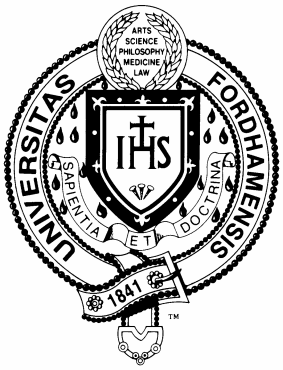

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THE RECENT DECLINE IN THE EMPLOYMENT OF PERSONS WITH DISABILITIES IN SOUTH AFRICA, 1998-2006

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Abstract
This paper shows that there has been a significant decline in the employment and labor force participation of persons with disabilities in South Africa over the 1998 through 2006 period. Disability is defined based on activity limitations. Data are from the October and the General Household Surveys. The paper also deals with the possible causes of the decline. While several causes can be invoked, preliminary evidence suggests that the rise of the Disability Grant program might be responsible for a part of the decline. Recommendations are made for future research and data collection on disability and employment.

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1. INTRODUCTION

In post-apartheid South Africa, trends in economic inequality and poverty have received a lot of attention (Van der Berg *et al.* (2005)). In the context of these trends, the economic well being of socio-economic groups based on gender and race has also been analyzed (Casale and Posel (2002), Van Der Berg and Louw (2004)). One population subgroup that is rarely analyzed is that of persons with disabilities (PWDs). Little is known on how PWDs have economically fared in post apartheid South Africa and the objective of this paper is to address this gap in the literature.

It is well established that during apartheid, PWDs, irrespective of race, faced discrimination (Howell, Chalklen and Alberts (2006; p. 46)). They had limited socio-economic rights such as access to employment, education, health and welfare services. PWDs were seen as objects of pity and in need of care. During the transition period (1990-1994), disability rights organizations such as Disabled People South Africa formed an alliance with the African National Congress and succeeded in having disability recognized as a basis for discrimination in the Constitution (1996). Several laws were later adopted in order to protect the rights of PWDs. More than a decade following the end of apartheid, it is important to try and assess how PWDs have fared economically. Access to employment is a fundamental aspect of the economic well-being of PWDs. Poverty can be the consequence of disability through the loss of employment or the reduction in earnings following the onset of disability. Therefore, employment and labor force participation are essential to understanding and dealing with the economic challenges of households with PWDs. This paper is focused on the trends in the employment of PWDs in post-apartheid South Africa.

Overall trends in the post-apartheid labor market have been subjected to careful study (Kingdom and Knight (2005), Casale, Muller, and Posel (2004)). From 1995 to 2003, while about 2 million jobs were created (Casale, Muller, and Posel (2004)), unemployment grew rapidly due to the rapid growth of the labor force with more women joining its ranks (Casale and Posel (2002)). In this context of rising unemployment, one may wonder how PWDs have fared compared to the rest of the population. The literature on labor market trends in South Africa has given some attention to the labor supply effects of social grants. Social grants include old age pensions, disability grants, child support grants, war veteran grants, care dependency and foster care grants. Among these programs, the Disability Grant (DG) program is the only program targeted at a subgroup of the working age population. Surprisingly, the labor market activity of the only working age beneficiary group that is targeted by social grants, i.e. PWDs, has received little attention.

Estimates of disability prevalence in South Africa vary depending on definitions and data sources. Estimates vary from a low of 3.7% in the 1999 October Household Survey, to a high of 12.8% in the National Health and Population Survey where chronic illnesses were counted as disabilities (Emmett (2006)). CASE (1999) is the only study specifically designed to measure disability prevalence and assess the well being of PWDs. In this study, in 1997, disability prevalence stood at 5.9% and 79% of PWDs were not economically active, 9% were unemployed and only 12% were employed.

The primary objective of this paper is to answer the following two questions: First, how has the labor market status of persons with disabilities changed over the post apartheid period? Secondly, what are the major drivers of such trends? The analysis relies on two datasets: the October Household Survey and the General Household Survey. The main result is that there has been a significant decline in the employment and labor force participation rate of PWDs over the 1998-2006 period and preliminary evidence suggests that this decline might have been driven in part by the growth of the DG program.

The paper is organized as follows. Section 2 gives some background on disability policy in South Africa. Section 3 clarifies definition and measurement issues and presents the data, while results are given in Section 4. Section 5 attempts to understand the possible reasons for the decline in the employment of PWDs. The last section concludes.

