Centre of Full Employment and Equity

Assessing the wage transfer function of and developing a minimum wage framework for the Expanded Public Works Programme in South Africa

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Expanded Public Works Programme research context

This research was funded by the International Labour Organization (ILO). It was launched in November 2007 after a series of consultations from March to October 2007 with the EPWP programme managers and implementers, key policy makers, social partners and academic experts which helped clarify the issues and identify research questions that would be useful inputs to national debate on policy choices.

Professor William Mitchell was engaged by the ILO to undertake this research and provide alternative perspectives for assessing the EPWP and scenarios for strengthening and scaling-up its contribution to the reduction of unemployment and poverty.

The ILO initiated this research in accordance with its commitment under the UN Development Assistance Framework (UNDAF) for South Africa to support South Africa in addressing the problems of the "second economy", and as part of its technical assistance to the Government in implementing the Public Works programme. The Government has adopted a number of measures to reduce poverty and promote employment - primary twin-problems of the "second economy". But the EPWP has gained policy prominence and has been the subject of robust national debate. It is also the only programme with both employment and social protection elements that are directed to the working-age population who are able to work and willing to work but cannot find work.

Two premises have underpinned the ILO's engagement in this research: (1) Policy instruments that promote employment and social protection are complementary and mutually reinforcing. The availability of remunerative employment and access to it by those who are able and willing to work is central to poverty reduction. It is equally important that a minimum level of social protection guarantees the basic needs of all individuals who are unable to work or who are able to work but cannot find work. (2) Providing minimum income support through direct job creation under public investment or public works projects has several advantages: (a) secures a working-age person's right to a job, (b) not only provides income but also enhances self-worth, social recognition and social networks, and (c) has the potential of creating, providing or improving infrastructure, services and assets which benefit the poor and support employment in the long term.

Due to data limitations, the research examined only the wage income support function of the EPWP. However, we recognised that the impact of assets, services and training provided through the programme on employment and incomes in the medium and long-term are also valuable and should be examined at a later date when data are available or could be obtained.

The views expressed in this Report are those of the author and not of the ILO.

Executive Summary

This Executive Summary covers the main conclusions and recommendations that are reached in this Report.

Chapter 1 Introduction and Terms of Reference

Overview – the challenge of poverty and unemployment

1.1 The link between poverty and its major cause – unemployment – is undeniable. But in noting this obvious link we emphasise that these two twin evils are both political problems. There is nothing intrinsic to a modern monetary economy such as South Africa that makes either poverty or unemployment inevitable. The resolution of these twin evils overwhelmingly reflects the choices made within the political system and while the problems are significant in South Africa they are not insurmountable if an appropriate policy framework is put in place.

1.2 In fact, South Africa would seem to have the preconditions that would make the task of achieving full employment and poverty alleviation more easy than other nations. It has no shortage of space and is resource-rich in both natural and human terms. It has also developed the highest quality education, health care and personal care support systems that are available anywhere in the World but these are still beyond the grasp of the majority despite transition.

1.3 It is no surprise that these resources were applied and distributed highly unequally under the apartheid system. The logic of that system was, in part, to deny the rights of the vast majority for the benefit of the few. However, despite abandoning the formal apartheid system as a legal framework to define rights, South Africa does not appear to have abandoned the underlying economic organisation and structure that underpinned and perpetuated it. In fact, the same system that generated economic inequalities under apartheid continues to deny the majority of South Africans access to the production and distribution systems.

1.4 The continuation of this economic organisation and the strong policy support for it from the national government (for example, budget surpluses under the neo-liberal mandate) indicates that the dramatic inequalities that continue in democratic South Africa today are undeniably a result of political choice. In saying that, we recognise that the transition to democracy placed significant pressures on the political machinery available in South Africa. This machinery had not evolved under apartheid to deliver social democratic outcomes. We also consider that in making the transition towards the adoption of social democratic ideals, the South African government has received poor advice from external governments and international institutions and has been under incredible pressure to confirm to the "world economic order" which is typified by the neo-liberal agendas set by the International Monetary Fund (IMF) and the World Bank. That agenda makes the elimination of poverty and unemployment difficult to accomplish because it places the necessary fiscal tools in a straitjacket and does not support redistributive policies that more equably share the wealth generated by a nation economy.

1.5 The South African government does have the policy capacity available to it to enable full employment and the significant reduction of poverty. The challenge is for it to

identify this capacity and use it to develop the policy structures which will improve employment outcomes for all and reduce the widespread poverty. This Report provides some guidance in this respect which is outside the neo-liberal framework that has constrained the South African economy from achieving its noble ideals.

1.6 None of this is to say that the task is easy. The logistics alone of transforming an apartheid economy into a more equal and inclusive social system are daunting. But the task has to be pursued within the correct economic and social policy framework which has not been particularly forthcoming in democratic South Africa. The conceptual material provided in Chapters 7 and 8 of this Report outline the essential macroeconomic concepts that underpin the practical policy options available to the South Africa government.

1.7 Unfortunately, the post-apartheid South African administration appears to have adopted what has been termed a neo-liberal economic understanding of the world and the policy apparatus that is concomitant with that understanding. The most explicit example of this is seen the transition from the Reconstruction and Development Programme (RDP) to the Growth, Employment and Redistribution Programme (GEAR). The RDP was envisaged to be the cornerstone for building a better life of opportunity, freedom and prosperity. In 1996 RDP was superseded by GEAR, which adopted explicit economic growth strategies that were oriented towards private sector investment and assumed the role of the public sector and government programmes to be minimal. The GEAR strategy pursued fiscal discipline by minimising deficits and maintaining high real interest rates, which paradoxically constrained economic and employment growth. The failure of GEAR is never more evident than in the discrepancy between the economic modelling, which predicted that a 6 per cent growth rate would create an average of 270,000 additional jobs annually in the formal sector, and the outcomes, which saw formal sector employment, stagnate and fall.

1.8 It is no surprise then that the richness of resources have not been used to benefit the greater population. Neo-liberal economics emphasises the primacy of the private market place and uses “private costs and benefits” as the basis of resource allocations, largely ignoring the broader and more inclusive concept of “social costs and benefits”. In the case of South Africa, this translates into the hard to understand combination of a government running fiscal surpluses and more than 60 per cent of the population without adequate housing or income. The surpluses are justified by the erroneous claim that they are fiscally responsible management, a central misnomer of neo-liberal thinking which remains stuck in a time when fixed exchange rates and commodity money was the norm. In a flexible exchange rate world and where the government maintains sovereignty over its currency, these notions are inapplicable. The application of them results in dysfunctional outcomes which we see in the stark reality of the South African situation.

1.9 Throughout the policy literature one reads that unemployment in South Africa is a complex and manifold problem. The construction of unemployment in South Africa as being a “structural problem” dominates the debate with contributions supporting this perspective coming from all sides of the political landscape. Various academic researchers also argue that unemployment is structural. We do not share the view that the overwhelming unemployment problem is structural in nature.

1.10 We show in Chapter 7, that a modern monetary economy has the capacity to create a pool of jobs that would be inclusive of the most disadvantaged workers and be spatially matched to the pattern of economic settlement. In that sense, to say the unemployment

is structural is to assume all jobs have to be created by the dynamics of the private market place and selection and offer of training slots should reflect the prejudices of the private sector employers.

1.11 By any standards, the unemployment problem in South Africa is what economists call a demand deficiency situation rather than a structural problem. This means there is not sufficient demand for labour being generated overall. The South African economy is not producing enough jobs and the labour queue then reflects the distribution of skills with the least skilled in the most disadvantaged position in the face of job scarcity.

1.12 There is not a shortage of meaningful job opportunities that could be pursued in South Africa if there was a willingness to fund the employment. The private sector is clearly unable to generate the level of employment commensurate with the willing labour supply. This chronic state is a *prima facie* justification for a direct public sector job creation.

1.13 Economists traditionally distinguish between structural and cyclical unemployment although the demarcations used are generally unsatisfactory (see Mitchell and Muysken, 2008). However, it is clear from the most cursory examination of the South African labour force data that this is an economy that fails to generate enough jobs not one that generates enough work in areas unsuited to those who are seeking work. That situation is not one of structural unemployment by any definition of the word. The solution to South Africa's unemployment problem is to generate more work.

1.14 Further, it is highly unlikely that the private sector will provide the impetus to solve this problem. It therefore falls back on the South African government to generate the necessary employment via direct job creation. That should be the unambiguous role of the EPWP and provide an overwhelming mandate for its significant expansion.

1.15 The overall policy aim of the EPWP as set out by the DPW is to reduce poverty and unemployment. The initial target was to provide 1 million temporary work opportunities for the most disadvantaged unemployed.

1.16 The problem, of-course, is that this target is too modest to do anything but dent the dual problems of poverty and unemployment. The work duration is too short and/or irregular, and while daily wages vary considerably, the low monthly/annual wages detract from programme impact. The EPWP only sustains around 200,000 temporary jobs per year. The work opportunities are short and the 200,000 jobs are spread throughout the year. There is thus no continuity of income for EPWP participants.

Terms of Reference

1.17 To inform policy, the proposed research will focus on the role that EPWP in South Africa has played in reducing income insecurity and promoting employment, and how it interacts with existing social grants.

1.18 The terms of reference are detailed in full in Chapter 1. By way of summary, the overarching policy questions guiding this research are:

a. What improvements or changes in programme design would enhance the impact of the EPWP wage income on poverty alleviation?

b. What is the appropriate minimum wage for a minimum level of employment? How does this vary across space?

i. What are the alternative options for up-scaling the wage income transfer of EPWP? And what are the costs (affordability) and benefits of different scales of EPWP?

1.19 To advance these research questions the research will:

a. provide an up-to-date descriptive analysis of the major dimensions and characteristics of the EPWP programme and its participants using summary statistics, maps and, where possible, spatial statistical techniques;

b. Consider a range of poverty indicators including the StatsSA approach based on minimum food needs for daily energy requirements plus essential non-food items, calculated on a simple per capita basis with per adult equivalent poverty lines and those based on equivalency scales (such as the Oxford equivalency scale) which consider child cost ratios and household economies of scale, will be assessed for suitability as dependent variables in the regression analysis;

c. Use multi-level modelling regression techniques to estimate the differential impact of participation in the EPWP on the constructed poverty measures after controlling for relevant individual and regional (contextual) factors as well as programme characteristics;

d. Use multi-level modelling regression techniques to compare the relative impacts of EPWP participation and the receipt of social grants on the constructed poverty measures after controlling for relevant individual and regional (contextual) factors as well as programme characteristics. In particular, we will examine the interconnections between social grants such as Old-Age Pensions, Child Support Grants, Foster Care Grants and Disability Grants, as they relate to the benefits derived from the EPWP, in order to better understand the measures that can be taken in order to strengthen positive linkages;

e. Deploy the empirical output from (3) and (4) to explore the spatial distribution of benefits derived from EPWP employment under the assumption that the government will continue to ration the number of EPWP jobs;

f. Deploy the empirical output from (3) and (4), to conduct a scenario analysis of different ways to increase the scale of the EPWP in order to eradicate indigence below a specified threshold level.

g. Provide an overview of minimum wage setting in public works projects including the scope and coverage of minimum wages (including the Employment Conditions Commission, nationally negotiated wages, and bargaining councils, etc…); What criteria is used to determine the minimum wages; compilation and discussion of minimum wage rates for different sectors under the Basic Conditions of Employment Act since 2001.

h. Provide a critique of the concept of the reservation wage and its relevance for minimum wage determination in EPWP projects using Vaidya and Ahmed (2007) as an example of a flawed approach

i. Provide a framework for minimum wage setting in EPWP projects and assess the potential for introducing a safety-net wage to augment the plethora of wage rates that govern low-skilled work in South Africa.

j. Within this framework propose an appropriate scale of minimum wage rates for EPWP projects. This may include calibrations for spatial variation in wages, variations by sector or alternatively a standardised wage, depending on findings from differential impact analysis and the wage study.

A readers guide to the Report

1.20 Table 1.1 in the Report provides a guide to how one might approach this Report. The narrowest reading will involve Chapters 2 to 6. This will provide the reader with the following information and analysis:

- A brief review of the wages system in South Africa, including minimum wage coverage;
- A brief consideration of the diversity and levels of wages paid to EPWP workers;
- A detailed discussion of possible minimum wage levels for EPWP workers and how they correspond to contemporary debates about poverty line measurement in South Africa;
- A detailed discussion of the relative merits of income guarantees versus employment guarantees.

1.21 The disadvantage of taking a narrow interpretation of the Terms of Reference (particularly the items that seek information about appropriate minimum wage frameworks and appropriate ways to expand the EPWP) is that the conceptual richness that underpins contemporary discussions about employment guarantees would be lost. Further, the logic of offering employment guarantees in a modern monetary economy would be lost.

1.22 To acquire the broader knowledge and understandings one would have to read Chapters 7 and 8 and integrate that information into the debate. However, it is possible to read Chapters 2 and 6 of this Report without considering the deeper conceptual issues and debates.

1.23 We recommend that readers consider the report in general and appreciate the conceptual framework which underpins the more practical recommendations.

Table 1.1 A reader's guide to the Report

Aim	Chapters to be read
Narrow reading within the Terms of References	Chapters 2 to 6 (inclusive)
Thorough understanding of employment guarantees	Chapter 7
Understanding what a modern monetary economy means and what options it provides a national government including a critique of neo-liberal macroeconomic thinking	Chapter 8
Complete understanding of EPWP problems and options with necessary conceptual support.	Complete report, especially Chapters 7 and 8.

Chapter 2 South African wage determination and minimum wages

Overview

2.1 The debate about minimum wages in South Africa, particularly in relation to their impact on employment growth, is replicated in all modern economies. In relation to South Africa, the neo-liberal viewpoint is well expressed by Sowell (2006) who says that the high unemployment is not a failure of demand but has arisen because 'minimum wages in South Africa have been set higher than the productivity of many workers, so employers have no incentive to hire those workers, even though such workers are perfectly capable of producing much-needed goods and services.'

2.2 This argument is merely a rehearsal of the standard neo-classical text book mantra that follows the development of the perfectly competitive labour market model. The model has little applicability to the real world and theories of second best tell us that moving from a certain "real world" market structure to one that looks more like the perfect model (for example, via deregulation) does not guarantee that outcomes will "resemble" those of the perfect world – that is, they do not necessarily improve outcomes such as employment.

2.3 Mitchell and Muysken (2008) conclude that mass unemployment of the scale that is found in South Africa is the result of inadequate aggregate demand for goods and services brought about by a spending gap. Reducing minimum wages in that context will not be an effective remedy.

2.4 Where there have been effective statutory minimum wage interventions the impacts appear to have been positive.

Low wage work in South Africa

2.5 What is the extent of low wage work in South Africa? Valodia *et al*. (2006) use the Labour Force Survey (LFS) in 2000 and 2004 to compute the number and percentage of workers who earn below R2500 and R1000 per month. Their computations are shown in Table 2.3. Using the 2000 Labour Force Survey (LFS), 77.8 per cent of South African workers earn less than R2500 per month and over 53 per cent earn less than R1000 per month. The authors (2006: 91) also estimate that 38 per cent of all workers in 2000 (that is, 4,246,232) earn below R500 per month.

Table 2.3 Low-wage workers in South Africa

	Labour Force Survey 2000				Labour Force Survey 2004			
	<=R2500		<=R1000		<=R3500		<=R1500	
	No	%	No	%	No	%	No	%
Low-waged	8,697,262	77.8	5,958,388	53.3	8,218,534	73.4	5,583,331	49.2
Total employed reporting wages	11,174,295	100.0	11,174,295	100.0	11,357,840	100.0	11,357,840	100.0

Source: Valodia *et al* (2006). The calculations were based on data from Stats SA (2001) and Stats SA (2004).

2.6 To accommodate for the inflation over the four year period, the authors adjusted the thresholds for inflation and used R3500 and R1500 in 2004 as the nominal equivalents

of R2500 and R1000 in 2000 (thus, approximately holding the real wage thresholds constant).

2.7 We observe an increase of 183,545 workers reporting employment earning wages between 2000 and 2004. Over the same period the low-wage workers (<=R1000 in 2000 and <=R1500 in 2004) declined from 53.3 per cent of total employment in 2000 to 49.2 per cent in 2004. In absolute terms this group fell by 375,057 workers and so some progress is being made on providing transitions from low- to higher-wage employment.

2.8 It is clear that the wage distribution in South Africa is highly skewed with a high proportion of South African workers earning low wages. In the case of the lowest paid – domestic workers and farm workers who together comprise around 17 per cent of total employment – 'their estimated wages lie below the poverty line for individuals and for households as well' (Altman, 2006: 74).

2.9 However, the problem of poverty is not only that around 50 per cent of paid workers remain on extremely low pay, but is also driven by the fact that only a minority are officially employed.

Minimum wages in South Africa

2.10 Minimum wage rates in the various industrial sectors in South Africa are determined through: (a) Bargaining Council collective agreements, and (b) Sectoral Determinations. Bargaining Councils or the old Industrial Council system have historically been the central pillar of collective bargaining in South Africa but only cover 32.6 per cent of workers in the defined job categories, with four of the nine major sectors of the economy not having a Bargaining Council.

2.11 The Report documents minimum wage outcomes from:

a. Furniture Bargaining Councils
b. Clothing Bargaining Councils
c. Leather Bargaining Councils
d. Building Bargaining Councils
e. Hairdressers Bargaining Councils
f. Other Bargaining Councils
g. National Bargaining Councils

2.12 The Report documents minimum wage outcomes from a number of Sectoral Determinations:

a. Wholesale and Retail Sector;
b. Domestic, Farm Workers, Contract Cleaners, Forestry, Taxi and Hospitality sectors;
c. Private Security Sector;
d. Civil engineering sector

2.13 Table 4.10 documents the lowest of the minimum wage rates found in this study of Bargaining Council outcomes and Sectoral Determinations.

Table 4.10 Minimum wage rates in selected sectors and occupations, South Africa

Sector	Qualifier/Occupation	Monthly Rand Wage
Furniture	Free State	1118.27
Clothing	Non-metro areas B	1058.94
Leather	General Goods and Handbag Section A	1682.24
Building	Kimberley B	1093.10
Hairdressers	Semi-national	665.00
Meat	Gauteng	1331.00
Motor Trade	National	1290.90
Farm SD	Urban	1041.00
Taxi SD	Workers not elsewhere classified	1086.87
Domestic Worker SD	Rural	946.04
Wholesale and Retail	General Assistant Area A	1737.00
Wholesale and Retail	General Assistant Area B	1495.00
Wholesale and Retail	General Assistant Area C	1458.00
Motor Trade	Area B	1280.16
Security Guard	General Worker Rural	881.00
Security Guard	General Worker Rural (First 6 months)	811.00
Forestry	As at 2007	836.00

Source: see analysis in Chapter 2.

Do minimum wages damage employment?

2.14 Does the imposition of minimum wages hinder employment growth, especially at the unskilled end of the labour market? The standard neoclassical textbook model of perfect competition predicts that wage increases and/or the imposition of minimum wages and conditions, will have adverse consequences for employment. This proposition is grounded in orthodox microeconomic theory developed within the highly stylised 'competitive' model. The results are simple outcomes of the way the model is set up.

2.15 Dolado *et al.* (1996: 327) say that the orthodox textbook approach to the question 'can be encapsulated in five propositions:

e. A minimum wage cannot increase employment and generally reduces it.

f. Its adverse employment effects are largest in a small open economy where international competitiveness is most significant.

g. Lower tax rates or higher subsidies are a better way to improve both the employment prospects and the incomes of the low paid.

h. Young workers are most affected.

i. Minimum wage earners usually come from the poorest households, so minimum wages do little to alleviate poverty

2.16 The question is whether the model provides useful predictions for the real world. The failure of the parameters of this 'text-book' model to materialise in the real world and the existence of pronounced interdependencies between labour demand and supply - in defiance of the model's assumption of independent costs and incomes - are typically ignored by those who want to abuse the 'text-book' theory and use it as an 'authority' for their claims.

2.17 The dominance of the proposition has driven labour market policy over the last 12 years since the OECD released its *Jobs Study* (OECD, 2004), which provided a sophisticated and seemingly empirically-tight argument for comprehensive labour market and welfare system reform. The OECD advocated extensive supply side reform with a particular focus on the labour market, because supply side rigidities were alleged to inhibit the capacity of economies to adjust, innovate and be creative (OECD, 1994: 43).

2.18 In recent years, partly in response to the reality that active labour market policies, including suppressing real wage increases for the most disadvantaged workers around the OECD countries, have not solved unemployment and have instead created problems of poverty and urban inequality, some notable shifts in perspectives are evident among those who had wholly supported (and motivated) the OECD approach.

2.19 There has been a bevy of research material seeking to estimate the impact of minimum wages by estimating through econometric analysis the so-called wage elasticity. This elasticity conceptually measures the percentage change in employment for each percentage change in the relevant wage. It is argued by the neo-classical model that if a minimum wage is higher than that which the market itself generates, then the extent of the employment loss will depend on this elasticity. The problem is that the estimation process is not without significant problems and relies on a substantial amount of researcher judgement (about data to be used, estimation techniques, samples, and such). The results typically are highly sensitive to these judgements, which from a scientific perspective is most unsatisfactory.

2.20 The overwhelming conclusion to be drawn from this literature is that there is no conclusion. These various econometric studies, which have sought to establish the empirical veracity of the neoclassical relationship between unemployment and minimum wages and constructed their analyses in ways that are most favourable to finding the null that the OECD view was valid, provide no consensus view as Baker *et al.* (2004) and eminent Harvard economist, Richard Freeman (2005) show convincingly.

2.21 In the face of the mounting criticism and empirical argument, the OECD has begun to back away from its hardline Jobs Study position. In the 2004 Employment Outlook, the OECD (2004: 165) admits that the evidence supporting their Jobs Study view that high real wages cause unemployment "is somewhat fragile." However, in the 2006 OECD Employment Outlook, which is based on a comprehensive econometric study of employment outcomes across 20 OECD countries between 1983 and 2003, a major shift in perspective is offered. The study included those who have adopted the Jobs Study as a policy template and those who have resisted labour market deregulation. The OECD (2006) finds that:

j. There is no significant correlation between unemployment and employment protection legislation;

k. The level of the minimum wage has no significant direct impact on unemployment; and

l. Highly centralised wage bargaining significantly reduces unemployment.

2.22 This latest statement from the OECD confounds those who have relied on its previous work including the Jobs Study, to push through harsh labour market reforms, retrenched welfare entitlements and attacked the power bases on trade unions. It is a fundamental rejection of the orthodox position with respect to minimum wage rates.

Chapter 3 Wage outcomes in the Expanded Public Works Programme in South Africa

3.1 In this Chapter we provide an overview of the current average daily minimum wages paid by the EPWP projects broken down by level of government, province and employment sector (Infrastructure; Economic; Environment and Culture; and Social). The analysis shows that there is very little coherence in the pay floors provided under the EPWP, in contradistinction with wage determination in the "best-practice" employment guarantee design that we consider in detail in Chapter 7.

3.2 Several reports have found that inconsistent application of wage rate, timely payment of wages, payment of wages during training, extremely low wage rates, and unpaid labour are significant issues affecting beneficiary and community satisfaction and the poverty alleviation outcomes of EPWP. Further problems are encountered at the local level. For example, the differentiation in wage levels of EPWP projects by sector (and other government job creation programmes) has some unintended consequences at the micro level. In some instances, the programmes compete for the same pool of labour, and contractors have had difficulty completing projects on time as workers are attracted to other higher paying position that are available within one's community.

3.3 The EPWP's Mid-Term Review evaluation found that the average wage per work opportunity had declined since the programme's inception, and that the programme's wage bill had stagnated, despite increasing numbers of programme beneficiaries. The review also highlighted problems with the labour intensity of programme spending.

3.4 Our assessment is that the duality of restricted duration employment and allowing deregulated wages (locally set wages) to exist which reflect local private market settings undermine the ability of the EPWP to achieve its two primary aims - poverty alleviation and generating a sustained reduction in unemployment.

3.5 By allowing EPWP wages to be set locally at rates which do not interfere with 'more permanent employment', the South African government is placing the EPWP outcomes in the "hands of the market". While the logic of this is articulated as being to defend the existing conditions in the formal labour market, the reality is that it is consistent with neo-liberal logic that the market provides the "correct" wage distribution. Once we consider the analysis presented in Chapters 2 and 4, it becomes clear that the market sector does not uniformly pay wages that are above what could be reasonably constructed as the poverty line.

3.6 Accordingly, EPWP and the legislative base for SPWP in SA should provide a mechanism, for ensuring decent minimum working conditions within the labour market.

3.7 The average daily minimum EPWP wage rate for the nation as a whole was around R41. However, there is considerable variation in the average daily minimum wage rates across the four activity sectors and within each sector. The analysis presented in this Chapter covers the 2006-07 reporting period.

3.8 The Social sector offers the largest number of projects (59.3 per cent of total projects) but these generate a relatively small percentage of the total Person-days of work (26 per cent) and Gross Jobs (11.6 per cent). The jobs offered have two significant features: (a) they are low paying (for example, average minimum daily wages are almost 50 per cent below those on offer by Infrastructure sector projects); and (b) the average duration of the a job opportunity is around 130 days compared to 50 days in Infrastructure, 44 days

in Environment and Culture and 75 days in the Economic sector. So workers who have opportunities in this sector earn the lower wage over a significantly longer period.

3.9 The Environment and Culture sector offers only 14 per cent of the total projects but around 40 per cent of the total jobs. They daily wage paid is around the national EPWP average but the duration is below the corresponding average for the overall programme. The highest paying sector in terms of average daily minimum wages is Infrastructure but the duration of the jobs is below the national average even though this sector generates around 47 per cent of the total job opportunities under EPWP.

3.10 The Provincial governments dominate the Social sector and account for its long duration low wage EPWP job offerings. The pay contrast in that Sector between the Provincial and Municipal government projects is stark although Municipal government offers very few work opportunities with relatively short duration.

3.11 Within the Infrastructure sector, while the municipal level pays higher average daily minimum wages the average duration of the work opportunities provided is significantly lower than those offer at the higher levels of government. The provincial governments provide the most job opportunities in infrastructure projects and these opportunities pay more and last longer on average than the infrastructure jobs at both the national and municipal levels.

3.12 Within the Environment and Culture sector, the national government dominates but pays the lowest minimum wages of the three levels of government. However, in comparison to the Provincial government, the duration of the job opportunities that are offered by the National government are significantly longer. The few jobs offered in this sector by the Municipal level are well paid and long duration.

3.13 In general, the shorter (longer) work opportunities have slightly higher (lower) rates of pay.

3.14 The variation across provinces is driven by the variation in wages paid by projects run by provincial governments. There is less spatial variation in daily minimum wages paid by national government projects, which reveals the benefits of the ‘programme’ approach that has been adopted by the Environment and Culture sector.

3.15 Provincial jobs are typically lower paid but with higher duration than those offered by the other levels of government. However the wages paid by provincial governments are also more variable across space than those at the other levels of government. There is virtually no variation across the provinces in national government EPWP daily minimum wages.

3.16 For National government departments, the average daily minimum wage for manual workers was R71 for projects in the Infrastructure sector and R45 for projects in the Environment and Culture sector. The lowest (highest) average daily minimum wages in the Infrastructure sector were R65 (R72.33) and R43.18 (R50.33) in the Environment and Culture sector.

3.17 For Provincial government departments the average daily minimum wage for manual workers was R53 for projects in the Infrastructure sector; R50 for projects in the Economic sector; R45 for projects in the Environment and Culture sector; and R33 for projects in the Social sector.

3.18 The Social sector, at the provincial government level, is the most job effectiveness, which we define as the Rand spent per person days of work generated. For every one day of work generated, 83 rand are spent. Overall, the Social sector generates

comparatively more days of work at higher rates of labour intensity. However, as we have seen these jobs are paid at relatively low wages when compared to the other sectors. That is, a large portion of the programme budget is directed to generating days of work, but the work is remunerated at a low wage.

3.19 Projects in the Environment and Culture sector operated by both by national and provincial governments are the next best performed in terms of job effectiveness. As previously mentioned, the majority of programmes (708 of 991) operate through national departments on a ‘programme’ basis, such as the ‘Working on Fire’ or ‘Working for Water’ programmes. This allows these EPWP programmes more control over programme expenditure. Moreover, while this sector requires considerable supporting materials and equipment outlays, it still remains one of the most labour intensive.

