who would not have reported having access to land for farming according to the question in 1995. This might then explain why the number of households reported 'with access to land' increased by so much over the period, and why the effect of the coefficients weakened in 2001. The type of very small-scale farming individuals might have been referring to in 2001 would have been unlikely to be a substantial deterrent to looking for, or engaging in, other work.

<sup>53</sup> It seems unlikely that the ANC government's land reform programme would have resulted in much of an increase in access to land over the period. Since 1994, the reform programme has proceeded at a much slower rate than anticipated and land restitution (in the form of cash payouts or the allocation of land) and land redistribution together have amounted to only one million hectares, that is, less than 1.2 percent of the 86 million hectares of white-owned farmland ('Leaders in Land Reform', *Mail and Guardian*, 1 to 7 August, 2003). Furthermore, a large part of the land reform process is set to take place on marginal land (in the former homelands especially), land that has already been adversely affected by intensive agricultural activity and overpopulation (Van Zyl *et al.*, 1996).

## E.9 Location

The final set of variables included in the regressions capture the effect of location and region on women's labour force participation decisions. Not surprisingly, the probability of labour force participation is found to be positively and significantly affected by whether a woman lives in an urban area.

The changing functional relationship between women's residence in urban areas and their participation in the labour market had a positive effect on the increase in strict participation between 1995 and 2001. Relative to their rural counterparts, women living in urban areas in 2001 were more likely to be working or actively searching for work than women living in urban areas in 1995. This might be the effect of the rise in female migration to places of perceived job opportunity (Posel and Casale, 2003). The direction of this effect changes however when moving to the broad definition of participation. In other words, relative to their rural counterparts, women living in urban areas in 2001 were less likely to be non-searching unemployed than women living in urban areas in 1995. This is consistent with the argument that the 'discouraged' might be more likely to be staying in, or returning to, semi-urban or rural areas where the costs of living are lower (Klasen and Woolard, 1998).<sup>54</sup> It has also been suggested that the 'discouraged' are more likely to live in, or move to, rural areas to be closer to pension income (pensioners are more likely to live in rural areas) (Klasen and Woolard, 1998; Dinkelman and Pirouz, 2002).<sup>55</sup>

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<sup>54</sup> Of course, there may be some endogeneity here in the direction of causality if over time job opportunities are fewer and the costs of job search are higher in rural areas, resulting in individuals being more likely to be 'discouraged' if they live in rural areas. Also, if social networks are important in finding work, these individuals living in rural areas are also least likely to have access to information about labour markets (Kingdon and Knight, 2000a; Dinkelman and Pirouz, 2002: 876). Whichever way the causality runs though it seems that living in rural areas and being 'discouraged' are positively correlated and that this effect is strengthening over time.

<sup>55</sup> Note how the positive effect is more pronounced for the strict definition, and the negative effect weaker for the broad definition, when moving from sample 1a to 1b. When subsistence farmers, who are likely to be living in rural areas, are recoded from participants to non-participants, the effects of the urban dummy coefficients in 2001 strengthen.

Turning now to the rise in participation due to the changing characteristics, the urban variable has a consistently large and positive influence across all the decompositions. This is because, as expected, with urbanisation, the proportion of the population living in urban areas increased considerably over the period, and urban residence is associated with higher rates of participation (see Table 5.5).

The coefficients on the provincial dummies indicate that women living in provinces other than Gauteng, the omitted category, were generally less likely to participate in the labour market. This would be expected seeing as Gauteng compared to the other provinces has the largest metropolitan area, and accounts for the largest portion of GDP in South Africa (Thurlow, 2002), and therefore would be a region of both real and perceived job opportunities. Although not reported here, there are a number of changes between the years and between the strict and broad rates of participation, in the magnitudes especially, of the coefficients on the group of province controls, but no discernible pattern emerges.

These changes would explain why the coefficients on the set of eight provincial dummies included in the regressions contribute to the change in participation over time. The change due to the coefficients could be the result of a number of factors. It is possible that employment prospects (whether perceived or real) or wage opportunities are changing within certain provinces. It may be that these controls are picking up changes in infrastructure over time, which make it easier for inhabitants of certain provinces to search for work, or which free up more time for them to do so. But, the provincial dummies might also be capturing worsening conditions, if the extent and depth of (rural) impoverishment varies across provinces.<sup>56</sup>

While the effect of living in certain provinces on female participation has changed over the period, the distribution of the female population across the provinces does not seem to have changed much between 1995 and 2001. While women may be

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<sup>56</sup> There is also the possibility that that the large increase (whether real or as a result of better data capture) of the self-employed in the informal sector has occurred predominantly in certain provinces. It does not seem to be the result of a definitional problem due to the sample in 2001 consisting of more subsistence farmers, as the considerable effect of the provincial dummies remains even when these subsistence farmers are recoded as inactive in 2001.

moving within provinces, they do not seem to be moving much between provinces, which explains the rather minimal effect of the provincial dummies in the decompositions of the characteristics.<sup>57</sup>

## *F. Conclusions*

It is important to now pull together the most important findings from the analysis. While a number of problems were encountered when attempting to test the determinants of labour force participation more rigorously using a probit analysis, the data nonetheless produce generally sensible and expected results for both the strict and the broad female participation regressions, regardless of the sample used. In general, age and education have a positive influence, while being married has a negative influence, on female labour force participation. The household composition and income variables generally have a negative effect on participation, although this negative effect seems to be weakening over time especially for the number of men and other women of working age in the household. There also seem to be some key differences when moving between the strict and the broad definitions of economic activity. In particular, women who live with young children or female pensioners may be less likely to actively search for work, but not to want to work. And finally, as expected, living in an urban area, and in Gauteng, greatly increases the likelihood that women will be working or wanting to work, whether actively searching or not.

Looking at the changes in the characteristics of women between 1995 and 2001, it is therefore not surprising that the rise in education among women, the decline in the number of married women, the fall in the proportion of women living with men in general (and employed men in particular), the fall in household income, and the rise in women living in urban areas, account for most of the increase in female participation

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<sup>57</sup> The distribution of the female population across urban and rural areas and across provinces is likely to be the result of using Stats SA's weights to arrive at population estimates. These weights are all based on the Census 1996 data. More information about any real changes that might have taken place in the distribution of the population across the provinces or the extent of urbanisation will only become available when the results of the Census 2001 are released.

that is due to the changing characteristics. These results further support the arguments presented in the descriptive analysis in Chapter Four, and in particular suggest that the change in female labour force participation over this six-year period is not just attributable to the changing levels of education among the female population. The fall in women's traditional access to male income support within the household is also likely to have pushed women into the labour market.

The decomposition analysis, however, showed that it is not simply the average characteristics of women (and the households in which they live) that have changed, but that there has also been a large change in the way in which the probability of female labour force participation is determined. The variables found to be capturing most of the positive change in the underlying structure of participation were the age cohorts, the education levels of women, the number of men especially, but also to a lesser extent the number of other women of working age in the household, and the locational variables. This indicates that women with the same characteristics were more likely to participate in the labour market in 2001 than in 1995, as a result of the changing relationship between these variables and female participation. While it is advised to treat these composite models with some caution, the results produced again seem reasonable in light of the rise in women's need or desire for work over this period in South Africa, coupled with the limited employment opportunities that women have faced over the decade.

## CHAPTER SIX

### SOME CONSEQUENCES OF THE FEMINISATION OF THE LABOUR FORCE IN SOUTH AFRICA

#### *A. Introduction*

The rise in female participation in the labour market, if it translates into employment, provides women with increased access to income, independent of men, and therefore may be seen as a positive move towards the economic empowerment of women. However, while there are no doubt a number of benefits (not only economic) associated with more women working and earning their own income, the international literature has pointed to some of the downfalls of this feminisation, and as was explained in Chapter Two, particularly the fact that women are being pulled into the labour market as low-paid workers. That women are generally still predominant in the lower-paying and more insecure segments of the labour market, and that this type of employment has been increasing, is an indication that the feminisation of the labour market is not an unqualified good. With the rise in the number of households that rely on women's earnings, women's continued disadvantaged position in the labour market also has important implications for household welfare.

This final chapter considers some of the outcomes of the rise in female labour force participation for women's employment and earnings in South Africa. At the outset it must be reiterated that an increasing number of women working (or at least joining the labour market) is considered here to be a positive trend. Women's increased access to earnings will not only be likely to provide them with more bargaining power within their households, but women's earnings also contribute to household welfare levels. To give a very simple illustration, in 2001 the proportion of households falling under an adult equivalent poverty line of R301 a month was 53 percent. If female earnings are excluded from the calculation of adult equivalent household income from employment, 66 percent of households fall below this poverty line (based on own

calculations from the LFS 2001:2).<sup>1</sup> Women's earnings from employment therefore make a considerable contribution towards reducing poverty rates in South Africa.<sup>2</sup>

However, as in other parts of the world, the rise in female labour force participation in South Africa cannot simply be labelled a purely 'positive' trend. The evidence presented in previous chapters would suggest that, unlike the experience of many other countries in recent decades, the feminisation of the labour market in South Africa has been driven more by supply-side than demand-side factors; the rise in female labour force participation has been associated largely with an increase in *unemployment* among women. In addition, it was shown that there has also been on average a rise in women's employment over the period under review but that a large part of this growth was due to self-employment and particularly in the informal sector, a type of employment that generally offers very low returns.<sup>3</sup> The objective of this final chapter is to complete the analysis of the nature of the feminisation of the labour market in South Africa, by looking more closely at the changes in employment that took place between 1995 and 2001 and at what these changes 'bought' women in terms of access to earnings.

The main aims of this chapter are to provide a descriptive analysis of how women's earnings differ from men's on average, to show how earnings changed between 1995 and 2001 as female employment rose, and to suggest some possible factors

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<sup>1</sup> This amounts to approximately one dollar a day when worked out at an exchange rate of around R10 to the dollar. It is also very close to an adult equivalent expenditure figure of R301.70 used by Woolard and Leibbrandt (2001), calculated at the 40<sup>th</sup> percentile cut-off of households ranked by adult equivalent expenditure using the PSLSD data. While this poverty line might be considered too low, it was decided to use a less 'restrictive' line as the adult equivalent household income used here can only be calculated from employment earnings available in the LFS, and so household income is likely to be underestimated in any case.

<sup>2</sup> This is not to ignore the non-monetary contribution that women make in terms of time spent in household activities. Women performing these duties free up the time of other household members to work or search for work.

<sup>3</sup> Of course, it is possible that the very broad employment categories analysed in Chapter Three (employees, formal self-employment and informal self-employment) may be masking considerable churning in the labour market such that women are ending up in higher-paying occupations within these categories. This possibility will be explored in this chapter as well.



influencing this change in earnings. The chapter is organised as follows. After a brief discussion in Section B of some of the problems with the earnings data available for this analysis, Section C explores the trends in earnings for women and men. In particular, the levels of, and the changes in, average earnings are examined for individuals in a univariate context by education level, by employment type and by occupation, suggesting some possible reasons for why women's access to earnings is on average lower than men's. The concluding section provides a summary of the main findings from this analysis.

## *B. Data*

As explained in the previous chapters the earnings and employment information in the OHSs and LFSs were not captured consistently over the years, and as a result one needs to proceed cautiously when using these cross-sectional data sets in a comparison over time. For instance, one of the main problems with the OHS 1999 is that there is no information on the earnings of the self-employed, net of their expenses. In 1995 and 1997, the OHS questionnaires asked the self-employed for information on gross income or turnover of all own-account activities as well as all the expenses incurred to generate this income. In 1999, the self-employed were only asked for 'total income (before deducting expenses)'. In the LFS 2001:2, the self-employed were asked for their 'total salary/pay', and although it was not specified whether they should deduct their expenses or not, it appears that respondents understood that they should provide an estimate of *net* earnings from self-employment.<sup>4</sup> Because self-employment (both informal and formal) is recorded by the surveys as being the fastest growing category of work, having reliable information on the returns to this work is key to the analysis of changes in earnings over the period.

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<sup>4</sup> If respondents had not understood the question and had instead reported *gross* earnings from self-employment, then one would expect to see a large rise in average returns to self-employment between 1995 (using a net earnings estimate) and 2001. As will be shown later, however, there was a significant decline in reported returns to self-employment over the period.

Consequently, it was decided to base the examination of earnings in this chapter on the information provided by the OHS 1995 and the LFS 2001:2, the same two data sets used in the analysis of the previous chapter.<sup>5</sup> However, using these two years still requires some caution when comparing average earnings over time. It is likely that some of the increase in self-employment between 1995 and 2001 is due to the better data capture of subsistence farmers and other informal own-account workers. Because this type of work is most likely to be associated with low returns, overall earnings may be biased downwards in 2001. In other words, one would already expect to see a decline in average returns over the period, all else equal (that is, over and above any real decline that may have taken place between 1995 and 2001). As it is clearly an important issue, the effect of the more efficient collection of informal sector employment information will be returned to in the discussion of earnings trends below.

Another problem encountered when using the data on earnings from employment in 1995 and 2001 concerns individuals with more than one job. In 1995 individuals working for someone else and themselves were asked for employment and earnings information on both activities (see Appendix 2 for elaboration). In the LFS 2001:2, individuals were initially (that is, in the first question on employment, Q2.1) asked about *all* activities they had engaged in over the previous seven days, but then for the remainder of the questions they were asked for information only on their *main* employment. Because no information on earnings from secondary work is available in the LFS 2001:2 (and because it is not possible to ascertain with certainty which activity was the individual's main employment in 1995), this category of workers was excluded altogether from the earnings analysis in this chapter.<sup>6</sup>

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<sup>5</sup> Again, it was decided to exclude the OHS 1997 as it was found to possibly underestimate employment as explained in Chapter Three. Because it is not clear what type(s) of employment exactly were underestimated, it would be difficult to identify possible biases in the change in average earnings.