2. DISABILITY POLICY IN SOUTH AFRICA

The rights of PWDs are protected by the 1996 Constitution of the Republic of South Africa. The Constitution recognized discrimination based on disability and laid the foundations for subsequent policies and legislation. In 1997, the Government adopted the Integrated National Disability Strategy White Paper, which is a blueprint for the inclusion and integration of disability in policies and legislations. Since the strategy was formulated, various laws and programs have been designed, at least in part, to improve the employment, or the economic empowerment, of persons with disabilities. The major laws over the post Apartheid period are summarized below. The Employment Equity Act of 1998 outlaws discrimination by firms on the basis of race, gender and disability during the hiring process or while in the workplace. The Promotion of Equality and Prevention of Unfair Discrimination Act of 2000 prohibits individuals and the state to discriminate based on race, gender and disability. The Code of Good Practice on the Key Aspects of Disability in the Workplace of 2001 (the "Code") and the Technical Assistance Guide to the Employment of Persons with Disabilities of 2004 are guides for employees and employers in promoting equal opportunities and fair treatment for PWDs as part of the Employment Equity Act of 1998. While the Code does not provide new obligations and rights, it is to be used by the courts and tribunals to interpret and apply the Employment Equity Act. In the Code, people are considered to have disabilities if they have a long-term or recurring, physical or mental impairment which substantially limits their prospects of entering into, or advancement in, employment. Employers are expected to provide reasonable accommodations to their employees with disabilities, and to make the hiring, training and placement processes accessible to PWDs. Finally, Government departments and state bodies are bound by statutory provisions to have as part of its workforce at least 2% PWDs.

In South Africa, there are several disability compensation programs, including employer-provided disability insurance, compensation programs for injury on the job (workers' compensation, war veterans), and the means-tested DG program. The DG program is a unique and important component of South Africa's social assistance system. It comes under the terms of the Social Assistance Act of 1992 amended in 2001 and 2004. It was administered by provincial governments from 1997 until 2006, when a national agency, the South Africa Social Security Agency (SASSA) took over under the terms of the Social Security Act of 2003. In order to qualify for the DG, an applicant must be "owing to his or her physical or mental disability, unfit to obtain by virtue of any service, employment, or profession the means needed to enable him or her to provide for his or her maintenance." The DG program is means tested and applicants must fall below income and asset thresholds in order to qualify. The benefit is substantial: it amounted to R820 per month in 2006.

In order to qualify for the DG program, the applicant must be age 18 or older and have a valid medical report outlining the disability. Disability assessment procedures varied from province to province until the end of 2004, when the Department of Social Development issued national guidelines, which implemented uniform procedures. In simple terms, a medical officer or an assessment panel that is hired by the Department of Social Development provides the medical report for an applicant. The officer or panel preparing the report will examine the applicant and determine if the person has a disabling condition and if that condition is permanent or temporary. The Department of Social Development uses the medical report to make its decision about an applicant's eligibility status. The DG is awarded on a permanent or temporary basis. A beneficiary will continue to receive a permanent Disability Grant until he or she transitions to the Old Age pension program, begins working again, is admitted to a state institution or dies. Although each permanent

beneficiary's financial and work status is supposed to be reviewed by the Department of Social Development every five years, this is often not done due to a lack of government resources. The temporary DG program is only designed for those that have a disability that will prevent them from working for no less than six months and no more than one year and benefits last for six to 12 months.

The DG program has grown tremendously in recent years. The number of beneficiaries went up from 611,325 in 2000 to 1,315,143 in 2006 (The Treasury (2003) and SASSA (2007)). Expenditures on the DG program have grown from R4.6 million in 2001/2002 to R12.2 million in 2004/2005, with DG expenditures accounting for 28% of social grant expenditures in 2004/2005 (The Treasury(2005)).

Thus, unlike most developing countries, South Africa has a multi-faceted disability policy with several legislations as well as a large and growing social assistance program targeted at PWDs. In particular, most developing countries do not have means tested transfers targeted at PWDs.[1] In developed countries, there is a lot of research on the poverty reduction impact and on the employment effects of disability benefit programs (e.g., Bound and Waidmann (2002) and Autor and Duggan (2003) in the United States), and generally on the labor force participation and economic well being of PWDs (e.g., Haveman and Wolfe (1990) in the United States, Kidd *et al.* (2000) in the UK). However, such research is rare in the context of high unemployment and high poverty as in South Africa. More than ten years after the adoption of the Integrated National Disability Strategy White Paper, it is important to assess the trends in the labor market status of PWDs.