Chapter 4 Determining minimum wages in the Expanded Public Works Programme

Overview

4.1 In this Chapter we compare the wage outcomes of existing EPWP projects examined in Chapter 3 to various estimates of the poverty line and demonstrate that the program as it is currently designed and implemented is incapable of achieving one of its primary aims - the alleviation of poverty. Our overriding starting point in discussing appropriate minimum wage levels for EPWP projects is expressed by the following logic. With poverty linked intrinsically to and driven overwhelmingly by unemployment, it is a sound strategy to counter the former by directly seeking to reduce the latter.

4.2 In this Chapter we have four aims:

a. To develop a transparent framework to determine appropriate minimum wage rates for EPWP employment. We will consider issues relating to the spatial variation of wages and the desire to preserve real values over time;

b. To employ this framework to make recommendations on appropriate wage rates for EPWP employment giving due consideration to: (a) the various poverty line measures that have been proposed for South Africa; (b) the extent to which own production provides real income; and (c) the potential for accessing other income sources;

c. To consider the impacts of the proposed minimum wages on the market wage structure and likely supply side responses. We will provide a critique of the concept of the reservation wage and its relevance for minimum wage determination in EPWP projects. We will also examine the extent to which EPWP wages displace workers from other sectors.

d. To consider the relationship between EPWP wage income and supplementary social grants. We assess whether a Basic Income Guarantee (BIG) or a Job Guarantee (JG) is the best vehicle to provide income guarantees. The debate is highly relevant to the choices confronting South Africa at this present time.

Considerations to guide a minimum wage system

4.3 There is very scope in South Africa for reducing poverty by a reliance on “own production”. In terms of access to income from market work, it is clear that despite solid growth in demand for skilled workers there is still a grave insufficiency of market-based work opportunities in South Africa designed to provide the most disadvantaged workers access to the income distribution system.

4.4 Given this insufficiency, we adopt the principle that a desirable and major source of safety net support should come from participation in EPWP work with some supplementation from social grants to accommodate family structure and regional cost of living differentials.

4.5 In the longer term, like any employment guarantee system, training pathways should be designed to allow an EPWP worker more scope to choose other working opportunities and thus enhance the potential for earning market income.

4.6 Our approach to minimum wage determination for EPWP projects is also influenced by the scheme’s own policy objectives. The Department of Public Works, which

administers the EPWP, has stated that the scheme should pursue multiple aims which include poverty alleviation.

4.7 In terms of the gender dimension, specific issues need to be considered. Table 4.2 in the Report encapsulates some of these considerations by gender. These considerations suggest that:

a. Projects should be accessible and inclusive for women who are in poverty and who have family responsibilities. If projects are rationed then some targeting of this same group should be introduced;

b. Wages should be equal by gender;

c. Projects should be designed to provide employment opportunities close to the residential location of the targeted workers;

d. Specific transport concessions and infrastructure should be available to make it easier for women to get to work locations quickly to allow their shared family and work roles to be feasible;

e. Child care facilities should be provided and/or improved and their staffing incorporated into EPWP paid work opportunities.

4.8 We thus do not see the minimum wage discussion as being separate from the broader issue of public service provision and the quality of the social wage. In advocating a minimum wage for the EPWP worker that will be above an acceptable (and broadly defined) poverty line, we are not reducing the case for increased social wage benefits to be provided by the state.

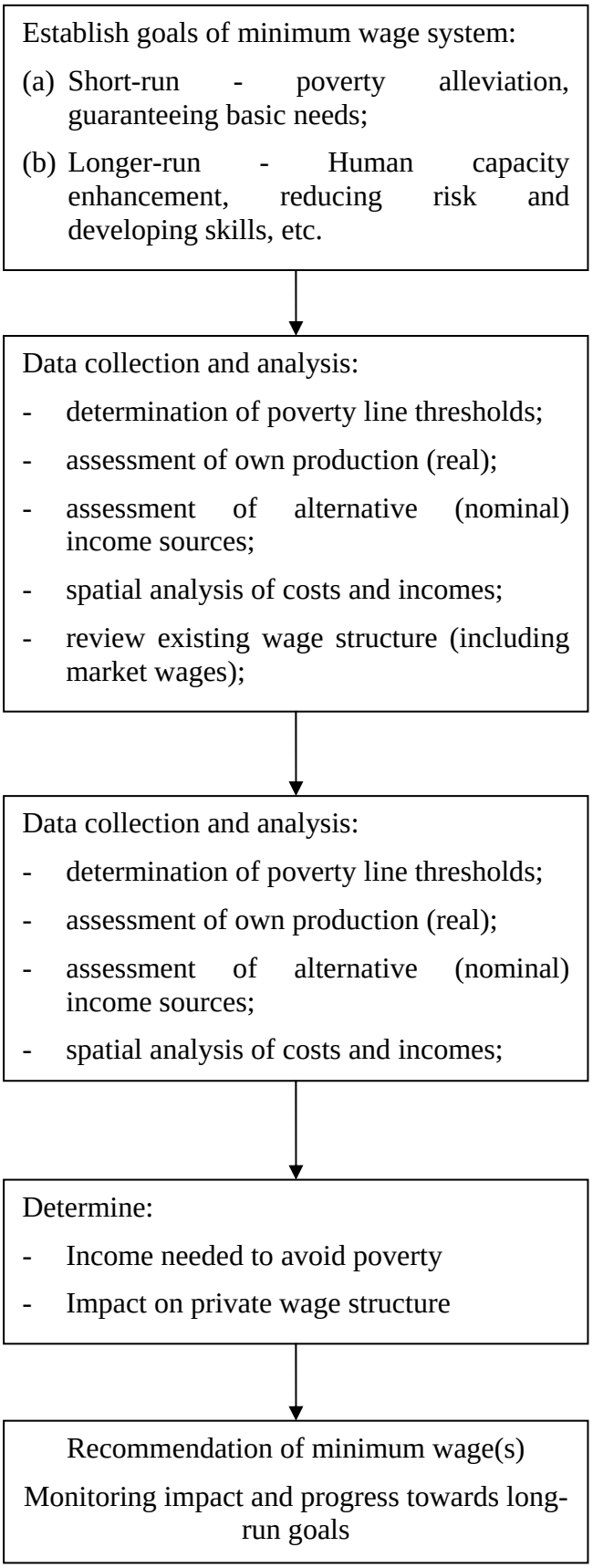
4.9 It is apparent that some EPWP projects pay "training wages" (lower to defray investment costs). We consider this practice to be misguided in terms of the objectives of the programme. First, it is a public sector initiative aimed at nation-building and as such has huge social benefits that go well beyond the benefits that can be captured by any private individual. Second, evaluations suggest that the 'benefits of training and linkage to exit strategies are so uncertain' (Human Sciences Research Council, 2007: 19). While we reject paying EPWP workers below a statutory minimum wage on the basis of spreading the costs (and benefits) of training between the employer and employee, we do recommend a training system being integrated into the paid work structure to enhance the productive capacities of the EPWP.

4.10 A striking feature of the analysis presented in Chapter 3 is the disparity of EPWP minimum wage rates being offered across space, level of government, and type of project. It is hard to assimilate that disparity with the uniformity of EPWP aims set out by the Department of Public Works. We thus argue that a basic goal for any minimum wage system would be to ensure that the workers are able to escape poverty as a direct consequence of their labour. If that principle is paramount then we would also suggest that the considerable wage disparity across EPWP projects and space be eliminated.

A framework for setting wage rates for EPWP projects

4.11 The recommended minimum wage determination framework is sketched in Figure 4.1 (see also Chirwa *et al.*, 2004). The following assumptions govern the discussion: (a) the wage floor is set at the poverty threshold which would enable productive work to be carried out; (b) "own-production" is insignificant; and (e) EPWP income is the primary (100 per cent) income source for the worker.

Figure 4.1 A framework for minimum wage determination



4.12 The framework for the determination of a minimum wage for EPWP workers should incorporate two (temporal) stages in poverty alleviation:

a. In the first instance, if the EPWP aims to deliver poverty alleviation then it should provide a minimum wage which will guarantee each worker has an income above some reasonable poverty line estimate which we consider would have both an absolute (basic needs) and a relative (social needs and risk management) dimension. Where the EPWP administrative structure is unable for operational reasons provide enough employment to those who seek it then the wage should still be paid during the period that the government bureaucracy takes to offer EPWP employment. That is, no worker should be without an EPWP income due to a lack of actual job slot being made available at any point in time. Some readers might immediately see that this short-run dimension requires something akin to a BIG to be in place via the EPWP wage if there are no EPWP jobs currently available for immediate start. The difference between this approach and the standard BIG approach advocated by its proponents is the income guarantee would come from an EPWP wage not a basic income. The fact that the recipient my not start work immediately would reflect either frictions across space (short-term time delays in organising work) or more fundamental inefficiencies in the EPWP administrative structure. The former would be unproblematic but the latter would provide a feedback mechanism to evaluate the performance of the administration. The fundamental principle is that no worker should be without an income guarantee;

b. Over time, depending on the aspirations of the Government and the South African people, the minimum wage determination framework should provide for mechanisms that allow the concept of a minimum wage to be broadened to reflect more relative considerations which seek to improve the human experiences and capacities of the population. The minimum wage would thus embrace things such as widening the savings capacity of individuals (so they can better accumulate wealth; create personal risk buffers; and smooth out risk over time); developing skills and creating the capacity to benefit from increasing educational opportunities.

4.13 However, the distinction between these two stages is not clear cut. For example, there is a need to provide an immediate capacity to EPWP workers to smooth risk and invest in education for their children. In that sense some of the considerations which would be refined as time passed should be reflected in the initial quantum. We reject the conceptualisation of poverty which is defined exclusively in absolute terms.

4.14 A minimalist approach to poverty alleviation based on these absolute poverty lines is not conducive to capacity building and productive enterprise. Eliminating absolute poverty is crucial but the EPWP should aim to go well beyond this rather meagre aim.

Poverty estimation and poverty lines in South Africa

4.15 If the imposition of a minimum wage is intended to ensure that those who gain employment escape poverty then two questions need to be addressed: (a) How do we measure poverty in Rand?; and (b) What is a desirable combination of wage income and non-wage income to alleviate poverty under this measurement definition?

4.16 We recognise that the question of poverty measurement is vexed. Defining poverty is always a contested issue. Our assessments of reasonable poverty lines are unlikely to satisfy all stakeholders (government, residents, international community etc). Further,

this Report does not (and cannot) seek to resolve, in any comprehensive manner, the poverty definition minefield that exists in the research and policy domain. Instead we take a more modest role and consider existing definitions (that is, use a range of "poverty lines") and demonstrate how a case can be made for one particular level against another.

4.17 Some adopt so-called objective methods for demarcating the poor from the non-poor (such as absolute poverty definitions) while others, such as, Sen (1983) advance, within a broad framework of social inclusion and exclusion, a concept of 'capabilities poverty'. Absolute poverty approaches are typically ambiguous and force the discussion into debating relative poverty concepts. Even in cases of basic or minimum food needs, the calibration is always influenced by subjective (relative) assessments of what is important.

4.18 There are also conceptual problems with taking a relative approach that transcens the measurement issues. The danger with relative measures is that there will always be someone poor unless in the unlikely event of absolute equality (see Sen, 1983). Accordingly, relative poverty can exist in states of absolute affluence which reduces the meaning and impact of the defined state. It is hard to apply this sort of constraining logic to South Africa where the majority do not even achieve basic needs.

4.19 A broader concept of absolute poverty that goes beyond a lack of income emphasises, for example, the need to have access to essential social services. The neo-liberal approach to absolute poverty has typically eschewed a broadening of the concept. They typically equate physical subsistence (of an inactive person) with freedom from poverty and usually are able to conclude that poverty is an insignificant problem in most countries (see Noble *et al.*, 2004: 5 for a discussion).

4.20 After discussing the various definitions (and concepts) of poverty that have emerged in the literature, Noble *et al.* (2004) conclude (following the Taylor Committee, 2002 recommendations to include poverty measures which meld absolute and relative (social exclusion) components) that there is a need to extend the definition of poverty beyond 'simply lack of income' (Noble *et al.*, 2004: 13). While emphasising the advantages of a consensual definition, Noble *et al.* (2004: 14) are also acutely aware that it has to be 'adequately operationalised'. They outline a two stage approach: (a) construct a list of socially perceived necessities; and (b) create measures of these items. Wright *et al.* (2007: 23) report on experimental research where a common set of perceived necessities was explored via social survey methodology. The significant result is that perceived necessities go well beyond the basic food, clothing and shelter requirements which would be produced by narrow absolute poverty measures.

Determining the poverty line in South Africa

4.21 There are several reviews of poverty line methodologies and outcomes for South Africa that are available (for example, Whiteford and Posel, 1995; Woolard and Leibbrandt, 1999, 2007; Budlender, 1999; May, 1998; Hirschowitz, 2000; Klasen, 2000; Roberts, 2000; Aliber, 2001; Bhorat *et al*, 2001; Taylor Committee, 2002; Noble *et al.* 2004; Meth and Dias, 2004; Roberts, 2005; Hoogeveen and Özler, 2005; Frye, 2005, 2007; and Özler, 2007). We do not attempt to rehearse all the arguments provided by these studies but draw upon their conclusions and disagreements.

Table 4.3 Alternative poverty lines estimates for South Africa

Poverty line construct	Poverty line in 2000 prices	% of persons below poverty line (2000 IES)	Poverty line in February 2008 prices
	Rand per capita per month	Per cent	Rand per capita per month
Poverty line set at per capita expenditure of the 40th percentile of households	346	54.9	524
Poverty line set at 50% of mean national per capita expenditure	538	68.1	815
Stats SA (as reported by Hoogeveen and Ozler) – lower bound	322	52.6	488
Stats SA (as reported by Hoogeveen and Ozler) – upper bound	593	70.4	898
August 2004 Household subsistence level (HSL): metro average of 6 person African households, converted to per capita scale	286	48.5	433
August 2004 Household effective level (HEL): metro average of 6 person African households, converted to per capita scale	429	61.8	650
"Dollar a day" - International poverty line of US$370 (1985 prices) per capita per annum	81	8.1	123
"Two dollars a day" - International poverty line of US$370 (1985 prices) per capita per annum	162	27.0	245
"Poverty line" implied by the Old Age Pension means test for married persons, assuming a household of 5 persons and no non-elderly income earners	454	63.4	688
	Per household	Per cent	Per household
"Indigence" line of R800 per household per month (in 2006 prices)	573	11.7	648
"Indigence" line of R1600 per household per month (in 2006 prices)	1147	38.1	1296
"Indigence" line of R2400 per household per month (in 2006 prices)	1720	55.1	1944

Source: Woolard and Leibbrandt (2006, Table 9). The 2000 prices were adjusted using the factor of 1.515, being the average CPI in 2000 (100.0) divided into the February 2008 value of 151.5. The 2006 prices were adjusted using a factor of 1.13, being the average CPI in 2006 (134.0) divided into the February 2008 value of 151.5.

4.22 Table 4.3 provides a summary of some of the more notable and recent poverty line estimates for South Africa (taken from Woolard and Leibbrandt, 2006). To provide a contemporary (February 2008) comparison, we adjusted the 2000 prices using factors

derived from the South African CPI. The main Report provides a detailed discussion of each of the concepts summarised in Table 4.3. The main conclusions are:

a. The HSL and the MLL are minimalist poverty lines. The HEL, while an improvement, is also still close to a basic-needs concept.

b. The World Bank "dollar-a-day" poverty lines do not provide for even basic nutritional standards for an idle person and are thus of no use in guiding a minimum wage process.

c. Upper- and lower-bound poverty line approaches express poverty within a range. However, the lower limit of the Treasury/StatsSA (following Özler, 2007) poverty line really demarcates extreme poverty and poverty rather providing a demarcation between poor and non-poor.

d. Özler's (2007) upper-bound would be around R900 per capita per month in February 2008 prices and is the minimum that one would want to employ as a reasonable aspirational target to evaluate progress in poverty reduction.

e. The ability to absorb shocks by maintaining some personal wealth buffers is reasonably considered part of the essentials for "poverty-free" living. Further, the basic nutritional and clothing requirements for productive, labour-intensive activity are likely to exceed those that would physically sustain existence. So a reasonable construction of poverty would allow for some productivity component, an awareness of the need for social inclusion to enhance opportunity and self-reliance, and some in-built personal insurance (buffer stock) capacity.

Maintaining the real value of the minimum wage – price level adjustment

4.23 The issue of price adjustment to allow the nominal minimum wage to be maintained in real (not relative) terms is thus as important as setting an appropriate relativity against the prevailing wage structure. In the short-run, basing adjustments on general price level movements will preserve the real value of the poverty line but over time biases can enter due to the lowest income group's expenditure patterns being different from those used to weight the CPI.

4.24 Despite these issues, the danger in not adjusting the poverty line regularly is that the poor endure real losses over time if wages or transfers are calibrated against the line. This is especially so given the lags involved in generating and analysing data from the IES.

4.25 We therefore consider it to be better to risk with some "drift" in the poverty line upwards and therefore regularly (each time the CPI is made available) adjust the poverty line, in between more careful calibration based on detailed IES data. This approach will provide a better basis for assessing how the EPWP is performing in relating to its poverty alleviation goal.

4.26 As part of the development and implementation of a comprehensive framework for setting minimum wages for the EPWP, the South African government should avoid using the generally published CPI in making adjustments to nominal poverty lines. A range of specialist price change weighting mechanisms should be explored and a transparent discussion had which balances practical and political considerations with the aims of the minimum wage system.

Spatial price level adjustment

4.27 Should there be a spatially differentiated minimum wage? This could amount to a different minimum wage for urban and rural areas or more finely differentiated wage rules across

space. Those who argue for such spatial differentiation indicate that prices and spending patterns vary significantly across space – in particular, between the more expensive (but higher quality) urban areas and the less expensive rural areas.

4.28 Given that the minimum wage should be linked closely to the aim of alleviating poverty then it should ensure that standards of living (relative to the locale in which the worker lives) are common across space. However, such adjustments often over-reward urban dwellers relative to rural residents because the higher quality of services and amenities in urban areas is usually ignored.

4.29 Data available from StatsSA indicates that there is considerable spatial (regional) variation in the cost of living, as measured by the CPI. The recognition that the cost of living varies across space is well understood but difficult to simplify in practice. On balance, there does not appear to be the statistical basis for supporting the construction of a finely differentiated set of minimum wages across space.

4.30 We recommend that where spatial cost-of-living disadvantage can be clearly identified and estimated, adjustments are made to social grants. So a zone allowance might be paid to the worker via a social grant. As more statistical support is developed to closely monitor spatial price and costs movements, then the minimum wage mechanisms could be adjusted accordingly.

4.31 We recommend more research is conducted to identify the scale of cost differentials and the statistical support that would be needed to adequately introduce adjustments for spatial cost differentials into the minimum wage system.

Household size and structure

4.32 Setting a minimum wage that will provide a buffer against poverty is complicated by the fact that household size and composition varies across the population. This problem bedevils efforts to set poverty lines because there are considerable differences in household consumption due to these composition differences that complicate meaningful comparisons.

4.33 We believe that it would become too unwieldy to build adjustments for family size and age composition into the EPWP minimum wage determination framework. Instead we believe that poverty line measures should be equivalised where possible (and achievable) and the social grants system used through family assistance grants to supplement the EPWP wage.

4.34 We also recommend a scaling up of the social wage to ensure that essential public services such as education, health and aged care and the like are provided in adequate supply. This public goods approach to services reduces the need for households to have private income.

EPWP performance against poverty line estimates

4.35 A reasonable conjecture is that if we set the minimum monthly EPWP wage rate at the Treasury/StatsSA (2007) upper-bound of R898 per month then many projects across the provinces would be in default. Clearly, how many projects would be in default of the wage norm depends on the actual wage distribution which lies below these averages.

4.36 To facilitate a more detailed analysis of this wage distribution, the Department of Public Works made available complete data for the 2006-07 reporting period. Table 4.5 summarises the key details of the wage distribution.

Table 4.5 Summary employment and wage details for EPWP, 2006-07

Sector	Total EPWP jobs	% of total EPWP jobs Percent	Average daily minimum wage Rand	Average (implied) monthly wage Rand	Average (implied) monthly wage Rand Feb 2008 prices
Economic	173	1.1	45.20	859	953
Environmental and Culture	991	40.0	44.27	841	934
Infrastructure	695	47.0	60.76	1154	1281
Social	4164	11.6	31.22	593	658
Total EPWP	7024	100.0	41.00	779	957

Source: Department of Public Works, South Africa. The implied monthly wage is based on a 19-day working month. Percentage totals do not add to 100.0 due to rounding. February 2008 price equivalents explained in Table 3.1.

4.37 Table 4.6 uses the complete dataset to compare the wage distribution for 2006-07 with a set of minimum wage scenarios, which are based on those presented in Table 4.3. We computed how many projects in each sector would fall below each of the proposed minimum wages and hence fail to ensure their workers are free from poverty, according to the logic of that particular poverty line.

4.38 In addition, we investigated the employment characteristics (Person days as a % of sector total; Jobs as a % of sector total; and Average job length of job) pertaining to EPWP jobs that in 2006-07 were paying a minimum wage above R898 per month, R950 per month and R1000 per month, respectively. The results reveal the nature of "higher-paying" jobs for each of the three monthly wage benchmarks.

4.39 This analysis gives a guide to the scale of the problem and the urgency to redesign EPWP wage determination to provide better poverty outcomes.

4.40 It is clear that only 39.9 per cent of the 7024 projects overall pay above the Treasury/StatsSA (2007) upper bound of R898 per month (in February 2008 prices). The distribution of these projects across the four sectors is highly skewed. While only 14.4 per cent of the projects, 38 per cent of person-days and 29 per cent of total job opportunities provided in the Social Sector meet this norm, the jobs which do pay above R898 per month are typically longer than the average for the sector and the programme overall. The average duration of jobs that pay above R850 per month in the other sectors is lower than the respective sector average.

4.41 While the percentage of jobs paying above R850 per month are relatively low in the Economic sector (32 per cent) and the Social Sector (29 per cent), most of the jobs in the other two sectors pay above this norm (69 per cent of Environment and Culture job opportunities and 89 per cent of Infrastructure jobs). However, these jobs are of average duration at best (taken as a group).

Table 4.6 EPWP projects – employment and wage data relative to relative to wage norms

	Minimum Monthly Wage			
	R488 (a)	R898 (b)	R950	R1000
Economic				
Number of projects paying above	171	69	61	61
Per cent above (per cent)	98.8	39.9	35.3	35.3
Person days as a % of sector total (percent)		14.1	12.7	12.7
Jobs as a % of sector total (percent)		32.3	29.1	29.1
Average job length of job (days)		33	33	33
Average job length for whole sector (days)		75	75	75
Environment and Culture				
Number of projects paying above	991	637	206	154
Per cent above (per cent)	100.0	64.3	20.8	15.5
Person days as a % of sector total (percent)		58.3	20.1	15.5
Jobs as a % of sector total (percent)		68.6	16.8	13.9
Average job length of job (days)		37	52	49
Average job length for whole sector (days)		43	43	43
Infrastructure				
Number of projects paying above	1696	1499	1321	1320
Per cent above (per cent)	100.0	88.4	77.9	77.8
Person days as a % of sector total (percent)		87.5	82.0	82.0
Jobs as a % of sector total (percent)		89.1	85.2	85.2
Average job length of job (days)		49	48	48
Average job length for whole sector (days)		50	50	50
Social				
Number of projects paying above	3631	599	444	415
Per cent above (per cent)	87.2	14.4	10.7	10.0
Person days as a % of sector total (percent)		37.7	31.2	26.1
Jobs as a % of sector total (percent)		29.0	24.2	19.8
Average job length of job (days)		169	168	171
Average job length for whole sector (days)		130	130	130
Total EPWP jobs				
Number of projects paying above	6489	2804	2032	1950
Per cent above (per cent)	92.4	39.9	28.9	27.8
Person days as a % of sector total (percent)		64.3	48.5	45.7
Jobs as a % of sector total (percent)		73.3	50.0	48.3
Average job length of job (days)		50	55	54
Average job length for whole sector (days)		57	57	57

Source: Unpublished data provided by the Department of Labour. Rand amounts expressed in February 2008 values (see text for explanation). (a) is the lower-bound from StatsSA as published in Özler (2007); (b) is the upper-bound from StatsSA as published in Özler (2007). The figures in the final column for Person days as a % of sector total; Jobs as a % of sector total (percent), and Average job length of job are computed for the projects who paid above R1000 per month during 2006-07.

4.42 The picture changes somewhat when we consider the jobs that are paying above R950 and R1000 per month. In terms of the R1000 per month benchmark that we recommend in this Report, the following features are worth noting:

a. 85 per cent of total Infrastructure jobs pay above R1000 per month, and they are just below the average duration for the sector (48 days compared to 50 days) but well below the average duration for the overall EPWP programme in 2006-07 (57 days). This has implications for the transition process should the R1000 minimum be introduced. Workers need not be made worse off by a lower minimum monthly wage if duration of the work opportunity expands significantly.

b. Only 20 per cent of the total jobs in the Social sector pay above R1000 per month but their average duration is 171 days, which sets them apart from all the other EPWP jobs on offer.

c. A modest percentage of total jobs in the Economic and Environment (29 per cent) and Culture (14 per cent) sectors pay above R1000 per month. The average duration of these jobs in the Economics sector is very low (33 days compared to 75 for the sector as a whole) while the highest paying jobs in the Environment and Culture sector are above average in duration for that sector (49 days compared to 43). In both cases, the higher paying jobs are short-term relative to the average for the programme as a whole.

Recommending a minimum wage for the EPWP

4.43 In determining what poverty line demarcation should be used for calibrating the minimum wage in the EPWP programme we make the following observations:

a. The absolute concept of poverty has to be the starting point because it recognises that a minimum basket of goods and services is required by any one person to survive in any particular locality. Survival encompasses being in good health and having enough nutrition to engage in productive pursuits. The measure will vary somewhat between persons and environmental localities (for example, different clothing requirements for locations with extreme heat compared to locations with extreme cold). But despite these variations the concept can lead to a broadly objective measurement in the sense that science can define nutritional requirements and the like.

b. A sophisticated society should aspire to reducing relative poverty which leads into considerations of social exclusion and participation in community in the broadest sense. In this context an individual is poor if they are excluded from the typical patterns of life and cannot participate in the normal tempo of the society. It is not enough to merely have enough food, shelter and clothing that will enable barest physical survival. One’s mental health and sense of inclusion transcend these minimum requirements and so a relative poverty conception links the fortunes of individuals to both the level and the distribution of wealth in the economy.

c. A productive worker also requires additional resources to ensure they can function effectively. These include access to adequate extra nutrition, specialist clothing and footwear, access to education and training facilities and such.

d. Providing capacity to smooth risk and accumulate assets is also an essential part of the developmental process.

4.44 We thus take the upper bound of published in Özler (2007) and used in Treasury/StatsSA (2007) as the starting point for determining a reasonable minimum wage for EPWP workers. We note that there was little consideration given by the respective authors in relation to this upper bound to the proposition that the poverty line should actually provide scope for risk smoothing and capacity building requirements. We consider these capacities to be essential in building a modern economy where everyone can participate and contribute and be independent of the welfare system.

4.45 The question is how would we evaluate the quantum necessary to provide some extra capacity in this regard? To answer this question more fully, we would require further research. It is reasonable to conjecture that somewhere between R950 per capita per month and R1000 per capita per month would be a useful augmentation to the Treasury/StatsSA (2007) upper bound *as a starting point* in providing this future looking capacity in the South African people.

4.46 We have found that a relatively small number of EPWP jobs have wages that lie between R950 per month and R1000 per month. So the choice of one against the other as the minimum wages is moot.

4.47 More importantly, in terms of providing risk insurance and some capacity to invest in future personal development, we believe it is better to err on the upward side of the possibilities. In the same spirit as the "dollar-a-day" norm, which gained popularity because it was easy to remember and easy to conceptualise, we recommend a minimum EPWP wage in the first instance of R1000 per month.

4.48 We would recommend the South African government conducts further research to test whether this minimum wage is an adequate expression of their desire to eliminate poverty. We consider it would provide a useful interim minimum wage that would immediately improve the fortunes of those who would rely on EPWP employment as their primary source of income.