<sup>6</sup> A more general source of possible underestimation of earnings from employment is the exclusion here of estimates of in-kind payments. While in the 1995 OHS employees were asked to give a Rand value for transport, food and 'other' in-kind payments received, in the LFS 2001:2 (or any of the other OHSs or LFSs), no such information was elicited. One would expect this type of remuneration to be particularly important for those in unskilled agricultural work and for domestic workers. However, assuming the proportion of earnings received in in-kind payments has not changed significantly over

In the analysis that follows, monthly earnings from employment are examined. These figures were calculated from the information on absolute earnings that were provided by respondents, and where respondents declined to give an absolute value, the midpoint of their earnings category was used. In both years the majority of individuals gave an absolute figure though (around 70 percent of the employed). Nominal monthly earnings from employment were converted into real values using the average yearly Consumer Price Index provided by Stats SA, that is, 72.4 in 1995 and 105.7 in 2001 (where 2000 is the base year). In addition, all the results in the following tables are weighted using the population weights from the 1996 Census which are provided by Stats SA.<sup>7</sup>

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the period, the exclusion of this type of payment in *both* years minimises the bias when making comparisons over time.

<sup>7</sup> A few outliers were dropped from the analysis. In 1995, three white formal self-employed males earning R600 000, R450 000 and R260 000 a month and one African formal self-employed male earning R374 000 a month were excluded. The next highest value in 1995 was R137 500 after which there was a more evenly spread distribution of earnings. In 2001, one outlier was dropped; a coloured male employee earning a monthly income of R500 000. The next highest value in 2001 was R130 440 and again thereafter there seemed to be a more consistent spread of earnings among those in the higher income brackets.

## C. Trends in Earnings, 1995 - 2001

### C.1 Earnings by Race and Gender

Table 6.1 below shows mean and median earnings for women and men in both nominal and real terms for 1995 and 2001.<sup>8</sup> Looking at the first four columns, for the employed as a whole (all races) as well as for the employed within each race group, it is evident that women consistently earn less than men in terms of both mean and median monthly earnings from employment. Also, as expected, mean and median earnings are lower for Africans, coloureds and Indians compared to whites. This overall pattern is evident in both 1995 and 2001, highlighting persisting inequality in earnings along both gender and racial lines.

Of greater interest here though is the *change* in earnings that took place between 1995 and 2001 for women and men (see the last two columns of Table 6.1). In nominal terms, mean earnings of the employed as a whole (all races) increased by around 25 percent for both women and men over the six-year period, however, the median earnings of women *decreased* (by about 16.5 percent) while the median earnings of men *increased* (by about 19.3 percent). In *real* terms, however, both mean and median earnings declined for women and men. Average real earnings fell by around 14 percent for both the sexes over the six-year period, while median real earnings for women fell by more than twice as much as for men, i.e. a decline of 43 percent for women as opposed to a decline of 18 percent for men. The much larger difference between mean and median earnings changes over the period for women (with the fall in median earnings being much greater than the fall in mean earnings) also suggests growing inequality *among* women.<sup>9</sup>

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<sup>8</sup> In this chapter the working age bracket 15 to 65 years is used again for both men and women.

<sup>9</sup> According to the national accounts (see South African Reserve Bank, 2003, Tables KB630 and KB810), real disposable income per capita increased over the period 1995 to 2001 (by 3.1 percent in total). It is important to note however that these figures are not reconcilable with those presented here. Real disposable income per capita in the national accounts includes employee compensation, income from property (dividends, interest, rent and profits) and net current transfers (from/to general government, incorporated business enterprises and the rest of the world) less current taxes paid on income and wealth. Only one component of income is being analysed here: *gross* income from work

Table 6.1: Mean and median monthly earnings by gender and race, 1995-2001 (Rands) <sup>a</sup>

	Female		Male		% Change 1995-2001	
	1995	2001	1995	2001	Female	Male
	Mean (Std Dev) Median	Mean (Std Dev) Median	Mean (Std Dev) Median	Mean (Std Dev) Median	Mean  Median	Mean  Median
<b>Nominal earnings</b>						
<i>Total</i>	1646 (2400) 1125	2070 (3163) 939	2519 (4523) 1478	3154 (4652) 1764	25.7  -16.5	25.2  19.3
African	1239 (1727) 800	1313 (2044) 600	1564 (2031) 1200	1828 (2292) 1250	6.0  -25.0	16.8  4.2
Coloured	1297 (1238) 1035	1959 (2182) 1300	1664 (2135) 1200	2653 (2945) 1913	51.0  25.6	59.5  59.4
Indian	2194 (2827) 1517	3185 (2977) 2500	3604 (5098) 2500	4459 (4188) 3500	45.2  64.8	23.7  40.0
White	3073 (3775) 2500	5057 (5184) 4000	6168 (8322) 4917	8268 (7839) 6000	64.6  60.0	34.1  22.0
<b>Real earnings</b>						
<i>Total</i>	2274 (3315) 1554	1958 (2993) 889	3479 (6247) 2042	2984 (4401) 1669	-13.9  -42.8	-14.2  -18.3
African	1711 (2386) 1105	1242 (1934) 568	2161 (2806) 1657	1729 (2169) 1183	-27.4  -48.6	-20.0  -28.7
Coloured	1792 (1709) 1429	1853 (2065) 1230	2298 (2949) 1657	2510 (2786) 1810	3.4  -14.0	9.2  9.2
Indian	3031 (3905) 2096	3014 (2817) 2365	4978 (7042) 3453	4218 (3962) 3311	-0.6  12.8	-15.3  -4.1
White	4245 (5214) 3453	4784 (4905) 3784	8519 (11495) 6791	7823 (7416) 5676	12.7  9.6	-8.2  -16.4

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Standard deviations of mean earnings in parentheses. The differences between male and female mean earnings are significant at the 1 percent level for all races and in both years.

Analysing the changes between 1995 and 2001 for *all* the employed, however, masks some important differences between the race groups. In nominal terms, where mean and median earnings for the employed as a whole rose, this was driven predominantly by the increase in earnings among the coloured, Indian and white race groups, while

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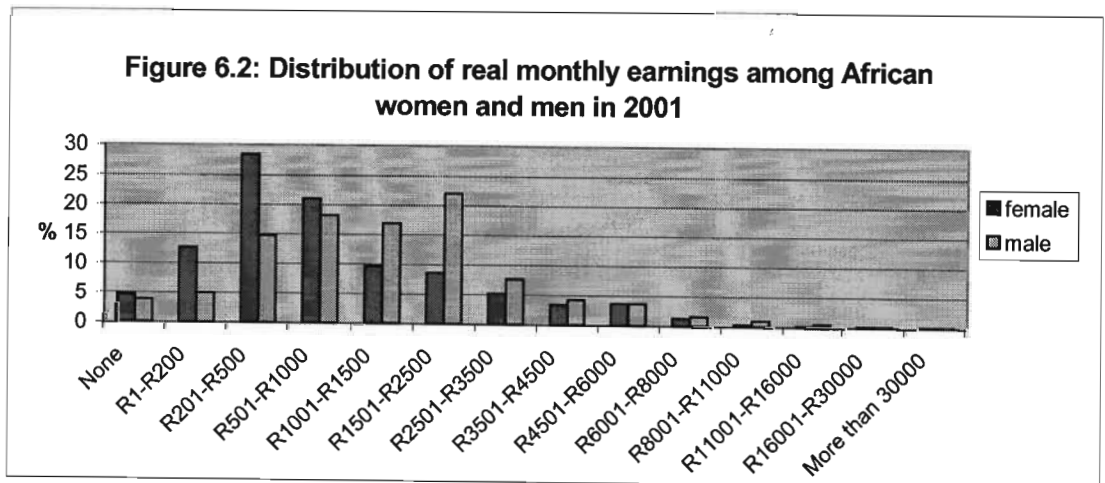
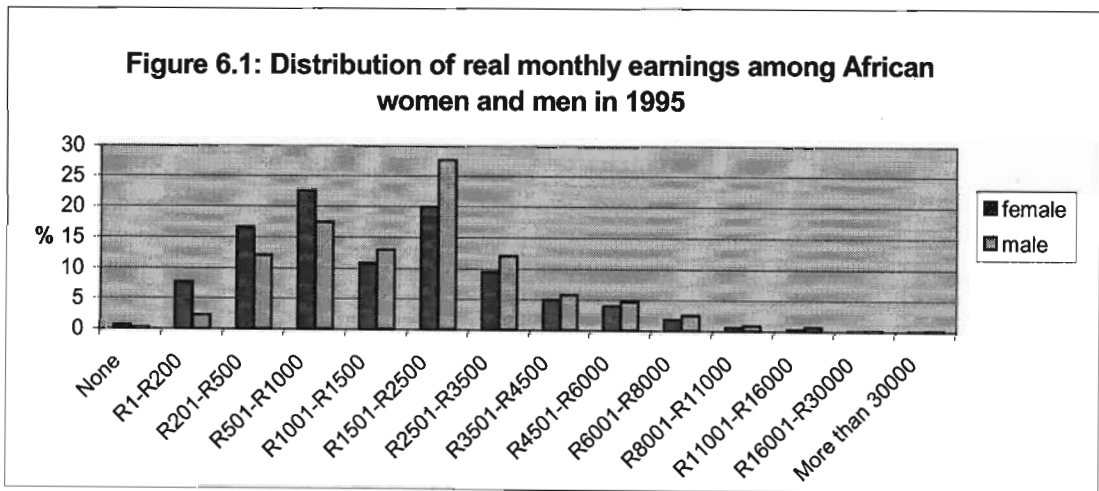
(as an employee or through self-employment). It must also be noted that the statistics presented in this chapter reflect income from formal work as well as from informal work (which would be expected to pull down average earnings), while income measures in the national accounts do not include income from informal sector work.

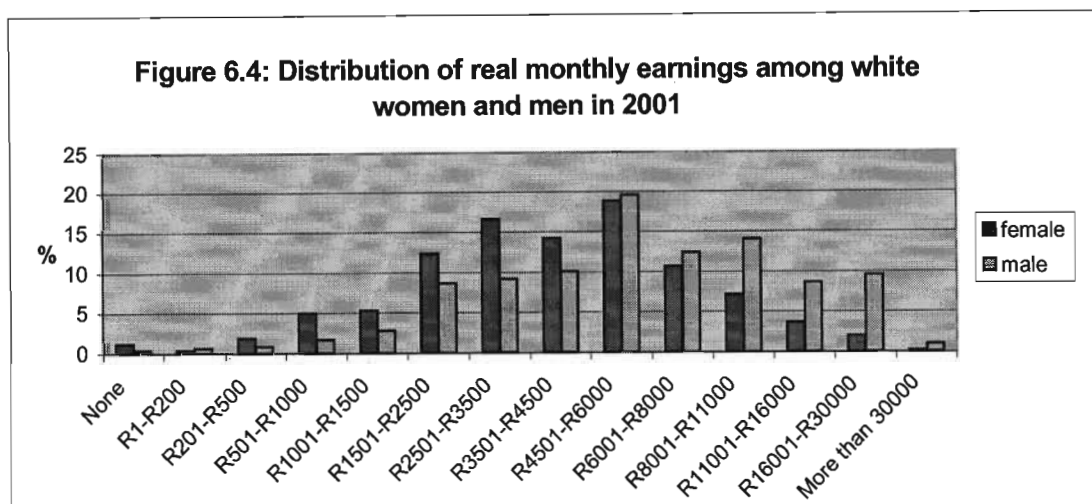
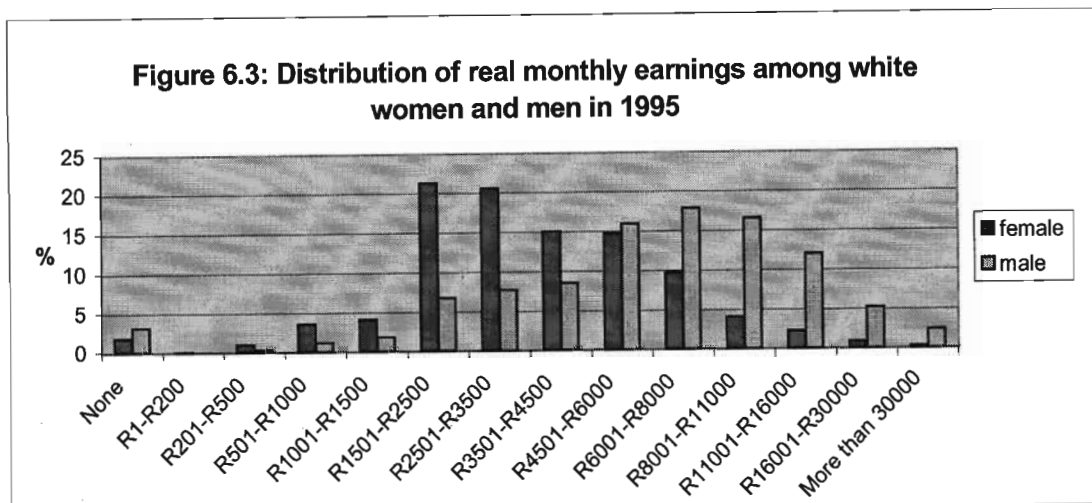
the fall in median earnings for employed women overall was driven by the fall in median earnings for African women specifically.

Once changes in purchasing power are taken into account though, the data indicate that very few groups experienced an increase in standard of living between 1995 and 2001. Coloured women experienced a very small increase in real average earnings of 3.4 percent over the six years, while the median real earnings of Indian women increased by approximately 12.8 percent. Among white women both average and median real earnings increased by around 12.7 and 9.6 percent respectively. These figures are in sharp contrast to the dramatic decline in real earnings experienced by African women; mean real earnings fell by 27.4 percent from R1711 in 1995 to R1242 in 2001, while median real earnings fell by 48.6 percent from R1105 in 1995 to R568 in 2001. Among men, only the coloured race group experienced an increase in real earnings (of 9.2 percent for both the average and median measures). The other race groups experienced declines, with the largest drop in male real earnings experienced by African men in particular.