3. DATA AND MEASUREMENT ISSUES

Measuring the labor force participation of PWDs in South Africa is not without challenges. Researchers need appropriate data to identify the population with disabilities and to measure its employment and the outcomes of disability and work policies. This has been challenging because disability is inherently difficult to define and measure. Historically, definitions have been based on a medical model, under which disability is treated as a characteristic of the individual and interventions address the medical challenges the person faces. In contrast, the now widely accepted social model posits that disability results from the interaction between the individual and the social environment: persons with impairments are considered to have disabilities only if they are limited in their participation in society, for instance, through limited access to employment and education. Empirically, this has implications for following employment trends and the type of work done by persons with disabilities.

As can be anticipated, there are different ways to measure disability that correspond to different conceptual definitions of disability. Three disability measures that have been commonly used in applied disability research are described below. *Impairment measures* of disability focus on the presence of impairment intrinsic to the individual. For example, individuals can be queried about impairments that might include blindness, deafness, mental retardation, stammering and stuttering, complete or partial paralysis. *Functional limitations* refer to difficulties experienced with particular bodily functions such as seeing, walking, hearing, speaking, climbing stairs, lifting and carrying, irrespective of whether the individual has an impairment or not. The above two measures of disability, impairments and functional limitations, are consistent with the medical model definition of disability. *Activity limitations* are limitations in activities of daily living such as bathing or dressing. Activity limitations may also include limitations in participation in *major* life activities such as venturing outside the home, work or

[1] Exceptions are Namibia, Argentina, Barbados, the Bahamas, Brazil, Costa Rica and Bermuda (Mitra 2006).

housework for working age persons, and school or play for children. This measure may be considered to capture disability as per the social model. Past research on the economic well being of PWDs in developed countries has often used activity limitation measures, and work limitation measures in particular (e.g., Stapleton *et al.* (2003)). Burkhauser *et al.* (2002) have shown that work-limitation based measures significantly underestimate the number of people with impairments in the broad population.

In South Africa, disability questions have not been systematically introduced in household surveys. For instance, in the Labor Force Survey (LFS), there was an activity limitation question in the March waves in 2002 and 2003, but not in other years. Therefore, the LFS could not be used to analyze trends. In this paper, an activity limitation question that was in the October Household Survey (OHS) (1998, 1999) and in the General Household Survey (GHS) (2002 through 2006) is used to measure the extent of labor force participation and employment among PWDs. It is a question on limitations in three major life activities: housework, schooling or work[2]. Following this limitation in major life activities question, in the OHS (1998, 1999) and the GHS (2002 through 2006), those who responded positively were then prompted to report their functional limitations (e.g., seeing, hearing).

It is important to note that the wording of the activity limitation question is slightly different in the OHS and in the GHS. In the OHS, the question is as follows: '*Is the person limited in his/her daily activities at home, at work or at school because of a long-term physical or mental condition lasting six months or more?*' The GHS has a longer list of conditions: '*Is the person limited in his/her daily activities, at home, at work or at school, because of a long-term physical, sensory, hearing, intellectual, or psychological condition, lasting six months or more?*'. Two types of medical conditions are specified in the OHS question (physical and mental), while five types of conditions are in the GHS question (physical, sensory, hearing, intellectual or psychological). This change in the wording is a limitation of the data used for this paper.

4. RESULTS

Table 1 presents rates of disability prevalence among the working age population (age 15 to 65) based on the question on activity limitation in the OHS (1998) and the GHS (2002, 2006). There is no statistically significant difference in activity limitation prevalence across the three years. Prevalence is close to 4%, higher for males compared to females, and for Africans compared to other races.

Table 2 presents a detailed long term view of the labor force participation of persons with and without activity limitations (thereby disabilities) in 1998, 2002 and 2006. Two definitions of unemployment and labor force participation are used: the official one used by the South African Government as well as the broad definition, used by researchers (Kingdon and Knight (2004)). The official definition of unemployment and labor force participation rates excludes from the unemployed persons who wanted work but did not search actively in the past four weeks. The broad definition includes this group.