Transition process

4.49 In the transition phase, we note that some EPWP projects would be paying more than the suggested minimum of R1000 per month. In terms of the analysis presented in Table 4.6, there would be 1950 projects (out of 7024) paying above the norm. We also recognise that currently problems of policing the wage system combined with the short-term nature of the employment (particularly in the Infrastructure sector) means that many workers who are reported to be earning above R1000 per month may not have actually received those wages at all. Further, we have seen that the opportunities available that are paying above R1000 per month are at the shorter duration end of the spectrum.

4.50 From Chapter 7, we learn that an ideal employment guarantee would provide an unconditional but uniform minimum wage across the programme. However, at present there is some heterogeneity in the skill levels of the tasks being undertaken within the EPWP which would justify some wage structure. For example, supervisors with some responsibility for the overall work flow etc are employed as EPWP workers. We consider the best solution to this problem is to define the higher skill levels as being outside of the normal EPWP workforce, and, instead be reclassified within the normal public sector wage structure.

4.51 Taken together, three broad policies might be considered in the transition: (a) only approve new EPWP jobs that pay the R1000 per month norm (in February 2008 prices);

(b) phase out jobs that are paying above that norm as EPWP jobs, and, instead, consider reclassifying them as standard public sector positions and incorporate them into that particular wage structure; and (c) extend the duration of the work opportunities so that workers in jobs that are receiving more than R1000 per month at present can still enjoy higher overall annual incomes.

4.52 In this way, the EPWP would become a true minimum wage at a wage level that was deemed to be above the poverty line.

Real minimum wage adjustment

4.53 A regular process should be determined to ensure that this minimum is at least maintained in real terms over time.

The role of social grants

4.54 It is without doubt that over the last 7 or 8 years, the dramatic increase in provision of social grants in South Africa, which have targeted the poor and disadvantaged has been an effective strategy to reduce the burden of poverty.

4.55 Many researchers and policy commentators seize on this type of data as the basis of their advocacy for the introduction of a Basic Income Guarantee (BIG) as the primary policy weapon against poverty. They highlight the fact that there is a lack of employment alternatives available to most poor South Africans and that the social assistance grants system has demonstrated an ability to reduce poverty in that country. These advocates note that the current social assistance schemes in South Africa provide no support to able-bodied people of working age who do not have children and who have never been able to build any unemployment insurance credits.

4.56 The debate in South Africa that has unfolded since the Taylor Report (2002) advocated a phasing in of a BIG is replicated on the international stage. There has been a vigorous international debate going on between, mainly progressive economists and public policy practitioners as to whether income guarantees or employment guarantees provide the best insurance against poverty. A full treatment of that debate is beyond the terms of reference of this Report. Mitchell and Watts (2008) consider this issue in considerable detail.

4.57 Most BIG proponents believe that full employment is now unattainable (for example, Nogeura, 2004). We argue that this solution is a palliative at best. It is based on a failure both to construct the problem of income insecurity appropriately and to understand the options that a government which issues its own currency has available to maintain full employment.

4.58 We argue that there are no economic constraints in South Africa to achieving full employment. Only ideological and political constraints exist. In fact, each policy response (BIG or JG) requires that the same ideological and political barriers, relating to philosophical notions of citizenship and individual rights, be confronted and overcome. But when compared to a full-scale public sector employment programme, the BIG is a second-rate option and is inherently inflationary.

4.59 In addition to constructing the problem of income insecurity incorrectly, the mainstream BIG literature advocates the introduction of a BIG within a ‘budget neutral’ environment. This is presumably to allay the criticism of the neo-liberals who eschew government deficits. One of the sensitive issues for BIG proponents is thus its perceived ‘cost’. This issue has been an important part of the debate in South Africa

(see Pauw and Mncube, 2007). Following the analysis presented in Chapter 8, we can thus appreciate that much of the debate about the viability of the BIG is conducted on the false premise that the government is financially constrained.

4.60 Once we recognise that there is no financial constraint on government spending, many of the problems created by BIG theorists can be avoided.

4.61 Payment of a BIG to all citizens would signify a further withdrawal by the State from its responsibility to manage economic affairs and care for its citizens. Young people must be encouraged to develop skills and engage in paid work, rather than be the passive recipients of social security benefit. The failure to engage in paid work cannot be narrowly construed as an inability to generate disposable income which can be addressed through a benefit, but entails a much broader form of exclusion from economic, social and cultural life, which has highly detrimental consequences (see, for example, Kieselbach, 2003). Harvey (2003) notes the benefits of stable work with decent wages, health and retirement benefits.

4.62 BIG advocates fail to explain how its availability will promote meaningful engagement on the part of the disadvantaged, who have limited income earning opportunities. The universal availability of the BIG, does not overcome the stigma associated with voluntary unemployment of the able-bodied, who do not have caring or other responsibilities.

4.63 There is also a concern expressed by BIG advocates that Job Guarantee schemes cannot apply in developing countries because the scale of the problem is too large. Does our logic apply to developing countries? Seekings (2006) claims that in high unemployment countries such as South Africa where there is already a high wage sector defended by vested interests, the introduction of an employment guarantee based on public works projects would be unsustainable.

4.64 This is a common argument made by development economists against employment guarantees as a solution to poverty arising from mass unemployment. However, these criticisms typically are based on notions of financial unsustainability underpinned by a government budget constraint. In Chapter 8 we develop a framework which is applicable to modern monetary economies such as South Africa which shows that these orthodox neo-liberal notions of fiscal unsustainability are without foundation.

4.65 We consider there to be nothing intrinsically different in a developing economy that maintains sovereignty of its own currency that would prevent the introduction of a JG, particularly when such economies lack adequate social and economic infrastructure. There are political, ideological and perhaps administrative issues that need to be confronted but these are common to both policy suggestions – BIG and JG alike.

4.66 Work remains central to identity and independence, and persistent unemployment remains the central cause of income insecurity. While the introduction of an BIG has superficial appeal - by allowing individuals to subsist without work - the model fails to come to grips with the failure of macroeconomic policy to provide paid employment opportunities and secure incomes for all.

4.67 Initially, the question is how much do you interfere with the market allocation system. Neo-liberals emphasise the sanctity of the market allocation system and argue that it is better to achieve non-economic objectives such as equity via non-market transfers. Our assumption is that equity (and by implication poverty) is also a substantial economic problem – a failure to maximise the potential of the most value resource available to any country – its labour.

4.68 In that sense, most of the debate surrounding the relative merits of in-kind versus income transfers; and the relative merits of using the wage system to achieve redistributive goals fail because they are based on flawed textbook market models that ignore market failure and second-best arguments.

4.69 Mitchell and Watts (2008) oppose the use of a BIG as the primary means of poverty reduction for the following reasons:

a. It creates a dependency on passive welfare payments;

b. It creates a stigmatised cohort;

c. It does not provide any inflation buffer and is inconsistent with the macroeconomic principles spelt out in Chapter 8.

d. It does not provide any capacity building. A BIG treats people who are unable to find adequate market-based work as "consumption" entities and attempts to meet their consumption needs. However, the intrinsic social and capacity building role of participating in paid work is ignored and hence undervalued. It is sometimes said that beyond all the benefits in terms of self-esteem, social inclusion, confidence-building, skill augmentation and the like, is a priceless benefit of creating full employment is that the "children see at least one parent going to work each morning". In other words, it creates an intergenerational stimulus that the BIG approach can never create.

4.70 In Chapters 7 and 8 we set out the conditions that must be met if a full employment strategy is to be both effective and sustainable Unlike the BIG model, the JG model meets these conditions within the constraints of a monetary capitalist system.

4.71 It is a far better vehicle to rebuild a sense of community and the purposeful nature of work. It is the only real alternative if intergenerational disadvantage is to be avoided. It also provides the framework whereby the concept of work itself can be broadened to include activities that many would currently dismiss as being leisure, which is consistent with the aspirations of some BIG advocates.

4.72 It also allows for capacity building by integrating training and skills development into the paid work environment.

Recommendations concerning the role of social grants

4.73 We do not favour social grants being extended to some form of BIG as the primary means through which the fight against poverty is conducted. We argue that, instead the EPWP should be progressively scaled up to become a true employment guarantee along the lines discussed in Chapter 7.

4.74 The current social grant system should be restructured to ensure that families of workers are also able to live beyond poverty. The holes in coverage in social grants should be redressed to ensure that all people are covered in terms of their poverty needs.

4.75 Most importantly, we recommend that the R1000 minimum wage be made available to all those who are able and willing to work irrespective of whether the State is in a position to provide immediate work. We recognise that the duration of planning processes, administrative inefficiencies or other factors may lead to there being difficulties in providing enough immediate employment opportunities across all regions in South Africa to absorb the number of workers who would take up the offer.

4.76 In that situation, and consistent with the poverty alleviation objectives of the EPWP, the minimum wage should still be paid upon the person signing in for work. We also recognise that frictions exist across time and space which would require the on-going EPWP minimum wage to be paid while workers shift housing or projects change.

4.77 No South African should be left without an adequate income if they are willing and able to work. For those unable to work because of age, disability, illness or child-rearing, the primary source of poverty alleviation should be a upgraded social grant system.

Labour market impacts

4.78 In this Section we consider the impact that the R1000 per month minimum wage might have on the South African labour market. The impact on labour demand and labour supply is contingent on the form in which the wage offer is made.

4.79 We consider the conventional analysis that is proposed by neo-liberal economists to be erroneous in this situation. First, the aim of the South African government is to eliminate poverty in general. The proposal to increase the minimum EPWP wage is consistent with that overriding objective. However, maintaining sectors in the private labour market that pay "poverty wages" is not consistent with that policy. It in the interests of the South African economy that higher productivity employment is fostered rather than relying on low-wage, working poor jobs to absorb the unskilled labour force. Second, the EPWP can serve an industry policy to promote a quickening of this move to a high-wage, high productivity economy by placing pressure on market economy employers through the wage floor it establishes. This is precisely what is being proposed in this Report.

4.80 The way in which these impacts might unfold is, in part, dependent on the way in which the EPWP minimum wage was introduced.

a. If the EPWP minimum wage was not generalised (and we recommend that it is) then the major impacts will work via the supply side. This impact, in turn, would depend on the scale that the EPWP was offered at.

b. If the EPWP was maintained at its present scale then the impact will be small by definition although the probability of job competition from those already in employment would be likely.

c. If the EPWP wage became the national minimum then both demand and supply effects would be present. Employers currently paying below the wage would be confronted with the decision of operating that new legal minimum or closing down. What happened to the workers who lost their jobs depends on how many EPWP jobs were created and the impact of the higher wages on spending and overall job creation. There would also be a dynamic present to restructure existing employment along the lines we discuss below.

d. If the EPWP was scaled up into an unconditional wage offer to anyone who wants a jobs (which we recommend) then the supply effects are likely to be significant.

4.81 In this latter context, employers paying below the R1000 would start to find it difficult to attract labour as the EPWP jobs (being always available, local and better paid) would become far better alternatives to the available labour. The employers would then be forced to invest in productive capital to increase the productivity of labour and pay at least R1000 per month to retain labour. There may be some cases where a worker

would agree to working below that if the job provided them with other non-pecuniary rewards that compensated. It is unlikely that all the workers who are currently earning below R1000 per month would be attracted to the EPWP.

4.82 If the EPWP minimum wage became the statutory minimum in South Africa then the private sector employers would face an immediate need to restructure their workplaces (invest in higher quality capital) to meet the new legal minimum wage levels but more importantly to stop the migration of their labour forces to more attractive EPWP employment. Some employers would close their operations because they would not be able to operate at the higher costs. Economic development always involves a movement from lower productivity-higher cost production to higher productivity-lower cost production. The ability of the EPWP to absorb this displaced labour would depend, in turn, on its scale. If there was a true EPWP safety net operating then these closures would shift workers into higher income areas and represent an improvement. That is the rationale of using the EPWP as a quasi-industry policy which can stimulate the South African economy towards the desirable high-wage, high productivity growth path.

4.83 The extent of job losses on the demand side is unknown and the debate typically becomes mired in estimates of elasticities of labour demand (both short- and long-run), which measure the response of employment demand of changes in wage rates. There is little agreement about this issue in the wider international literature for any country. Disputes focus on differing theoretical conceptions, methods of estimation, and the applicability and quality of the data used in the applied analysis. See Chapter 2 for further discussion and our rejection of the applicability of most of this literature

Supply side effects and reservation wages

4.84 The supply side response will be made of three components: (a) workers currently employed who are earning below the proposed R1000 per month minimum; (b) workers who are currently unemployed but counted in the narrow definition of the labour force (so conventionally unemployed by ILO standards); and (c) marginal workers who are captured within the broader definition of unemployment (but who are not conventionally unemployed by ILO standards). The latter group are the so-called discouraged workers.

4.85 What is a reasonable estimate of the numbers of workers that would be willing to work in the EPWP if the minimum wage was set at R1000 per month?

4.86 To get an idea of the scale of the problem – persons earning below R1000 per month who might desire EPWP work at that wage we consulted recent publicly-available statistics from StatsSA. The September 2007 LFS, for example, reveals the official unemployment rate was 23 per cent and if you add discouraged workers one would get an unemployed underutilisation rate of around 36 per cent. Given that the discouraged workers are willing to work but have given up looking we can consider them as being part of the total pool of unemployed workers who would be candidates for EPWP work at the R1000 minimum wage rate.

4.87 The September 2007 LFS published by StatsSA provides information on workers (employers, employees and self-employed) aged between 15 and 65 years by monthly income and sector. There were around 3.4 million workers currently in employment who earn below R1000 per month (see Table 4.12 in the Report). These workers are spread across the formal, informal and domestic sectors. Taken together they comprise about 20 per cent of the total employed labour force which might be attracted to the EPWP at a monthly wage of R1000.

4.88 Table 4.13 draws this information together to estimate the potential (maximum) EPWP workforce at R1000 per month. Assuming **all** the unemployed and discouraged workers were to take EPWP at that wage rate (if it was an unconditional demand side offer), around 7.4 million workers would offer their services or some 24.3 per cent of the working age population. In addition, assuming **all** the workers currently earning under R1000 per month were attracted into EPWP employment by the R1000 per month minimum wage, some 3.4 million workers would be involved or 11.3 per cent of the working age population.

Table 4.13 Potential maximum labour supply response at R1000 minimum wage rate, 000s

Source of labour	Persons	Total as % of Working age Population
Formal	1,284	4.2
Informal	1,462	4.8
Domestic	674	2.2
Total employed	3,441	11.3
Official unemployed	3,945	13.0
Discouraged workers	3,425	11.3
Total (maximum) supply response	10,811	35.5

Source: Tables 4.11 and 4.12.

4.89 Overall, around 35.5 per cent of the working age population might be attracted to the EPWP under the maximum response assumption. Around 32 per cent of the total response would come from those already employed.

4.90 Clearly this response is an overestimate. Detailed survey analysis would be required to estimate the actual numbers. The short-term market disruption would be focused on the potential 3.4 million workers who are currently employed and earning wages that are below the poverty line. As noted above, the total impact of this dynamic depends on how the EPWP was expanded and whether the wage became a national minimum.

4.91 The larger the supply response of the unemployed the more effective the policy would be in alleviating poverty.

The reservation wage concept

4.92 The Chapter also provides an extensive critique of the reservation concept. We consider it a wrong-headed approach to then proceed to estimate variations of wage levels within this range that at the margin might elicit x per cent more workers into the labour force (or a particular segment of the employed labour force) when your primary goal is to alleviate poverty and develop a high productivity economy.

4.93 The reservation wage concept inherits all the problems that pervade the neoclassical economics text book paradigm. It does not consider concepts of equity or basic human needs. It inherits the ahistorical, asocial, amoral standpoint that is adopted by

neoclassical economic theory and in dealing with modern problems such as extreme poverty and unemployment it is all but useless.

4.94 The theoretical assumptions the approach makes to operationalise applied work are problematic in the extreme.

Targeting scarce EPWP jobs?

4.95 If the EPWP remains a highly constrained programme, then it is important that the rationed scheme provides benefits to those most in need. A minimum wage of R1000 per month will likely attract better off workers who are already employed. This is one of the major reasons why it should become an unconditional JG. In the likely event that the South African government will continue to constrain the EPWP in terms of numbers of jobs available, then rationing devices have to be introduced to ensure that the scheme is properly targeted. Reservation wage studies provide no guidance at all in this respect.

4.96 In a rationed state there is always going to be a queue of frustrated job seekers. The EPWP administration has to introduce measures to ensure a proper ordering of that queue.

4.97 Setting the wage below the minima that are found in the market economy will reduce the number of employed people seeking to compete for EPWP work with those who are currently unemployed (either officially or discouraged). But that would be a counterproductive exercise if the aim of the employment was to alleviate (that is, negate) poverty among the recipients of the jobs.

4.98 We advocate setting a proper minimum wage (that will alleviate poverty) and then using non-wage rationing systems to distribute the limited number of jobs. Of-course this would be unsatisfactory, but the source of the problem would be the unwillingness of the South African government to use the fiscal choices available to it to expand the EPWP to a level that absorbs those without work on a national scale.

Chapter 5 The wage income transfer function of the Expanded Public Works Programme in South Africa

The EPWP Report Card

5.1 In the first three financial years, just over 700,000 jobs have been created, which means the EPWP is well on its way to creating the targeted 1 million jobs over the course of the five years. However, in terms of what really matters – the number of person-days provided – the performance of the programme is unsatisfactory. The average duration of the job opportunities is also low.

5.2 Table 5.7 summarises the achievements of the EPWP to date as presented in the Mid-Term Review (HSRC, 2007. It is clear that the two dominant sectors are 'Infrastructure' and 'Environment & Culture', despite the fact that DBSA (2007) argues that the Social sector has the greatest potential for up scaling the EPWP.

5.3 The South African government has invested 12.8 billion Rand in the first three financial years to create 716,399 jobs or 219,914 person years of work. The labour intensity of programme expenditure is highly variable, and would benefit from a tighter regulatory framework.

5.4 In our scenario analysis we will use the average on-cost estimate of 5.4 to 1. However, international evidence from India (MRD, 2005) suggests that public works schemes can be run under a "labour to non-labour" expenditure ratio of no more than 1.5. Other sources suggest a 60/40 rule where 60 percent of total costs are consumed by wages and the remainder being non-wage costs. If this was the case the on-cast ratio would be 1.67 which is in the ball-park of the Indian estimate and considerably lower than the current EPWP on cost estimate.

5.5 We recognise that one could be highly critical of basing the scenario analysis on historical evidence given that the labour intensity of the programme expenditure is not properly regulated and this means that EPWP employers have very little incentive to maximise the labour intensity of their expenditure. Given that the EPWP does not come with "ring-fenced budgets", EPWP employers have to realign their normal budgets to results in EPWP job creation. They have no quotas or expenditure guidelines and the result is that labour intensity of expenditure is not maximised. As a result our simulations are not based on what labour intensity expenditure should or could be. In that sense, they significantly overstate the budget outlays that would be required to expand the programme. However, by providing the 1.67 comparison as a benchmark we allow the reader to understand the extent to which historical practice has been unnecessarily inefficient in terms of achieving labour intensity.

5.6 We also provide a note of caution in terms of seeing the on-costs ratio in purely technical terms. In part, the way we consider the ratio depends on the objectives of the programme. For example, in the "School Nutrition" project, the goals include the provision of a healthy breakfast for all pupils (a glass of milk every morning). The investment in milk is included in the total EPWP budget and in a technical sense this is counted as a non-EPWP wage cost thus inflating the on-cost ratio. The specific "School Nutrition" project has a on-cost ratio of 7.23 which would seem to be "inefficient" in terms of the 60:40 (1.67) ratio but clearly the non-wage costs are not all relating to what we typically would consider to be on-costs. We recommend therefore a more transparent way of accounting for the costs in the EPWP projects to ensure that labour intensity is maximised but valuable accompanying investments are also preserved.

Table 5.7 The EPWP report card

EPWP Indicator	5-year target	3-year status	% Progress over 3 years
1. Number of work opportunities created	1,000,000	716,399	72%
a. Infrastructure	750,000	362,257	48%
b. Environment & Culture	200,000	269,233	135%
c. Social	150,000	57,064	38%
d. Economic	12,000	10,003	83%
2. Person-years of employment created	650,000	219,914	34%
a. Infrastructure	250,000	115,817	46%
b. Environment & Culture	200,000	66,484	33%
c. Social	200,000	35,884	18%
d. Economic	18,000	1,730	10%
3. Training (number of training days)	15,579,000	2,973,817	19%
a. Infrastructure	9,000,000	1,124,840	12%
b. Environment & Culture	2,005,000	1,110,870	55%
c. Social	4,535,000	715,925	16%
d. Economic	39,000	22,182	57%
4. Project budget, R billion			
a. Infrastructure	R15.0	R17.4	116%
b. Environment & Culture	R4.0	R3.2	80%
c. Social	R2.0	R0.7	35%
d. Economic	Unspecified	R0.3	Unspecified
5. Actual expenditure	R21.6[1]	R12.8	59%
6. Demographic characteristics of workers			
a. Youth	400,000	280,176	70%
b. Women	300,000	332,187	111%
c. Disabled	20,000	7,192	36%

Source: Data assembled from the Quarterly Reports of the EPWP Containing data and information for the period 1 April 2004 to 31 March 2007, or drawn by datasets provided by the EPWP Unit.

Multi-level regression analysis

5.7 A Multi-level modelling (MLM) regression approach is employed to determine the impact that participation in the EPWP and the wage income that has been derived from such participation has had on poverty alleviation. We naturally choose to focus (as the unit of measurement) on the individual (who is the participant).

[1] The R21.6 billion allocated in "Actual expenditure" is the total of all yearly budgetary allocations and not a target set in the original Logframe.7

5.8 The analysis was based on the CASE dataset. Originally it was anticipated that we would also contrast the outcomes using the DRA dataset but this proved not to be a viable research strategy given the poor quality of the DRA. This decision is explained in detail in the text.

5.9 Within the CASE dataset, there are considerable differences between the participants and non-participants in terms of the personal characteristics. These differences particularly manifest in relation to age, gender and ethnicity. For example, 22 per cent of the participants are younger than 25 years of age compared to the control group which is older (15 per cent of the sample under 25 years of age.

5.10 Furthermore we observe stark differences in respondents' access to other sources of income (that is, income derived from non-EPWP work).

5.11 Finally, EPWP participants are more likely to reside in urban areas than non-participants, where an urban area is defined as a city having more than 20,000 inhabitants as of 2003.

5.12 In an ideal world, we would employ the so-called 'difference-in-difference' modelling technique to assess the effectiveness of the EPWP in assisting participants in their struggle to escape poverty. In this context, we would estimate the 'treatment' effect of EPWP participation by identifying the variations in poverty outcomes between participants in the EPWP (the target group) and non-participants (the control group). In doing so, we would have to control for potential temporal differences. These differences relate to the possibility that the economic circumstances in South Africa may change during the course of the EPWP programme, which affects poverty outcomes, but is unrelated to the EPWP.

5.13 To account for temporal differences we would need to assess the poverty situation both prior to the introduction of the EPWP and during or after completing EPWP participation, both for EPWP participants and non-participants. Unfortunately, the CASE data do not allow for such an analysis. As an example of its limitations, we do not have information on the income of non-participants prior to the introduction of the EPWP.

5.14 As a way forward, we assume that any influential external factors have not had a biased impact on the poverty outcomes for EPWP participants relative to non-participants. Consequently, we do not conduct a 'difference-in-difference' analysis, but rather present an analysis that focuses on differences between participants and non-participants at the time the survey was conducted.

5.15 Poverty is not fully explained by personal or household circumstances and the incidence of poverty is unevenly distributed across geographic space. We can thus identify three main levels of influence that can be exploited by the MLM regression techniques:

a. The individual or household level;

b. The neighbourhood level ;

c. The regional level.

5.16 MLM allows us to assess the presence and form of any cross level effects. The benefits of this approach are that it overcomes the bias in standard error estimation which pervades conventional regression approaches using such datasets (Hox, 2002).

a. Level 1 - Personal/Household circumstances: The CASE data provides a significant amount of detail about the characteristics of participants and non-participants in the EPWP and the circumstances in which they live. A comprehensive set of factors including age, gender, ethnicity, educational level, household composition, and household access to social grants will be used in the analysis as control variables.

b. Level 2 - Neighbourhood (spatial) circumstances.

c. Level 3 – Regional (spatial) circumstances.

5.17 EPWP participation and related circumstances: In addition to EPWP participation, the CASE data provides some limited insight into the dimensions of the EPWP work undertaken (for example, training experiences, history of engagement, type of work etc…). While the participation will be entered as a Level 1 influence the other dimensions of the EPWP projects will enter as Level 2 influences and thus allow us to correctly differentiate the participation from the location, design and type of project.

5.18 Receipt of Social Grant: Clearly we want to determine the relative impacts of social grants and EPWP participation, and how positive linkages between the two interventions can be enhanced and reinforced. Sixty per cent of survey respondents in both the DRA and CASE data sets receive at least one form of social grant in addition to their EPWP wage. Our modelling strategy will provide quantitative estimates of the respective impact of these policy dimensions.

5.19 The MLL is used in this analysis and given the fact that the measures behave similarly, we consider that the results would not have been significantly different had the HSL measure been used.

5.20 Our dependent variable (poverty indicator) is a binary variable (zero-one) which demarcates households in poverty (one) from those who are not in poverty (zero).

5.21 We also constructed a binary variable to represent EPWP participation, which took the value of one if the respondent had participated and zero otherwise.

5.22 The final components in the regression model were included to control for differences between the EPWP participant population and the non-participant population. We use the variables described in Table 7.1 as control variables.

5.23 The results show that once we control for the different relevant individual, household and regional characteristics available in the data set, EPWP participation clearly reduces the chance of being in poverty.

5.24 Consequently we can rule out that participation has no effect on poverty. Further, the negative sign on the coefficient means that households of which the participant is part are less likely to be in poverty than households that have no access to EPWP employment.

5.25 The coefficients of several control variables are also significant, indicating that households of female participants and African participants are more likely to be in poverty. The same applies to progressively larger households and to households having fewer income earners. Households that have access to social grants or other sources of income are also less likely to be in poverty.

5.26 This suggests that poverty “spills over” across space so that poverty in one neighbourhood is likely to increase the probability of poverty in contiguous or closely-proximate neighbourhoods.

5.27 We created a number of such interaction variables which allow us to explore the combined impact of EPWP participation and:

a. Provision of training within the EPWP;
b. Type of EPWP programme;
c. EPWP tenure;
d. Workload;
e. Gender;
f. Educational level;
g. Age;
h. Ethnicity;
i. Access to social grants; and
j. Urban residence.

5.28 Neither the availability of training in the EPWP job, the type of project or the workload of any EPWP job influence the poverty alleviating capacity of EPWP participation.

5.29 In terms of personal characteristics, gender and ethnicity differences influence the chances to escape poverty once a person is participating in the EPWP. Having access to social grants during EPWP participation significantly reduces the chance that a household will remain in poverty relative to EPWP participants who are without access to social grants.

5.30 The location of EPWP participation (urban or rural) does not alter the success of EPWP participation in reducing poverty.

5.31 The EPWP's capacity to reduce poverty increases further if EPWP participation is combined with the provision of social grants.

5.32 The contribution of EPWP participation to poverty alleviation is more pronounced for men than for women and for coloured participants than for Africans.

5.33 Even in terms of a one-person household, three out of the four sectors pay monthly wages below the Minimum Level Living index discussed earlier. It is only because of the relatively high wages paid in the 'infrastructure' sector that the average monthly wage in the EPWP is above the poverty line.

Scenarios simulated

5.34 The annual number of EPWP jobs is held constant (200,000) and we vary the duration and target groups:

a. The length of the employment is modified;
b. The jobs are targeted in such a way that the poverty alleviating effect is maximised
c. The programme is tailored to include the most impoverished groups in the South African society, respectively.

5.35 Expanding the programme more generally to cover a broader group of South African unemployed – we call this scenario the Job Guarantee option.

5.36 In each case, we model the impacts of three possible minimum wages: R900 per month; R950 per month; and the preferred minimum of R1000 per month, which we discussed in Chapter 4. The simulations also provide a comparison of on-cost ratios (using the historical average for EPWP of 5.4 and the 60:40 (1.67) ratio noted above).