From the above table, it is clear that women were still earning substantially less than men on average in 2001 as in 1995, regardless of race group. In 1995, for the employed as a whole, the ratio of female to male average earnings was 0.654, and by 2001 it had hardly changed at 0.656. However, comparing the percentage changes in real earnings between 1995 and 2001 for men and women *within* their race groups, it is also evident from the figures presented that African and coloured women's positions 'deteriorated' relative to those of African and coloured men (in that the percentage decrease was larger or percentage increase was smaller), while Indian and white women's positions 'improved' relative to those of Indian and white men (in that the percentage decrease was smaller or percentage increase larger). To take the two extremes of the earnings scales, for Africans there was a substantial decline in the ratio of female to male earnings from 0.792 in 1995 to 0.718 in 2001, highlighting that on average African women's position relative to African men's deteriorated. For whites there was a considerable increase in this ratio, from 0.498 to 0.612, as on average white women's relative position improved.

These changes in relative earnings positions are clearly visible when comparing the income distributions of African women and men and white women and men in the two years. The percentage distributions of employed individuals across the various income categories are shown in Figures 6.1 to 6.4 below. Examining the first two figures for Africans, it is evident that a greater proportion of both employed women and men were concentrated in the lower income categories in 2001 compared to 1995, but that the crowding was relatively larger for women. In contrast, the next two figures show that by 2001 the distribution of employed white females had moved towards the higher income categories, so that although inequality still existed between the earnings distributions of white women and men in 2001, this inequality had fallen over the six-year period.





Based on the earnings information from the household survey data, the evidence therefore suggests that not only do women continue to earn on average less than men, but that for the majority of the population this disadvantaged position worsened over the period 1995 to 2001. The remainder of this section explores descriptively some of the possible reasons for this earnings disparity, and for the changes in the relative earnings position of women over the period. More specifically, the distribution of the employed across different education levels, types of employment, and occupations, and the average earnings within these groups, will be analysed for 1995 and 2001. While again the focus will be on comparing African women to African men, data on white women and men will also be provided. This comparison will not only highlight continued inequality between the two race groups, but will also provide an example of where women's position relative to men's in terms of average earnings actually improved over the period.



## C.2 *Earnings by Education Level*

The human capital literature emphasises the strong positive effect of educational attainment on the earnings of the employed (Mincer, 1958; Schultz, 1960; 1961; Becker, 1962; 1964; Mincer and Polachek, 1974). In South Africa, the empirical literature on the determinants of earnings for men and women and for the different race groups has confirmed that education is indeed an important factor in explaining earnings (see, among others, Mwabu and Schultz, 1996; 2000; Bhorat and Leibbrandt, 2001; Rospabé, 2001a; 2001b; Chamberlain and van der Berg, 2002; Hofmeyr, 2002).<sup>10</sup> One might expect then that the large racial and gender earnings differentials that were evident from the data presented above, would be partly the result of considerable differences in educational attainment.

However, while the disparity in educational attainment *across* the race groups is large (accounting no doubt for part of the racial inequality in earnings), there is not a very substantial difference in the educational attainment between men and women *within* race groups. Table 6.2 below shows the absolute numbers of the employed in each education category, as well as the distribution of the employed across the various education levels for 1995 and 2001 (first four columns). Looking at the distributions, it is clear that much greater proportions of white men and women have reached higher levels of education than African men and women respectively (there are hardly any whites in the three lowest education categories). However, comparing men and women within race groups, the figures show that the distributions of the employed across educational levels are not that much different in either of the two years to justify why women's earnings on average are significantly lower than men's.<sup>11</sup> From this simple descriptive analysis therefore, differences in educational attainment do not

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<sup>10</sup> Of course education is an important determinant of employment as well. However, as already mentioned, what determines which of the women who want work actually get work is a question that will not be examined here. Rather, the focus in this chapter is, for those women who did have employment in the years under review, what did this employment buy them in terms of access to earnings.

<sup>11</sup> In fact, among Africans, the proportion of employed women with a degree or a diploma was even larger than the proportion of employed men with these levels of education in both 1995 and 2001.

appear to be the only determinant of the substantial earnings disparity that exists on average between women and men.

Table 6.2: The distribution of the employed across education levels, 1995-2001

	Female		Male		Female	Male
	1995	2001	1995	2001		
	Absolute (1000s)		Absolute (1000s)		% change: 1995-2001	
	% of total		% of total			
<b>African</b>						
No schooling	262 11.3	302 9.9	435 11.7	325 8.7	15.3	-25.3
Incomplete primary	463 19.9	613 20.2	831 22.3	855 22.9	32.5	2.9
Primary	194 8.3	277 9.1	310 8.3	360 9.7	43.1	16.1
Incomplete secondary	737 31.6	964 31.7	1245 33.4	1203 32.2	30.9	-3.4
Matric	344 14.8	485 16.0	569 15.3	678 18.2	40.8	19.1
Diploma	267 11.5	274 9.0	258 6.9	205 5.5	2.6	-20.5
Degree	61 2.6	122 4.0	82 2.2	105 2.8	100.0	29.3
<i>Total</i> <sup>a</sup>	2328 100	3039 100	3731 100	3733 100	30.5	0.05
<b>White</b>						
No schooling	0 0.0	1 0.1	0.6 0.1	0 0.0	- <sup>b</sup>	-
Incomplete primary	3 0.4	1 0.1	2 0.2	2 0.2	-	-
Primary	0.1 0.0	3 0.3	0.5 0.0	4 0.4	-	-
Incomplete secondary	139 18.3	122 14.8	231 21.1	200 18.1	-12.3	-13.5
Matric	369 48.7	378 45.9	491 44.9	482 43.7	2.4	-1.8
Diploma	161 21.2	168 20.3	202 18.5	193 17.5	4.2	-4.4
Degree	86 11.3	152 18.4	167 15.2	222 20.1	77.0	33.4
<i>Total</i> <sup>a</sup>	758 100	824 100	1095 100	1104 100	8.7	0.8

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Total figures do not correspond exactly to those in Table 6.1 because of missing values for education. <sup>b</sup> Calculations involved less than 10 observations in empty cells.

The last two columns of Table 6.2 show the percentage changes between 1995 and 2001 in the absolute numbers of employed in each category of completed education. Particularly noteworthy are the changes at the upper end of the educational distribution. There were large percentage increases in the number of employed African men and women with a degree, but the percentage increase was substantially

greater for African women than men (100 percent compared to 29.3 percent). In addition, there was hardly any change in the number of employed African women with a diploma (an increase of 2.6 percent), while there was a rather large decrease (20.5 percent) in the number of employed African men with a diploma. By 2001 the absolute number of employed African women with a tertiary education was therefore considerably higher than the absolute number of employed African men with either a degree or a diploma (by almost 90 000 individuals). Among white men and women the most striking change is reflected in the rising proportion of the employed with a degree. In absolute terms and as a percentage change between 1995 and 2001, the increase in those employed with a degree was also more pronounced for white *women* than white men (77 percent as opposed to 33.4 percent).

Table 6.3 below presents average real earnings for women and men in each education category.<sup>12</sup> Looking at each column separately, the figures confirm that for both African and white women and men, average earnings increase with the level of education completed. However, analysing average earnings for each education level (i.e. looking across the rows) highlights that returns to education are not only lower for African women and men compared to white women and men, but that within each race group women receive significantly lower returns to their education than men at every level of education.

Looking at the percentage changes in the returns to each education level over the years (shown in the last two columns of Table 6.3) may help to explain in part why real earnings for African women decreased on average while for white women they increased on average. Large percentage decreases in average real earnings were experienced among employed African women in most categories of education, except for those with a degree. Note as well, that in each of the categories (except for degree) the decline in average real earnings between 1995 and 2001 was relatively smaller for employed African men than for African women. Only employed African women with degrees experienced an increase in real earnings on average over the period (although the increase in absolute terms of the number of these women was not large enough to make much of a positive difference to overall average earnings). This underscores the

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<sup>12</sup> From here on only *real* average monthly earnings will be presented and commented on.

importance of higher education in providing women with the opportunity to obtain better earnings.

Table 6.3: Mean monthly real earnings by education level, 1995-2001 (Rands)<sup>a</sup>

	Female		Male		% Change 1995-2001	
	1995	2001	1995	2001	Female	Male
<b>African</b>						
No schooling	716 (1209)	416 (419)	1263 (3372)	898 (890)	-41.9	-28.9
Incomplete primary	723 (934)	545 (861)	1265 (1525)	1103 (1843)	-24.5	-12.8
Primary	1099 (1928)	638 (695)	1505 (1314)	1214 (1070)	-42.0	-19.3
Incomplete secondary	1480 (2398)	835 (1183)	2120 (2687)	1502 (1466)	-43.6	-29.1
Matric	2274 (1478)	1603 (1793)	3042 (2528)	2308 (2509)	-29.5	-24.1
Diploma	3903 (3635)	3381 (2051)	4098 (3526)	3831 (2387)	-13.4	-6.5
Degree	5032 (2130)	5553 (4615)	6689 (4874)	6100 (4550)	10.4	-8.8
<b>White</b>						
No schooling	- <sup>b</sup>	-	-	-	-	-
Incomplete primary	-	-	-	-	-	-
Primary	-	-	-	-	-	-
Incomplete secondary	3592 (8029)	3155 (2569)	6313 (10319)	4916 (4670)	-12.2	-22.1
Matric	3858 (2908)	4113 (5017)	7721 (9286)	6508 (5522)	6.6	-15.7
Diploma	4570 (3657)	5270 (4494)	9360 (12801)	8417 (6084)	15.3	-10.1
Degree	6384 (8091)	7467 (5504)	13000 (13997)	13111 (10887)	17.0	0.9

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Standard deviations of mean earnings in parentheses. The differences between male and female mean earnings are significant at the 1 percent level for all education levels and in both years.

<sup>b</sup> Less than 10 observations in empty cells.

This point is reiterated when looking at the average real earnings changes among employed white women. Between 1995 and 2001, there was a rise of about 17 percent in the average real earnings of white women with a degree, the category of education that exhibited the largest absolute and percentage increase of employed white women over the period (while white men in this category experienced hardly any change in earnings on average). What is interesting though, is that unlike for African women, white women with a matric or a diploma also experienced an increase on average in real earnings over the period (while white men with the same education experienced a

considerable decrease in earnings on average). This indicates that although women in general earn less on average than men, among women, some are more disadvantaged than others. Not only do white women earn higher returns to their education than equally qualified African women, but the percentage increase in their earnings over the period was greater (or the percentage decrease smaller) than that of African women at all levels of education.<sup>13</sup>

It seems possible then that there may be wage discrimination at play here at both the gender and racial level, in that equally educated workers appear to be earning significantly different returns to their education as a result of their 'group affiliation' (Hofmeyr, 1994: 72).<sup>14</sup> Of course, there are a number of other factors that might account for earnings disparities in South Africa by race and gender (see Mwabu and Schultz, 1996; 2000; Borat and Leibbrandt, 2001; Rospabé, 2001a; 2001b; Chamberlain and van der Berg, 2002; Hofmeyr, 2002), one of which is that these groups of individuals are employed in different types of jobs and occupations. This might be because groups of individuals have different preferences for certain types of jobs or occupations. Or, it may be that as a result of their race or gender, they have differential access to certain types of jobs or occupations, referred to as occupational segregation or job discrimination. It has been documented in the international literature that women are generally crowded into occupations which involve low pay, little prospect of promotion or on-the-job training, and that tend to coincide with their gender roles in society (Dex, 1985; Goldin, 1990; Anker, 1997). There is some evidence of occupational segregation by gender in South Africa as well (Winter,

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<sup>13</sup> Measuring educational attainment by levels of completed education does not take into account differences in the *quality* of education in South Africa (Chamberlain and van der Berg, 2002). Differences in the quality of education are likely to be of greater concern, however, when comparing men and women across race groups (due to the racial inequality in the apartheid education system), than when comparing men and women within a race group. Information that could be used to proxy for the quality of education is not available in the surveys used here however.

<sup>14</sup> Only formal human capital is measured here by levels of educational attainment. On-the-job training and experience in the labour market, however, are also important human capital variables. It is generally the case that women on average acquire less human capital through experience and on-the-job training than men because of the interruptions of childbirth. This could be part of the reason for the disparity in earnings between the sexes. Unfortunately, there is no information in the surveys on these variables to test this possibility.

1999; Rospabé, 2001b). In addition, occupational segregation was institutionalised in South Africa along racial lines during the apartheid regime. Varying distributions across types of employment and occupational levels are therefore likely to help explain why these groups in South Africa receive significantly different earnings on average. These issues are explored in more detail in the following sections.<sup>15</sup>

### *C.3 Earnings by Employment Type*

In this section the categories of employment that were analysed in Chapter Three are re-examined here for African and white women and men. Employees (whether employed by registered or unregistered businesses), the self-employed in the informal sector (including subsistence farmers), the self-employed in the formal sector, domestic workers and those in unskilled agricultural work are placed in separate categories (see Appendix 2 for the details of how these were defined). Table 6.4 shows the absolute numbers of employed in each category as well as the distribution of the employed across categories.

Looking at the African race group initially, it is evident from the distributions across categories that men and women are not evenly spread across the various segments of the labour force. In 1995, the vast majority of employed African women were working either as employees (61.8 percent) or as domestic workers (25.7 percent), with a similar proportion of women working in informal self-employment and unskilled agriculture (around 6 percent each). A much larger proportion of African men were found working as employees (79.6 percent) or in unskilled agriculture (14.8 percent), with a smaller proportion (but still a considerable number) in informal self-employment (4.1 percent).