For PWDs, there is a small increase in the employment rate between 1998 and 2002 from 16.8% to 18.5%, followed by a decline to 12.4% in 2006. By focusing on the long term change between 1998 and 2006, the labor force participation rate (as per official or broad definition) declined markedly. The unemployment rate also dropped, especially if one uses the expanded unemployment

[2] The 1995 OHS includes a disability question which did not explicitly define disability as follows: "Which, if any, of the following handicaps/disabilities does <the person> have: 1. None 2. Sight 3. Hearing/speech 4. Physical Disability 5. Mental Disability". This question is fundamentally different from the activity limitation questions in the 1998 OHS and in the GHS. Given the poor comparability with the 1998 OHS and the GHS, the 1995 OHS was not used in this paper.

rate. Therefore, PWDs appear to increasingly not participate in the labor force. It is more the case for women than men. The drop in the unemployment rate combined with the decline in the labor force participation rate of PWDs shows that the fall in the unemployment rate is not due to an increase in the number of employed PWDs. Instead, it fell because the number of employed PWDs declined more than the number of unemployed PWDs. These trends for PWDs are markedly different from those of persons without disabilities, for whom there has been an increase in employment, unemployment and labor force participation rates. These results for persons without disabilities are consistent with results from other studies on the overall population (Kingdon and Knight (2005)).

There must have been changes in the socioeconomic environment that lowered employment but also induced men and women with disabilities who are not employed to stop searching for a job. It may also well be that the employment of PWDs is changing over time because the characteristics of PWDs are changing. For instance, they may be getting older and therefore leaving the labor force. This possibility is investigated in Table 3 where trends between 1998 and 2006 in employment are analyzed in a multivariate framework. Trends in the probability of employment were examined using a simple probit model. The coefficient of interest is the disability year interaction term: it describes the change in the relative employment of PWDs over time.[3] Controls include age, dummies for one race group (African), being married, two schooling groups, provinces, as well as interaction terms (age x year, race x year, married x year, schooling x year and province x year). For this model, data from the OHS (1998, 1999) and the GHS (2002 through 2006) are pooled.

The results in Table 3 are presented separately for men and women. Column (1) includes results without any control except for the disability main effect, year effects and the disability year interaction terms. Controls are included in column (2), with a further control for disability grant receipt in column (3). For both men and women, results without controls in (1) and with the first set of controls in column (2) suggest that there was a significant decline in the probability of being employed for PWDs. The disability year interaction term is negative and statistically different from zero at 0.04. However, the disability year interaction term is largely reduced in absolute value in column (3) once a disability grant receipt dummy is introduced. This result may suggest that the differential impact of disability on employment over time may be related to changes in disability grant receipt over time. This possibility is explored further in the following section.

5. WHY ARE FEWER PWDS EMPLOYED? SOME LIKELY CAUSES

(a) Growth of the Disability Grant Program

The growth of the DG program may well be responsible for the decline in the employment of PWDs. The number of DG beneficiaries more than doubled since 2000. In particular, the DG program grew tremendously in 2003 and 2004 as shown in Figure 1, which coincides with the timing of the decline in the employment of PWDs described in Table 2. Figure 2 shows the sharp growth in the percentage of PWDs on DG in 2003 and 2004. Investigating the effect of DG receipt on the probability of employment is complex given that DG receipt may be both a cause and a consequence of the decline in employment. Cross-province variations in the growth of the DG program allow us to reduce the endogeneity bias through a fixed effects model.

In 2003 and 2004, there was considerable cross province variation in the growth of the DG population as shown by Figure 1. Recent research (CASE (2005)) shows that this variation is explained by cross-state differences in the way the DG program was administered. Reforms of the disability assessment process started at the end of 2001. The 2001 amendment (effective December 2001) to the Social Assistance Act empowered provinces not to use a Pension Medical Officer, who

[3] Equation (1) is estimated as a probit but the results are similar if linear probability models or logits are used instead.

previously assessed and adjudicated disability grant recommendations made by a medical officer. The Pension Medical Officer ensured a degree of oversight and standardization throughout the DG administrative system. Only one province, Northern Cape, retained the Pension Medical Officer. In 2002, some provinces introduced assessment panels, which include community members. In addition, in 2002, some assessment panels and some medical officers started to stress, in their disability assessment, the local social environment of the applicant, including availability of jobs and poverty prevalence. This use of the social model of disability in the DG eligibility process in selected provinces was suspended in October 2004 when more medically based guidelines were nationally introduced for medical officers and assessment panels (CASE (2005)).