Overview of Scenario 1

5.37 In this scenario we take a different approach and consider the job duration only in terms of addressing poverty. The poverty line employed in the MLM regression analyses is unsuited for this exercise, as it only measures a flow of income that is deemed to be sufficient to fund the basic needs in life. In other words, it does not consider the position that EPWP participants start from - the residue or "stock" of poverty. For example, some participants may be heavily indebted as a reflection of past income deficits. A heavily indebted person clearly needs more income during the period of indebtedness than the "flow measures" embedded in poverty line estimates suggest in order to manage his/her household finances. To achieve a sustainable reduction in poverty we thus have to consider broader issues of disadvantage.

5.38 Our EPWP job duration analysis will therefore focus on the link between EPWP job duration and the capacity of participants to actually improve their living standards.

5.39 The CASE data provides four pieces of information about the EPWP participant's standard of living prior and during EPWP participation: (a) the household debt situation, (b) school attendance of children; (c) household nurturing; and (d) acquisition of household items. In the CASE Survey EPWP participants provide information about how the EPWP has changed their circumstances in each of these spending areas. This information can be used to investigate whether the situation facing households has improved (or worsened) on any of the four elements as a result of EPWP participation.

5.40 We use these changes to develop a measure of the change in what we call the Poverty Stock. If one of these elements have improved we assign a "+1" so that the best situation is "+4". A worsening of any one of the elements is also possible and the worst (minimum) score possible is "-3". The range in the changes in the Poverty Stock therefore will lie between minus 3 and plus 4. We attach equal weights to each of the elements because we are not in a position to make any judgements as to what the optimal spending allocation should be.

5.41 In terms of the CASE survey, less than 4 per cent of the EPWP participants reported deterioration in their Poverty Stock while around a quarter reported no overall change (see Table 5.10 in Main Report). However, more than 70 per cent reported an improvement in their Poverty Stock. These results are consistent with our previous findings, where we saw that EPWP participation increases the probability that a respondent (and their household) will be above the poverty line (used in the analysis).

5.42 The duration experiment we conduct seeks to determine the length of the spell of EPWP participation that maximises (positive) change in the constructed Poverty Stock index. Since the dependent variable (that is, the Poverty Stock index) is an ordinal index, the appropriate strategy is to estimate what are called Ordinal Probit regressions. Our main independent variable is EPWP work experience measured in months, which coincides with the number of months the participant had access to EPWP income.

5.43 The major relevant conclusions are:

a. An improvement in the Poverty Stock is dependent (statistically significant) on the work experience provided by the EPWP job (and as a consequence on the length of the period of access to EPWP income).

b. EPWP employment spells of less than three months do not lead to a significantly different outcome in terms of change in the Poverty Stock index, compared to the current regime.

c. However, lengthening the spell of EPWP employment beyond 5 months clearly leads to a more rapid improvement in our Poverty Stock index than in the current design. Clearly the sustained access to additional funds assists EPWP participants in improving their state of poverty.

d. We find that improvements in the Poverty Stock are related positively to the level of EPWP income (which is hardly surprising) and that 'Working on Fire' projects are more successful in reducing the stock of poverty than 'Working for Water' projects.

Scenario 1A: 200,000 jobs, differentiating the duration of jobs

5.44 Table 5.12 in Report shows the investment required for changing duration of EPWP job opportunities at various minimum monthly wages (R900, R950, and R1000) and compares the on-cost ratios of 5.4 and 1.67.

Table 5.12 Investment required for changing duration of EPWP job opportunities, various minimum wages

Duration (in months)	Jobs	Monthly wage (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
3.8	200,000	900	3.70	1.14
		950	3.91	1.21
		1000	4.11	1.27
8	200,000	900	7.79	2.41
		950	8.22	2.54
		1000	8.65	2.68
12	200,000	900	11.69	3.62
		950	12.33	3.81
		1000	12.98	4.01

Scenario 1B: 200,000 jobs, 4 months each, improved targeting

5.45 In Section 5.4 of Chapter 5 we report that spatial effects (at the municipality level) play a role in explaining the persistence of poverty, which suggests that apart from the

length of EPWP participation we should also consider spatially targeting EPWP employment to maximise poverty alleviation for a given outlay.

5.46 To that end, we use a socio-economic deprivation index, constructed by the University of Cape Town (McIntyre and Okorafor, 2003). This deprivation index includes nine socio-economic factors, which are clustered into one index using principal component analysis. HST (2006) recalculated the socio-economic deprivation index to the District Council level. Although this index has known limitations, we base the following scenario on the HST disaggregated socio-economic index.

5.47 We used Geographical Information Systems (GIS) tools to map the index across five quintiles of deprivation (see Figure 5.4). We observe that deprivation concentrates in the eastern parts of the country, predominantly in KwaZulu-Natal, Limpopo and the eastern parts of the Eastern Cape.

5.48 In Scenario 1B we hold the number of jobs created per year (200,000) and the current maximum duration (4 months) constant. The variation we introduce is by way of targeting the EPWP towards the socio-economically poor District Councils To motivate this we allocate 40 per cent of the 200,000 jobs to the poorest quintile, 25 per cent of the total available EPWP jobs to the second quintile, 20 per cent to the third quintile, 10 per cent to the fourth and 5 per cent to the fifth quintile. Clearly this is an arbitrary weighting which could be varied to suit the interests of different stakeholders. It does, however, capture our intent.

5.49 Within the quintiles we allocate EPWP jobs according to the size of the pool of unemployed. Since there is no increase in the aggregate number of EPWP jobs in this scenario, redistributing jobs is budget neutral.

5.50 Table 5.13 in the Report shows the consequences of targeting the poor in terms of EPWP job distribution for the first and fifth quintile. We present the current job distribution (based on LFS, 2007), the projected distribution and the differences between both job allocations.

5.51 The overall pattern is evident:

a. District councils in the first quintile (the poorest) will experience an increase in EPWP employment, while District Councils in the fifth quintile (the richest) will experience a decrease in EPWP employment.

b. This suggests that the current allocation of EPWP jobs is not spatially targeted towards the poorest socio-economic District Councils.

Table 5.13 Changing the target group of EPWP job opportunities

Municipality	Current allocation	Projected allocation	Change
First quintile:			
Greater Sekhukhune DM	13,850	21,490	7,640
O.R.Tambo DM	770	1,190	420
Ugu DM	7,380	11,440	4,070
uThukela DM	6,740	10,450	3,710
uMzinyathi DM	3,850	5,970	2,120
Zululand DM	1,920	2,990	1,060
uMkhanyakude DM	3,850	5,970	2,120
Vhembe DM	2,310	3,580	1,270
Sisonke DM	7,700	11,940	4,240
Alfred Nzo DM	3,210	4,980	1,770
Fifth quintile:			
City of Cape town	390	260	– 130
West Coast DM	190	130	– 70
Cape Winelands DM	640	430	– 220
Overberg DM	320	210	– 110
Eden DM	130	90	– 40
Sedibeng DM	900	600	– 300
Central Karoo DM	1,670	1,110	– 560
Namakwa DM	4,040	2,680	– 1,360
Siyanda DM	1,920	1,280	– 650
City of Johannesburg	3,590	2,380	– 1,210
Nelson Mandela	1,280	850	– 430
Total (quintile 1 to 5)	200,000	200,000	0

Source: LFS (March 2007), Stats SA. All figures are rounded. Consequently, the third column need not be the exact summation of the first two.

Scenario 1C: 200,000 jobs, duration differentiation, improved targeting

5.52 Scenario 1C incorporates both changing job duration and spatial redistribution of EPWP job provision to maximise the reduction in poverty for the given number of jobs. That is, we not only allocate larger shares of EPWP jobs to poorer District Councils (as described under Scenario 1B), but also differentiate job duration by the extent of poverty at the District Council level.

5.53 More specifically, we assume that jobs:

a. in the first quintile last for 12 months;
b. in the second quintile last for 10 months;
c. in the third quintile last for 8 months;
d. in the fourth quintile last for 6 months;
e. in the fifth quintile last for 4 months.

5.54 The following table (summary of Table 5.14 in the Report) summarises the impacts of such a differentiation on the investment required for changing the duration of EPWP job opportunities.

Table 5.14 Investment required for changing the duration of EPWP job opportunities

Duration (in months)	Jobs	Spatial job distribution	Monthly wages (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
3.8	200,000	No	900	3.70	1.14
			950	3.91	1.21
			1000	4.11	1.27
Quintile dependent	200,000	No	900	8.32	2.57
			950	8.78	2.71
			1000	9.25	2.86
Quintile dependent	200,000	Yes	900	9.45	2.92
			950	9.97	3.10
			1000	10.50	3.25

5.55 Several interesting points emerge from this simulation:

a. The first row shows the status quo scenario (no duration differentiation and no poverty targeting) for the three monthly wage levels being considered;

b. The second row introduces duration differentiation as scheduled above, but it does not include improved targeting as introduced in Scenario 1B. We find that duration differentiation more than doubles the investment required to create 200,000 jobs; and

c. The third row introduces improved targeting in addition to duration differentiation. The investment required rises by about R1.2 billion per year because the improved targeting redistributes EPWP jobs from low to high poverty District Councils and since by assumption the high poverty District Councils receive longer lasting EPWP jobs, the total required investment in the EPWP increases.

d. The investments required are significantly lower as the on-cost ratio falls.

Scenario 2: Expanding the number of EPWP

5.56 The various options explored under Scenario 1 all assume that the current annual total of 200,000 EPWP jobs is maintained. Given the nearly 8 million unemployed in South Africa that number of EPWP jobs will only marginally impact overall unemployment and subsequently will do little to alleviate poverty.

5.57 In Scenario 2 we explore the number of jobs (and subsequent budget outlays) needed to provide for acceptable reductions in the expanded unemployment rate. Two scenarios are considered:

a. Scenario 2A analyses what is required to bring down the overall unemployment rate – we model various maximum national unemployment rates;

b. Scenario 2B analysis what is required to reduce unemployment rates at the District Council level below a nationwide standard.

5.58 We keep all parameters constant during these simulations. That is, an EPWP jobs lasts 12 months. As in the previous scenarios we provide a comparison based on-cost ratios of 5.4 and 1.67. We also run a simulation for the three monthly minimum wage rates discussed above: R900 per month; R950 per month; and the preferred minimum of R1000 per month. We abstract from spatial targeting, though Scenario 2B implicitly addresses spatial targeting.

Scenario 2A: Expanding the EPWP to reduce the overall unemployment rate

5.59 The expanded unemployment rate was 37.9 per cent in March 2007.

5.60 Table 5.15 in the Report presents the outcomes from this simulation. The important point here in understanding the results of the analysis in Table 5.15 is that the labour supply sensitivity to the business cycle is already measured by the discouraged workers. So a consideration of cyclical labour force participation responses is not required in this instance.

5.61 The first row of Table 5.15 shows that 595,000 EPWP jobs would have to be created annually to reduce the overall unemployment rate to 35 per cent. This would require a total investment of around R35 billion annually if the EPWP wage was R900 per month and R38.6 billion annually at the preferred EPWP wage of R1000 per month.

5.62 More jobs would be required to reduce the national expanded unemployment rate further. For example, some 3.7 million jobs would be required to bring the national expanded unemployment rate down to 20 per cent and this would require a total investment of around R217 billion and R230 billion depending on the minimum wage paid (at the 5.4 on-cost ratio). If the on-cost ratio was 1.67 then this investment would fall to around 74 billion Rand at the preferred minimum wage of R1000 per month. 2 per cent unemployment is considered an irreducible frictional minimum.

Table 5.15 Expanding the EPWP: targeting the overall unemployment rate

Maximum national unemployment rate	Jobs needed	Monthly wages (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
35%	595,000	900	34.75	10.7
		950	36.68	11.3
		1000	38.61	11.9
30%	1,635,000	900	95.39	29.4
		950	100.69	31.1
		1000	105.99	32.7
25%	2,670,000	900	156.04	48.2
		950	164.70	50.8
		1000	173.37	53.5
20%	3,710,000	900	216.68	66.9
		950	228.72	70.6
		1000	240.76	74.3
2%	7,455,000	900	435.00	134.3
		950	459.17	141.7
		1000	483.34	149.2

Scenario 2B: Expanding the EPWP to reduce local unemployment below a threshold

5.63 Given the stark differences in the expanded unemployment rate between District Councils, the South African Government could also opt to maintain expanded unemployment rates in every District Council at or below a certain maximum threshold. This policy goal is tougher than the one employed in Scenario 2A.

5.64 Table 5.16 in the Report shows the results of the simulations. If the maximum acceptable expanded unemployment rate in any District Council is say 50 per cent, then 155,000 jobs have to be created through the EPWP. This would require a public investment of around 9 billion Rand annually if the EPWP wage was R900 per month and 10 billion Rand annually at the preferred EPWP wage of R1000 per month.

5.65 Eradicating unemployment in South Africa (2 per cent unemployment rate) would require R459 billion to be invested annually if the EPWP wage was R900 per month and R510 billion annually at the preferred EPWP wage of R1000 per month (assuming the historical on-cost ratio of 5.4). At an on-cost ratio of 1.67, around R150 billion would be required at the recommended minimum wage of R1000 per month. Note again that this is an overestimate given the existence of some frictional unemployment at full employment.

Table 5.16 Expanding the EPWP: targeting District Council unemployment rates

Maximum national unemployment rate	Jobs needed	Monthly wages (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
50%	155,000	900	8.99	2.78
		950	9.49	2.93
		1000	9.98	3.09
45%	300,000	900	17.54	5.42
		950	18.52	5.73
		1000	19.49	6.03
40%	605,000	900	35.32	10.92
		950	37.28	11.53
		1000	39.24	12.14
35%	1,110,000	900	64.74	20.02
		950	68.34	21.13
		1000	71.93	22.25
30%	1,830,000	900	106.81	33.03
		950	112.74	34.87
		1000	118.67	36.70
25%	2,710,000	900	158.43	49.00
		950	167.23	51.72
		1000	176.03	54.44
20%	3,725,000	900	217.54	67.28
		950	229.63	71.02
		1000	241.72	74.75
2%	7,455,000	900	435.00	134.53
		950	459.17	142.00
		1000	483.34	149.48

Chapter 6 A GIS assessment of the performance of the Expanded Public Works Programme in South Africa

6.1 In Chapter 6, we consider spatial deprivation in South Africa and employ Geographical Information System (GIS) techniques to analyse whether the EPWP provides benefits to the areas that are most in need. Chapters 3 and 5 revealed significant spatial variation in EPWP wages and projects. In this Chapter we analyse more deeply the spatial performance of the EPWP.

6.2 Unemployment rates are often of particular interest to labour market economists, because they pinpoint areas where the demand constraints in the overall economy are being spatially distributed.

6.3 While economists may focus on regional unemployment rates in order to highlight areas with 'problem' labour market dynamics, the number of people unemployed may also be of interest to policy makers concerned with service delivery and the volume of services required.

6.4 The use of Geographical Information System (GIS) tools can help summarise complex spatial patterns in data. This Chapter employed spatial analytic tools including mapping to provide a spatial assessment of the EPWP targeting at both the provincial and municipal levels.

Results at the provincial level

6.5 EPWP outcomes exhibit significant spatial variation in terms of percentage of jobs to unemployed, person days per job and jobs generated per Rand spent.

6.6 Eastern Cape and KwaZulu-Natal, are highly disadvantaged provincial labour markets in terms of their share of national unemployment and unemployment rates, together represent nearly half of the EPWP person days of work generated nationally, and a large share of EPWP actual expenditure and gross job opportunities in 2006-07.

6.7 With this important exception EPWP employment would appear to be somewhat poorly spatially targeted given the regional share of unemployment. EPWP under-provides job opportunities in Gauteng and North West province and over-provides opportunities in the Western and Northern Capes.

6.8 The programme is also not especially targeted towards a number of provinces with relatively high unemployment rates: Limpopo, North West province and the Free State. While Limpopo has the second highest rate of unemployment it ranks much lower in terms of the share of EPWP person days of work, it also has a below average rate of EPWP gross jobs given its unemployment.

6.9 KwaZulu-Natal, Northern Cape and Limpopo however rank highly in terms of the labour-intensity of their expenditure, measured in terms of work days per Rand of expenditure.

6.10 Gauteng and the North West province have a much lower share of EPWP gross job opportunities and work days given their share of unemployment, although both regions have relatively low rates of unemployment, which suggest that their local labour markets may be less problematic than other provinces.

6.11 The Northern and Western Cape both have significantly higher job to unemployment ratios than other provinces, although the Western Cape has much shorter duration of employment opportunities.

6.12 While Kwazulu-Natal has a relatively large share of EPWP employment these jobs are short-term relative to other provinces.

Results at the municipal level

6.13 The bottom 30 per cent of regions (ranked in terms of the highest unemployment) absorb a larger share of actual EPWP expenditure, per person days of work and job opportunities. Employment for youth and women is also above 30 per cent for the bottom 3 deciles.

6.14 The last decile (highest unemployment) ranks highest in terms of its share of actual expenditure, and generates a commensurate share of person-days of work and gross job opportunities. Over one-fifth of expenditure goes to the top ten per cent of the population in the highest unemployment rate regions. The duration of job opportunities is however slightly below average.

6.15 The data suggests that EPWP programmes have been somewhat spatially targeted towards high unemployment rate local municipalities. A phased-in expansion could be better concentrated in areas with very high unemployment rates such as Eastern Cape municipalities in the south-east and Limpopo in the north (see Figures 6.1 to 6.5 and the related discussion). While person days are high in many of these areas they may not be sufficient.

6.16 Significantly the EPWP job to unemployment rate is much higher (18 per cent) in the lowest unemployment rate municipalities (top performing labour markets), shown in Decile 1 (largely in the Northern Cape, Western Cape and northern parts of Limpopo, see Figure 6.1). The rate is over three times the average rate of jobs to unemployed for the bottom three deciles, in the poorest performing local labour markets.

6.17 The first decile, with the lowest unemployment rates, would seem to have a disproportionate share of programme expenditure and job opportunities. These top-performing municipalities have the greatest share of youth job opportunities generated by EPWP of all the deciles (21.4 per cent), but these work opportunities are shorter in duration.

6.18 The spatial analysis reveals that unemployment rates are highly spatially clustered in South Africa whereas the EPWP jobs are not nearly as clustered.

6.19 While EPWP is generating work opportunities across a range of labour markets at the local municipality level, and in areas of high unemployment and chronic poverty, in many areas the scale of the programme is below that required, and well below the rate recorded nationally.

6.20 Poor performing regions in Mpumalanga, central Limpopo, and south Eastern Cape appear to have insufficient EPWP job opportunities given numbers of unemployed.

6.21 Major cities with high volumes of unemployment such as Durban, Cape Town and Johannesburg are likewise below average in terms of the ratio of job opportunities to unemployed. Generally speaking, the provision of EPWP person work days is however relatively adequate in municipality with lower unemployment rates, such as those in the Northern and Western Cape.

6.22 The Northern Cape EPWPs record a significant share of labour intensive programmes relative to other provinces.

6.23 Long-duration job opportunities (measured in person days per job opportunity) correlate reasonably well with the map of unemployment rates.

6.24 While many EPWP jobs are created in Durban, they tend to have a short duration. Also very few long-term jobs are being created in the southern regions of Eastern Cape where unemployment clusters. Likewise in Johannesburg and surrounds, as well as Cape Town in the Western Cape, the job opportunities generated tend to be short-term. EPWPs in Emthanjeni in the Northern Cape, also performs well in terms of creating long-term job opportunities.

6.25 So it appears that long-term programmes (duration of 2 years or more) tend to locate in those areas with comparatively scarce labour, while short-term programmes tend to locate in areas of excess labour supply and in urban settlements.

Chapter 7 The concept of employment guarantees – the path to full employment and price stability

7.1 Central banks now employ unemployment buffer stocks to control inflation. This is very wasteful in terms of the poverty and exclusion that it inflicts on the unemployed individuals and their families.

7.2 The modern policy framework whereby central banks use unemployment as an instrument to control inflation is in contradistinction to the practice of governments in the Post World War II period to 1975 which sought to maintain levels of demand using a range of fiscal and monetary measures that were sufficient to ensure that full employment was achieved. Unemployment rates were usually below 2 per cent throughout this period across most of the Western world.

7.3 Evidence from the OECD experience since 1975 suggests that deflationary policies are effective in bringing inflation down but impose huge costs on the economy and certain demographic groups, which are rarely computed or addressed. The effectiveness of an unemployed buffer stock has been shown to deteriorate over time, with ever larger numbers of fresh unemployed or underemployed required to function as a price anchor that stabilises wages.

7.4 The central bank, as part of the consolidated currency-issuing government sector, has another, somewhat similar yet far more effective buffer stock option which is in fact an alternative way of managing the unemployment programme. We show that a superior use of the labour slack necessary to generate price stability is to implement an employment programme for the otherwise unemployed as an activity floor in the real sector, which both anchors the general price level to the price of employed labour of this (currently unemployed) buffer and can produce useful output with positive supply side effects.

7.5 The employment buffer stock approach (which we call the Job Guarantee - JG) exploits the imperfect competition introduced by the operations of the fiat (flexible exchange rate) currency which provides the issuing government with pricing power and frees it of nominal financial constraints.

7.6 Under the JG scheme, the government continuously absorbs workers displaced from private sector employment. The JG workers thus constitute a buffer employment stock and are paid the prevailing minimum wage which sets the national wage floor for the economy as a whole.

7.7 In this vein we recommend that all politicians in countries that have a sovereign currency (such as South Africa) should set a minimum acceptable living standard and ensure that a base level job is always available at a wage which would allow all citizens to achieve that living standard independent of welfare payments.

7.8 The JG is an example of “hiring off the bottom” – workers who are unemployed have no “bid” for their services. The JG provides an unconditional “bid” for their services at the minimum wage and thus places no upward pressure on the wage structure. The JG does not seek to employ any specific number of workers nor does it seek specific skills. Most importantly, it does not chase wages upward and thus never competes with higher and rising private sector wage offers. As a consequence, the JG can achieve and sustain noninflationary full employment at any level of aggregate demand.

7.9 In contradistinction to traditional Keynesian pump priming, which competes for labour at market prices, the JG buys labour which attracts a zero bid (that is, no employer is

currently prepared to offer these workers employment at the going wage) in the market economy.

7.10 Progressive economists are mostly united by the proposition that the orthodox approach to inflation control is costly and unacceptable. The neo-liberal solution to the resulting unemployment is to pursue supply-side policies (labour market deregulation, welfare state retrenchment, privatisation, and public-private partnerships) to give the economy room to expand without cost pressures emerging.

7.11 Progressive economists, in general reject this strategy because the sacrifice ratios are high and the distributional implications (creation of under class and working poor and loss of essential services) are unsavoury.

7.12 The JG is an integral part of a progressive strategy and introduces a wage floor that prevents serious deflation from occurring and defines the private sector wage structure.

7.13 Balance of payments considerations should not be allowed to get in the way of deficit spending to achieve full-employment.

7.14 In determining whether a JG job is superior to unemployment (that is, whether it is socially beneficial to employ unused labour) we only have to determine whether the marginal benefits are positive. With creative thinking and professional administration this very low benchmark would be easily exceeded by the JG jobs on offer.

7.15 The JG is a progressive, forward-looking approach for a state aiming to rebuild communities based on the purposeful nature of work that can extend beyond the creation of surplus value for the capitalist employer. It also provides the framework whereby the concept of work itself can be extended and broadened to include activities that we would dismiss as being leisure using the current ideology and persuasions, as well as to encourage private sector activities currently counted as productive in a narrow sense that societies of the future will view as socially destructive.

7.16 The JG also does not preclude training initiatives. Appropriately structured training within a paid employment context helps overcome the churning of unemployed through training programs, workfare and other schemes under current neo-liberal policies. Specific skills are usually more efficiently taught on the job.

7.17 As a consequence, a properly designed JG can help previously unemployed persons to make transitions into careers in the private sector and also stimulate employers to modify their recruitment behaviour.

7.18 A JG is likely to more closely align the preferences of the workforce with the provision of hours of work than under the current “fight inflation” approach. JG jobs can clearly be offered at fractions of full-time hours to suit the workers relying on them. There would be no enforced time-related underemployment and workers would be sovereign in the final number of hours they worked. In this sense, workers could more easily align their other commitments (family, recreational) with their working lives.

7.19 Workers who are unable to work would have access to the other forms of state-provided income support as they currently do (depending on country concerned).

7.20 Providing income guarantees via employment guarantees is a superior solution to those advocated by Basic Income Guarantee advocates. The latter exclude the disadvantaged from work and its social environment, provides, little scope for self-development and/or skill building and confines them to a role as “consumption units”.

Chapter 8 A modern monetary framework for fiscal policy activism

8.1 The popular claim that the introduction of a national employment guarantee would generate inflation and force up interest rates thereby crowding out private investment expenditure is based on a body of economic theory that does not explain (or apply to) a modern monetary system based on sovereign governments who issue fiat currency and operate in a world of flexible exchange rates.

8.2 This Chapter presents a theoretical framework which demonstrates the actual options and responsibilities that apply to modern governments which issue fiat currency. South Africa is such a country and as such has the fiscal power to solve unemployment and poverty without causing inflation or interest rate increases.

8.3 The Chapter begins with an elementary exposition of the basic national accounting relationships between the government and non-government sectors. Within this framework we show that a government budget deficit adds net financial assets which are available to the private sector (in part to "finance" private savings). Budget surpluses have the opposite effect and squeeze the private sector for liquidity.

8.4 In aggregate, there can be no net savings of financial assets of the non-government sector without cumulative government deficit spending. The only entity that can provide the non-government sector with net financial assets (net savings) and thereby simultaneously accommodate any net desire to save (financial assets) and thus eliminate unemployment is the currency monopolist – the government.

8.5 Accumulated private saving is reduced dollar-for-dollar when there is a government surplus. The government surplus has two negative effects for the private sector: (a) the stock of financial assets (money or bonds) held by the private sector, which represents its wealth, falls; and (b) private disposable income also falls in line with the net taxation impost.

8.6 Key macroeconomic principles to emerge from the discussion on government/non-government relations include: (a) Budget surpluses can be achieved only through decreases in non-government savings (increases in non-government debt) and reduce private savings (increase private debt); (b) Budget surpluses do not add to government wealth or their ability to spend; and (c) Budget surpluses have an inherent tendency to reduce aggregate demand.

8.7 Mainstream (neo-liberal) macroeconomics is unable to comprehend this logic because it makes a fatal error when it blurs the differences between private household budgets and the government budget. Clearly the government is always solvent in terms of its own currency of issue. As the monopoly issuer of the fiat currency, the government does not need to "finance" its spending. Conversely, households use the currency provided by the government and thus have to "finance" their spending.

8.8 Government spending is thus not revenue constrained. A currency-issuing government has no financial constraints on its spending, which is not the same thing as acknowledging self imposed (political) constraints.

8.9 The concept of a fiat-issuing Government saving in its own currency is of no relevance. Budget surpluses do not represent national saving. They represent foregone opportunities to expand public infrastructure and provide necessary savings to the non-government sector. They typically represent a failed government.

8.10 Government deficits do not cause interest rates to be higher and the issuance of government debt is not a "financing" exercise. Rather debt is issued as part of an interest rate maintenance operation by the central bank. Relations between non-government sectors (households, firms, banks, foreign sector) generate what we call "horizontal transactions" which do not create net financial assets – all assets created are matched by a liability of equivalent magnitude so all transactions net to zero. This is in contradistinction to transactions between the government sector and the non-government sector (for example, government spending and taxation; bond purchases or sales; gold and foreign exchange sales by the central bank, etc) which generate (or destroy) new net financial assets because no matching liability (asset) is created.

8.11 This helps us understand the impact of budget deficits on the financial system. The significant point is that net government spending (deficits) which is not taken into account by the central bank in its liquidity decision, will manifest as excess reserves (cash supplies) in the clearing balances (bank reserves) of the commercial banks at the central bank.

8.12 Lending on the interbank market cannot eliminate this system-wide excess. Only transactions between the government and non-government sector can eliminate the excess. If these balances were not "drained" then overnight interest rates would fall to whatever support level the central bank has in place (for example, zero as in Japan) and the central bank would lose control of monetary policy (unless it targeted a zero or support interest rate).