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<sup>15</sup> Labour market discrimination in the form of wage and job discrimination may of course underestimate the extent to which groups in society are discriminated against. Differences in productive attributes such as education, on-the-job training and experience may themselves reflect discrimination, if women, for example, have restricted access to these forms of human capital. In addition, women's lower earnings potential in the labour market (as a result of wage and job discrimination) may discourage women (and their families) from investing in their human capital. A more thorough treatment of these issues is beyond the scope of this analysis though (see, for example, Amsden, 1980; Dex, 1985; Goldin, 1990; Berndt, 1991; Anker, 1997).

Table 6.4: The distribution of the employed across employment type, 1995-2001

	Female		Male		Female	Male
	1995	2001	1995	2001		
	Absolute (1000s) % of total		Absolute (1000s) % of total		% change: 1995-2001	
<b>African</b>						
Employees	1459 61.8	1500 48.9	2997 79.6	2929 77.4	2.8	-2.3
Informal self-employed	142 6.0	632 20.6	155 4.1	516 13.6	346.2	232.0
Formal self-employed	11 0.5	43 1.4	36 1.0	71 1.9	281.3	97.1
Domestic workers	607 25.7	768 25.0	19 0.5	23 0.6	26.6	23.4
Unskilled agriculture	143 6.1	126 4.1	558 14.8	244 6.4	-11.8	-56.3
<i>Total</i> <sup>a</sup>	2362 100	3070 100	3764 100	3783 100	30.0	0.5
<b>White</b>						
Employees	685 89.8	718 86.8	907 82.3	839 75.5	4.9	-7.6
Informal self-employed	29 3.7	23 2.8	30 2.7	45 4.1	-18.5	48.5
Formal self-employed	48 6.2	81 9.8	162 14.7	223 20.1	69.8	37.4
Domestic workers	2 0.2	5 0.6	0 0.0	0 0.0	- <sup>b</sup>	-
Unskilled agriculture	0.1 0.0	0.5 0.1	2 0.2	4 0.4	-	-
<i>Total</i> <sup>a</sup>	763 100	828 100	1102 100	1110 100	8.5	0.8

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Total figures do not correspond exactly to those in Table 6.1 by race because of missing values for employment type. <sup>b</sup> Calculations involved less than 10 observations in empty cells.

By 2001, these distributions had changed quite substantially, and for African women in particular. Because of the large absolute and percentage increases (see the last two columns of Table 6.4) recorded in informal self-employment especially, a much larger proportion of employed women (20 percent), and employed men (13.6 percent) were found in this category by 2001. (There were also large percentage increases in formal self-employment for African men and women, but from a small base, and as such in terms of absolute numbers and proportions of the total employed, the figures remained very small in 2001.) While the proportion of women in domestic work stayed the same, it is also important to note that there were an additional 160 000 female domestic workers in 2001. For men, there was a significant fall in unskilled agricultural workers over the period.

Table 6.5 below shows average real earnings for women and men in these various categories. Not only do African women generally earn lower returns to these types of employment than African men, but a disproportionately larger number of women are found in the categories (informal self-employment and domestic work) in which the returns to employment are amongst the lowest. The only low-paying employment in which men are predominant is unskilled agriculture, a sector that is rapidly declining in size.

Table 6.5: Mean monthly real earnings by employment type, 1995-2001 (Rands)<sup>a</sup>

	Female		Male		% Change 1995-2001	
	1995	2001	1995	2001	Female	Male
<b>African</b>						
Employees	2243 (1685)	1995 (2176)	2332 (1954)	1929 (2085)	-11.1	-17.3
Informal self-employed	1868 (5442)	458 (574)	3687 (7167)	940 (1357)	-75.5	-74.5
Formal self-employed	8875 (17225)	3565 (7150)	8785 (15035)	4442 (6386)	-59.8	-49.4
Domestic workers	561 (724)	474 (357)	675 (546)	618 (334)	-15.5	-8.4
Unskilled agriculture	558 (1184)	357 (249)	538 (813)	386 (329)	-36.0	-28.3
<b>White</b>						
Employees	4114 (3595)	4756 (4794)	7698 (6819)	7578 (7128)	15.6	-1.6
Informal self-employed	3165 (4743)	2694 (3209)	6177 (7078)	4063 (4636)	-14.9	-34.2
Formal self-employed	7275 (15954)	6036 (6036)	14442 (25840)	9706 (8547)	-17.0	-32.8
Domestic workers	- <sup>b</sup>	-	-	-	-	-
Unskilled agriculture	-	-	-	-	-	-

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Standard deviations of mean earnings in parentheses. The differences between male and female mean earnings are significant at the 1 percent level for all categories of employment and in both years, except for formal self-employment among African men and women in 1995.

<sup>b</sup> Less than 10 observations in empty cells.

Looking at the change in earnings over time, it is striking that African women and men in *all* employment categories experienced a decline on average in real earnings between 1995 and 2001. The largest decline, however, was recorded in the fastest growing category of employment, informal self-employment. The larger increase in the number of women in this category over time, would also help to account for why overall African women experienced a decline in average earnings relative to African men between 1995 and 2001. Of course, one should be cautious when interpreting



these results. If the types of informal self-employment that were better captured by the 2001 survey were also those associated with lower earnings, average earnings in this sector would be biased downwards in 2001, and the decline over the years over-estimated. Nonetheless, the fall in informal self-employment earnings between 1995 and 2001 is unlikely to be the result of improved data collection alone, as more and more people crowding into already low income-generating informal activities would be expected to depress average earnings even further.

For white women and men the situation is very different, as is evident from the figures in Table 6.4. Hardly any whites, women or men, are found in domestic work and unskilled agricultural work, while a very small absolute number and proportion of the total employed are found in informal self-employment. White women and men both work predominantly as employees, with the remainder of the employed mostly involved in formal self-employment. A larger proportion of employed white women work as employees though, while a larger proportion of employed white men work in formal self-employment.

By 2001 there were an additional 33 000 white women in each of the two categories of employees and formal self-employment, although because the latter started from a much smaller base, the percentage increase was much larger between 1995 and 2001 (almost 70 percent compared to an increase of 4.9 percent in the employee category). For white men there was a decline in the number of employees between 1995 and 2001, although this was offset by the additional 60 000 men recorded in formal self-employment and 15 000 men in informal self-employment, such that there was hardly any change in the overall number of white males employed over the period.

Linking this to the earnings information in Table 6.5, it is evident that white women earn *substantially* lower returns to all types of employment than white men. In fact, the disparity in earnings between men and women is much greater (by employment type and by education level) within the white race group than within the African race group (a finding supported by Winter, 1999; Rospabé, 2001b; and Chamberlain and van der Berg, 2002). However, while the earnings gap is widening between African men and women, it is narrowing between white men and women. Contributing to this is the increase of nearly 16 percent over the period in the average real earnings

experienced by white women working as employees. In addition, the declines in average real earnings experienced between 1995 and 2001 among those in formal and informal self-employment were smaller for white women compared to white men.

A comparison of white and African women's earnings by employment type reiterates the point that not all women are equally disadvantaged in the labour market. Furthermore, the relative rise in the earnings of white women on average and the relative fall in the earnings of African women on average, has resulted in the earnings gap between African and white women broadening.

The categories of employment analysed here are still very broad though. Within the categories of employees, formal self-employment and informal self-employment, women and men are also likely to be unevenly distributed across occupations. Furthermore, while African women in informal self-employment and white women working as employees may have experienced on average a decrease and an increase respectively in real earnings between 1995 and 2001, within these broad categories certain occupations may offer higher or lower earnings. In the next section these possibilities are examined for *African and white* women and men in the category of employees, but for *African* women and men only in the category informal self-employment and for *white* women and men only in the category formal self-employment. (The figures for informal self-employment are very small for the white race group, while the figures for formal self-employment are very small for the African race group, resulting in most of the cells containing less than 10 observations when disaggregated further by occupation.)

## C.4 *Earnings by Occupation*

### C.4.1 *Employees*

Table 6.6 below provides absolute employment figures and percentage distributions across the various occupational categories for the group of employed hired as employees (in both the formal and informal sectors).<sup>16</sup> A more disaggregated analysis of those working for someone else is of interest here, not only because they comprise the single biggest category of employment for both African and white women and men, but also because it provides an example of where African women's real earnings fell on average over the period while white women's rose. Note that in the tables that follow in this section, unskilled agricultural workers and domestic workers remain excluded from the categories of employment type that are disaggregated here.

To begin with, it is clear from the distributions below that men and women are employed in different types of occupations. As mentioned above, this may be the result of job discrimination, i.e. only certain types of jobs are made available to women (generally those with 'feminine' characteristics), or because women choose to apply for particular kinds of jobs only, or perhaps because the field of education women specialise in makes them better suited to certain occupations. African women working for someone else, for example, are found predominantly in the following occupations in order of importance: elementary occupations (noting that if domestic workers were included, this category would triple in absolute numbers); technical and associate professionals (keeping in mind that this is dominated by teachers and nurses) (Winter, 1999); service, shop and sales workers; and clerks. African men are found working mainly as plant/machine operators and assemblers; in elementary occupations; as craft and related trade workers; and as service, shop and sales workers, in that order.

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<sup>16</sup> The occupational categories used here are based on the one-digit International Standard Classification of Occupations (ISCO 88). In both the OHSs and the LFSs individuals were asked to provide a brief description of their work. These responses were post-coded by Stats SA in accordance with the four-digit ISCO codes. From these the one-digit occupational classifications were derived.

Table 6.6: The distribution of employees across occupations, 1995-2001

	Female		Male			
	1995	2001	1995	2001	Female	Male
	Absolute (1000s)		Absolute (1000s)		% change: 1995-2001	
	% of total		% of total			
<b>African</b>						
Legislators, senior officials, managers	13 0.9	18 1.2	53 1.8	49 1.7	36.1	-8.3
Professionals	56 3.9	90 6.0	65 2.2	66 2.3	60.6	2.4
Technical and associate professionals	343 23.8	298 19.9	236 8.0	210 7.2	-13.1	-10.9
Clerks	243 16.9	241 16.1	256 8.7	175 6.0	-0.8	-31.8
Service, shop and market sales workers	268 18.6	301 20.1	420 14.3	424 14.5	12.3	1.0
Skilled agriculture and fishery workers	3 0.2	18 1.2	24 0.8	165 5.6	522.3	590.6
Craft and related trade workers	55 3.8	92 6.2	465 15.8	622 21.3	67.8	33.8
Plant and machine operators and assemblers	100 6.9	92 6.2	747 25.4	713 24.4	-7.8	-4.5
Elementary occupations	358 24.9	348 23.2	673 22.9	497 17.0	-2.8	-26.1
<i>Total</i> <sup>a</sup>	1439 100	1498 100	2938 100	2921 100	4.1	-0.6
<b>White</b>						
Legislators, senior officials, managers	27 4.0	54 7.5	141 15.8	165 19.7	101.7	16.7
Professionals	50 7.4	94 13.1	83 9.3	103 12.3	87.6	24.3
Technical and associate professionals	148 21.9	172 23.9	172 19.2	157 18.7	16.2	-8.9
Clerks	355 52.7	305 42.5	76 8.5	72 8.6	-14.1	-5.3
Service, shop and market sales workers	75 11.2	69 9.7	114 12.7	103 12.3	-7.9	-9.9
Skilled agriculture and fishery workers	0.4 0.1	1 0.1	15 1.7	1 0.2	- <sup>b</sup>	-
Craft and related trade workers	8 1.2	10 1.4	216 24.2	162 19.4	25.9	-25.1
Plant and machine operators and assemblers	5 0.8	3 0.5	64 7.1	50 6.0	-40.1	-21.3
Elementary occupations	5 0.8	9 1.3	14 1.5	25 3.0	77.9	82.0
<i>Total</i> <sup>a</sup>	674 100	717 100	895 100	837 100	6.5	-6.4

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Total figures do not correspond exactly to those in Table 6.4 because of missing values for occupation. <sup>b</sup> Calculations involved less than 10 observations in empty cells.

For African women there was not much change over the period in the distribution of employees across occupations. An examination of the absolute figures illustrates though that there was an increase of about 33 000 and 37 000 African women employed in service/sales occupations and craft/related trade occupations

respectively. Linking this to the earnings information provided in Table 6.7 below, it is evident that African women in *all* of the occupational categories in which they were dominant experienced a decline in real earnings on average, but that for these two occupations in which there were the largest absolute increases in employment, the declines in average earnings were also amongst the largest. In addition, it is interesting to note that there was quite a substantial fall in the number of women employed as technical and associate professionals (45 000 less women), an occupational category which offers African women on average the opportunity to earn relatively high wages. This decline could be the result of cutbacks in the public sector (Bhorat, 2001).

There was some *limited* opportunity for African women over this period to find employment in the highly skilled occupational categories. Between the top two categories of managers and professionals an additional 39 000 women were recorded in 2001 (mostly in the professional category). These were the only two occupational categories in which women experienced increases on average in real earnings. However, the increases in the absolute numbers of the employed and in earnings in these types of jobs were not large enough among African women to outweigh the decline in earnings in other areas.

Also interesting is that while there were increases in the average earnings in these types of highly skilled occupations among African men, there was hardly any change over the period in the number of African men employed in these categories. This suggests that perhaps affirmative action has served to benefit African *women* in particular at these levels. Among African men there was a large drop in the number of employees working as clerks and elementary workers, offset by the large increases in the numbers of men employed in craft/related trade and skilled agriculture/fishery occupations. These two latter occupational groups were also the two in which men experienced the largest decline in average earnings over the period, explaining to some degree why earnings among African male employees fell over the period on average. Despite these declines though, in all the occupational categories male employees still received significantly higher returns to their work than female employees in 2001 as in 1995.