The tremendous cross province variation in the growth of the DG population is used to study the effect of changes in the availability of DG benefits on the employment rate of PWDs in a fixed effects model. In the upper panel of Table 4, regressions of the employment rate of PWDs on the fraction of PWDs receiving DG, including province fixed effects are estimated. Weighted and unweighted results are presented. The lower panel presents results from log-log regressions. In columns (1) and (4), the results are for a regression with province controls only. In columns (2) and (5), the specification also includes year effects. A limitation of the fixed effects model above is that it might be biased due to the serial correlation of the dependent variable (Wooldridge (2002)). In this case, a more efficient estimation is to use a first differencing transformation of the model, which is done in column (7) of Table 4.

Estimates in the upper panel ((1) through (6)) stand between -0.3 and -0.4, suggesting that there is approximately a one to one third association between changes in the fraction of PWDs on DG and changes in the employment rate of PWDs. The estimate in the first differencing transformation (column (7)) is lower at -0.2. Estimates in the lower panel stand between -1.7 and -1.2 suggesting that a 10% increase in the fraction of PWDs on DG is associated with an approximate 15% drop in the employment rate of PWDs.[4] Overall, these estimations suggest that the growth of the DG program has contributed to the decline in the employment rate of PWDs. The timing of the decline in the employment rate for PWDs following 2002 as shown in Table 2 coincides with the growth of the DG program, lending additional credibility to this hypothesis.

(b) Other Possible Causes

The model above needs to be refined to account for other factors that may have affected the employment rate of PWDs at the province level, such as the differential disabling effect of HIV/AIDS across provinces. This is done in columns (3), (6) and (7) of Table 4 by including in the model the province level HIV/AIDS prevalence from the ASSA2003 actuarial model.[5] Results are unchanged.

There are several other factors that might have affected trends in employment across disability status but could not be controlled for in the analysis due to a lack of data. Disabilities might have become more severe over time and jobs' characteristics might have changed in such a way that some jobs could no longer be performed by PWDs. There is no data in the GHS on the degree of severity of a disability, nor on the characteristics of jobs, that would make a test of these hypotheses possible.

In addition, employment rights legislation may also have affected the employment trends of PWDs. The Employment Equity Act (EEA) of 1998 prohibits discrimination in *all* employment practices: applications, hiring, firing, advancement, compensation, training, conditions, and privileges.

[4] Because a little less than half of PWDs are on the DG program and the average rate of employment of PWDs is 12%, these two sets of estimates are consistent with each other.

[5] The ASSA2003 model is available at www.assa.org.za

The EEA goes beyond civil rights enforcement by also requiring employers to make "reasonable accommodation" for disability in the workplace. Research on the effects of employment rights legislation for PWDs in other countries such as the United States has produced mixed results[6] and points to the importance of studying the effects of legislations that partly intend to increase employment of PWDs. Such legislation could have the opposite effect because employers can avoid the cost of potential litigation concerning termination and other personnel decisions by not hiring PWDs, coupled with the fact that it is very difficult to detect and litigate against discrimination in hiring. Another reason is that the EEA imposes costs on employers through its mandate for reasonable accommodations. There has not been any comprehensive empirical research attempting to determine the effects of the EEA. A small scale survey of employers by Dube (2005) shows that awareness of the right to reasonable accommodations has improved but remains limited. The possibility that the EEA may have negatively impacted the employment and labor force participation of PWDs cannot be precluded based on this data only. Research on the impact of the EEA is needed.

6. CONCLUSION

This paper provides evidence of the recent decline in employment and labor force participation of PWDs and starts to investigate their possible causes. Preliminary evidence highlights the possibility that the growth of the DG program contributed to the decline in employment. However, the causes of the decline in relative employment require further investigation. This paper suffers from several limitations, arising mainly from the limitations of available data. The period covered in this analysis is relatively short and, although there are different ways to define disability, only one definition could be used, which prevents us from checking the robustness of the results based on an alternate definition. The most important limitation of the analysis above is that persons without disabilities may differ in many unobservable ways from PWDs. Thus the differential decline in employment might have occurred even in the absence of the growth of the DG program.