8.13 The central bank can drain this excess by issuing debt to the non-government sector (selling bonds to the banks) which provides an interest-bearing asset in place of the excess (non-earning) reserves. Therefore, it is clear that government debt does not finance spending but rather serves to maintain reserves such that a particular overnight rate can be defended by the central bank.

8.14 The Chapter also explicitly traces mass unemployment to the introduction of State money and shows the relationship between net government spending and excess labour supply (unemployment).

8.15 Unemployment occurs when the private sector, in aggregate, desires to earn the monetary unit of account through the offer of labour but doesn't desire to spend all it earns, other things equal. As a result, involuntary inventory accumulation among sellers of goods and services translates into decreased output and employment. In this situation, nominal (or real) wage cuts *per se* do not clear the labour market, unless those cuts somehow eliminate the private sector desire to net save, and thereby increase spending.

1 Introduction and Terms of Reference

1.1 Introduction

1.1.1 The challenge of unemployment and poverty

The link between poverty and its major cause – unemployment – is undeniable. But in noting this obvious link we emphasise that these two twin evils are both political problems. There is nothing intrinsic to a modern monetary economy such as South Africa that makes either poverty or unemployment inevitable. The resolution of these twin evils overwhelmingly reflects the choices made within the political system and while the problems are significant in South Africa they are not insurmountable if an appropriate policy framework is put in place.

In fact, South Africa would seem to have the preconditions that would make the task of achieving full employment and poverty alleviation more easy than other nations. It has no shortage of space and is resource-rich in both natural and human terms. It has also developed the highest quality education, health care and personal care support systems that are available anywhere in the World but these are still beyond the grasp of the majority despite transition.

It is no surprise that these resources were applied and distributed highly unequally under the apartheid system. The logic of that system was, in part, to deny the rights of the vast majority for the benefit of the few. However, despite abandoning the formal apartheid system as a legal framework to define rights, South Africa does not appear to have abandoned the underlying economic organisation and structure that underpinned and perpetuated it. In fact, the same system that generated economic inequalities under apartheid continues to deny the majority of South Africans access to the production and distribution systems.

The continuation of this economic organisation and the strong policy support for it from the national government (for example, budget surpluses under the neo-liberal mandate) indicates that the dramatic inequalities that continue in democratic South Africa today are undeniably a result of political choice. In saying that, we recognise that the transition to democracy placed significant pressures on the political machinery available in South Africa. This machinery had not evolved under apartheid to deliver social democratic outcomes. We also consider that in making the transition towards the adoption of social democratic ideals, the South African government has received poor advice from external governments and international institutions and has been under incredible pressure to confirm to the “world economic order” which is typified by the neo-liberal agendas set by the International Monetary Fund (IMF) and the World Bank. That agenda makes the elimination of poverty and unemployment difficult to accomplish because it places the necessary fiscal tools in a straitjacket and does not support redistributive policies that more equably share the wealth generated by a nation economy.

The South African government does have the policy capacity available to it to enable full employment and the significant reduction of poverty. The challenge is for it to identify this capacity and use it to develop the policy structures which will improve employment outcomes for all and reduce the widespread poverty. This Report provides some guidance in

this respect which is outside the neo-liberal framework that has constrained the South African economy from achieving its noble ideals.

None of this is to say that the task is easy. The logistics alone of transforming an apartheid economy into a more equal and inclusive social system are daunting. But the task has to be pursued within the correct economic and social policy framework which has not been particularly forthcoming in democratic South Africa. The conceptual material provided in Chapters 7 and 8 of this Report outline the essential macroeconomic concepts that underpin the practical policy options available to the South Africa government.

Unfortunately, the post-apartheid South African administration appears to have adopted what has been termed a neo-liberal economic understanding of the world and the policy apparatus that is concomitant with that understanding. The most explicit example of this is seen the transition from the Reconstruction and Development Programme (RDP) to the Growth, Employment and Redistribution Programme (GEAR). The RDP was envisaged to be the cornerstone for building a better life of opportunity, freedom and prosperity (Mandela, 1994). It was to be the policy that actualised civil society's call for equality, redistribution and access. The RDP spoke of poverty alleviation and economic reforms, and provided a broad framework for the socio-economic restructuring of South Africa (Blumenfeld, 1997: 67; Terreblanche, 2002: 108). In 1996 RDP was superseded by GEAR. GEAR adopted explicit economic growth strategies that were oriented towards private sector investment and assumed the role of the public sector and government programmes to be minimal (Streak, 2004: 272). The GEAR strategy pursued fiscal discipline by minimising deficits and maintaining high real interest rates, which paradoxically constrained economic and employment growth (Pollin et al., 2006: 18). The failure of GEAR is never more evident than in the discrepancy between the economic modelling, which predicted that a 6 per cent growth rate would create an average of 270,000 additional jobs annually in the formal sector, and the outcomes, which saw formal sector employment, stagnate and fall (Pauw, Oosthuizen & van der Westhuizen, 2006).

It is no surprise then that the richness of resources have not been used to benefit the greater population. Neo-liberal economics emphasises the primacy of the private market place and uses "private costs and benefits" as the basis of resource allocations, largely ignoring the broader and more inclusive concept of "social costs and benefits". In the case of South Africa, this translates into the hard to understand combination of a government running fiscal surpluses and more than 60 per cent of the population without adequate housing or income. The surpluses are justified by the erroneous claim that they are fiscally responsible management, a central misnomer of neo-liberal thinking which remains stuck in a time when fixed exchange rates and commodity money was the norm. In a flexible exchange rate world and where the government maintains sovereignty over its currency, these notions are inapplicable. The application of them results in dysfunctional outcomes which we see in the stark reality of the South African situation.

Throughout the policy literature one reads that unemployment in South Africa is a complex and manifold problem. The construction of unemployment in South Africa as being a "structural problem" dominates the debate with contributions supporting this perspective coming from all sides of the political landscape.

The Expanded Public Works Programme Log-Frame (2004: vi) claims that 'the causes of unemployment in South Africa are manifold and complex ... [but] ... there is substantial agreement that the cause of unemployment is structural rather than cyclical'.

Various academic researchers also argue that unemployment is structural. Pauw, Oosthuizen & van der Westhuizen (2006: 1) from Development Policy Research Unit (DPRU) say

> There is a general consensus that unemployment is 'structural' in the sense that there is a mismatch between the types of workers supplied and those demanded by the economy. The majority of unemployed individuals are poorly educated and possess limited skills, while firms increasingly demand high-skilled workers. This mismatch has developed over many years. Past policies have done little, if anything, to close the skills deficit in the economy through the provision of high quality education. At the same time, structural shifts have been taking place in the economy, with production shifting towards more skill- and capital-intensive industries. Pressure to become technologically more advanced have further increased the demand for high-skilled workers at the expense of low-skilled workers.

Further, Terreblanche (2005: 2) says that the '... unemployment problem of the 1930s was mainly a (temporary) cyclical problem, while the unemployment problem in developing countries is mainly a (rather permanent) structural problem in a situation of "underemployment", of balance of payments problems and of inflationary pressure ...'

Prominent public works researcher, Anna McCord (2004: 6) often refers to South Africa's situation of structural unemployment and states that the country suffers from a 'massive structural deficit in demand for unskilled labour'. Yet, at the same time unemployment for skilled graduates has increased in spite of employment growth that has been concentrated in higher educational categories (Pauw, Oosthuizen & van der Westhuizen, 2006). Deficiencies in the quantum of work opportunities generated in the economy transcend the skill of labour. Meth (2007: 1-2) says that '… structural mass unemployment … has had the country in its grip for almost three decades ...'

We do not share the view that the overwhelming unemployment problem is structural in nature. We show in Chapter 7, that a modern monetary economy has the capacity to create a pool of jobs that would be inclusive of the most disadvantaged workers and be spatially matched to the pattern of economic settlement. In that sense, to say the unemployment is structural is to assume all jobs have to be created by the dynamics of the private market place and selection and offer of training slots should reflect the prejudices of the private sector employers.

Even the Expanded Public Works Programme Log-Frame (2004: 2) recognises that 'high and growing rates of unemployment are a consequence of dynamics on both the demand and supply sides of the labour market. On the supply-side, increasing labour force participation has significantly expanded the number of job seekers ... On the demand side, there has been some growth of employment between 1995 and 2002, but it has not been sufficient to absorb the new labour market entrants. Hence the unemployment rate has been growing by 1% to 2% per annum ...'

By any standards, the unemployment problem in South Africa is what economists call a demand deficiency situation rather than a structural problem. This means there is not sufficient demand for labour being generated overall. The South African economy is not producing enough jobs and the labour queue then reflects the distribution of skills with the least skilled in the most disadvantaged position in the face of job scarcity.

There is not a shortage of meaningful job opportunities that could be pursued in South Africa if there was a willingness to fund the employment. The private sector is clearly unable to generate the level of employment commensurate with the willing labour supply. This chronic state is a *prima facie* justification for a direct public sector job creation.

Economists traditionally distinguish between structural and cyclical unemployment although the demarcations used are generally unsatisfactory (see Mitchell and Muysken, 2008). However, it is clear from the most cursory examination of the South African labour force data that this is an economy that fails to generate enough jobs not one that generates enough work in areas unsuited to those who are seeking work. That situation is not one of structural unemployment by any definition of the word. The solution to South Africa's unemployment problem is to generate more work.

Further, it is highly unlikely that the private sector will provide the impetus to solve this problem. It therefore falls back on the South African government to generate the necessary employment via direct job creation. That should be the unambiguous role of the EPWP and provide an overwhelming mandate for its significant expansion.

The overall policy aim of the EPWP as set out by the DPW is to reduce poverty and unemployment. The initial target was to provide 1 million temporary work opportunities for the most disadvantaged unemployed.

The problem, of-course, is that this target is too modest to do anything but dent the dual problems of poverty and unemployment. The work duration is too short and/or irregular, and while daily wages vary considerably, the low monthly/annual wages detract from programme impact. The EPWP only sustains around 200,000 temporary jobs per year. The work opportunities are short and the 200,000 jobs are spread throughout the year. There is thus no continuity of income for EPWP participants.

1.1.2 The democratic South African economy

With the end of the apartheid system in South Africa in 1994, the new democracy inherited the legacy of the years of economic isolation which had left a mal-functioning economic system incapable of stable positive growth and incapable of generating enough employment to satisfy the willing labour force. So the country not only faced the social challenges of bringing its population together as a nation, but also faced the daunting economic challenge of improving growth and, significantly, providing for significant redistribution of the growing wealth to reduce the massive inequalities that had been created. The redistribution of wealth and opportunity was a crucial aspect of redefining South Africa as a united nation.

After more than a decade of democracy, the economy is now enjoying sustained growth riding on the global commodities boom that has benefited many commodity exporting nations. Recent figures from StatsSA show that real GDP growth was 5.4 per cent for the December 2007 quarter representing an annualised 2007 growth rate of 5.1 per cent. This is a slight slowdown from the 25-year high 2006 growth rate of 5.4 per cent. The South African economy has now enjoyed 33 quarters of positive expansion (since September 1999) which is the longest period of growth in its history.

As well as enjoying the benefits of the global commodities boom, South Africa's population growth rate is slowing which means that real per capita income is rising. This fact stands in contrast to last decades of the apartheid era. Between 1980 and 1990 the population grew by around 56 per cent (24.3 million to 37.9 million). The growth rate slowed to 15.1 per cent over the next decade (see http://populstat.info/Africa/safricag.htm) and StatsSA estimated the population in mid-2007 to be 47.9 million compared to the 2001 Census total of 44.8 million. The population growth rate is now around 1.4 per cent per annum compared to an average of 5.6 per cent in the 1980s.

The other striking feature of the democratic era has been the major restructuring of industry that has occurred in South Africa. This is in part a response to the trade liberalisation which

helped diversify its export base. South Africa has moved from being predominantly a primary commodity exporter to increasingly exporting elaborately-transformed manufactures which require high-skills and capital intensive production methods.

However despite the positive growth, the South African economy remains highly segmented and the politicians have not seen fit to distribute the wealth it creates to reduce the gross inequities that were inherited from the apartheid era. In the two-tiered South African economy, advantage and opportunity are largely confined to the first-tier workers who enjoy middle to high incomes by World standards, relatively stable employment, access to skill development and well-defined career paths. The dominant industries in the formal economy are mining, manufacturing, agriculture and the services sector are all sophisticated in terms of technology and organisation. In the second-tier economy these characteristics are absent and low pay and inadequate employment growth predominates. Furthermore, a significant proportion of the population are almost completely locked out of the economic production and distribution system.

The other aspect of the South African economy which is atypical of a developing nation is that it has a small informal sector and very little home production (subsistence agriculture). As a consequence, most people are dependent on market employment for earnings supplemented with government transfers.

Despite the economic growth, the opportunities being created by the formal sector are not helpful to unskilled workers with little formal education and training nor are the government transfers (either direct or via programmes) sufficient. The result is that unemployment (however defined) and poverty rates are high.

A major problem constraining the social development of the South African economy is the policy framework that the government has adopted since the democratic era began. The commitment by the Transitional Executive Council (TEC), made up of representatives of the NP government, business leaders and the ANC leadership, to the 'Statement on Economic Policies', which was signed as an accord with the International Monetary Fund (IMF) (who was lending the Government $US850 million in short-term aid), ensured that a neo-liberal macroeconomic future would ensue (see Terreblanche, 2005, who documents these details of the transition phase between the apartheid system and the democratic era).

By acceding to a litany of neo-liberal constraints on macroeconomic policy from the outset (such as tight fiscal policy) it is hard to see how any coherent policy development could have been achieved which addressed the major problems of unemployment and poverty endured by at least the bottom half of the population.

What South Africa needed desperately then, as it does now, is wide-scale job creation, which in itself would generate wealth redistribution. Some commentators would suggest that 'comprehensive redistribution' (Terreblanche, 2005: 4) was the key to reducing poverty in South Africa and could be achieved through budget balances with both increased spending and taxation. In Chapter 8 we show how this approach to macroeconomic policy is also unlikely to reduce unemployment, the principle cause of poverty, if the non-government sector has a positive desire to save.

Given that the private sector has not proven capable of generating enough employment growth to provide the essential opportunities for the most disadvantaged South Africans to participate in the development process, the case for large-scale public sector job creation funded via deficit spending is compelling. But in signing up to the austerity approach imposed on countries by the unelected and unaccountable world organisations such as the World Bank and the IMF, the South African government initially and voluntarily hamstrung

itself from doing anything significant by way of restoring the balance between labour supply and labour demand.

The unwillingness of the new democratic South African Government to use its fiscal capacity (as an issuer of a sovereign currency) to move the country towards full employment was formalised in 1996, when it adopted the Growth, Employment and Redistribution (GEAR) strategy as its major macroeconomic framework. The GEAR encapsulated the major neo-liberal principles embodied in the "Statement" and which had been imposed on many developing countries by the IMF and World Bank in the decade prior to that at great cost to the countries in question. The neo-liberal agenda is based on the erroneous notion that promoting growth in income and wealth for the most advantaged will "trickle down" to the most disadvantaged. The mechanisms via which this trickle down is alleged to occur are difficult to discern.

The reality is that the "trickle down" has not occurred and this failure is common in economies that have relied on the flawed neo-liberal doctrine. We outline a modern monetary framework in Chapter 8 which allows us to explain why such a doctrinaire approach is never able to deliver widespread benefits to an economy.

The stark realisation of the failed policy framework is reflected in South Africa's income distribution and the labour market situation. The fact that it has taken a significant escalation in the coverage and level of the social grants system to make a dent in the poverty outcomes is a further testament to the importance of public sector intervention in reducing inequality and improving economic outcomes for the most disadvantaged.

The labour market reality facing the South African government and the persistence of the problem suggests that major new approaches are warranted.

A substantial proportion of the poor population live without the benefits of employment, in "workerless households", that is, households without employed workers. Life for those in the poorest households indicates that a large portion of the population are clearly living in income poverty. The average household budget for the poorest quintile amounted to 7072 Rands per annum (Martins, 2007). Over 55 per cent of that income (4040 Rand), is spent on essential food. After food, a large proportion of housing income is spent on energy consumption. These people live in rural areas in traditional dwellings and in urban areas in informal shack settlements. Service delivery and access to basic infrastructure has been increasing, however black Africans are still 12 times more likely than other population groups to obtain water from sources outside their homes (Ruiters, 2007).

Although all of these households receive some income from a variety of sources, such as government social grants or remittances from migrant workers, none of it is from earnings generated by household members. Meth (2006: 13) estimates that there were 14.6 million persons in "workerless households" in 2001; by 2004, they had increased to 15.7 million. Within such a context, it is felt that while provision social grants are necessary, and provides over 11.2 million people with an income source annually, strategies to alleviate poverty should be coupled with provision of employment to put the economy on an equity growth path (StatsSA, 2007b).

The March 2006 LFS outlines some reasons given by discouraged unemployed for not seeking work or starting a business that may be related to a necessary withdrawal from the labour force. For instance: ill health, injury, physical disability, pregnancy and family considerations or child care. However, just fewer than 90 per cent of the discouraged unemployed appeared to be genuinely discouraged, giving reasons such as "no jobs available in the area", "lack of money to pay for transport to look for work", and "lost hope of finding

any work". Moreover, the number of workers living in households with incomes of R10,000 or more per month increased by more than 600,000 between 2001 and 2004. Households where income was less than R1236 per month, which accounts for more than 70 percent of the poor, lost over 200,000 jobs between 2001 and 2004. The burden of unemployment has thus fallen heaviest on the low-skilled and unskilled, mainly poor and rural population.

Pollin *et al* (2006) concluded that South Africa's current growth rate coupled with existing declining labour-intensity trends, could result in (official) unemployment that reaches the range of 33 percent by 2014. Further, under the most optimistic expansionary fiscal and monetary circumstances, the study predicted that unemployment would persist in the range of range of 15 percent.

These results emphasise the urgent need for policy to come to grips with demand deficiency and chronic poverty. Further, opportunities to perform meaningful roles in the labour market exist in the substantial quantities due to service and infrastructure deprivation from the apartheid era and more recent neoliberal government. In poor communities poor service provision provides a context for the persistence of poverty, with slack in service delivery becoming the burden of women and children. A strategy that works to address both issues would be advantageous.

The labour market reality facing the South African government and the persistence of the problem suggests that major new approaches are warranted. .

1.2 The current model: EPWP

1.2.1 Overview

The EPWP was announced in Mbeki's 2003 State of the Nation address, and since that time the programme has gained considerable prominence as one of the President's flagship interventions. EPWP seeks to achieve deep transformative objectives relating to employment and skill transformation, with minimal budgetary input (for 2004/5 period EPWP expenditure amounted to 0.3 per cent of GDP, and 0.8 per cent of government expenditure).

The EPWP aims to create one million temporary work opportunities between 2004 and 2009 for the most disadvantaged South Africans, by reorienting normal government expenditure to result in more job creation. The scale of the programme means that EPWP will only partially meet the needs of the unemployed, as at least 4.4 million unemployed people actively seeking work each week and a further 3.2 million people were identified as discouraged workers. (StatsSA, 2006: ii). To give a more concrete understanding of the scale, the EPWP Mid-Term Review (HSRC, 2007) reported that for 2006-07 EPWP created 316,815 work opportunities or 85,701 person years of employment. In terms of aggregate impact, the study highlighted that EPWP provides employment to only 1 per cent of the labour force, 7 per cent of those officially unemployed or 4 per cent of those unemployed by the expanded definition.

Given the limited scale of EPWP, the programme has adopted social equity targets in order to enhance programme impact. To that end, 40 per cent of the one million temporary work opportunities provided should be filled by women, 30 per cent by youth and a further 2 per cent by people with disabilities. EPWP is on track for achieving these social equity targets and work opportunity quotas, and the programme has also been effective in meeting its goal of securing employment for 14 per cent of beneficiaries after exit (HSRC, 2007). However, closer examination programme data reveals that there is a pronounced gap between the target of 650,000 person-years of employment and outcomes to date, which reveal that only 219,014 person-years of employment or 34 percent of the target has been achieved.

The restricted scale of EPWP has attracted much scrutiny, and many have questioned the programme's ability to impact on poverty, employability and social development, as well as the programme's suitability given the context of chronic poverty (see McCord, 2003; 2004, 2005 for examples). The programme's constrained parameters were inherited from the 'Basic Conditions of Employment Act, 1997, Code of Good Practice for employment and conditions of work for Special Public Works Programmes'. This legislation allows all special public works programmes particular conditions relating to setting of wage at locally negotiated rates, and also limits the length of work opportunity, the defines target population, and gives beneficiaries an entitlement to training (further discussed in chapter 3). These guidelines have a bearing on what the programme can actually achieve. The impact of the differentiated conditions of employment, and whether public works employment is used as a substitute or 'cheap' source of labour by government is questioned by Sampson (2008). Qualitative data examined in this study hinted at problems associated with additionality and substitution, and questioned the impact of the reduced worker rights associated with EPWP work opportunities on the conditions of employment for other unskilled workers.

In spite of these criticisms, EPWP encompasses has many innovative components. For instance, it provides work opportunities beyond the traditional scope of public work programmes and includes work opportunities in infrastructure, environment and culture, social and economic sectors. In doing this, the EPWP provides policy space for job creation in areas that have been traditionally undertaken by women as unpaid work, while simultaneously enhancing social service delivery in communities (Antonopoulos, 2008).

The projected budget allocation of EPWP over its 5 year term was 20 billion Rand. Over the first three years of EPWP 21.6 billion Rand (which exceeds the initial budget allocation) was allocated to the programme through departmental funds and grants. However only 12.9 (60%) was spent accordingly (HSRC, 2007). Delays in the transferring of funds across tiers of government have constrained the roll out of EPWP and the ability of departments to manage and spend their current budgets in ways that provide beneficiaries with optimal employment durations (Friedman et al., 2007). Moreover, the proportion of the wage bill to total expenditure amounted to only 18 per cent or 2.4 billion Rand. This is quite small in terms of scale of income transfer to the poor; the EPWP wage bill is equivalent to only 1.5 percent of the 59.3 billion Rand provided in social grants.

The spending of budgets and the way that the concept of 'labour intensive' is employed also exhibits some irregularity. For example, McIntosh Xaba Associated (2006) suggest that the ideal wage to material ratio for labour intensive infrastructure projects should lie with the 30 to 40 percentile range. Further, the rate of work for infrastructure projects should be equivalent to 3000 person-days per kilometre of road. The labour intensity of the many projects falls below these guideline and projects have exceeded best practice for person-days per kilometre of road. Case studies of EPWP found that the EPWP wage bill of infrastructure sector projects fell between 3 and 25 per cent of the programme budget. Expenditure in the remaining 3 EPWP sectors tends to be more labour intensive. For stance, case studies of EPWP have found that the social sector has the lowest cost per job and therefore the highest potential labour intensity of all EPWP sectors. The cost per social sector job was R12,661, compared with between R18,519 and R62,331 for the environmental sector and R73,000 and R95,000 for the infrastructure sector (McIntosh Xaba Associated, 2006). The considerable variation in cost per job (further explored in Chapter 3) highlights the need for a definition qualifying 'labour intensive' to ensure that a minimum proportion of programme budget is allocated to beneficiary wages.

Studies on EPWP asked questions relating to the nature of labour supply response and whether EPWP is attracting people away from other work opportunities in the economy. McConnell, Groth and Kamman (2008) reported that 72.8 per cent of beneficiaries in their sample were unemployed before entering EPWP. 4.3 per cent were in full time and 7.7 in part time employment before entering EPWP. Meyer *et al.* (2007) found that beneficiaries had an extremely high (over 95 per cent) desire to continue their employment on EPWP and that programmes also has relatively low turnover rates. Further, over three quarter of community members also expressed their interest in employment on EPWP and programme implementers reported that it was relatively ease to find labour to work on EPWP. CASE (2007) reported that half of the workers surveyed were unemployed before programme entry, while those working reported that their main source of income was from employment in the informal sector. These studies indicate that EPWP causes relatively little labour market distortion.

Vaidya and Ahmed (2007) investigated the labour supply response to a demand-driven public works model, using the concept of reservation wages. While the study faced several limitations, relating to information on the reservation wages of potential EPWP beneficiaries as opposed to the unemployed, the study revealed the function of the wage in determining the extent to which the poor or the poorest will be drawn into such an intervention. We discuss this study in more detail in Chapter 4.

A study by CASE (2007) on 'Working for Water' and 'Working on Fire', found that the programmes were meeting their goals of short-term poverty alleviation and that the programme was well targeted to poor households. The wage income transfer of the programme was effective in reducing the income poverty gap, yet the additional income did not raise participants over the household subsistence level (between R1965 and R2259 per month in the major urban centres) (See chapter 5 for further discussion). Meyer *et al.* (2007) similarly found that EPWP participation increased household income levels from between R500-900 to between R900-2000 per month.

Some of the main factors impacting on EPWP impact on poverty are the considerable variations in EPWP employment duration and wage rates, with the lowest wages starting at 9 Rand per day. Higher rates are generally found in urban areas or in the infrastructure sector. Research has shown that workers paid below 40 Rand per day complain of low wages (McIntosh Xaba Associated, 2006). Chapters 2, 3, and 4 provide a comprehensive analysis of wages on EPWP and how this relates to impact on poverty.

McCord (2004) assessed the effectiveness of the EPWP as a strategy for alleviating unemployment and poverty by examining the Gundo Lashu Public Works Programme in Limpopo, which served as the EPWP model, and the Zibambele programme in KwaZulu Natal. The study found that programme design impacted on programme outcomes. For example, the Zibambele programme offered beneficiaries longer periods of employment, which smoothed consumption and improved household budgeting and savings. McCord (2004) found that the benefits of EPWP, in terms of impact on poverty and reduction of the income poverty gap, endured as long as the work opportunity. Modelling using a social accounting matrix revealed that the limited scale of EPWP was unlikely to impact significantly on employment or GDP.

When participants are asked about EPWP benefits, overwhelmingly they report the impact that participation has on one's self-worth. Other benefits include benefits derived from the wage income transfer (such as food purchase and financial independence); work experience gained and improved home life (Meyer *et al.*, 2007). Nkoko and Macum (2005) considered the socio-economic impact of the Working for Wetlands programme of EPWP using

qualitative techniques. Beneficiaries reported increase in level of confidence, increase in food security and also expressed gratitude that the programme had enabled them to afford a better quality of schooling, in terms of nutrition and regular participation, for their children. Those who had been involved in the programme for longer periods reported that they had been able to build or upgrade their homes. The study reported that the overarching socio-economic impacts derived from programme participation were related to regular wage income and length of employment opportunity. The study suggested that benefits related to programme participation may not be sustainable, as most income generated contributes to everyday living expenses, and little remains for savings or investment. During the period of employment, however, beneficiaries gained considerable beneficiaries concerning nutrition and education.

The findings of this study are similar to the findings of McCord (2004). In addition McCord considered the impact of the asset on local economies, but concluded that there was limited evidence of benefits. Longitudinal studies on EPWP further consider this issue, but mainly focus on beneficiary perception, which is largely positive, rather than increased economic transactions/flows from the investment.

When workers have been asked about EPWP deficiencies issues relating to low wage, late payment of wages, the programme's limited scale and short duration of employment have been noted (CASE, 2007; Meyer *et al.*, 2007; McIntosh Xaba Associated, 2006)**.** Consistent application of wage rates, the rate of EPWP wages in comparison to other low wage employment, the development of effective exit strategies are also issues which the programme must come to grips (HSRC, 2007). From an institutional perspective, programme stakeholders reported that while the organisational arrangements and reporting requirements of EPWP were feasible, the programme faced limitations in terms of budget allocations and administrative capacity, related to both skill and staffing quantities. 40 per cent of senior officials perceived EPWP as an 'add-on' and 70 per cent noted that EPWP was not fully effective in addressing poverty or unemployment (HSRC, 2007).