Table 6.7: Mean monthly real earnings of employees by occupation, 1995-2001 (Rands) <sup>a</sup>

	Female		Male		% Change 1995-2001	
	1995	2001	1995	2001	Female	Male
<b>African</b>						
Legislators, senior officials, managers	4128 (3044)	5210 (2762)	5383 (5094)	6602 (4846)	26.2	22.6
Professionals	4771 (2058)	5541 (4181)	6066 (4036)	6091 (4042)	16.2	0.4
Technical and associate professionals	3653 (1567)	3405 (1855)	4041 (1966)	3554 (2103)	-6.8	-12.1
Clerks	2173 (1320)	2081 (1705)	2774 (1618)	2588 (1847)	-4.3	-6.7
Service, shop and market sales workers	1601 (1233)	1117 (1322)	2321 (1542)	1878 (2362)	-30.3	-19.1
Skilled agriculture and fishery workers	667 (485)	502 (537)	1179 (1043)	744 (769)	-24.7	-36.9
Craft and related trade workers	1479 (1261)	1109 (1755)	2153 (1608)	1557 (1174)	-25.1	-27.7
Plant and machine operators and assemblers	1725 (1059)	1184 (953)	2024 (1347)	1678 (1257)	-31.4	-17.1
Elementary occupations	1265 (870)	1007 (768)	1483 (1173)	1279 (1497)	-20.3	-13.7
<b>White</b>						
Legislators, senior officials, managers	5310 (3367)	7368 (4896)	11777 (10398)	11179 (8151)	38.8	-5.1
Professionals	7145 (9413)	7201 (4972)	11201 (6579)	12842 (11270)	0.8	14.7
Technical and associate professionals	5237 (3184)	4959 (3317)	8961 (8469)	7299 (5606)	-5.3	-18.6
Clerks	3538 (1830)	4116 (5444)	4952 (2691)	5012 (3969)	16.3	1.2
Service, shop and market sales workers	2545 (1563)	2465 (2514)	4939 (2958)	4670 (3995)	-3.1	-5.4
Skilled agriculture and fishery workers	- <sup>b</sup>	-	5317 (3558)	-	-	-
Craft and related trade workers	3186 (2221)	3746 (2360)	6355 (3079)	5448 (3706)	17.6	-14.3
Plant and machine operators and assemblers	2871 (2369)	2685 (1975)	5077 (3248)	4037 (2892)	-6.5	-20.5
Elementary occupations	1591 (792)	2375 (1217)	3515 (2199)	4683 (2425)	49.3	33.2

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Standard deviations of mean earnings in parentheses. The differences between male and female mean earnings are significant at the 1 percent level for all occupational categories and in both years.

<sup>b</sup> Less than 10 observations in empty cells.

Turning now to the white race group, there are, as would be expected in light of apartheid job reservation policies, some very clear racial differences in the types of jobs that have been made available to white men and women compared to African men and women. And, in all the occupational categories, white men and women earned significantly more than African men and women respectively.

White female employees are found working predominantly as clerks (around half of female employees in both years) and technical/associate professionals, with most of the other female employees working as professionals or service/sales workers. Note that there are hardly any white women working in the last four (lower-skill) occupational categories. White male employees are more evenly spread over the occupational categories than white female employees (with a larger proportion working in the high-skill managerial occupations especially), but again there are clear racial differences. A very small proportion of white men work in the lower-skill categories.

Of more interest here though are the changes that took place over the period which resulted in white female employees earning significantly higher wages on average in 2001 compared to 1995 (an increase of just under 16 percent, from Table 6.5), while white male wages declined (although by not very much; about 2 percent on average). Among white women there were significant increases in the number of employees in the managerial, professional and technical/associate professional categories, with the growth in these three top occupational categories amounting to about 100 000 additional women over the period. This suggests that, among women, affirmative action may have served to benefit *white* women in particular.

These are also the occupational categories in which white women earn the highest returns. In addition, there was a large increase in the average real earnings of white women in the managerial category in particular between 1995 and 2001 (of around 39 percent), while among professionals there was hardly any change and among technical/associate professionals there was only a very small decline. Women working as clerks, the single largest occupational category for white women, also experienced very large real earnings increases on average over the period (of 16.3 percent). White men in contrast experienced real average earnings decreases between 1995 and 2001 in almost all occupational groups.<sup>17</sup> While this would help to explain why white women's earnings position relative to white men's improved on average

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<sup>17</sup> There were very large mean earnings increases for both white men and women in elementary occupations, but the absolute numbers involved in this type of employment are too small to be of much interest here.

between 1995 and 2001, it is important to note that in all the occupational categories, white women's mean wages were still significantly lower than white men's in 2001.

#### *C.4.2 Informal Self-Employed*

The category of informal self-employment is disaggregated further by occupation for the African race group in particular, as this is the fastest growing type of employment for both African women and men between 1995 and 2001 (although more so for women), as well as the type of employment in which earnings declined the most for African women and men.

In self-employment in the informal sector most African men and women are found in the semi-skilled and unskilled occupational categories, working as service/sales workers; skilled agriculture/fishery workers (recall that this ISCO category contains subsistence farmers, see Appendix 2); craft/related trade workers and in elementary occupations.<sup>18</sup> In both 1995 and 2001 a greater proportion of African women compared to men were found working in service/sales occupations and in elementary occupations. In fact almost half of African women working in the informal sector were crowded into elementary occupations. African men on the other hand were more evenly spread across the four lower-skill categories mentioned.

There were also very large increases in the number of employed in these low-skill categories between 1995 and 2001 for African men and women. The percentage increases in the number of employed in the categories of service/sales and skilled agriculture/fishery in particular, suggest a phenomenal growth for both men and women in these occupations. For instance, there was an increase of nearly 1880 percent in the number of employed women in service/sales occupations (an additional 128 000 women), while for men the percentage increase was around 2097 percent (an additional 67 000 individuals). The figures for skilled agriculture and fishery are similarly large. But, as cautioned, it is likely that part of this growth is due to the more

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<sup>18</sup> It is not clear why so many men and women were classified as being in managerial occupations in 1995 but not in 2001. It is possible that individuals who were inclined to identify themselves in this position as they owned their own business, were coded differently in 2001 by interviewers (or the respondents themselves).



efficient collection of data on informal own-account work in the 2001 survey, and it would seem, given the dramatic percentage increases in these two occupational categories, that these were the types of employment most affected by the better data capture. In absolute terms, however, by far the largest recorded increase for women was in elementary occupations; an additional 234 000 women were found in this category by 2001. For men, the absolute increases over the period were quite similar for the four main categories mentioned above.

Table 6.8: The distribution of the self-employed in the informal sector across occupations, 1995-2001

	Female		Male		Female	Male
	1995	2001	1995	2001		
	Absolute (1000s) % of total		Absolute (1000s) % of total		% change: 1995-2001	
<b>African</b>						
Legislators, senior officials, managers	25 17.8	7 1.1	51 33.1	29 5.6	-72.3	-43.4
Professionals	0.4 0.3	0.3 0.0	0 0.0	0.6 0.1	-18.6	- <sup>b</sup>
Technical and associate professionals	10 7.2	18 2.9	8 5.0	22 4.3	81.6	188.1
Clerks	0.3 0.2	0.5 0.1	0 0.0	2 0.3	56.9	-
Service, shop and market sales workers	7 4.9	135 21.5	3 2.1	70 13.7	1879.7	2097.3
Skilled agriculture and fishery workers	5 3.9	77 12.3	3 2.1	95 18.5	1348.0	2810.9
Craft and related trade workers	29 20.7	88 14.0	58 38.1	159 31.0	206.6	173.1
Plant and machine operators and assemblers	0 0.0	5 0.8	0 0.0	11 2.1	-	-
Elementary occupations	62 45.0	296 47.2	30 19.5	126 24.5	374.5	321.3
<i>Total</i> <sup>a</sup>	139 100	627 100	153 100	514 100	352.3	235.9

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Total figures do not correspond exactly to those in Table 6.4 because of missing values for occupation. <sup>b</sup> Calculations involved less than 10 observations in empty cells.

Turning to the earnings information presented in Table 6.9 below, it is evident that in all the occupational categories for both self-employed African men and women in the informal sector, real average earnings declined between 1995 and 2001. While it is not possible to ascertain how much of this is driven by the more thorough capture of *low-paid* informal work, the decreases in average earnings were nonetheless extremely large for *all* four categories of self-employment into which men and women are crowded, and not just for those that exhibited phenomenal employment

increases. And, in three out of four of these categories female average earnings fell by more than male average earnings. This would help to account for why African women's average earnings position deteriorated by so much relative to men's over the period.

*Table 6.9: Mean monthly real earnings of the self-employed in the informal sector by occupation, 1995-2001 (Rands)<sup>a</sup>*

	Female		Male		% Change 1995-2001	
	1995	2001	1995	2001	Female	Male
<b>African</b>						
Legislators, senior officials, managers	4394 (11742)	1079 (1037)	6442 (10786)	2951 (2734)	-75.4	-54.2
Professionals	- <sup>b</sup>	-	-	-	-	-
Technical and associate professionals	1645 (1687)	670 (485)	4107 (5179)	994 (762)	-59.3	-75.8
Clerks	-	-	-	-	-	-
Service, shop and market sales workers	2138 (3164)	608 (719)	2667 (1864)	1150 (1493)	-71.5	-56.9
Skilled agriculture and fishery workers	691 (805)	54 (192)	627 (516)	142 (588)	-92.1	-77.3
Craft and related trade workers	1074 (1371)	523 (598)	2521 (4198)	1068 (1125)	-51.3	-57.6
Plant and machine operators and assemblers	-	747 (912)	-	1431 (1219)	-	-
Elementary occupations	1373 (2708)	446 (478)	1539 (2000)	724 (818)	-67.5	-52.9

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Standard deviations of mean earnings in parentheses. The differences between male and female mean earnings are significant at the 1 percent level for all occupational categories and in both years. <sup>b</sup> Less than 10 observations in empty cells.

A closer look at the actual levels of mean real earnings in some of the categories reveals some extremely low earnings figures. In the single largest category of self-employment for women, that is in elementary occupations, women earned on average R1373 a month in 1995; by 2001 this had fallen to only R446 a month (lower even than the average wage for domestic workers in 2001).<sup>19</sup> While there was some limited potential in the managerial and technical/associate professional categories to earn higher returns comparable to those received by employees in these occupations, this potential only benefited a small number of workers relative to the total, and by 2001

<sup>19</sup> The only other occupations in which women received lower wages were unskilled agriculture (refer back to Table 6.5) and skilled agriculture/fishery, but it is likely that the average wages are underestimated in these categories due to the exclusion of in-kind payments in the case of the former, and in the case of the latter, the lack of an imputed Rand value for subsistence production.

even the average returns for these groups had fallen quite dramatically. In addition, in almost all the occupational categories (barring women in skilled agriculture/fishery in 1995) women earned significantly lower returns to their self-employment than men.

#### *C.4.3 Formal Self-Employed*

In the tables below formal self-employment is disaggregated for the white race group only. After employees this is the largest category of employment for white men and women, and it is also the fastest growing category for the white race group as a whole over the period. From a comparison of Africans and whites in self-employment, it is striking that not only is most self-employment among Africans in the informal sector, while most self-employment among whites is in the formal sector, but within occupations in self-employment, African men and women are found predominantly in the lowest-skill categories in the informal sector, while white men and women are found mainly in the highest-skill categories in the formal sector.<sup>20</sup>

The single largest occupation in formal self-employment among both white men and women is that of legislator/senior official/manager. After that women are spread out relatively evenly among the higher/semi-skilled occupational groups. (Among white men though there is a higher concentration among skilled agriculture/fishery workers.) Looking at the changes between 1995 and 2001, it is evident that the largest absolute and percentage increases in the number of self-employed occurred in the top three higher skill occupations for both men and women.

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<sup>20</sup> Africans have faced, and still face, a number of barriers to entry into the higher-skilled (higher-paying) occupations even in self-employment: for example, lack of education or necessary skills, lack of access to capital or credit, and often access to only limited and low-income markets.

Table 6.10: The distribution of the self-employed in the formal sector across occupations, 1995-2001

	Female		Male		Female	Male
	1995	2001	1995	2001		
	Absolute (1000s) % of total		Absolute (1000s) % of total		% change: 1995-2001	
<b>White</b>						
Legislators, senior officials, managers	23 47.8	33 40.9	61 37.9	110 49.6	45.3	81.7
Professionals	3 6.0	10 12.2	16 9.7	25 11.2	246.0	59.8
Technical and associate professionals	4 9.0	11 13.9	11 6.6	19 8.4	163.6	77.7
Clerks	3 7.1	5 6.7	0 0.0	1 0.5	59.4	- <sup>b</sup>
Service, shop and market sales workers	5 9.5	8 9.7	3 1.6	6 2.8	73.6	-
Skilled agriculture and fishery workers	5 9.6	9 10.7	45 27.8	40 17.8	90.0	-11.0
Craft and related trade workers	4 9.0	0.9 1.2	24 15.0	19 8.4	-	-22.0
Plant and machine operators and assemblers	0 0.0	2 2.6	0 0.0	2 0.8	-	-
Elementary occupations	0.9 1.9	2 2.2	2 1.4	1 0.4	-	-
<i>Total</i> <sup>a</sup>	48 100	81 100	160 100	223 100	70.1	38.9

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Total figures do not correspond exactly to those in Table 6.4 because of missing values for occupation. <sup>b</sup> Calculations involved less than 10 observations in empty cells.

The earnings information presented in Table 6.11 below shows that these increases did not necessarily translate into higher earnings for all groups. In fact, among men in self-employment, average real earnings declined in all the occupational categories. Among women, increases in average earnings were experienced in the professional, technical/associate professional and service/sales worker categories. This would help to explain why white women's average earnings in formal self-employment as a whole did not decrease by as much as men's between 1995 and 2001 (a decline of 17 percent as opposed to 33 percent, refer to Table 6.5). However, even in self-employment in the formal sector among these higher skill occupations, women earn considerably lower returns to their employment than men in the same occupations.