More research is needed in South Africa on the economic well being of PWDs, and on the DG program. This research is challenging given that disability indicators are rarely found in nationally representative household surveys. Introducing one or two questions on activity limitations in the LFS and in the Income and Earnings Survey would give researchers the tools needed to understand the economic well being of PWDs in South Africa. The GHS, which has an activity limitation disability question, does not have detailed income or household expenditures data, that are needed to make a poverty assessment. A priority should therefore be to expand disability data collection in household surveys. This is necessary for research to be undertaken on the targeting and effectiveness of the DG program for the purpose of poverty reduction. Research on the DG program is rare[7], while other programs such as the Old Age Pension have been carefully studied. In a country that tries to deal with rising unemployment, it is critical to understand the implications of the DG program, the only means tested program that targets the working age population.

The Integrated National Disability Strategy of 1997 was meant to lead to a new generation of policies and legislations that would integrate people with disabilities into the mainstream of life, including employment. The recent labor market experience of working age people with disabilities in South Africa is disappointing and requires further research and policy attention.

[6] For a review of different studies conducted on this issue, see Stapleton & Burkhauser (2003).

[7] Exceptions are Natrass (2006a, b).

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Table 1: Activity Limitation Disability Rates in Working Age Population

	1998	2002	2006
All	4.13%	3.81%	3.63%
Males	4.90%	3.50%	4.05%
Females	3.42%	2.46%	3.23%
Africans	4.17%	2.90%	3.72%
Other races	4.01%	3.13%	3.29%
N	49,399	64,283	86,609
Type of Disability among Persons with Activity Limitations			
Seeing	18.16%	23.61%	17.89%
Hearing	10.64%	13.10%	12.87%
Communicating	4.68%	5.97%	5.50%
Physical	33.65%	32.90%	37.49%
Intellectual	8.97%	21.51%	18.21%
Emotional	13.69%	8.12%	9.93%
Other	11.85%	N/A	10.17%
N	2,183	2,682	3,033

Notes: All estimates are weighted; the distribution of types of disability adds up to more than 100% due to multiple disabilities. N/A stands for not available.
Source: Author's Calculations based on OHS (1998) and GHS (2002, 2006).

Table 2: Labor Force Status of Persons with and without Activity Limitations

	Persons with disabilities			Persons without disabilities		
	1998	2002	2006	1998	2002	2006
All						
Population 15 to 65	1,056,960	1,111,969	1,083,462	24,540,500	27,785,306	28,804,781
Employed	177,886	205,141	134,253	9,176,356	11,166,025	11,825,198
Employment rate	16.83%	18.45%	12.39%	37.39%	40.19%	41.05%
Official definitions						
Unemployed	53,705	76,172	40,322	3,099,048	4,799,662	4,747,345
Not Economically Active	825,381	830,211	908,887	12,265,121	11,819,619	12,232,209
Unemployment rate	23.19%	27.08%	23.10%	25.25%	30.06%	28.65%
Labor Force Participation rate	21.91%	25.30%	16.11%	50.02%	57.46%	57.53%
Broad definitions						
Unemployed	109,857	120,524	72,294	5,508,410	7,550,740	7,800,594
Not Economically Active	769,229	785,859	876,915	9,855,735	9,068,540	9,178,989
Unemployment rate	38.18%	37.01%	35.00%	37.51%	40.34%	39.75%
Labor Force Participation rate	16.83%	18.45%	12.39%	59.84%	67.36%	68.13%
Females						
Population 15 to 65	456,358	521,565	497,044	12,889,100	14,705,441	14,904,628
Employed	63,633	95,456	58,298	3,666,369	4,898,456	4,783,253
Employment rate	13.94%	18.30%	11.73%	28.45%	33.31%	32.09%
Official definitions						
Unemployed	29,387	38,755	19,511	1,580,410	2,522,674	2,541,701
Not Economically Active	363,338	387,353	419,234	7,642,321	7,284,311	7,579,674
Unemployment rate	31.59%	28.88%	25.08%	30.12%	33.99%	34.70%
Labor Force Participation rate	20.38%	25.73%	15.65%	40.71%	50.47%	49.15%
Broad definitions						
Unemployed	55,627	63,105	40,741	3,034,648	4,265,328	4,573,351
Not Economically Active	337,098	363,005	398,005	6,188,083	5,541,657	5,548,009
Unemployment rate	46.64%	39.80%	41.14%	45.29%	46.55%	48.88%
Labor Force Participation rate	26.13%	30.40%	19.93%	51.99%	62.32%	62.78%
Males						
Population 15 to 65	600,597	589,652	586,418	11,651,400	13,072,287	13,900,153
Employed	114,113	110,130	75,957	5,509,947	6,263,351	7,042,082
Employment rate	19.00%	18.68%	12.95%	47.29%	47.91%	50.66%
Official definitions						
Unemployed official definition	24,318	37,417	20,810	1,518,632	2,276,238	2,205,649
Not Economically Active official definition	462,039	442,105	489,651	4,622,786	4,532,698	4,652,423
Unemployment rate official definition	17.57%	25.36%	21.51%	21.61%	26.66%	23.85%
Labor Force Participation rate official definition	23.05%	25.02%	16.50%	60.32%	65.33%	66.53%
Broad definitions						
Unemployed	54,230	57,420	31,549	2,473,767	3,284,661	3,227,185
Not Economically Active	432,128	422,102	478,912	3,667,651	3,524,276	3,630,887
Unemployment rate	32.21%	34.27%	29.35%	30.99%	34.40%	31.43%
Labor Force Participation rate	28.03%	28.42%	18.33%	68.52%	73.04%	73.88%