Studies relating to the impact of training and work experience on employability have been limited. Only one data set has collected longitudinal data on EPWP beneficiaries, and econometric analysis of this data has not been undertaken as yet. Descriptive analysis of the sample of 768 programme beneficiaries reveals two-third were employed and one-third were unemployed six months after the first study had been completed (McConnell, Groth, and Kamman, 2008). 60 per cent of those still employed have continued their employment with EPWP. 12.5 per cent of those employed are working elsewhere in government, while 20.8 per cent of those working are employed by private firms. The data reveals that the employment outcomes of those exiting the programme need to improve considerably. However, considering that 72.8 per cent of the beneficiary sample was unemployed and only 4.4 per cent had full time jobs prior to programme entry, these outcomes are encouraging. McCord (2004) by contrast concluded that training and work experience gained through programme participation had not improved the employability of beneficiaries, with beneficiary unemployment when compared to the control sample.

Beneficiary perception of training has been largely positive (CASE, 2007; Godfrey and Theorn, 2006). Meyer *et al.* (2007) found that 79 per cent regarded the training as extremely relevant and over 90 per cent of respondents perceived that training provided would help them to get other work and thus enhance their employability. It was noted that duration of projects has a direct impact on training received and post project employment opportunities (McIntosh Xaba Associated, 2006). Econometric analysis of the longitudinal data will reveal much more about the impact of EPWP training programmes. In terms of efficiency and effectiveness of training delivery, the Mid-Term Review by HSRC (2007) found that the

programme had achieved 19 per cent of its 15.6 million training day target. Moreover, 71.3 million Rand has been committed for training contracts in 2006-07, but only or 22% has actually been spent.

Recommendations put forward by studies on EPWP exhibit some consistency in identification of problems facing the programme and suggest that limited scale is a key issue for programme impact, but that administrative capacities may constrain up-scaling. McCord (2005) questions whether EPWP is the appropriate policy response given the state of poverty and administrative restraints facing South Africa. The study by the CASE (2007), which considered 'Working for Water' and 'Working on Fire' found that the programme contributed to poverty alleviation and life satisfaction, and thus recommended 1) the up-scaling of the programme in poor communities; 2) a greater public awareness campaign to provide communities with an understanding of how these projects contribute to the ecology and environmental sustainability; 3) the intensification of training and provision of training that would enhance employability in both agricultural and non-agricultural areas of labour demands in local communities. Finally the study noted that it may be beneficial to increase participation duration beyond the regulations outlined in the Code of Good practice, which limits one's duration of employment to 24 months in a 5 year cycle.

The EPWP cross sectional study by Meyer *et al.* (2007) recommended that the Department of Public Works further develop its relation with other government departments and municipalities to ensure greater policy cohesion and to foster greater institutional learning. The study noted that EPWP should be integrated with other poverty alleviation strategies, such as the Integrated Sustainable Rural Development Programme (ISRDP), and the Urban Renewal Programme (URP). Friedman *et al.* (2007) suggests a larger role should be played in coordination of EPWP by the office of the President and offices of the Premiers in order to overcome some of the challenges emerging from the hierarchical nature of government.

To increase the impact of EPWP in the long-term the Mid-Term Review (HSRC, 2007) recommended that:

- Labour intensive approaches should be mainstreamed across all government construction and maintenance activities and that this should be accompanied by legislated standards, specifying wage to material ratios and minimum wages.
- The government should expand public employment to address unmet needs by creating employment for low/unskilled workers to assist line departments to achieve their core mandates. Dedicated funding must be made available, and accompanied by an effective system of incentives/sanctions to induce programme compliance.

These recommendations seek to further extend the EPWP concept, but suggest that the concept become an approach to government that is fully integrated within normal departmental culture rather than administrated through a 'programme' framework. In many ways these recommendations are already intrinsic to EPWP objectives, and EPWP's advocacy of using budgets labour intensively could be seen as a step towards achieving this goal. In the short-term the Mid-Term Review (HSRC 2007) recommended that:

- The wage component of infrastructure grants should not be less than 30 per cent of programme budget, and further targets for labour intensity should be set by province and sub-sector.
- Minimum lengthen of work opportunity and wage should be established by sector.
- Training norms and standards should be established across all sectors.
- Project budgets be ring-fenced, to ensure funds are allocated accordingly.

- Programme beneficiaries should be provided with a fee exempt bank account.

Finally, the Mid-Term Review noted that public access to EPWP should be increased by allowing access to quarterly reports by province and sector. Further, reports should detail progress towards EPWP targets and reports commissioned by EPWP should also be made public.

Many of the recommendations suggest programme up-scaling. Modelling by Antonopoulos (2008) explores the potential impact of up-scaling public works in South Africa, focusing on the EPWP social sector, using a Social Accounting Matrix. Results from the analysis reveal that an investment of 9 billion Rand (2000 prices) in EPWP social sector would create 571,505 new jobs, and amount to 1.1 per cent of GDP. In addition to direct job creation, indirect job creation would be in the order of 200,000. The injection of 772,000 jobs would reduce the unemployment rate (official) from 25.5 to 19 per cent. The impact on GDP growth would be in the order to 1.8 percent or 15 billion Rand. New direct and indirect taxes would amount to 3 billion Rand. The net increase in government spending (6 billion Rand) would be equivalent to 0.7 per cent of GDP or 2.3 per cent of government expenditure.

Antonopoulos (2008) finds that an investment of this nature would improve income distribution, with the proportion of income received by the upper 50^{th} percentile decreasing from 92.2 to 91.8, and the lower 50^{th} percentile improving from 7.8 to 8.2. Such an investment would be pro-poor, with ultra-poor households receiving the highest incremental change income, of 9.2 per cent. All households involved in the intervention classified 'poor' would cross an annual poverty line of 20,000 Rand. The depth of poverty of the ultra-poor would be reduced by between 59 and 71 per cent, and ultra-poor households would cross the ultra-poverty line of 12,000 Rand. Moreover, the social benefits extend to skills formation and human capital acquisition, asset accumulation, enhanced service delivery and multipliers associated with local economic investment.

1.2.2 The first step towards a solution

In this Report we indicate that the EPWP structure should be revised to move the implementation towards that consistent with a national employment guarantee at uniform wages. There are huge opportunities in a number of areas, especially the Social sector, for scaling up the EPWP (Friedman *et al.*, 2007). We argue that to alleviate poverty the jobs have to be:

(a) On-going;

(b) Pay a wage that is above reasonable estimates of the poverty line;

(c) Develop productive capacities through skill development.

We argue, as other have argued, that transition to a demand-led, rights based public works programme, which replaces the current budget-led approach, would be optimal (Antonopoulos, 2008; Friedman *et al.*, 2007). This should be accompanied by a decentralised, community led model of programme management.

1.3 Terms of reference – aims and research questions

To inform policy, the proposed research will focus on the role that EPWP in South Africa has played in reducing income insecurity and promoting employment, and how it interacts with existing social grants.

The overarching policy questions guiding this research are:

1. What improvements or changes in programme design would enhance the impact of the EPWP wage income on poverty alleviation?
    a. Under what conditions and in which situations is EPWP most effective in transferring wage income to alleviate poverty?
    b. How are the benefits provided by the EPWP interconnected with means-tested social grants? How can the positive linkages be enhanced and reinforced?
2. What is the appropriate minimum wage for a minimum level of employment? How does this vary across space?
    a. What are the differential impacts on household income and poverty according to the level of EPWP wage and employment duration?
    b. At what wage level can EPWP poverty alleviation objectives be met with minimal displacement from employment in other sectors?
    c. What is the applicability of the orthodox economic concept of reservation wages to assessing the potential impacts of proposed changes to EPWP design? What factors external to reservation wages including locational variation should be considered in assessing the likely supply responses to design variations in EPWP?
3. What are the alternative options for up-scaling the wage income transfer of EPWP? And what are the costs (affordability) and benefits of different scales of EPWP? This section will use scenario analysis to consider options including:
    a. Continue with the present design
    b. Continue providing:
        i. short-term employment (maximum 4 months), but expand the number of work opportunities
        ii. 200,000 jobs at any given time, but decrease limitations on the duration of work opportunity;
        iii. employment, but expand the number and duration of work opportunities provided, to increase coverage of specific target groups as identified by the empirical study in Research task 1;
    c. Guarantee a minimum income and minimum level of employment for:
        i. specific target groups, as identified by the empirical study in Research task 1.
        ii. able-bodied individuals from poor households who otherwise cannot find work

To advance these research questions the research will:

1. Provide an up-to-date descriptive analysis of the major dimensions and characteristics of the EPWP programme and its participants using summary statistics, maps and, where possible, spatial statistical techniques;
2. Consider a range of poverty indicators including the StatsSA approach based on minimum food needs for daily energy requirements plus essential non-food items, calculated on a simple per capita basis with per adult equivalent poverty lines and those based on equivalency scales (such as the Oxford equivalency scale) which consider child cost ratios and household economies of scale, will be assessed for suitability as dependent variables in the regression analysis;
3. Use multi-level modelling regression techniques to estimate the differential impact of participation in the EPWP on the constructed poverty measures after controlling for relevant individual and regional (contextual) factors as well as programme characteristics;
4. Use multi-level modelling regression techniques to compare the relative impacts of EPWP participation and the receipt of social grants on the constructed poverty measures after controlling for relevant individual and regional (contextual) factors as well as

programme characteristics. In particular, we will examine the interconnections between social grants such as Old-Age Pensions, Child Support Grants, Foster Care Grants and Disability Grants, as they relate to the benefits derived from the EPWP, in order to better understand the measures that can be taken in order to strengthen positive linkages;

5. Deploy the empirical output from (3) and (4) to explore the spatial distribution of benefits derived from EPWP employment under the assumption that the government will continue to ration the number of EPWP jobs;
6. Deploy the empirical output from (3) and (4), to conduct a scenario analysis of different ways to increase the scale of the EPWP in order to eradicate indigence below a specified threshold level.
7. Provide an overview of minimum wage setting in public works projects including the scope and coverage of minimum wages (including the Employment Conditions Commission, nationally negotiated wages, and bargaining councils, etc); What criteria is used to determine the minimum wages; compilation and discussion of minimum wage rates for different sectors under the Basic Conditions of Employment Act since 2001.
8. Provide an overview of the political, economic and social context of minimum wage setting from two perspectives: (a) interests and positions of workers, employers, government and others with regards to these minimum wages; and (b) the likely reactions to a national safety-net minimum wage covering all sectors and regions.
9. Provide a critique of the concept of the reservation wage and its relevance for minimum wage determination in EPWP projects using Vaidya and Ahmed (2007) as an example of a flawed approach
10. Provide a framework for minimum wage setting in EPWP projects and assess the potential for introducing a safety-net wage to augment the plethora of wage rates that govern low-skilled work in South Africa.
11. Within this framework propose an appropriate scale of minimum wage rates for EPWP projects. This may include calibrations for spatial variation in wages, variations by sector or alternatively a standardised wage, depending on findings from differential impact analysis and the wage study.

1.3 A readers guide to the Report

Table 1.1 provides a guide to how one might approach this Report. The narrowest reading will involve Chapters 2 to 6. This will provide the reader with the following information and analysis:

- A brief review of the wages system in South Africa, including minimum wage coverage;
- A brief consideration of the diversity and levels of wages paid to EPWP workers;
- A detailed discussion of possible minimum wage levels for EPWP workers and how they correspond to contemporary debates about poverty line measurement in South Africa;
- A detailed discussion of the relative merits of income guarantees versus employment guarantees.

The disadvantage of taking a narrow interpretation of the Terms of Reference (particularly the items that seek information about appropriate minimum wage frameworks and appropriate ways to expand the EPWP) is that the conceptual richness that underpins

contemporary discussions about employment guarantees would be lost. Further, the logic of offering employment guarantees in a modern monetary economy would be lost.

To acquire the broader knowledge and understandings one would have to read Chapters 7 and 8 and integrate that information into the debate. However, it is possible to read Chapters 2 and 6 of this Report without considering the deeper conceptual issues and debates.

We recommend that readers consider the report in general and appreciate the conceptual framework which underpins the more practical recommendations.

Table 1.1 A reader's guide to the Report

Aim	Chapters to be read
Narrow reading within the Terms of References	Chapters 2 to 6 (inclusive)
Thorough understanding of employment guarantees	Chapter 7
Understanding what a modern monetary economy means and what options it provides a national government including a critique of neo-liberal macroeconomic thinking	Chapter 8
Complete understanding of EPWP problems and options with necessary conceptual support.	Complete report, especially Chapters 7 and 8.

2 South African wage determination and minimum wages

2.1 Wage outcomes in South African industry

Tables 2.1 and 2.2 show the average daily rates of pay by industry for May and August 2007. The daily rates were computed from the average monthly rates published by StatsSA (P0277, Tables E and F, pages 29-30). The real increases are computed using the quarterly rate of increase in the Consumer Price Index (All Items, Metropolitan) provided by StatsSA (PO141). This rate of increase was 2.3 per cent.

Table 2.1 shows the average daily rates of pay (including bonuses and overtime payments) by industry for May and August 2007. During 2007, with the exception of mining and quarrying, real wages rose more or less across the industry structure. In the "social" sector (Community, social and personal services) the percent increase in real average daily pay was 2.1 per cent or nearly twice the national average. It was also considerably larger than any other industry which tended to lie closely around the national average.

As we will see in Chapter 3, the average daily rates of pay offered in all industries dwarf those on offer from even the most lucrative EPWP projects.

Table 2.1 Average daily rates of pay including bonuses and overtime payments by industry, Rand

Industry	May-07	Aug-07	Nominal Increase	Real Increase
Mining and quarrying	240.43	244.70	1.8	-0.5
Manufacturing	237.76	248.09	4.3	2.0
Electricity, gas and water supply	483.39	507.91	5.1	2.7
Construction	173.52	181.25	4.5	2.1
Wholesale and retail; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants	183.16	188.88	3.1	0.8
Transport, storage and communications	372.33	384.26	3.2	0.9
Financial, insurance, real estate and business services	319.76	328.73	2.8	0.5
Community, social and personal services	310.68	330.74	6.5	4.1
Total	266.07	278.01	4.5	2.2

Source: StatsSA, P0277, Table E, page 29.

The data shown Table 2.1 nets out the effects of bonuses and overtime payments on the average daily pay rates to give a better indication of the underlying average wages for ordinary time work. The average daily rates of pay (excluding bonuses and overtime payments) by industry for May and August 2007 (Table 2.1) show that ordinary time work is still generating real wage increases.

Table 2.2 Average daily rates of pay excluding bonuses and overtime payments by industry, Rand.

Industry	May-07	Aug-07	Nominal Increase	Real Increase
Mining and quarrying**				
Manufacturing	220.31	230.30	4.5	2.2
Electricity, gas and water supply	446.96	475.63	6.4	4.1
Construction	164.32	170.37	3.7	1.4
Wholesale and retail; repair of motor vehicles, motor cycles and personal and household goods; hotels and restaurants	176.12	181.74	3.2	0.9
Transport, storage and communications	340.04	348.76	2.6	0.2
Financial, insurance, real estate and business services	308.65	317.82	3.0	0.6
Community, social and personal services	300.95	322.42	7.1	4.8

Source: StatsSA, P0277, Table F, page 30. ** data for Mining and quarrying not available.

2.2 Minimum wages in South Africa

2.2.1 Overview

In this Section we briefly examine the provision for minimum wages in the market sector of the South African economy as a precursor to a more specific examination in Chapter 3 of the minimum wage rates paid in EPWP projects. An understanding of the minimum wages prevailing in the market sector helps us to better appreciate the low pay that is offered in the EPWP and signals areas in the market economy that would be affected by the proposals for minimum wage restructuring that are presented in Chapter 4.

The debate about minimum wages in South Africa, particularly in relation to their impact on employment growth, is replicated in all modern economies. In relation to South Africa, the neo-liberal viewpoint is well expressed by Thomas Sowell in the Capitalism Magazine (Sowell, 2006). Sowell says that the high unemployment is not a failure of demand but has arisen because 'minimum wages in South Africa have been set higher than the productivity of many workers, so employers have no incentive to hire those workers, even though such workers are perfectly capable of producing much-needed goods and services.' He goes on to say that the 'The South African government refuses to admit that an unrealistically high minimum wage rate has anything to do with the high unemployment rate. In other words, they think that they can pass a law to give workers something for nothing.'

This argument reflects the highly contentious perfectly competitive labour market model of neo-classical economics. The model has little applicability to the real world and theories of second best tell us that moving from a certain "real world" market structure to one that looks more like the perfect model (for example, via deregulation) does not guarantee that outcomes will "resemble" those of the perfect world – that is, they do not necessarily improve outcomes such as employment. These arguments are analysed in detail by Mitchell and Muysken (2008) who conclude that mass unemployment of the scale that is found in South Africa is the result of inadequate aggregate demand for goods and services brought about by a spending gap. Reducing minimum wages in that context will not be an effective remedy.

Where there have been effective statutory minimum wage interventions the impacts appear to have been positive. Hertz (2005: 28-29) concluded that the negative employment impacts of a substantial intervention by the South African government in legislating for minimum wages for domestic workers

> would thus appear to be low enough for the policy to have been poverty-and ultrapoverty-alleviating, by a fairly comfortable margin ... we can conclude that, for women, neither poverty nor ultrapoverty have changed by very much as a result of the minimum wage, while for men they should have improved somewhat.

In the remainder of this Chapter, we review the minimum wage structure in South Africa to allow us a better understanding of the degree to which EPWP daily minimum wages (discussed in Chapter 3) currently overlap specific areas of the private wage structure and the degree to which private employers might be disrupted if a uniform poverty-alleviating EPWP minimum wage (discussed in Chapter 4) was set.

What is the extent of low wage work in South Africa? Valodia *et al*. (2006) use the Labour Force Survey (LFS) in 2000 and 2004 to compute the number and percentage of workers who earn below R2500 and R1000 per month. Their computations are shown in Table 2.3. Using the 2000 Labour Force Survey (LFS), 77.8 per cent of South African workers earn less than R2500 per month and over 53 per cent earn less than R1000 per month. The authors (2006: 91) also estimate that 38 per cent of all workers in 2000 (that is, 4,246,232) earn below R500 per month.

Table 2.3 Low-wage workers in South Africa

	Labour Force Survey 2000				Labour Force Survey 2004			
	<=R2500		<=R1000		<=R3500		<=R1500	
	No	%	No	%	No	%	No	%
Low-waged	8,697,262	77.8	5,958,388	53.3	8,218,534	73.4	5,583,331	49.2
Total employed reporting wages	11,174,295	100.0	11,174,295	100.0	11,357,840	100.0	11,357,840	100.0

Source: Valodia *et al* (2006). The calculations were based on data from Stats SA (2001) and Stats SA (2004).

Valodia *et al.* (2006: 92) noted that the 2000 and 2004 LFS data are not strictly comparable if one was to compute the numbers of workers in 2004 using the R2500 and R1000 thresholds. To accommodate for the inflation over the four year period, the authors adjusted the thresholds for inflation and used R3500 and R1500 in 2004 as the nominal equivalents of R2500 and R1000 in 2000 (thus, approximately holding the real wage thresholds constant). The data in Table 2.3 is thus comparable between 2000 and 2004 (although readers should consult Valodia *et al.*, 2006 for caveats underlying any comparison).

We observe an increase of 183,545 workers reporting employment earning wages between 2000 and 2004. Over the same period the low-wage workers (<=R1000 in 2000 and <=R1500 in 2004) declined from 53.3 per cent of total employment in 2000 to 49.2 per cent in 2004. In absolute terms this group fell by 375,057 workers and so some progress is being made on providing transitions from low- to higher-wage employment.

It is clear from the data presented in Table 2.3 that the wage distribution in South Africa is highly skewed with a high proportion of South African workers earning low wages. In the

case of the lowest paid – domestic workers and farm workers who together comprise around 17 per cent of total employment – 'their estimated wages lie below the poverty line for individuals and for households as well' (Altman, 2006: 74).

However, the problem of poverty extends beyond the fact that around 50 per cent of paid workers receive extremely low remuneration. It is also driven by the fact that only a minority are officially employed in the first place. The latter problem requires large scale job creation while the former problem requires adequate minimum wage levels to be introduced.

2.2.2 Minimum wages outcomes – Bargaining Councils

Singizi Consulting (2007) provided an analysis of minimum wages in South Africa by sector for the ILO, which we draw on, in part, for this section of the Report. Some of the wage data provided to Singizi by the South African Department of Labour is dated. To overcome this limitation, we use the latest data that is publicly available. In particular we present summaries of the latest minimum wage rates provided for by the South African Department of Labour, Sectoral Determination process. They are not exhaustive but the range of wage minima by sector and space is captured.

What is the minimum wage situation in South Africa at present? The Bureau of Democracy, Human Rights and Labor (US Department of State, 2007) says that there is

> no legally mandated national minimum wage, although the law gives the Ministry of Labor the authority to set wages by sector. Minimum wages were established for the retail sector, farm laborers, domestic workers, and taxi (minibus) drivers. As of March the minimum wage for farm workers was approximately $142 (R994) a month in urban areas and $126 (R885) a month in rural areas. The minimum hourly rates for domestics depended on the number of hours worked and could range from $0.59 (R4.15) to $0.86 (R6.04). Depending on province, compliance with the minimum wage rate ranged from 65 to 90 percent, according to figures published by the DOL in 2004. Minimum wages did not provide a decent standard of living for a worker and family; the government undertook other actions to alleviate poverty, including annual above-inflation mandatory wage increases for farm workers, exemptions from school fees, and improved access to health care.

Despite industry/plant union negotiation providing satisfactory wage outcomes for their members, workers in sectors with little union involvement (unskilled and rural workers) 'were unable to provide an adequate standard of living for themselves and their families' (US Department of State, 2007).

While there is some legal requirements with respect to length of working week and the division between standard and non-standard wages rates, *ad hoc* exemptions from government have allowed small business to avoid their obligations with respect to non-standard wage rates and leave entitlements (US Department of State, 2007).

The US Department of State (2007) conclude that

> Labor conditions for mostly Black farm workers were harsh. Many, mostly white, farmers did not accurately measure working hours and often required their laborers to work 11 hours per day and six days per week. Twelve-hour days were common during harvest time, and few farmers provided overtime benefits. Human Rights Watch reported low wages, a lack of basic services in farm workers' housing, and inadequate education for workers' dependents (see section 5). Farm owners, predominantly whites, continued to evict workers legally and illegally. There was lack of compliance with labor legislation, lack of information on HIV/AIDS, and

significant violence and crime against farm workers and farm owners. Health and safety regulations often were not observed when chemicals were used in agricultural work.

South African wage determination is the product of interactions between trade unions, employer groups and government legislation. Minimum wage rates in the various industrial sectors in South Africa are determined through: (a) Bargaining Council collective agreements, and (b) Sectoral Determinations.

Bargaining Councils are voluntary mechanisms that allow a majority union or unions together with an employer organisation/s to negotiate terms and conditions leading to a formal agreement. Bargaining Councils or the old Industrial Council system have historically been the central pillar of collective bargaining in South Africa (DPRU, 2007: 3).

Despite Bargaining Councils being a key pillar for concluding collective agreements, there is very little research or information about the content of the collective agreements that are concluded. This primarily indicates the lack of detailed wage information and other conditions of service available from Bargaining Councils. Theron *et al.* (2005: 18, 22) indicate that there are 48 registered Bargaining Councils covering both the private and public sector. However, they argue that the data on Bargaining Councils is not easily or readily available to the public. They also state that the Bargaining Councils (Private and Public) only cover 32.6 per cent of workers in the defined job categories, with four of the nine major sectors of the economy not having a Bargaining Council.

The minimum wage data used in this section has been provided by the Department of Labour. It is important to note a few caveats about the Bargaining council wage data:

1. There is no historical wage data;
2. The wage rates provided may not be the most recent, and could indicate either poor reporting by Bargaining Councils or inadequate administration in keeping up with recent agreements;
3. While there are many job descriptions of workers employed, covered by a Bargaining Council, the Department has summarised wage rates into three categories (skilled, semi-skilled and unskilled); and
4. The wage analysis below excludes data for the five Public Sector Bargaining Councils, Local Government Bargaining Council and the Transnet Bargaining Council. The focus is on the private sector Bargaining Councils and few other private sector bargaining councils.

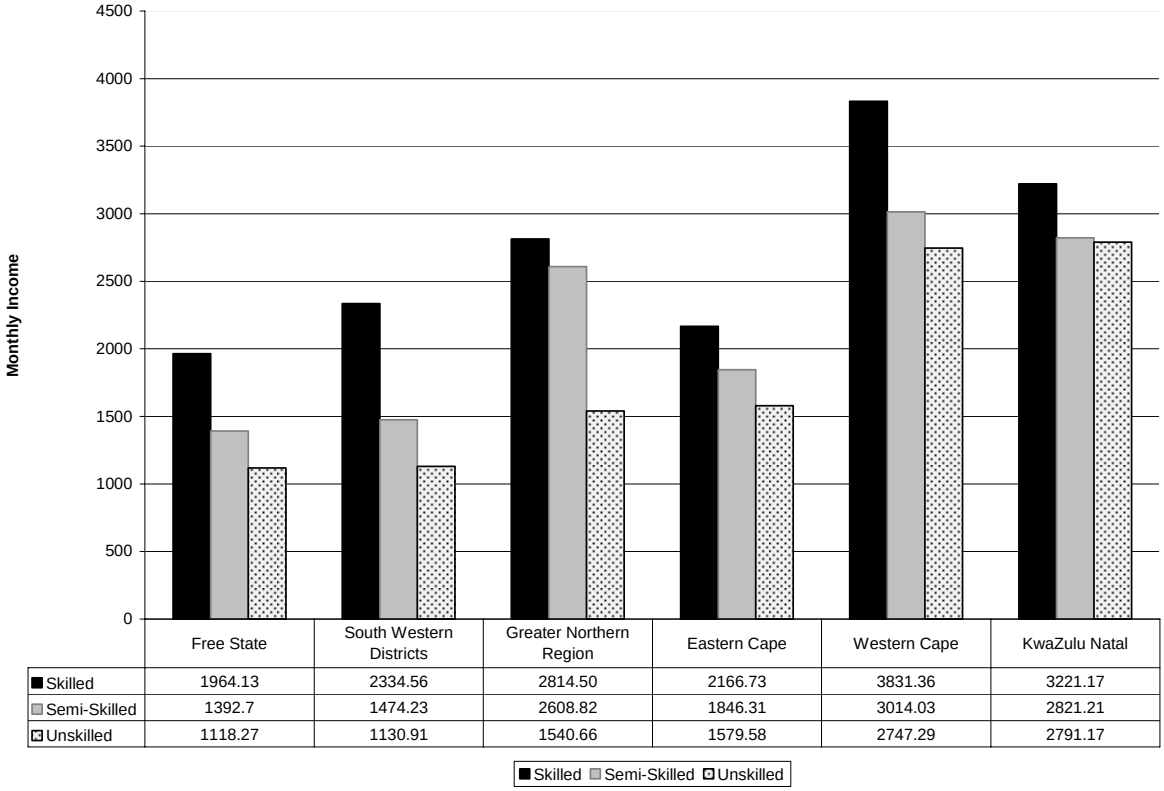
Furniture Bargaining Councils

There is no national Bargaining Council in the Furniture sector despite Furniture Bargaining Councils having operated on a regional basis for many years. Figure 2.1 provides an illustration of the disparate level of wage rates of similar skills between different regional Bargaining Councils, with workers in rural or semi-urban regions being paid less than their counterparts in the urban centres of Kwazulu-Natal, Western Cape and Gauteng.

Table 2.4 provides more detail to support Figure 2.1. It shows that the Eastern Cape agreement expired on May 10, 1998. The other agreements are clearly past their negotiation end-points but this is the most recent data available from the Department of Labour for this analysis. An unskilled worker in the Western Cape earns a monthly income of R2747.29 compared to his counterpart in the Free State who earns a substantially lower rate at

R1118.27 a month (for the relevant period). The Free State unskilled worker earns a mere 40 per cent of a similar worker in the Cape.

Figure 2.1 Minimum wages for Furniture Bargaining Councils, by province, Rand per month, various dates



	Free State	South Western Districts	Greater Northern Region	Eastern Cape	Western Cape	KwaZulu Natal
Skilled	1964.13	2334.56	2814.50	2166.73	3831.36	3221.17
Semi-Skilled	1392.7	1474.23	2608.82	1846.31	3014.03	2821.21
Unskilled	1118.27	1130.91	1540.66	1579.58	2747.29	2791.17

Source: Department of Labour Data Base on Bargaining Councils. Note that Eastern Cape Agreement expired on May 10, 1998. Wage rates for other regions vary on periods between 2004 and 2006. See Table 2.1 for more detail on the periods governing the wages.