Table 6.11: Mean monthly real earnings of the self-employed in the formal sector by occupation, 1995-2001 (Rands)<sup>a</sup>

	Female		Male		% Change 1995-2001	
	1995	2001	1995	2001	Female	Male
<b>White</b>						
Legislators, senior officials, managers	9953 (21865)	5912 (4605)	14374 (27287)	9662 (7335)	-40.6	-32.8
Professionals	6128 (7876)	6397 (3433)	20178 (21399)	15179 (12426)	4.4	-24.8
Technical and associate professionals	3871 (4644)	6238 (4776)	20345 (37174)	9843 (7414)	61.1	-51.6
Clerks	3920 (1986)	3808 (2077)	- <sup>b</sup>	-	-2.9	-
Service, shop and market sales workers	6648 (11092)	10855 (13490)	-	-	63.3	-
Skilled agriculture and fishery workers	5011 (5435)	4548 (5070)	14513 (24124)	9610 (10571)	-9.3	-33.8
Craft and related trade workers	2564 (1692)	-	10307 (23286)	6488 (5351)	-	-37.0
Plant and machine operators and assemblers	-	-	-	-	-	-
Elementary occupations	-	-	-	-	-	-

Source: Own calculations using OHS 1995 and LFS 2001:2

Notes: <sup>a</sup> Standard deviations of mean earnings in parentheses. The differences between male and female mean earnings are significant at the 1 percent level for all occupational categories and in both years.

<sup>b</sup> Less than 10 observations in empty cells.

#### D. Concluding Remarks

The evidence presented in this chapter has shown that, according to the national household survey data, women were on average earning significantly less than men in both 1995 and 2001 regardless of their race group. From a more detailed analysis of Africans and whites by gender, it seems unlikely that differing levels of education would be the only or even the main reason for this gender earnings disparity. Rather, women seem to have access to different types of employment and occupations from men, and are generally found in those jobs that require low skills and offer low returns. For instance, African women working for someone else are found to be mainly crowded into elementary occupations (particularly domestic work) and service/sales occupations. For the large number working for themselves, this employment is predominantly informal and again in elementary and service/sales occupations. White women are also crowded into certain types of jobs, working in particular as clerks or technical and associate professionals (dominated by teaching and nursing, see Winter, 1999).

Over and above the fact that women are found in certain (generally lower-paying) types of employment and occupations, women also earn significantly lower returns to their employment than men in the same categories of employment and occupation. Of course, outside of a multivariate analysis and without more extensive data, it is not possible to say how much of the earnings disparity between men and women is due to differences in educational attainment, experience or on-the-job training, for example, within these particular occupational categories (or even different types of jobs within the broad occupational categories analysed here) and how much is due to job or wage discrimination.

Nonetheless, what is of interest in this chapter is that a substantial earnings differential does exist, and that between 1995 and 2001 this differential does not seem to have narrowed. Not all groups of women are equally disadvantaged though. White women earn more than African women in all the categories analysed here, and their earnings position relative to white men seems to have improved. Where there has been some opportunity for advancement at the upper end of the occupational ladder, white women appear to have been the main beneficiaries. While there has been some limited expansion over the six-year period in employment and earnings for African women in the highly skilled occupations (as has been mainly the case for white women), most of the growth in employment among African women has been in unskilled informal self-employment and domestic work that offer extremely low (and falling) returns and little security. For the majority of women in South Africa, the feminisation of the labour force therefore has been associated with their disadvantaged position in the labour market relative to men being reinforced on average.

While the two data sets chosen for this analysis were the most comparable of those used in this study as far as earnings information is concerned, there were still problems. In particular, changes in the way informal activities were captured in the surveys over time continued to plague the interpretation of the results. It is not possible to establish how much of the fall in informal self-employment earnings between 1995 and 2001 is due to the more efficient capture of such low-paid activities, and how much reflects a real change as more people crowd into low-income

occupations pushing returns down even further. However, even if some of the rise in employment and the fall in average earnings over the period was due to the improved collection of data on low-paid informal self-employment, what is nonetheless clear is that, having pulled a larger number of the working poor into the employment statistics, African women's relative position in the labour market in 2001 was worse than if these workers had continued to be overlooked.

The fact that women consistently earn lower returns to their employment than men, and that for the majority of women this position has not improved on average over the period, has implications not only for women themselves, but also for the welfare of their households. This is of additional concern as traditional nuclear families fragment and households become more reliant on female earnings. In South Africa, the percentage of households reliant on women's earnings, in that there was at least one employed woman and no employed men in the household, increased from 14.8 percent in 1995 (1.3 million out of 8.8 million households) to 21 percent in 2001 (2.1 million out of 10 million households).<sup>21</sup> While it is beyond the scope of this study to explore the issue of women's contribution towards their households' welfare and how this is changing over time, it is an important area of future research that requires additional attention.

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<sup>21</sup> Not only are more households becoming reliant on female earnings, but evidence from many countries has suggested that increasing poor women's access to income through increased job opportunities reduces child mortality rates, and improves child health and nutrition. Studies have shown that women are more likely than men to use their own incomes on the health, nutrition and education of household members and particularly children (World Bank, 1994; Winter, 1999).

## CONCLUSIONS

The evidence presented in this thesis has shown that South Africa, in line with global trends, has been experiencing a continued feminisation of its labour force in recent years. Labour force participation rates for women have been rising at a faster rate than those for men, such that between 1995 and 2001, the period for which suitable data are available, an increasing share of the labour force was made up of women. By 2001, women comprised *half* of the labour force according to the broad rate of economic activity. In absolute terms, the growth in the broad female labour force between 1995 and 2001 amounted to an additional 3.2 million women working or at least wanting to work in South Africa.

This dramatic rise over a six-year period might lead one to question the credibility of the labour force estimates derived from the national household survey data that were used in this study. Part of the increase in the female labour force over this period, just over 500 000 jobs, was due to the rising number of women in informal self-employment (including subsistence farming), a type of employment that is particularly susceptible to reporting errors and invisibility. Because Stats SA has placed increasing emphasis on the capture of this type of employment over the years, there is concern that some of this increase could simply be the result of better data collection. However, it is also likely that some portion of the increase in informal self-employment is real, in light of the inability of the formal sector to create sufficient jobs over this period to absorb the large rise in labour supply.

Even if most of the increase in informal sector employment is due to an overestimation of its growth, what is clear from the data is that a substantial feminisation of the labour force would nonetheless have occurred. Most of the increase in female labour force participation, just over 2.2 million women, is due to the rise in *unemployment* among women. Despite the greater emphasis on collecting information on all types of employment, the number of unemployed captured by the surveys has continued to increase over the years. This increase is unlikely to be due to reporting errors as Stats SA's questioning of unemployment in the national household surveys has been largely consistent over the period under review here.



This phenomenon of high and rising unemployment sets South Africa apart from most other countries experiencing a feminisation of the labour force. It was shown in the review of the international literature that for most of the countries for which data existed, the rise in female labour force participation was driven by a rise in female employment. In particular, it has been argued in this literature that in recent decades the changing global economic environment has led to an increasing number of women being pulled into the work force as cheap, casual labour, by firms attempting to cut costs and maintain flexibility in the face of rising foreign competition and variable markets. Even if the jobs that are being made available to women are generally low-paid and insecure, female unemployment relative to male unemployment still declined in most of the countries reviewed in the international literature.

To a large extent, the international literature on the feminisation of labour markets has thus treated rising female labour force participation as being synonymous with rising female employment. As was pointed out in the review of the South Africa literature on the determinants of labour force participation, there has also been a tendency to equate participation with employment in South Africa. This is not to say that the problem of unemployment has been overlooked in the South African literature. In fact, much of the research that has made use of the new household survey data of the 1990s focused on issues around unemployment, particularly its measurement, incidence, and links to poverty (for example Wittenberg, 1999; Kingdon and Knight, 2000a; 2000b, Klasen and Woolard, 1998; 1999; 2000; Natrass, 2000a; and Dinkelman and Pirouz, 2002). Rather, the rise in female unemployment has not been explicitly linked to the rise in female labour force participation (a rise which can be translated into increases in employment and/or unemployment).

In South Africa, it appears that rising unemployment is not just the result of previously employed individuals losing their jobs, but rather that a large number of *additional* participants are reporting that they want work but have not found work, or that they are instead 'creating' work for themselves in informal, survivalist activities. Rather than being driven by demand-side factors as in many of the countries reviewed in the international literature, it was therefore argued in this study that the

feminisation of the labour force in South Africa is likely to have been driven largely by supply-side factors in recent years.

Although it is not possible to identify which are the new entrants into the labour market using cross-sectional data in an analysis over time, it was shown that a large proportion of the unemployed report never having worked before, and not just among those within the school-leaving age cohorts, but also among the unemployed within the older age cohorts. The rise over time in the proportion of older unemployed women who report never having worked before suggests that there are many women (probably housewives) entering the labour force later on in life for the first time. This finding is consistent with the evidence provided in the descriptive analysis of the changing characteristics of female labour market participants between 1995 and 2001. Women of all ages and at all levels of education joined the labour market over the period, suggesting that the rise in the female labour force cannot simply be attributed to the rise in the number of school-leavers entering the labour market in recent years.

It was argued in this study that while increasing education among the younger age cohorts has no doubt influenced the growth in female labour force participation, it is not the only important factor driving this phenomenon, in light of the changing age-education profile of female labour market participants and the generally dismal job opportunities facing women on average over the period. In particular, it was proposed that there are other supply-side factors 'pushing' women into the labour market. In the descriptive analysis it was shown that women's traditional access to income support in the household fell between 1995 and 2001. A declining proportion of women were living with employed men in their households over the period, not only because male unemployment was increasing, but also because a declining proportion of women were living with men in general. Marital rates have been decreasing and there has been a corresponding rise in the proportion of households headed by women. As a result of these compositional changes within households and falling mean earnings over the period, on average women's access to income from the employment of other household members declined substantially between 1995 and 2001. These trends were found to be more pronounced among African women specifically, pointing to the deterioration of an already vulnerable economic position in South African society.

The multivariate regression analysis conducted for African women specifically confirmed that in addition to education, a number of household composition variables were important in determining female labour force participation. Married women were significantly less likely to be participating in the labour force than unmarried women, as were women who had access to other household income from employment. It was found that, in general, the number of children, the number of working-age men and women, and the number of male and female pensioners, living in women's households, also had negative effects on the probability of working-age women participating in the labour force. There were some differences between the strict and broad participation regressions though: women living with young children (six years and younger) and women living with female pensioners were more likely to be 'discouraged' or non-searching participants even though they were still reporting wanting to work.

It is not surprising then that in the decomposition analysis of the growth in female labour force participation between 1995 and 2001, the rise in education among the female working-age population, the fall in the proportion of married women, the decline in the number of working-age men living with women, and the drop in access to other household income from employment, all contributed positively to this growth in the female labour force. This might lead one to question whether a rise in male employment or real earnings in South Africa would result in the reverse effect, that is, a withdrawal of women from the labour market. While it is not possible to say with any certainty how women in South Africa would respond to such changes in the economy, historically women's entry into the labour market around the world, even though at times precipitated by economic need, has generally not been of a temporary nature and as such the rise in labour force participation rates among women (even married women) has been sustained (as described in Chapter Two).

The decomposition analysis also revealed however, that the change in female labour force participation over this period was not only due to the changing characteristics of the female working-age population, but that there were in addition large structural changes in the functional relationship determining female labour force participation. In other words, women with the same characteristics in 2001 as in 1995 were considerably more likely to participate in the labour market. It was shown that women

of the same age and education in particular were more likely to participate in 2001, echoing the results of the descriptive analysis. Women living with working-age men (and to a lesser extent with other working-age women) were also found to be more likely to participate in the labour market in 2001. The negative effects of these latter variables weakened over time probably because fewer of these household members were employed. Not only would this serve to push additional women into the labour market to try and support their households, but it is possible that women face less resistance from male household members who are no longer working and whose bargaining power within the household may therefore have been reduced.

Part of the large structural effect in the decomposition analysis is also likely to be capturing the influence of factors affecting women's decisions to participate in the labour market that were not quantifiable or could not be included as variables in the regression analysis. For instance, it is probable that the post-apartheid government's policies of employment equity, designed to benefit Africans and females, would have raised the expectations of women (and especially those with higher levels of education) regarding their employment and earnings opportunities in the labour market over this period. This might help to explain the large effect of the education and age coefficients in the decomposition analysis. Furthermore, the general effect of rising unemployment and the associated increase in job and income insecurity would no doubt have played an important role in changing women's (and men's) attitudes towards women entering the labour market to support their families. Changing attitudes in society regarding women's role in market work as opposed to household work might in addition be affected by rising education levels.

Locational effects were also found to be important in this study. Women living in urban areas had a higher probability of participating in the labour force, and an increasing proportion of women were living in urban areas over the period. Furthermore, women living in urban areas in 2001 were more likely to participate than women living in urban areas in 1995. This is consistent with the finding that female migration from rural areas in search for work has been rising over the same period (Posel and Casale, 2003). These effects as well as those resulting from movements between and within provinces require more attention though, which will only be possible when the Census 2001 data become available.

This highlights another important point; the investigation into rising female labour force participation is still constrained by the data available, even though these data improved over the 1990s. As more of the Labour Force Surveys (post-September 2001) become available, there will be some opportunity for panel data analysis, which would be particularly useful in corroborating the results found here, as it would then be possible to track individual women's movements into (or out of) the labour market. Furthermore, as problems around the data capture of all types of employment are resolved, it will be possible to analyse changes in informal sector employment with less uncertainty. An analysis of the Labour Force Surveys over a longer period may help to provide a clearer indication of how much of the recorded rise in informal work is real and how much is simply an artefact of better data collection.

The last part of this thesis began to explore the changing employment and earnings opportunities among women who did have employment over the period. It was found that on average African women's earnings declined substantially, and more so than African men's between 1995 and 2001. Evidence from the household survey data suggests that the entry of many African women into already crowded informal self-employment (in the low-skilled occupations especially) and domestic work, has resulted in a worsening of their disadvantaged position in the labour market in terms of mean earnings and access to secure work. Even if some of the fall in average earnings over the period is due to the improved collection of data on low-paid informal self-employment, the analysis at the least indicates that, having information which more accurately reflects the current employment situation in South Africa, African women's relative position in the labour market is worse than if many of the working poor had continued to be overlooked.