Source: Author's calculations based on OHS (1998) and GHS (2002, 2006).

Table 3: Multivariate Trend Model of the Probability of Being Employed

	Males			Females		
	No Controls (1)	Controls (2)	Controls (3)	No Controls (1)	Controls (2)	Controls (3)
Disability Main Effect	-0.706 ***	-0.972 ***	-0.743 ***	-0.404 ***	-0.503 ***	-0.413 ***
	(0.035)	(0.039)	(0.042)	(0.038)	(0.040)	(0.042)
Year	-0.007 ***	-0.004	0.006	0.002	-0.021 ***	-0.021 ***
	(0.001)	(0.004)	(0.004)	(0.001)	(0.004)	(0.004)
Disability x Year	-0.045 ***	-0.046 ***	-0.014 *	-0.045 ***	-0.044 ***	-0.021 **
	(0.006)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)
African		-0.500 ***	-0.573 ***		-0.349 ***	-0.362 ***
		(0.017)	(0.018)		(0.016)	(0.016)
Age		0.026 ***	0.033 ***		0.021 ***	0.022 ***
		(0.001)	(0.001)		(0.001)	(0.001)
Married		0.800 ***	0.782 ***		0.135 ***	0.122 ***
		(0.018)	(0.018)		(0.015)	(0.015)
Less than standard 6		-0.010 ***	-0.427 ***		-0.605 ***	-0.595 ***
		(0.003)	(0.020)		(0.018)	(0.018)
Standard 6 to 9		-0.547 ***	-0.535 ***		-0.628 ***	-0.623 ***
		(0.019)	(0.019)		(0.017)	(0.017)
African x Year		0.018 ***	0.025 ***		0.009 **	0.009 **
		(0.003)	(0.003)		(0.003)	(0.003)
Age x Year		-0.001 ***	-0.001 ***		0.0004 ***	0.000 ***
		(0.000)	(0.000)		0.000	(0.000)
Married x Year		-0.005	-0.004		-0.006 *	-0.006 *
		(0.003)	(0.003)		(0.002)	(0.002)
Less than standard 6 x Year		-0.010 *	-0.008 *		-0.012 ***	-0.010 ***
		(0.003)	(0.003)		(0.003)	(0.003)
Standard 6 to 9 x Year		0.002	0.003 *		0.006 *	0.006 *
		(0.003)	(0.003)		(0.003)	(0.003)
Receives Disability Grant			-1.390 ***			-0.829 ***
			(0.024)			(0.022)
Intercept	-0.057 ***	-0.383 ***	-0.505 ***	-0.511 ***	-0.531 ***	-0.551 ***
	(0.007)	(0.026)	(0.027)	(0.006)	(0.024)	(0.024)
Observations	199,647	199,647	199,647	230,763	230,763	230,763
Likelihood ratio	3,932.970	55,428.820	60,870.570	1,508.630	26,589.350	28,413.516