Table 2.4 Minimum wages determined by the Furniture Bargaining Councils, by province, Rand per month, various dates

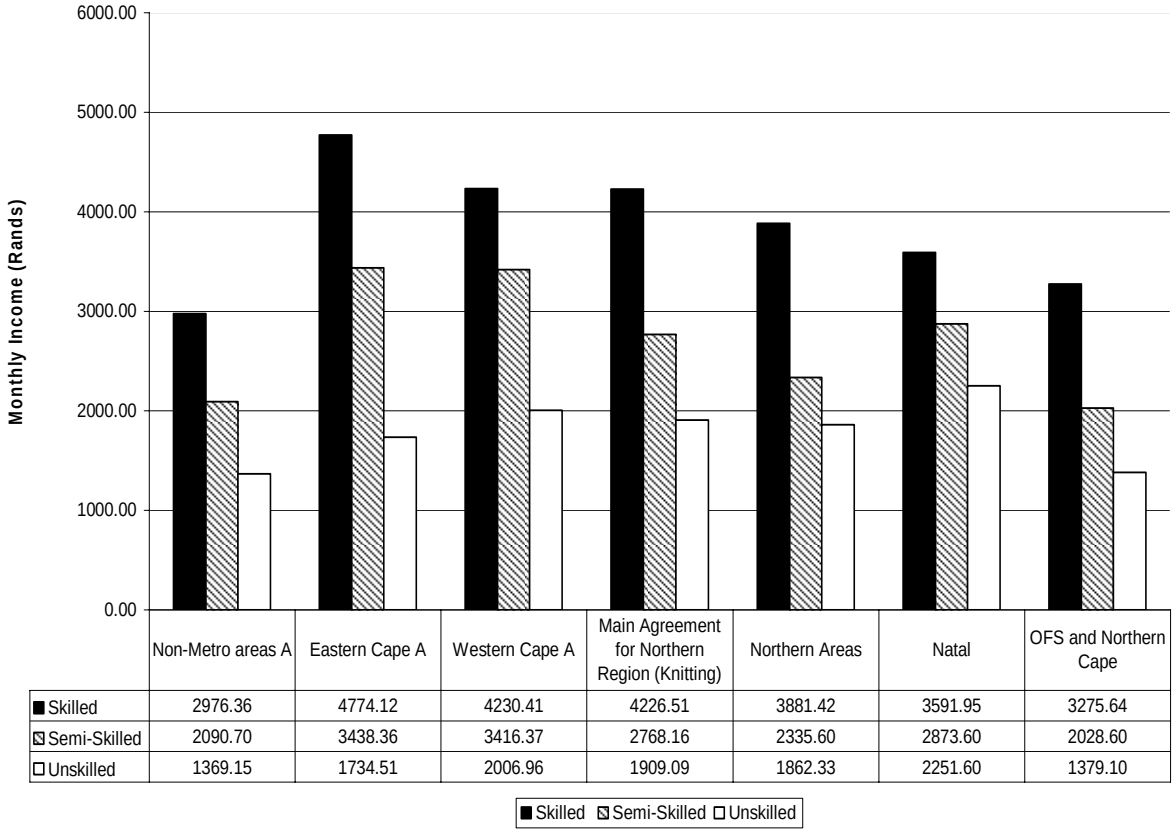
Province	Skilled	Semi-skilled	Unskilled	Dates governing agreement
Free State	1964.13	1392.7	1118.27	Jan 8, 2001 to Apr 30, 2005
South Western Districts	2334.56	1474.23	1130.91	Until Sep 30, 2005
Greater Northern Region	2814.50	2608.82	1540.66	Dec 31, 2004 to Jun 30, 2005
Eastern Cape	2166.73	1846.31	1579.58	Expired May 10, 1998
Western Cape	3831.36	3014.03	2747.29	Until Jun 30, 2005
KwaZulu Natal	3221.17	2821.21	2791.17	Until Jul 31, 2006
National average	2722.08	2192.88	1817.98	

Source: see Figure 2.1. Note the national average is just a simple average of the component agreements. It is not weighted for employment size in each component.

Clothing Bargaining Councils

Figure 2.2 reveals that there is significant regional wage inequality for workers governed by the Clothing Bargaining Councils. This spatial inequality takes different forms. First, metropolitan workers earn relatively more than their colleagues in non-metropolitan areas within the same skill bands. Second, wage differentials also exist across the various non-metropolitan areas and within the Western Cape region.

Figure 2.2 Minimum wages determined by the Clothing Bargaining Council, All Areas (excluding Area B), Rand per month, various dates



	Non-Metro areas A	Eastern Cape A	Western Cape A	Main Agreement for Northern Region (Knitting)	Northern Areas	Natal	OFS and Northern Cape
Skilled	2976.36	4774.12	4230.41	4226.51	3881.42	3591.95	3275.64
Semi-Skilled	2090.70	3438.36	3416.37	2768.16	2335.60	2873.60	2028.60
Unskilled	1369.15	1734.51	2006.96	1909.09	1862.33	2251.60	1379.10

Source: DOL Bargaining Council Wage Data Base. Wage rates are for the period ending 2005 and exclude all wage rates for Area B, where applicable.

Geographical differentials lead to wage gaps between workers employed in similar skill categories. The highest paid unskilled worker earns R2251.60 per month compared to an unskilled worker in and Non-metropolitan Area B who receives only R1058.94 per month (for the relevant period). Within the Western Cape Region wage differentials are significant between workers employed in Area A compared to those employed in Area B.

Table 2.5 shows that the average national minimum wage for unskilled workers in the Clothing sector is R1697.52 per month (for the relevant period). It also provides information for clothing workers in Area B.

Table 2.5 Minimum wages determined by the Clothing Bargaining Council, Rand per month, various dates

Area	Skilled	Semi-skilled	Unskilled	Dates governing agreement
Non-Metro areas A	2976.36	2090.70	1369.15	Oct 11, 2004 to Jun 30, 2005
Non-Metro areas B	2242.81	1575.38	1058.94	
Eastern Cape A	4774.12	3438.36	1734.51	Until Jun 30, 2005
Eastern Cape B				
Western Cape A	4230.41	3416.37	2006.96	From May 3, 2004 to Jun 30, 2005
Western Cape B	2089.23	1725.51	1706.02	
Main Agreement for Northern Region (Knitting) A	4226.51	2768.16	1909.09	
National Textiles, Northern Areas A	3881.42	2335.60	1862.33	
Natal A	3591.95	2873.60	2251.60	May 3, 2004 to Jun 30, 2005
OFS and Northern Cape A	3275.64	2028.60	1379.10	Oct 18, 2004 to Jun 30, 2005
National average	3476.49	2472.48	1697.52	

Source: see Figure 2.2. Note the national average is just a simple average of the component agreements. It is not weighted for employment size in each component.

Leather Bargaining Councils

Table 2.6 shows the minimum wages determined by the Leather Bargaining Councils for different skill levels. There are wage disparities evident for the same skill classes between industry sectors and on a spatial basis. Unskilled employees in the general and handbag manufacturing sector earn relatively less than unskilled employees in the footwear and tanning sectors. Similarly, wage differentials exist for workers in different geographical locations, with workers in rural or semi-urban centres (Section A) for the footwear and general leather goods earning a lower minimum wage that those employed in metropolitan centres (Section B).

The minimum monthly wages for general leather workers are R1850.46 in Area B and R1682.24 in Area A (for the relevant period). Workers in the footwear sector earn a minimum monthly wage of R2683.34 in Area B and R2439.39 in Area A (for the relevant period), while tanning workers earn a minimum remuneration per month of R2616.96 (for the relevant period).

The average minimum monthly wage of workers employed in the leather industry is relatively higher than those in clothing and textile. Unskilled workers on average earn a rate of R2254.48 per month (for the relevant period).

Table 2.6 Minimum wages determined by the Leather Bargaining Council, Rand per month, various dates

Area	Skilled	Semi-skilled	Unskilled	Dates governing agreement
Footwear - Section A	4098.39	3271.75	2439.39	Jun 1, 2005 to June 30, 2007
Footwear - Section B	4508.22	3598.92	2683.34	
General Goods and Handbag - Section A	2828.09	2174.95	1682.24	September 9, 2005 to June 30, 2006
General Goods and Handbag - Section B	3110.88	2392.45	1850.46	
Tanning	3815.45	2838.83	2616.96	June 1, 2004 to June 30, 2006
National average	3672.21	2855.38	2254.48	

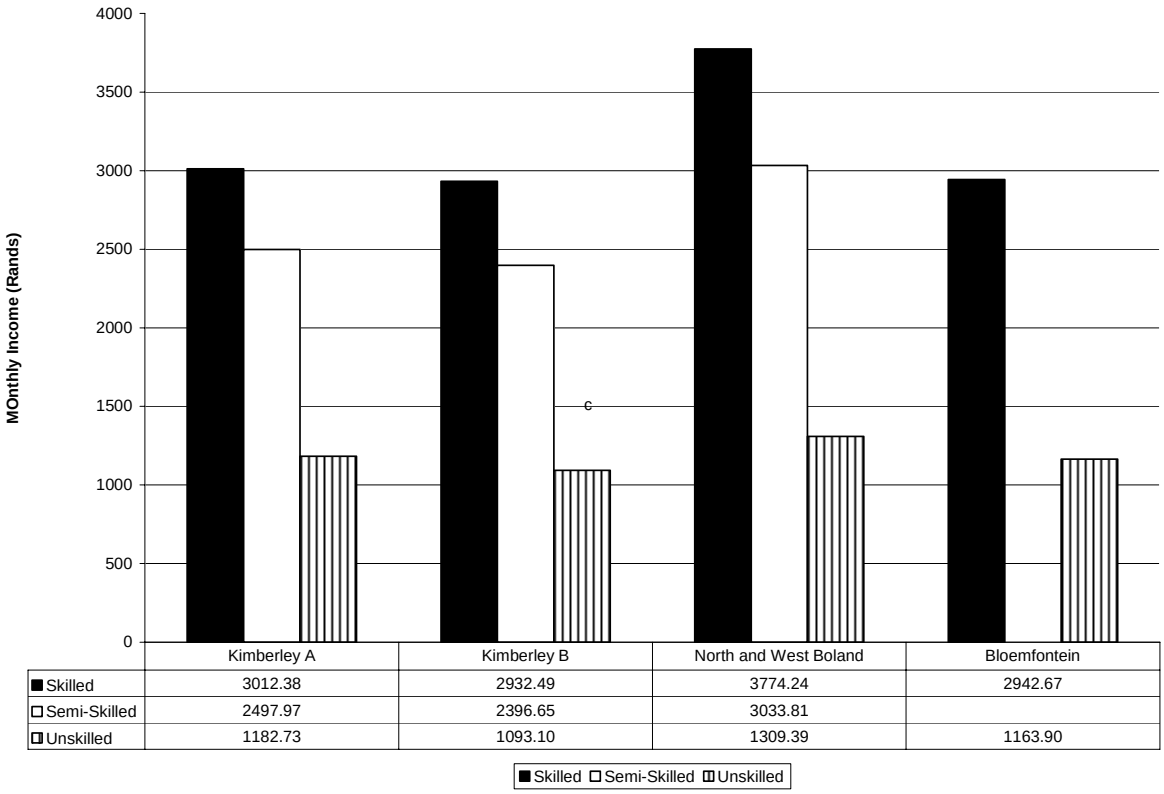
Source: DOL Wage Data Base on Bargaining Councils with collective agreements ending in 2006 and 2007. Section B covers metropolitan areas and Section A covers rural and semi-urban areas. Note the national average is just a simple average of the component agreements. It is not weighted for employment size in each component.

Building Bargaining Councils

The Building Bargaining Councils have a limited spatial coverage. As a result the Civil Engineering Sectoral Determination has been used in areas previously covered by a Bargaining Council agreement. Figure 2.3 and Table 2.7 summarise the outcomes.

The lowest minimum wage concluded through a collective agreement is in Section B, Kimberly, with unskilled workers earning R1093.10 per month (for the relevant period). The average monthly minimum wage for the Building Bargaining Councils is R1187.28 (for the relevant period).

Figure 2.3 Minimum wages determined by the Building Bargaining Council, Rand per month, various dates



Source: DOL Wage Data Base on Bargaining Councils. Note the period of agreement for Kimberley ends in 2008 and for North and West Boland, Bloemfontein 2005.

Table 2.7 Minimum wages determined by the Building Bargaining Council, Rand per month, various dates

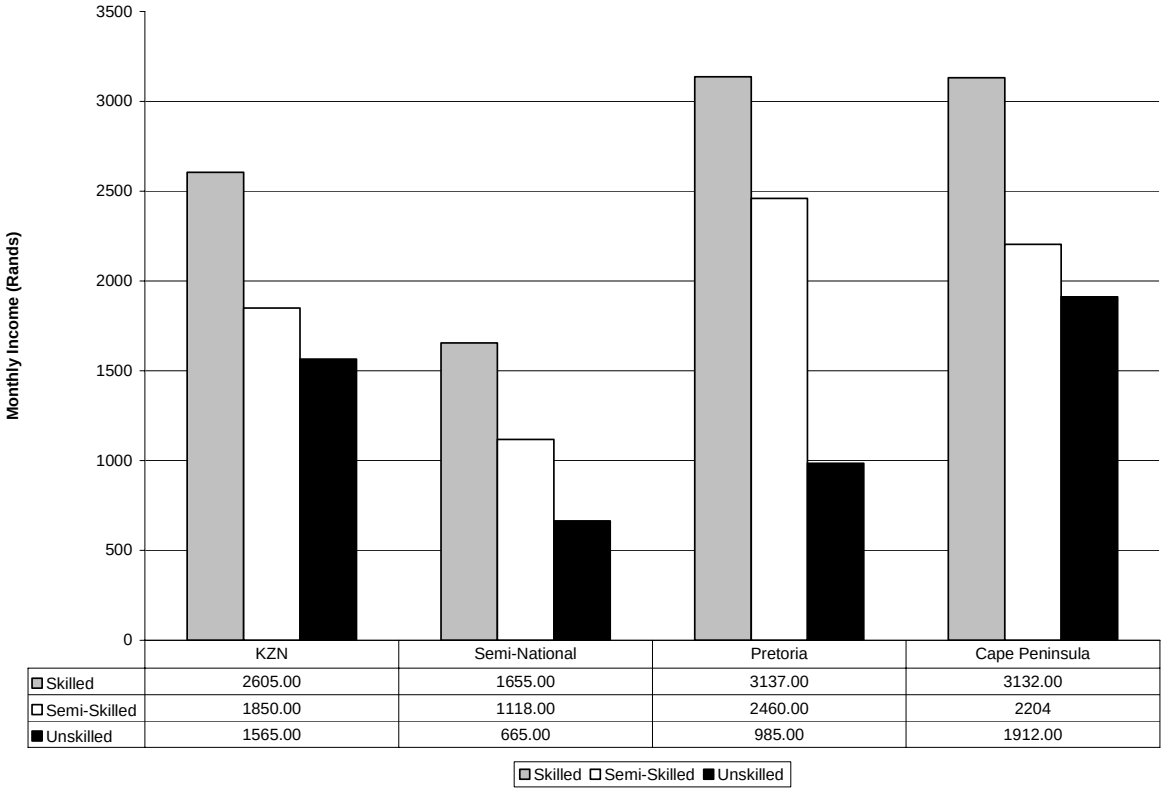
Area	Skilled	Semi-skilled	Unskilled	Dates governing agreement
Kimberley A	3012.38	2497.97	1182.73	Aug 2, 2004 to Jul 30, 2008
Kimberley B	2932.49	2396.65	1093.10	
North and West Boland	3774.24	3033.81	1309.39	Nov 1, 2004 to Oct 31, 2005
Bloemfontein	2942.67		1163.90	Jun 6, 2003 to Jun 11, 2005
National average	3165.445	2642.81	1187.28	

Source: see Figure 2.3. Note the national average is just a simple average of the component agreements. It is not weighted for employment size in each component.

Hairdressers Bargaining Councils

Despite the average minimum wage for unskilled workers being set at R1281.75 per month (for the relevant period), unskilled employees covered through the semi-national collective agreement in the cosmetology industry only earn R665 per month, although this data is somewhat dated. Figure 2.4 and Table 2.8 summarise the outcomes.

Figure 2.4 Minimum wages determined by the Hairdresser Bargaining Council, Rand per month, various dates



Source: Department of Labour. The KZN and Cape Peninsula agreement ended in 2006, while the Semi-National and Pretoria agreements end in 2007.Semi-National refers to areas not covered by the other Bargaining Councils. This includes Johannesburg and surrounding areas, Eastern Cape, Bloemfontein and Kimberley.

Table 2.8 Minimum wages determined by the Hairdressing Bargaining Council, Rand per month, various dates

Area	Skilled	Semi-skilled	Unskilled	Dates governing agreement
KZN	2605.00	1850.00	1565.00	Jul 25, 2005 to Jul 31, 2006
Semi-national	1655.00	1118.00	665.00	Nov 8, 2004 to Dec 31, 2007
Pretoria	3137.00	2460.00	985.00	1 Mar 1, 2005 to May 10, 2007
Cape Peninsula	3132.00	2204	1912.00	Expired Mar 31, 2006
National average	2632.25	1908.00	1281.75	

Source: see Figure 2.4. Note the national average is just a simple average of the component agreements. It is not weighted for employment size in each component.

Other Bargaining Councils

Table 2.9 summarises relatively recent outcomes derived from negotiations within some of the other Bargaining Councils, notably for the Meat Trade, the Canvas Goods Industry and the Contract Cleaning Industry. The spatial coverage of the data provided to us was however incomplete. We have not attempted to inflate the values to reflect current prices due to the inexact nature of the temporal period covered by these agreements.

Table 2.9 Minimum wages determined by Other Bargaining Councils, Rand per month, various dates

Area	Skilled	Semi-skilled	Unskilled	Dates governing agreement
BC for the Meat Trade (Gauteng)	2079.00	1771.00	1331.00	To June 30, 2008.
BC for the Canvas Goods Industry (Witwatersrand and Pretoria)	2754.87	2547.08	2074.76	To June 30, 2004.
BC for the Contract Cleaning Industry (Natal)	1316.58		1268.77	Aug 1, 2005 to Feb 28, 2006

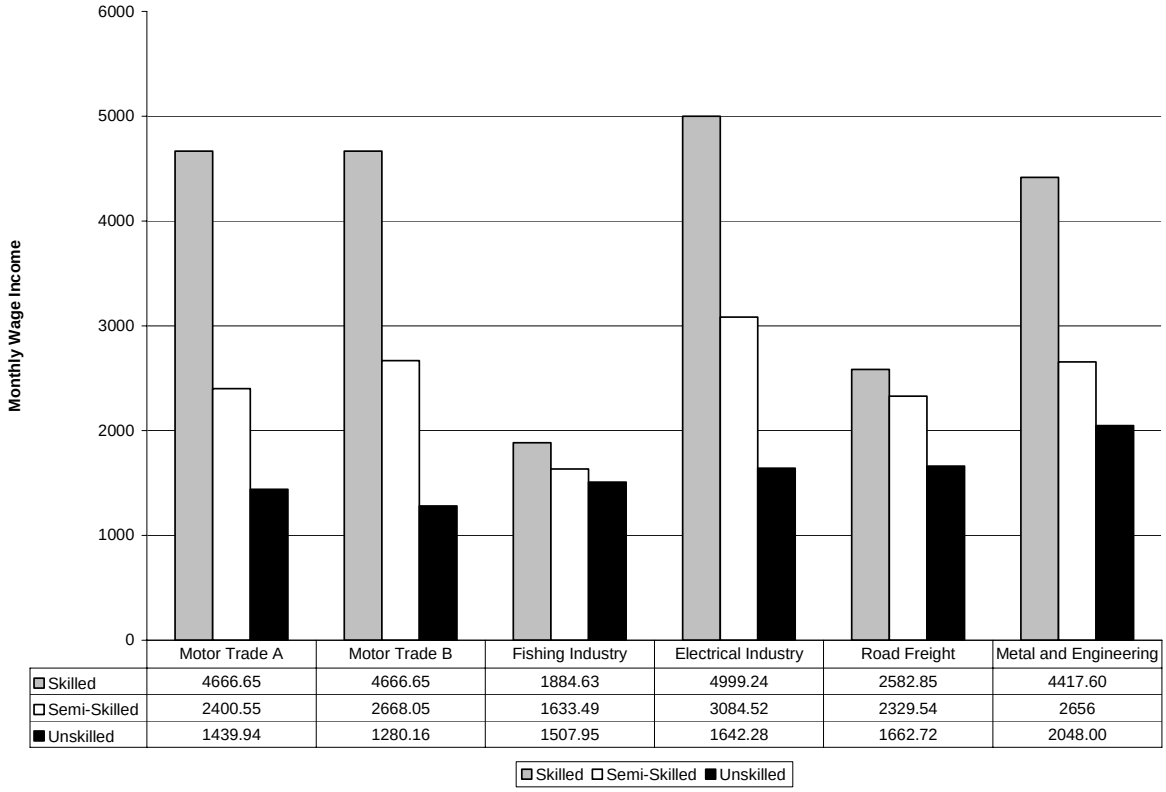
Source: DOL Wage data base for Bargaining Councils.

National Bargaining Councils

In some sectors wages are negotiated via national Bargaining Councils instead of being determined by a series of agreements reached at a regional basis and negotiated by the various regional Bargaining Councils. Figure 2.5 and Table 2.10 demonstrate clearly that the minimum wage outcomes derived at the national level are superior to those negotiated at the regional level. This finding is probably a consequence of: (a) the Bargaining Councils that are organised on a national level are primarily manufacturing based (except fishing) and have higher productivity growth and overall skill levels relative to other sectors; (b) there are stronger trade union organisation at that level which provide for a more continuous push for improved minimum wages of lower and unskilled workers.

The lowest minimum amongst those determined by National Bargaining Councils (for which data is available) is found in the Motor Trade B, with a monthly income of R1280.16. The average monthly remuneration determined by the National Bargaining Council outcomes shown in Table 2.10 is R1596.84**.**

Figure 2.5 Minimum wages determined by the National Bargaining Council, Rand per month, various dates



	Motor Trade A	Motor Trade B	Fishing Industry	Electrical Industry	Road Freight	Metal and Engineering
Skilled	4666.65	4666.65	1884.63	4999.24	2582.85	4417.60
Semi-Skilled	2400.55	2668.05	1633.49	3084.52	2329.54	2656
Unskilled	1439.94	1280.16	1507.95	1642.28	1662.72	2048.00

Source: DOL Wage data Base for Bargaining Councils. The period of agreement for Fishing ended 2005, Electrical 2006 and Road Freight 2006. Note that there was no data for Chemical, Paper Wood and Tyre Bargaining Councils

Table 2.10 Minimum wages determined by National Bargaining Councils, Rand per month, various dates

Area	Skilled	Semi-skilled	Unskilled	Dates governing agreement
Motor Trade A	4666.65	2400.55	1439.94	
Motor Trade B	4666.65	2668.05	1280.16	
Fishing Industry	1884.63	1633.49	1507.95	Dec 31, 2004 to Nov 30, 2005
Electrical Industry	4999.24	3084.52	1642.28	Apr 2005 to Jan 31, 2006
Road Freight	2582.85	2329.54	1662.72	Jul 25, 2005 to Feb 28, 2006
Metal and Engineering	4417.60	2656.00	2048.00	

Source: DOL Wage data base for Bargaining Councils.

2.2.3 Minimum wages outcomes – Sectoral Determinations

Sectoral Determinations which set legal minimum wages and working conditions have existed in South Africa since the 1990s in the areas of Contract Cleaning, Clothing; Wholesale and Retail; and Private Security (Altman, 2006; Benjamin, 2005). In 2002, Determinations for domestic and agricultural workers followed.

As indicated, under the provisions contained in Chapter 8 of the BCEA (1997 as amended) the Minister of Labour has the authority to establish a Sectoral Determination for a specific sector or geographical area. The Employment Conditions Commission (ECC) under Chapter nine of the BCEA is responsible for advising the Minister on any Sectoral Determination. Based on its recommendations the Minister can promulgate a Determination for a specific sector or geographical location.

Sectoral Determinations have been increasingly important because evidence, drawn from a number of research studies and other information from industry participants and the Registrar for Labour Relations at the Department of Labour, suggest that the Bargaining Councils are becoming increasingly unrepresentative. This problem applies to even the newly registered Councils. This decreased representation makes it extremely difficult to extend the scope of coverage of minimum wages. Further, new forms of employment relations and growing atypical forms of employment continue to pose a major challenge for unions organising workers in vulnerable sectors. As a consequence there is an increased reliance on regulation, and since 1997 there has been several Sectoral Determinations promulgated, covering an array of sectors which have been identified as vulnerable and where there is minimum or no coverage available through a Bargaining Council agreement. However, despite having a number of Determinations there are only 9 Sectoral Determinations that set minimum wage levels.

Wholesale and Retail Sector

The Wholesale and Retail sector is the largest employment sector in the South African economy. The latest Sector Determination for this sector covers the period February 1, 2008 to January 31, 2009. Table 2.11 orders the wage outcomes in ascending order (by Area A) to make it easier to see the occupational wage structure which is sharply distinguished across occupation and geographic space.

It is clear that the minimum wages determined differ substantially across space with the rural workers (Area C) receiving the lowest outcomes in general. Metropolitan workers (Area A) achieve the best outcomes.

In occupational terms, the lowest paid workers in the Wholesale and Retail Sector are the General Assistants, earning R1737, R1495 and R1458 in Area A, B and C, respectively. However, these are not the lowest outcomes across all the minimum wage outcomes for which we have data.

Table 2.11 Minimum wages in wholesale and retail trade, Areas A, B and C, February 1, 2008 to January 31, 2009, Rand per month

	Area A	Area B	Area C
General Assistant	1737	1495	1458
Security Guard	1784	1697	1654
Forklift operator	1898	1503	1466
Driver - light vehicle	2015	1599	1559
Merchandiser	2092	1686	1644
Shop Assistant	2092	1686	1644
Cashier	2230	1797	1752
Driver - medium light vehicle	2436	1935	1886
Clerk	2642	2147	2093
Sales Assistant	2642	2147	2093
Sales Person	2642	2147	2093
Driver - medium heavy vehicle	2659	2338	2280
Displayer	2744	2070	2019
Driver - heavy vehicle	2922	2576	2511
Supervisor	3251	2620	2555
Trainee Manager	3510	2803	2733
Assistant Manager	3825	3088	3010
Manager	4190	3349	3265

Source: South African Government Gazette No 8413, Basic Conditions of Employment Act (75/1997): Amendment of Sectoral Determination 9: Wholesale and Retail Sector.

Area A: Bergrivier, Breede Valley, Buffalo City, Cape Agulhas, Cederberg, City of Cape Town, City of Johannesburg Metropolitan Municipality, City of Tshwane, Drakenstein, Ekurhuleni, Emalahleni, Emfuleni, Ethekwini Metropolitan Unicity, Gamagara, George, Hibiscus Coast, Karoo Hoogland, Kgatelopele, Khara Hais, Knysna, Kungwini, Kouga, Langeberg, Lesedi, Makana, Mangaung, Matzikama, Metsimaholo, Middelburg, Midvaal, Mngeni, Mogale, Mosselbaai, Msunduzi, Mtubatuba, Nama Khoi, Nelson Mandela, Nokeng tsa Taemane, Oudtshoorn, Overstrand, Plettenbergbaai, Potchefstroom, Randfontein, Richtersveld, Saldanha Bay, Sol Plaatjie, Stellenbosch, Swartland, Swellendam, Theewaterskloof, Umdoni, uMhlathuze and Witzenberg. **Area B:** Abaqulusi, Beaufort West, Bela Bela, Blue Crane Route, Boland District Management Area, Breede River/Winelands, Camdeboo, Central Karoo, Dannhauser, DC43 District, Delmas, Dihlabeng, Dikgatlong, Dipaleseng, District Highlands, Emnambithi, Endumeni, Enthenjeni, Frances Baard;Garden route/ Klein Karoo, Garib, Xhariep, Ga-Segonyana, Great Kei, Greater Kokstad, Greater Tzaneen, Hantam, Highlands, Highveld East, Ikwezi, Impendle, Inkwanca, Inxuba Yethemba, Kamiesberg, Kannaland, Kareeberg, Karoo, Khai-Ma, Kheis, King Sabate dalindyebo, Kopanong, Kou-Kamma, Kwa Sani, Ladysmith, Laingsburg, Lepele Nkupi, Lephalale, Lukhanji, Mafikeng, Mafube, Magareng, Makhado, Malaamulele, Malethswai, Malutia Mandeni, Mantsopa, Maquassi Hills, Masilonyana, Matatiela, Matjhabeng, Merafeng City, Messina, Mier, Mkhambathini, Modimolle, Mofutsanyane; Mogalakwena, Mohokare, Molopo, Mooi Mpofana, Mookgopong, Moqhaka, Moretele, Moses Kotane, Nala, Naledi, Namakwa district, Ndlambe, Newcastle, Ngwathe, Nketoana, Phalaborwa, Maluti a Phofung, Phokwane, Phumelela, Polokwane, Prince Albert, Renosterberg, Richmond, Rustenburg, Schweizer-Reneke, Setsotlo, Siyancuma, Siyanda District, Siyathemba, Sunday's River Valley, Thabazimbi, Thabo The KwaDukuza, Thembekihle, Thohoyandou, Tokologo, Tsantsabane, Tsolwana, Tswelopele, Ubuntu, Umlazi, Umsobomvu, Umtshezi, uPhongolo, Utrecht, West Rand District, Western District, Westonaria, Zeerust. **Area C:** localities not defined above.