Interestingly though, there was some limited opportunity for earnings and employment advancement among women with higher levels of education (especially tertiary education) and in the high-skilled occupations. A comparison of African and white women's employment and earnings over the period showed that white women benefited more from these opportunities than African women however. Even though white women's mean earnings were still below white men's at the same levels of

education and in the same occupations, the earnings inequality between white women and men declined substantially over the period.

For the majority of women in South Africa, however, the rise in female labour force participation has not 'bought' them very much. The findings in this study suggest that most additional female labour market participants are entering *unemployment*, and even though more women do have employment, they are entering largely into jobs and occupations that offer very low returns. For African women especially this has resulted on average in their disadvantaged position in the economy being reinforced. While it has been shown in this thesis that over the period since the mid-1990s many women are likely to have been driven by supply-side factors pushing them into the labour market in order to support their families, the opportunities available for them to do so have been limited. The welfare of these women's households is therefore likely to suffer, especially in the increasing proportion of households that are solely dependent on women's earnings. Echoing the words of Standing (1999: 600) in his review of the global feminisation of labour markets, the rising trend of women's involvement in the labour force should be celebrated, but perhaps one of the 'most important labour market and social policy challenges' for South Africa is reversing the increased insecurity and inequality associated with this trend.

## APPENDIX 1: DEFINITIONS OF EMPLOYMENT AND UNEMPLOYMENT

Employment and unemployment status is derived in the national household surveys from a logical series of steps involving typically seven questions asked of all those aged 15 years and older. Statistics South Africa (Stats SA) has not always used a consistent or clear methodology when defining employment and unemployment from these questions though. The way in which some of the questions have been asked and the order in which they have been asked have also changed in some cases. I have therefore redefined these variables for 1995, 1997, 1999 and 2001 to create, as far as possible, comparability between these years for the discussion of labour force participation over the period.

- **Employment**

The employed are defined as those individuals between the ages of 15 and 65 years<sup>1</sup> who claimed that they had a full-time, part-time, or casual/seasonal job in the past seven days. Those who did not work in the past seven days due to the following reasons: illness, strike, bad weather, problems with transport, vacation, study/training leave, maternity/paternity leave, unrest and other; but who did have a full-time, part-time or casual/seasonal job to return to, were also classified as employed.

Those who had not worked in the past week due to off-season activity or a temporary reduction in economic activity were classified as unemployed even if they had a job to return to, as this constitutes frictional/seasonal unemployment.<sup>2</sup> This differs slightly

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<sup>1</sup> Some studies define the working age as 16 to 64 years (Klasen and Woolard, 1999; 2000). It was decided to use 15 to 65 years here as this is the official working age range used by Stats SA, although this addition of two years makes very little difference to labour market measures.

<sup>2</sup> Because of the sequence of the OHS questionnaires, there is no further unemployment information on these frictionally/seasonally unemployed and so we do not know whether or not they were *actively* searching for other work. Following Klasen and Woolard (2000), these individuals are classified as strictly unemployed. In the LFS, there was a similar problem with the frictionally unemployed who

from Stats SA's definition of employment, as they also include as unemployed rather than employed, those individuals who had not worked in the past week due to problems with transport, unrest and 'other'. It is not clear why this was done and in fact could have been a coding error that was repeated in each year.

The differences between how overall employment was defined by Stats SA and how it is defined in this study are fairly minimal though, because there is a limit to what one can do with the questions asked on employment (as shown below, this is not the case when defining unemployment). However, as explained in Chapter Three, the questions that are asked to capture work activities in the previous seven days have become more explicit, and so it is important to view the employment data with some caution.

In the 1995 OHS all individuals were simply asked about their activities of the previous seven days (in Q3.1) and those who responded that they had been 1) Working full-time or 2) Working part-time, were asked to continue answering the other questions on their employment.

In the 1997 and 1999 OHSs, the questionnaire was more explicit. Individuals were asked (in Q3.1):

**During the past seven days, did ..... do work for pay, profit, or family gain, for example**

- formal work for a salary, wage or profit
- informal work, such as making things for sale, selling things or providing a service
- work on a farm or land, whether for a wage or as part of the household's farming activities
- casual/seasonal work
  - 1 = YES, FULL TIME
  - 2 = YES, PART TIME
  - 3 = YES, CASUAL/SEASONAL
  - 4 = No

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said they had a job to return to. However, the LFS questionnaire specifies that for agricultural activities, the off-season is not a temporary absence and individuals are sent straight to the questions on unemployment. In any case there would be only a handful of these individuals. For example, in 1999, there were only 40 observations (unweighted) recorded where the individual had not worked in the past seven days because of the off-season/a reduction in economic activity but had a job to return to.



The LFS 2001:2 was the most explicit of the surveys. Individuals are asked the following (in Q2.1):<sup>3</sup>

**In the last seven days, did ..... do any of the following activities, even for only one hour? Show prompt card 2.**

**a) Run or do any kind of business, big or small, for himself/herself or with one or more partners?**

*Examples: Selling things, making things for sale, repairing things, guarding cars, brewing beer, hairdressing, crèche businesses, taxi or other transport business, having a legal or medical practice, etc.*

**b) Do any work for a wage, salary, commission or any payment in kind (excl. domestic work)?**

*Examples: a regular job, contract, casual or piece work for pay, work in exchange for food or housing.*

**c) Do any work as a domestic worker for a wage, salary, or any payment in kind?**

**d) Help unpaid in a household business of any kind?**

*Examples: Help to sell things, make things for sale or exchange, doing the accounts, cleaning up for the business, etc. Don't count normal housework.*

**e) Do any work on his/her own or the household's plot, farm, food garden, cattle post or kraal, or help in growing farm produce or in looking after animals for the household?**

*Examples: ploughing, harvesting, looking after livestock.*

**f) Do any construction or major repair work on his/her own home, plot, cattle post or business or those of the household?**

**g) Catch any fish, prawns, shells, wild animals or other food for sale or household food?**

**h) Beg for money or food in public?**

While it is likely that more informal employment was captured over the years because of the more detailed explanations that were provided, it is interesting to note that Stats SA did make some attempt to catch these individuals later on in the questionnaire for all four of the years under review. The last question asked of all those who said they had not worked in the previous seven days, i.e. the inactive and the unemployed, is: 'How does ... support him-/herself?' If anyone chose the option 'Did odd jobs during the past week', they were sent back to the beginning of the module on employment. Unfortunately, there is no explanation of what counts as an 'odd job'.

Stats SA only provides information on how many people were redirected to the employment questions in this way in the 1995 and 2001 data sets. Nonetheless, what this does show is that the detailed question on employment in the LFS did seem to work in capturing the more informal types of employment. In 1995 nearly 400

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<sup>3</sup> In reclassifying employment for 2001, 'begging' (option h) was not considered employment. Those whose only activity in the previous seven days had been begging were classified as inactive, because the order of the questionnaire results in these individuals skipping the questions on unemployment. Again, there were only a handful of these; less than 20 observations (unweighted). It is not clear why Stats SA includes this option here as they also code these individuals as inactive when defining employment.

observations (123 000 weighted) were redirected in this way, while in the LFS 2001:2, only around 80 observations (37 000 weighted) were redirected, implying that many of them had already been picked up as employed earlier.

- **Strict and Broad Unemployment**

The unemployed are defined as those individuals who did not have a job but would accept a job if a suitable one was offered. For the sake of comparability, the definition of unemployment in this study does not require that a person be available to accept work within a week. While this is generally considered a fair criterion, it could not be used here because the question concerning availability for work was omitted in the 1995 OHS.<sup>4</sup>

The distinction between strict and broad unemployment is then based solely on the individual's work-seeking activity. Those individuals who said they wanted work and had actively searched for work in the past four weeks were classified as strictly unemployed. Those who claimed that they wanted work but had done nothing to search for work in the past four weeks were classified as non-searching unemployed, and thus as part of the broadly unemployed. Active work-seeking included waiting or registering at an employment agency or trade union; enquiring at workplaces, farms, factories or other possible employers; placing or answering advertisements; seeking assistance of relatives or friends, looking for land, building or equipment or applying for a permit to start a business or farming; and waiting at the street side.

The latter option, waiting at the side of the street, was unfortunately only included in the list of options available to respondents on work-seeking action after 1995. It is possible then that there were some individuals in the 1995 OHS who were classified

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<sup>4</sup> It seems that the majority of those who say they would accept a job if a suitable one was offered are generally available to start work within a week anyway. In 1997, 1999 and 2001 close to 95 percent of those who said they would accept a job, were also available to start within a week. In these years, it was used as a criterion in Stats SA's definition of strict unemployment, but was relaxed for the definition of the non-searching unemployed, even though the explanation of the strict and broad/expanded unemployment definitions provided in Stats SA's statistical releases claim otherwise (Stats SA, 1999; 2000; 2002).

as broadly unemployed when they should have been classified as strictly unemployed, because without this option available they had to respond that they had done nothing. This might not be an insubstantial number. In 1997 there were around 630 observations (200 000 individuals when weighted) who had reported waiting at the side of the street as a job-seeking action, in 1999 there were around 530 observations (246 000 weighted), and in 2001 about 1070 observations (466 000 weighted).

While this method of classification follows very closely the one used by Stats SA in the 1995 OHS, in the 1997 and 1999 OHSs (in fact, from 1996 onwards) Stats SA used a more restrictive definition of unemployment, making their official results from these years of the OHS inconsistent with those they produced in 1994 and 1995.

In the 1997 and 1999 OHSs (in Q3.2) individuals who had not worked in the previous seven days nor had a definite job to return to, were asked the following question immediately afterwards:

**In which of the following categories does ..... fall?**

- 1 = Going to school/college/university, etc.
- 2 = Not working (but looking for work)
- 3 = Not working, not looking for work but available for work
- 4 = Full time homemaker/housewife
- 5 = Retired (pensioner)
- 6 = Permanently unable to work
- 7 = Not working, not looking for work not available for work
- 8 = Other, specify.....

In 1997 and 1999, Stats SA classified as unemployed *only* those individuals, who *also* claimed in this question that they were ‘not working (but looking for work)’ (option 2). In other words, individuals had to have chosen option 2 *and* then have responded later on in the questionnaire that they would accept a job if a suitable one was offered (and so on to the other questions regarding unemployment status). This is problematic as some individuals, who may indeed have been willing to accept suitable work, who would have in fact preferred to work, and who may even have searched for work, might have categorised themselves in this initial question as students or housewives because this was their main activity at the time. As Klasen and Woolard (2000: 9) point out ‘the definition of employment should really be focused on not working, a willingness to accept work within a specified time frame, and a preference for working, and not on a description of the actual activities in the past week’.

Furthermore, in 1997 and 1999 an additional option was added to this question (Q3.2) that did not exist in 1995, 'Not working, not looking for work but available for work' (option 3). It is assumed that this category was included to capture the 'discouraged' unemployed and yet in their classifications in 1997 and 1999 Stats SA excluded this group of people altogether from both definitions of unemployment so that they ended up being classified as economically *inactive*. In 1997 there were about 300 000 individuals (weighted) that chose option 3 and said that they would accept a job if a suitable one was offered, and in 1999 there were about 393 000 of these individuals. According to what is viewed here as being a more consistent definition for 1997 and 1999, a large number of individuals were therefore reclassified as either strictly or broadly unemployed (from being economically inactive according to Stats SA's definition), depending on their responses to whether they would accept a job or not and if so, whether they had engaged in any job-search activities in the previous four weeks or not.<sup>5</sup>

In 2001 the above question from the OHSs was not included in the LFS questionnaire and as a result Stats SA's definition of unemployment in 2001 is less restrictive than their definitions in 1997 and 1999, and more closely resembles the definition they used in 1995. The way Stats SA classifies unemployment in 2001 therefore ends up being again very similar to the way unemployment is classified for this study, i.e. based on the willingness to accept a job and work-seeking actions.

Following Klasen and Woolard (2000), the other substantial difference between the method of classification used here and that used by Stats SA in the OHSs, involves

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<sup>5</sup> Some of those who said they were 'Not working, not looking for work but available for work' ended up being classified as strictly unemployed even though they stated they were 'not looking' in this first question. It is likely that many of these individuals were not sure what constituted 'work-seeking' when they answered this initial question, and only discovered later when answering the work-seeking question that they had actually done something that could classify as active job-search. Waiting on the street side, for example, might not have been understood to be active work-seeking. Also, the question on work-seeking that is found further on in the worker module asks about activities over the past four weeks. It may be that some of these individuals were not looking for work at the time, but had actually done something over the past month to search for work.

those individuals who later on in the questionnaire (in fact, in the second to last question in the module covering unemployment and inactivity) stated that their reason for not working was one of the following: scholar/student, housewife, retired and *prefers not to work*; or illness, invalid, disabled and *unable to work* (options 3, 4, 5 and 6 in the question below):

Why did (the person) not work during the **past 7 days**?

- 01 = Lack of skills or qualifications for available jobs
- 02 = Has found a job, but only starting at a definite date in the future
- 03 = Scholar or student, prefers not to work
- 04 = Housewife/homemaker, prefers not to work
- 05 = Retired and prefers not to seek formal work
- 06 = Illness, invalid, disabled or unable to work (handicapped)
- 07 = Too young or too old to work
- 08 = Seasonal worker, e.g. fruit picker, wool-shearer
- 09 = Cannot find suitable work (salary, location of work or conditions not satisfactory)
- 10 = Contract worker e.g. mine worker resting according to contract
- 11 = Other reason (specify in column)

According to the new definitions used here, in the final step of coding, these individuals were reclassified as economically *inactive* from unemployed in 1995, 1997 and 1999. It is not clear why these individuals state earlier in the questionnaire that they *would* accept a job if one was offered. Nonetheless, it seems more reasonable to exclude them from the unemployed and include them with the economically inactive if they explicitly state they prefer, or are not able, to work.