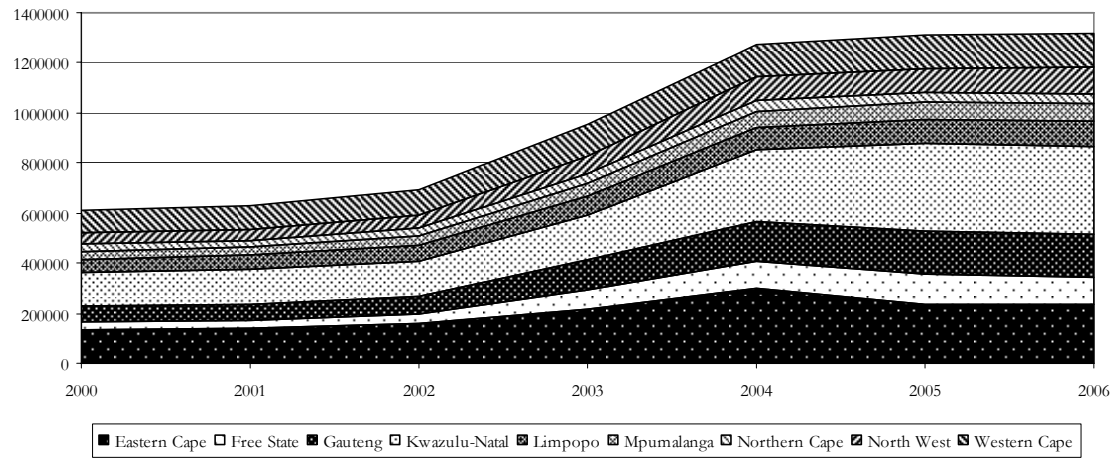
Source: Author's calculations based on OHS (1998,1999) and GHS (2002 through 2006).

Table 4: Regressions of the Fraction of Persons with Disabilities Employed at the State Level

	Unweighted			Weighted			First differencing
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fraction of PWDs on Disability Grant							
Coefficient	-0.335	-0.346	-0.333	-0.374	-0.43	-0.401	-0.228
Standard error	(0.053) ***	(0.062) ***	(0.072) ***	(0.061) ***	(0.071) ***	(0.080) ***	(0.088) **
Fraction of Population with HIV							
Coefficient			-1.395			-2.939	-0.045
Standard error			(3.648)			(3.575)	(0.026)
Time Effect	No	Yes	Yes	No	Yes	Yes	-
R^2	0.7045	0.706	0.707	0.731	0.74	0.751	0.14
Log of Fraction of PWDs on Disability Grant							
Coefficient	-1.255	-1.434	-1.352	-1.352	-1.721	-1.595	-
Standard error	(0.220) ***	(0.259) ***	(0.260) ***	(0.250) ***	(0.288) ***	(0.283) ***	
Log of Fraction of Population with HIV							
Coefficient			-2.253			-3.277	-
Standard error			(1.462)			(1.612)	
Time Effect	No	Yes	Yes	No	Yes	Yes	-
R^2	0.648	0.664	0.687	0.653	0.699	0.732	-

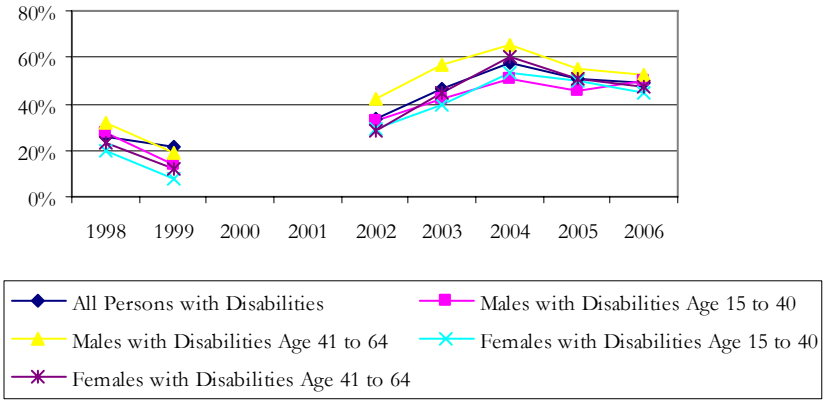
Source: Author's Tabulations based on GHS (2002 through 2006) and ASSA2003 model.

Figure 1: Disability Grant Beneficiaries by Province



Sources: The Treasury (Various years), SASSA for 2006.

Figure 2: Disability Grant Receipt among Persons with Disabilities (Activity Limitations)



Source: Author's Calculations based on data from OHS (1998, 1999) and GHS (2002 through 2006). No data are available for 2000 and 2001.