In the LFS 2001 the order of the questionnaire changed slightly and this question was actually asked at the beginning of the module that covers unemployment and inactivity, rather than at the end as in the OHSs. Nonetheless, the number reclassified to inactive from unemployed was not very different to the other OHS years so the order of the questionnaire in this case did not seem to have much of an impact. In 2001, those individuals who said they were scholars/students, homemakers, retired and preferred not to work; or were unable to work because of illness, disability, etc, were also classified as inactive by Stats SA.<sup>6</sup> So again, there was less of a difference

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<sup>6</sup> There were some very small differences, though. Stats SA chose to exclude these individuals from their classification of unemployment from the beginning, while here they were reclassified only at the end of the various stages of coding. And then, in 2001 Stats SA also excluded from their definition of unemployment those who chose the option 'too young or too old to work' for why they hadn't worked in the previous seven days. It was decided not to do so here though, because for those between the ages of 15 and 65 years, i.e. the working age population, this response is more likely to have been based on

between Stats SA's classifications and the ones used here for this year.<sup>7</sup>

### ***Comparison of Unemployment Rates***

The table below shows the differences between the strict and broad unemployment rates that are based on the new definitions used in this study, and the ones used by Stats SA. As expected, the *more* restrictive definition of what counts as unemployment used here for 1995 (due to the exclusion of those who said they preferred not to work or were unable to work) resulted in slightly lower rates of unemployment compared to Stats SA's in this year. In 1997 and 1999, however, the definitions used here are *less* restrictive as even though, as in 1995, those who said they preferred not to work or were unable to work are excluded, a larger number of those individuals who had been overlooked by Stats SA because they said they were 'Not working, not looking for work but available for work' are included. The unemployment rates based on this new definition are therefore noticeably higher than those of Stats SA in these two years. In 2001, as expected, there is very little difference between the unemployment rates as the definitions used in this study and by Stats SA were very similar.

*Table A1.1: A comparison of unemployment rates*

	Female		Male	
	Stats SA	Adjusted	Stats SA	Adjusted
<b>Strict Rates</b>				
<b>1995</b>	22.6	22.1	13.6	13.5
<b>1997</b>	26.5	28.8	17.4	18.9
<b>1999</b>	28.0	31.5	19.9	21.9
<b>2001</b>	33.3	34.4	26.2	26.9
<b>Broad Rates</b>				
<b>1995</b>	39.2	37.6	23.5	23.0
<b>1997</b>	45.1	45.8	29.2	30.0
<b>1999</b>	43.2	47.3	30.0	32.4
<b>2001</b>	48.1	48.2	35.2	35.4

Source: OHS 1995, 1997, 1999 and LFS 2001:2. Data are weighted.

the perceptions of the respondents and perhaps the employers at the jobs that the individuals had applied for, rather than on fact. Anyhow, only about 70 observations (unweighted) of individuals between the ages of 15 and 65 years, who also said they would accept a job, responded in this way.

<sup>7</sup> There are some other more minor differences between Stats SA's definitions and the ones used here. As they involved only a handful of individuals they will not be discussed here. These can be made available by the author on request.

## APPENDIX 2: DEFINITIONS OF DISAGGREGATED EMPLOYMENT CATEGORIES

This appendix provides details of how the various employment categories used in Chapter Three (and again in Chapter Six) were defined and coded to create comparability across the four years under review. Each of these categories is exclusive, in other words, added together they will amount to 100 percent of the total recorded employment.

- **Employees**

In distinguishing between employees and the self-employed a slightly different method had to be used for the three OHSs compared to the LFS 2001:2, because of some amendments made to the questions in the LFS.

In the OHSs, individuals who reported having a job are asked later on in the questionnaire the following question (1995: Q3.9; 1997: Q3.11; 1999: Q3.6):

**Who does ..... work for?**

- 1 = For someone else
- 2 = For him/herself
- 3 = For both someone else and him/herself

These individuals are then asked to respond to questions relating to their employment, self-employment, or both, according to how they responded to the above question. For those individuals who said they worked for someone else **and** themselves, it is not possible to determine which of these types of employment was the *main* one. For the analysis in Chapter Three, 'employees' are therefore defined simply as those who reported working for someone else in the three OHSs (option 1 above), and those working for themselves **and** someone else are placed in a separate category for those with more than one job (see below).

In the LFS 2001:2, individuals who reported having work in any of the number of detailed categories outlined in the first question on employment (Q2.1, see Appendix 1), are then asked later on (in Q4.3) if, in the individual's **main** work, he/she was:

**1 = Working for someone else for pay?**

*Payment in cash kind or accommodation. Category 1 includes all employees: Full-time, part-time, casual work, piecework, except private household work.*

**2 = Working for one or more private households as a domestic employee, gardener or security guard?**

*Payment in cash, kind or accommodation.*

**3 = Working on his/her own or on a small household farm/plot or collecting natural products from the forest or sea?**

**4 = Working on his/her own or with a partner, in any type of business (including commercial farms)?**

**5 = Helping without pay in a household business?**

For the purposes of this study 'employees' are defined as those who chose either options 1, 2 or 5.<sup>8</sup> (An explanation of how those with more than one job were classified is given below.)

The category 'employees', as defined here, includes those individuals who worked for both registered and unregistered firms/employers. For the analysis in Chapter Three employees were not divided further into two separate categories, because the question relating to whether the employee worked in either the formal or the informal sectors was not included in the 1995 OHS. Although it is possible to distinguish between these two types of employment in the three other years, it was decided to rather sacrifice the level of disaggregation so as to include another data point.

In any case, it is not clear how reliable this information would be, as it is likely that a large number of employees would not know if their employers were registered to perform the activity or not. In fact, in the LFS 2001:2, the only year of the three where employees are asked whether the business they worked for was in the formal/informal sector, **and** if it was registered for VAT, there were numerous contradictory answers. Around 20 percent of 'employees' between the ages of 15 and 65 years who classified their employers as formal said also that they *were not* VAT registered. Around 12

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<sup>8</sup> Unpaid family workers had to be included among the employed here, as there is no information on unemployment or inactivity for these individuals. Anyhow, they only constitute about one percent of all those who were employed in this year. It is likely that unpaid family workers were also classified as employees in the OHS years, although there was no separate specified category for them as in the LFS.



percent of those who classified their employers as informal said that they *were* VAT registered. There were also many missing values.<sup>9</sup>

Excluded from this category ‘employees’ are domestic workers, unskilled agricultural workers and those who had more than one job. These types of employment were not always coded consistently by Stats SA, and because of their specific nature, it proved more sensible to place them in categories of their own (see definitions below). For example, in 1995 domestic workers were coded by Stats SA as working *for themselves* (in the informal sector), and so would not have been included in this category of ‘employees’ but rather in the category ‘informal self-employment’ described below. From 1997 onwards, the questionnaires specified that domestic workers should be coded as working *for someone else* in the informal sector, and so for 1997, 1999 and 2001 domestic workers would have been included in this category of ‘employees’. To maintain comparability domestic workers in each year have therefore been placed in a separate category altogether.

- **Formal and Informal Self-Employed**

The self-employed are those individuals who reported working for themselves, i.e. those who chose option 2 in the question from the OHSs (1995: Q3.9; 1997: Q3.11; 1999: Q3.6), and options 3 and 5 in the question from the LFS (Q4.3) (see above).

As relatively similar questions were asked in all four years, it was possible to differentiate further by dividing this category into two sub-categories: one for ‘formal self-employment’ and one for ‘informal self-employment’. The self-employed were classified as being in the formal or informal sectors based on their responses to two questions: 1) whether the individual had a VAT number, and 2) whether the business was formal/registered or informal/unregistered.

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<sup>9</sup> In Chapter Three there is brief mention of the distribution of employees, as they are defined here, between the formal and the informal sectors. When employees were further divided into those working for registered and unregistered businesses for 2001, the classification was based only on the question asking individuals whether their employers were in the formal/informal sectors, and not on the question about VAT registration. This was done to maintain comparability with the 1997 and 1999 OHSs, in which this latter question was not included.

Individuals were classified as being self-employed in the **formal** sector if they said *either* that they had a VAT number *or* that their business was formal/registered. The **informal** self-employed were classified as those who said that they did not have a VAT number *and* their business was informal/unregistered.

This latter question did differ slightly across the surveys. In the three OHS questionnaires the interviewers are told to read out to the self-employed the following explanation on what should be considered formal/informal: ‘There are several ways of registering a business such as, registration at Registrar of Companies, Commissioner of Unemployment, South African Medical and Dental Council or Commissioner of Workmen’s Compensation. Many small businesses do not register at any of the above offices.’ In the 1999 OHS, an additional prompt was included in the questionnaire: ‘Subsistence work must be classified as informal.’

Strangely, the LFS was the least explicit of all the surveys. In one question, it asks all of those who reported having a job (employees and the self-employed) whether the organisation/business/enterprise/branch where the individual works is in the formal/informal sector, simply stating that formal sector employment is where the employer is registered to perform the activity and informal sector employment is where the employer is not registered (Q4.18). There is no explanation of where a firm might have registered, nor how subsistence farming should be treated. It is not clear that these changes in the questionnaires had any significant effect on how respondents answered though, as the number of informally self-employed tended to increase anyway over the six-year period.

Again note that domestic workers, unskilled agricultural workers and those who had more than one job were excluded from these two categories of self-employment.

- **Domestic Workers**

Rather than using Stats SA’s derived one-digit industry and occupation variables, which were found in many instances to be inconsistent across the years (and in fact incorrect for 1997), domestic workers were reclassified using codes based on the 3-

digit International Standard Industrial Classification of all Economic Activities 1993 (ISIC) and the 4-digit International Standard Classification of Occupations (ISCO 88) available in the datasets. Using these disaggregated codes, domestic workers are classified as those ‘employed by private households’ as ‘domestic workers’ or ‘related helpers, cleaners and launderers’.

- **Unskilled Agricultural Workers**

Unskilled agricultural workers have also been recoded using the 3-digit ISIC and 4-digit ISCO classifications available in all four data sets. This group of workers is defined as those working in the agricultural sector (excluding forestry and fishing) and engaged in elementary occupations related to agriculture.

- **More Than One Job**

It was also necessary to place those workers with ‘more than one job’ in a separate category because it was not possible to classify them according to their main job consistently across the years. As mentioned above, in the OHSs, if individuals responded that they worked for someone else *and* themselves, they proceeded to answer questions on both types of employment, and there is no indication as to which of these they view as their main type of employment. In the LFS, however, individuals are asked in the first question on employment (Q2.1) to state if they had done work in any of the eight categories detailed. When they are questioned further on this employment (in Section 4), they are then asked to respond about their *main* job of the past seven days.

In this study, those who reported working for themselves **and** someone else in the OHSs were defined as having more than job. For the LFS, those who answered that they had done work in more than one of the categories outlined in Q2.1 (except for begging which is not considered work here) were classified as having more than one job.

Unfortunately, these two methods of classification are not exactly the same. In the OHSs, we cannot consistently pick up those individuals who had more than one job as

an employee nor those who had more than one job in self-employment, while in the LFS we are picking up anyone who had more than one activity considered as employment, regardless of whether it was working for themselves or someone else. It is important to take note then, that while it might be expected that the number of individuals with more than one job would increase over this period in response to more dire economic circumstances, the large increase observed between 1999 and 2001 is also likely to be overestimated because of the possible underestimation of this category in the OHSs.

### *A Note on Subsistence/Small-Scale Farming*

It is important to clarify here that subsistence/small-scale farming is **not** being picked up in the category ‘unskilled agriculture’, as the ISCO code 6210 for ‘subsistence farmers’ falls under the rubric of the one-digit ISCO occupation category ‘skilled agriculture’. It did not seem sensible to group those coded as 6210 with the unskilled agricultural workers or in a category of their own, because it is not clear that *in practice* Stats SA always coded those who said they were engaged in subsistence or small-scale farming activities as 6210.

In 1995 and 1997 less than 10 observations (unweighted) were coded as 6210, yet in 1999 and 2001 there were approximately 265 and 430 observations respectively for the age group 15 to 65 years.<sup>10</sup> It is impossible to believe that there were so few individuals engaged in subsistence farming in 1995 and 1997, which means that in these two years Stats SA was classifying these individuals as being either economically inactive, unemployed, or in some other occupation. That they were being classified as inactive is the most likely scenario.<sup>11</sup>

In 1999 and 2001, almost all the individuals with the code 6210 and who had only one

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<sup>10</sup> Using the population weights this amounts to about 112 000 individuals in 1999 and 188 000 individuals in 2001.

<sup>11</sup> Stats SA itself suggests in a discussion paper that it is ‘likely that, in the OHS, the majority of subsistence farmers were identified as not economically active rather than unemployed’ (Stats SA, 2001a). See Posel and Casale (2001) for a discussion of the implications of Stats SA’s coding practices with regards to subsistence farmers for measures of economic activity.

job are being captured in the category defined here as ‘informal self-employment’, as they would have responded working for themselves and in an unregistered business. A handful of these individuals end up being included in ‘formal self-employment’, as they would have responded registering their small-scale farming enterprises. And a similarly small number are found in the category of those with more than one job.

When examining the results in Chapter Three, it is therefore important to remember that subsistence agriculture is being treated in this analysis as a subset of informal self-employment. The large increases observed in informal self-employment over the six-year period consequently need to be viewed with caution, not only because more attention was being paid to capturing informal activities in general over the period, but because Stats SA seems to have begun including in the later years a group of ‘employed’ that previously had been treated as inactive. Of the 397 000 additional men recorded in informal self-employment in 2001 compared to 1995, 93 000 were coded as subsistence farmers, while of the 508 000 additional women recorded in informal self-employment in 2001, 77 000 were coded as subsistence farmers.

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