Table 2.12 Minimum wages for Domestic workers, Farm workers, Contract Cleaners, Forestry workers, Taxi workers, and Hospitality workers under Sectoral Determinations, Rand per month

Sector	Qualifier	Rand per month	Coverage period
Domestic workers (> 27 hrs p.w, excl. overtime)	Urban	1166.05	Dec 1, 2007 to Nov 30, 2008
Domestic workers (> 27 hrs p.w, excl. overtime)	Rural	946.04	Dec 1, 2007 to Nov 30, 2008
Domestic workers (≤ 27 hrs p.w, excl. overtime)	Urban	826.41	Dec 1, 2007 to Nov 30, 2008
Domestic workers (≤ 27 hrs p.w, excl. overtime)	Rural	670.44	Dec 1, 2007 to Nov 30, 2008
Farm workers	Area A	1041.00	Mar 1 2007 to Feb 28, 2008
Farm workers	Area B Area C	989.00	Mar 1 2007 to Feb 28, 2008
Contract cleaners	Area A	1671.00	Nov 2005
Contract cleaners	Area B	1505.00	Nov 2005
Contract cleaners	Area C	1340.00	Nov 2005
Forestry workers	All	836.00	Dec 1, 2007 to Nov 30, 2008
Taxi drivers		1,552.66	Jul 1, 2007 to Jun 30, 2008
Taxi admin workers		1,552.66	Jul 1, 2007 to Jun 30, 2008
Taxi rank marshals		1,242.13	Jul 1, 2007 to Jun 30, 2008
Taxi workers not elsewhere specified		1,086.87	Jul 1, 2007 to Jun 30, 2008
Hospitality sector workers	Small firm	1480.00	Jul 1, 2007 to Jun 30, 2008
Hospitality sector workers	Medium to Large firm	1650.00	Jul 1, 2007 to Jun 30, 2008

Source: South African Government Gazette No 8348, Basic Conditions of Employment Act (75/1997): Amendment of Sectoral Determination 7: Domestic Worker Sector, South Africa; South African Government Gazette No. 8401, Basic Conditions of Employment Act (75/1997): Sectoral Determination 13: Farm Worker Sector, South Africa; South African Government Gazette No. 8584, Basic Conditions of Employment Act (75/1997): Amendment of Sectoral Determination 1: Contract Cleaning Sector, South Africa; South African Government Gazette No. 8419, Basic Conditions of Employment Act (75/1997): Sectoral Determination 12: Forestry Sector, South Africa;; South African Government Gazette, Basic Conditions of Employment Act (75/1997): Sectoral Determination 11: Taxi Sector Amendment; South African Government Gazette No. 8685, Basic Conditions of Employment Act (75/1997): Sectoral Determination 14: Hospitality Sector, South Africa. Note, for contract cleaners, **Area A** is Capetown, Ekurhuleni, Johannesburg, Tshwane, Nelson Mandela, Emfuleni, Merafong, Mogale City, Metsimaholo, Randfontein, Stellenbosch, Westonarea **Area B** is KwaZulu Natal and **Area C** is the Rest of RSA.

Domestic, Farm Workers, Contract Cleaners, Forestry, Taxi and Hospitality sectors

Table 2.12 shows a collection of Sectoral Determinations for various sectors. In general, the workers covered by these decisions are among the lowest paid in South Africa.

The awards for the Forestry, Taxi and Hospitality sectors are relatively new Sectoral Determinations and represent a shift from the traditional practice of minimum wage discrimination across space. Instead, these determinations provide single minimum rate for the country across the sectors. However, a new form of discrimination was introduced into the Hospitality Sector ruling and minimum wages were distinguished by size of employer. This has opened a new way of discriminating between minimum wage outcomes in South Africa, and the justification for introducing such a division is difficult to understand.

The minimum wages received by Forestry workers are among the lowest in South Africa earning only R836 per month.

Other workers at the bottom of the wage distribution are located in the Domestic and Farm sectors. Rural domestic workers earn minimum of R946 per month and farm workers in smaller municipalities earning a minimum of R989 per month.

Private Security Sector

Minimum wage levels for the private security sector are determined through a Bargaining Forum. The collective agreement reached between parties is recommended to the ECC and the Minister of Labour for endorsement as the Sectoral Determination for the private security industry.

Figure 2.13 shows the wage structure across occupational levels and geographic space. This data applies to the third year of the determination which began in 2004. It is clear that there is considerable variation across both dimensions of the wage distribution with extremely low monthly wages being paid to the General Worker grade, who in the first 6 months of work with the same employer earns R1170 per month in Area 1 and R817 per month in Area 5. After 6 months continuous work with the same with the same employer these rates rise marginally to R1248 per month in Area 1 and R881 per month in Area 5.

Table 2.13 Minimum wages for security workers under Sectoral Determinations, Rand per month, Third year of Determination, 2007-08

Category	Sub-Cat	Area A	Area 2	Area 3	Area 4	Area 5
Artisan		2773	2609	2504	2205	1975
Clerical Assistant/Controller	Year 1	1429	1310	1184	1115	996
Clerical Assistant/Controller	Year 2	1478	1347	1221	1147	1026
Clerical Assistant/Controller		1523	1400	1273	1184	1057
Clerk	Year 1	1560	1433	1314	1215	1084
Clerk	Year 2	1745	1652	1478	1357	1213
Clerk	Year 3	1931	1767	1656	1494	1336
Clerk		2122	1938	1815	1630	1458
Driver	Light Vehicle	1503	1394	1264	1168	1047
Driver	Medium Vehicle	1722	1589	1461	1336	1197
Driver	Heavy Vehicle	1856	1716	1587	1431	1283
General worker	First 6 months	1170	1074	963	917	817
General worker		1248	1156	1039	989	881
Handyman		1665	1542	1420	1297	1164
Security Officer	Grade A	2733	2515	2267	2107	1891
Security Officer	Grade B	2286	2082	1878	1743	1564
Security Officer	Grade C	1756	1618	1460	1371	1221
Security Officer	Grade D	1587	1450	1319	1231	1100
Security Officer	Grade E	1500	1377	1244	1171	1050
All other employees		1445	1328	1199	1129	1016

Source: South African Government Gazette No 8635, Basic Conditions of Employment Act (75/1997): Correction Notice, Sectoral Determination 6: Private Security Sector, South Africa. **Area 1**: In the Magisterial Districts of Alberton, Bellville, Benoni, Boksburg, Brakpan, Camperdown, Chatsworth, Durban, Germiston, Goodwood, Inanda, Johannesburg, Kempton Park, Krugersdorp, Kuils River, Mitchell's Plain, Nigel, Oberholzer, Paarl, Pinetown, Port Elizabeth, Pretoria, Randburg, Randfontein, Roodepoort, Sasolburg, Simon's Town, Springs, The Cape, Uitenhage, Vanderbijlpark, Vereeniging, Westonaria, Wonderboom and Wynberg; **Area 2**: In the Magisterial Districts of Bloemfontein, East London, Kimberley, Klerksdorp, Pietermaritzburg, Somerset West, Stellenbosch and Strand; **Area 3**: In the Magisterial Districts of Odendaalsrus, Potchefstroom, Virginia, Welkom and Witbank **Area 4**: In the Magisterial Districts of Bethlehem, George, Hennenman, Highveld Ridge, King William's Town, Klip River, Knysna, Lower Tugela, Lower Umfolozi, Middelburg (Mpumalanga), Mossel Bay, Nelspruit, Newcastle, Oudtshoorn, Pietersburg, Port Shepstone, Potgietersrus, Rustenburg, Queenstown and Umzinto; **Area 5**: All other areas.

Civil engineering sector

Table 2.14 summarises the wage structure for civil engineers by skill level (task grade) and across space. The official data only specifies a rate per hour. However, these workers are not in the lowly paid categories that prevail elsewhere in South Africa. Even the lowest grade workers, which include relatively unskilled tasks such as a general worker (Task Grade 1), Artisan Aide, Construction Hand, Boom Scraper Operator, Pedestrian Roller Operator, Checker, Chainman (Task Grade 2) are not at the bottom of the overall wage distribution.

Table 2.14 Minimum wages for civil engineers, March 1, 2008 to February 28, 2009, Rand per hour

Task Grade	Province	Rate per hour Rand
1	Gauteng, Western and Eastern Cape, KwaZulu Natal, North West (Klerksdorp & Potchefstroom), Mpumalanga (Balfour, Bethal, Highveld Ridge, Middleburg, Standerton and Witbank), Free state (Bloemfontein, Odendaalsrus, Sasolburg, Virginia and Welkom)	12.48
1	Limpopo, Northern Cape, North West, Mpumalanga and Free State	12.11
2	Whole RSA	12.58
3	Whole RSA	13.31
4	Whole RSA	13.86
5	Whole RSA	16.63
6	Whole RSA	18.87
7	Whole RSA	22.07
8	Whole RSA	24.82
9	Whole RSA	28.05

Source: South African Government Gazette No 8635, Basic Conditions of Employment Act (75/1997): Amendment of Sectoral Determination 2: Civil Engineering Sector, South Africa.

2.3 Minimum wages and employment

2.3.1 Do minimum wages damage employment?

Does the imposition of minimum wages hinder employment growth, especially at the unskilled end of the labour market? The standard neoclassical textbook model of perfect competition predicts that wage increases and/or the imposition of minimum wages and conditions, will have adverse consequences for employment. This proposition is grounded in orthodox microeconomic theory developed within the highly stylised 'competitive' model. The results are simple outcomes of the way the model is set up.

Dolado *et al.* (1996: 327) say that the orthodox textbook approach to the question 'can be encapsulated in five propositions

- A minimum wage cannot increase employment and generally reduces it.
- Its adverse employment effects are largest in a small open economy where international competitiveness is most significant.
- Lower tax rates or higher subsidies are a better way to improve both the employment prospects and the incomes of the low paid.
- Young workers are most affected.
- Minimum wage earners usually come from the poorest households, so minimum wages do little to alleviate poverty'

The question is whether the model provides useful predictions for the real world. The failure of the parameters of the neoclassical perfectly competitive labour market model to apply to the real world and the existence of pronounced interdependencies between labour demand and supply - in defiance of the model's assumption of independent costs and incomes - are typically ignored by those who want to abuse the 'text-book' theory and use it as an 'authority' for their claims (Thurow 1983).

The dominance of the proposition has driven labour market policy over the last 12 years since the OECD released its *Jobs Study* (OECD, 2004), which provided a sophisticated and seemingly empirically-tight argument for comprehensive labour market and welfare system reform. The OECD advocated extensive supply side reform with a particular focus on the labour market, because supply side rigidities were alleged to inhibit the capacity of economies to adjust, innovate and be creative (OECD, 1994: 43). As we noted in Chapter 1, the democratic South African government quickly fell prey to this neo-liberal thinking as evidenced by the design of the GEAR policy, which reflected the main principles espoused by the OECD and other market-oriented international organisations, such as the IMF.

In recent years, partly in response to the reality that active labour market policies, including suppressing real wage increases for the most disadvantaged workers around the OECD countries, have not solved unemployment and have instead created problems of poverty and urban inequality, some notable shifts in perspectives are evident among those who had wholly supported (and motivated) the OECD approach. Many academic studies have sought to establish the empirical veracity of the neoclassical relationship between unemployment and real wages and to evaluate the effectiveness of active labour market programme spending. This has been a particularly European and English obsession.

There has been a bevy of research material coming out of the OECD itself, the European Central Bank, various national agencies such as the Centraal Planning Bureau in the Netherlands, in addition to academic studies. Typically the studies seek to estimate the

impact of minimum wages by estimating through econometric analysis the so-called wage elasticity. This elasticity conceptually measures the percentage change in employment for each percentage change in the relevant wage. It is argued by the neo-classical model that if a minimum wage is higher than that which the market itself generates, then the extent of the employment loss will depend on this elasticity.

The problem is that the estimation process is not without significant problems and relies on a substantial amount of researcher judgement (about data to be used, estimation techniques, samples, and such). The results typically are highly sensitive to these judgements, which from a scientific perspective is most unsatisfactory.

The overwhelming conclusion to be drawn from this literature is that there is no conclusion. These various econometric studies, which have sought to establish the empirical veracity of the neoclassical relationship between unemployment and minimum wages and constructed their analyses in ways that are most favourable to finding the null that the OECD view was valid, provide no consensus view as Baker *et al.* (2004) show convincingly.

The eminent Harvard economist, Richard Freeman (2005: 135) concludes that

> these analyses are akin to a prosecutor's case in a trial. They give the evidence that suggests the institutions are guilty but do not reflect on the weaknesses of that evidence. To reach a verdict, it is necessary to see the arguments by analysts who take the other side of the debate – the defence attorneys, as it were. These researchers give a different reading of what the data show and, most important, of the robustness of the case against labour institutions.

These criticisms have not been convincingly addressed by the neo-liberal oriented researchers and indicate that the "market-oriented" approach has significant problems with internal theoretical consistency and real-world applicability.

Dolado *et al.* (1996: 327-28) concludes that 'predictions of economic theories are almost always sensitive to assumptions. We are surprised by an unconditional claim like the one made above ... [in the five propositions] ... and sceptical that anyone actually believes it. Yet it pervades the analysis of the minimum wage.' Far from reducing employment, the introduction of minimum wages can increase employment (see Calvo and Wellisz, 1979).

In the face of the mounting criticism and empirical argument, the OECD has begun to back away from its hardline Jobs Study position. In the 2004 Employment Outlook, OECD (2004: 165) admits that the evidence supporting their Jobs Study view that high real wages cause unemployment "is somewhat fragile." However, in the 2006 OECD Employment Outlook, which is based on a comprehensive econometric study of employment outcomes across 20 OECD countries between 1983 and 2003, a major shift in perspective is offered. The study included those who have adopted the Jobs Study as a policy template and those who have resisted labour market deregulation. OECD (2006) finds that:

There is no significant correlation between unemployment and employment protection legislation;

- The level of the minimum wage has no significant direct impact on unemployment; and
- Highly centralised wage bargaining significantly reduces unemployment.

This latest statement from the OECD confounds those who have relied on its previous work including the Jobs Study, to push through harsh labour market reforms, retrenched welfare

entitlements and attacked the power bases on trade unions. It is a fundamental rejection of the orthodox position with respect to minimum wage rates.

2.3.2 Minimum wages and the Job Guarantee

The debate about minimum wages in the wider literature takes on a different slant when it is applied to the introduction of a public sector employment guarantee. As we will learn in Chapter 7, the introduction of a national employment guarantee involves the government creating what economists call a perfectly elastic demand for labour at the minimum wage rate. This means that the government is providing an unconditional demand for labour at that wage and will employ anyone who indicates their willingness to accept it. So in that sense, given the unconditionality of the job offer there is an infinite demand for labour at that wage. This is why we call the Job Guarantee a loose full employment scheme because it buys any quantity of labour that is available from "off the bottom of the labour market". This is labour that has what we call a "zero bid" for its services, which means no employer wants to hire it because there is not sufficient aggregate spending to justify producing higher levels. Purchasing something at zero bid places no upward pressure on the wage structure.

The remaining issue is the consideration of the level that the JG minimum wage is set. If the wage is set below the current wage structure then it has no impact on that structure, unless the JG jobs are more attractive despite the lower wages and workers desire them in preference to the higher paying market jobs. While this is possible, it is unlikely to be a significant issue. Further, aggregate demand is likely to be stronger overall with the magnitude depending on the difference between current level of support offered to those without work and the Job Guarantee wage rate. These impacts will be beneficial to the economy generally.

It is possible that underemployed workers (casualised market workers) might prefer a full-time JG job and that will impact on the ability of the firm who is offering the undesirable casual work to workers who want more hours to attract labour. In that case, pressure to restructure the workplace and offer working hours that more closely match the preferences of the available workforce will mount and beneficial changes in the overall labour utilisation will result. However, once again that is not likely to result in job losses. Rather a compositional shift in low wage employment might occur.

However, if the prevailing bottom end of the wage distribution is such that a significant number of workers are classified as "working poor", that is the wages on offer are not sufficient to allow the recipients to escape poverty then a properly calibrated JG wage (one that is not a poverty wage) will be set above the prevailing minimums on offer in the market economy.

This likelihood is apposite in the case of South Africa because the private sector minimum wages which we have examined in this Chapter are so low that a fully employed worker cannot escape poverty. If the EPWP wage is to represent a true poverty alleviating wage then there has to be adjustment in the private sector wage structure upwards.

So the question arises will this undermine employment in the lower end of the private market? As discussed above the evidence supporting the claim that minimum wages will reduce employment is inconclusive. There are clearly a number of sectors which pay wages below any reasonable poverty line.

Domestic workers are typically among the low-paid, although this Chapter has shown that they are not among the lowest. A recent study by Breitenbach and Peta (2001) concludes that the demand for domestic workers is wage inelastic which means that increases in the minimum wage within reasonable bounds are unlikely to provoke employment losses

although they did suggest that the nature of the work dominated by live-in arrangements might give way to more usual work organisation.

Employers who are paying well below the poverty line such as in Forestry, Hairdressing will be unable to attract labour if an EPWP minimum wage was set above reasonable poverty lines. But the logic of an anti-poverty strategy has to include using minimum wages to create incentives for employers to change the way they structure their workplaces and produce their goods and services. The creation of these tensions and incentives is the first step on the path to a high productivity economy. We take up this question again in Chapter 4 when we consider appropriate minimum wages for the EPWP. We explicitly analyse the sectors that are likely to be affected and the magnitude of this impact.

3 Wage outcomes in the Expanded Public Works Programme in South Africa

3.1 Introduction

In this Chapter we provide an overview of the current average daily minimum wages paid by the EPWP projects broken down by level of government, province and employment sector (Infrastructure; Economic; Environment and Culture; and Social). The analysis shows that there is very little coherence in the pay floors provided under the EPWP, in contradistinction with wage determination in the "best-practice" employment guarantee design that we consider in detail in Chapter 7.

How are EPWP wages set? The parameters of the EPWP are defined by the 'Basic Conditions of Employment Act, 1997, Code of Good Practice for employment and conditions of work for Special Public Works Programmes' (Here on Code of Good Practice). In this Section we summarise the way in which EPWP wages are set to help us understand why the disparities in daily minimum wages occur across provinces and sectors.

The Code of Good Practice allows for special conditions of employment for government jobs creation programmes that fall under the banner of 'Special Public Works Programmes'. The legislation outlines:

- the duration of employment allowed on a SPWP, which should not exceed 24 months in a five year cycle,
- the target population,
- excludes beneficiaries from the Unemployment Insurance Act,
- that workers should be paid wages at a rate comparable to unskilled workers in the local area and that the rate should not be more than the average local rate to minimise displacement,
- wages may be task or time based,
- that workers are to receive two days of training for every 20 days worked, and that they should be remuneration at 75 per cent of their task/time rate wage while receiving training.

The government believed that these stipulations 'ring-fences employment conditions on EPWP projects from established industries. This is in order to prevent EPWPs being a vehicle for deregulation of the labour market or for promoting the casualisation in the labour market' (EPWP Unit, 2004: 15). It was agreed that EPWP would be exempt from minimum wage legislation; that work opportunities would be short-term in order to prevent the creation of a second class of workers; and that workers would be given training in order to increase their employability and compensate for lower wages (Samson, 2007). The low wages of EPWP are also used as part of the programme's targeting strategy. That is, if wages are set at sufficiently low levels, only the most vulnerable and desperate will be attracted.

Several reports (McIntosh Xaba Associated, 2006; CASE 2007; HSRC, 2007) have found that inconsistent application of wage rate, timely payment of wages, payment of wages

during training, extremely low wage rates, and unpaid labour are significant issues affecting beneficiary and community satisfaction and the poverty alleviation outcomes of EPWP. Further problems are encountered at the local level. For example, the differentiation in wage levels of EPWP projects by sector (and other government job creation programmes) has some unintended consequences at the micro level. In some instances, the programmes compete for the same pool of labour, and contractors have had difficulty completing projects on time as workers are attracted to other higher paying position that are available within one's community.

The EPWP's Mid-Term Review evaluation (HSRC, 2007) found that the average wage per work opportunity had declined since the programme's inception, and that the programme's wage bill had stagnated, despite increasing numbers of programme beneficiaries. The review highlighted problems with the labour intensity of programme spending, stating that, "there are difficulties in translating expenditure into actual work opportunities" (HSRC, 2007:xi). McIntosh Xaba and Associated (2006) drew attention to the need for a review of wages, especially those below 40 Rand per day. It has been recommended that EPWP wages should not be less than a specified minimum wage (50 Rand), and that minimum length of work opportunity and wages should be established by sector (HSRC, 2007).

Our assessment is that the duality of restricted duration employment and allowing deregulated wages (locally set wages) to exist which reflect local private market settings, as outlined in the Code of Good Practice, undermine the ability of the EPWP to achieve its two primary aims - poverty alleviation and generating a sustained reduction in unemployment.

By allowing EPWP wages to be set locally at rates which do not interfere with 'more permanent employment', the South African government is placing the EPWP outcomes in the "hands of the market". While the logic of this is articulated as being to defend the existing conditions in the formal labour market, the reality is that it is consistent with neo-liberal logic that the market provides the "correct" wage distribution. Once we consider the analysis presented in Chapters 2 and 4, it becomes clear that the market sector does not uniformly pay wages that are above what could be reasonably constructed as the poverty line.

This failure also violates the goals of the Decent Work programme of the ILO which aims to 'promote opportunities for women and men to obtain decent and productive work, in conditions of freedom, equality, security and human rights (ILO, 1999: 3).

As a consequence, it is reasonable to conclude that the "market has got it wrong", if the goals of economic activity are to provide a production and distribution system that makes work the vehicle for escaping poverty which is consistent with the ILO's Decent Work strategy.

In this case, far from the EPWP being a 'vehicle for deregulation of the labour market or for promoting the casualisation of the labour market' an appropriately designed EPWP (see Chapter 7) would lead the market and introduce dynamic forces such that the possibility that one could be among the working poor was eliminated.

Accordingly, EPWP and the legislative base for SPWP in SA should provide a mechanism, for ensuring decent minimum working conditions within the labour market.

But it is clear that the distribution of wages available in EPWP projects is in part dictated by the minimum wages that prevail in the private market sector. It is also clear that any recommendations with respect to introducing a national EPWP minimum wage may have impacts not just on the EPWP projects but also on private sector employers and other special public works, such as the Integrated Sustainable Rural Development Strategy.

In considering this issue, we will be guided by the major aims of the EPWP (and any national employment guarantee) – to provide employment and remuneration that allows the worker to live above the poverty line. This does not mean that relative poverty is eradicated. Those who were relying on EPWP wage income exclusively would still be classified by any reasonable standard as being among the class of 'working poor'. But it would mean that all persons would receive a minimum remuneration for a minimum level of employment that would allow them obtain the absolute necessities of life and also create some saving buffers to insure them against risk of changing circumstances. We consider these issues in detail in Chapter 4.

3.2 Average minimum EPWP wages by sector

Table 3.1 summarises some of the key employment and wage outcomes for EPWP projects for the 2006-07 reporting period by sector (Economic; Environment and Culture; Infrastructure and Social). The implied average minimum monthly wage was estimated by multiplying the average daily minimum by 19. This is based on the assumption made in the quarterly EPWP reports where the Department converts its data into 'one person-years of work' which is equal to 230 paid working days including paid training days. On a monthly basis, this is equivalent to approximately 19 days of work. The implied minimum monthly wage rate for February 2008 prices was based on inflating the 2006-07 by the relevant values in the All Groups Consumer Price Index data. In Chapter 4 we compare these estimates with assessments of more appropriate monthly EPWP wages which would allow a worker to receive income above a reasonable poverty line.

The average daily minimum EPWP wage rate for the nation as a whole was around R41. However, there is considerable variation in the average daily minimum wage rates across the four activity sectors and within each sector (see Range column which depicts the actual minimum and maximum rates paid by sector).

The Social sector offers the largest number of projects (59.3 per cent of total projects) but these generate a relatively small percentage of the total Person-days of work (26 per cent) and Gross Jobs (11.6 per cent). The jobs offered have two significant features: (a) they are low paying (for example, average minimum daily wages are almost 50 per cent below those on offer by Infrastructure sector projects); and (b) the average duration of the a job opportunity is around 130 days compared to 50 days in Infrastructure, 44 days in Environment and Culture and 75 days in the Economic sector. So workers who have opportunities in this sector earn the lower wage over a significantly longer period.

The Environment and Culture sector offers only 14 per cent of the total projects but around 40 per cent of the total jobs. They daily wage paid is around the national EPWP average but the duration is below the corresponding average for the overall programme. The highest paying sector in terms of average daily minimum wages is Infrastructure but the duration of the jobs is below the national average even though this sector generates around 47 per cent of the total job opportunities under EPWP.

In Table 3.2, we break the sectors down by level of government to gauge the governmental variation within each sector, bearing in mind that the national and municipal governments only offer EPWP opportunities in Infrastructure and Environment and Culture. It is clear the Provincial governments dominate the Social sector and account for its long duration low wage EPWP job offerings. The pay contrast in that Sector between the Provincial and Municipal government projects is stark although Municipal government offers very few work opportunities with relatively short duration.

Table 3.1 EPWP job and wage data by Sector, financial year 2006-07

Sector	No of projects	Person-days of work (ex. training)	Gross jobs (including learnerships)	Average length of work opportunity (days)	Average minimum daily wage rates (Rand)	Range of daily wages paid (Min-Max) (Rand)	Implied average minimum monthly wage (Rand)	Implied average minimum monthly wage (Rand) Feb 2008 prices
Economic	173	262478	3483	75	45	21 - 80	859	953
Environment and Culture	991	5632976	129251	44	44	30 -176	841	934
Infrastructure	1696	7539096	150854	50	61	30 - 120	1154	1281
Social	4164	4829439	37106	130	31	9 - 80	593	658
All Sectors	7024	18263988	320694	57	41	9-176	862	957

Source: Data provided by the Department of Public Works, South African Government. The implied average minimum monthly wage is derived by multiplying the daily rate by 19 (see text for explanation). All totals rounded to nearest whole number

Table 3.2 EPWP job and wage data by level of government and sector, Rand, 2006-07

Sector/Level of government	No of projects	Person-days of work (ex. training)	Gross jobs (including learnerships)	Average length of work opportunity (days)	Average minimum daily wage rates (Rand)	Implied average minimum monthly wage (Rand)	Implied average minimum monthly wage (Rand) Feb 2008 prices
Economic							
National government	0						
Provincial government	168	239678	3336	71	45	859	954
Municipal government	4	22800	114	200	40	760	844
Environment and Culture							
National government	708	4697370	97644	48	42	790	877
Provincial government	277	914598	31407	29	50	958	1064
Municipal government	7	21008	220	95	73	1384	1537
Infrastructure							
National government	126	206511	3872	53	57	1085	1204
Provincial government	952	5195474	82181	63	59	1120	1243
Municipal government	618	2137111	64801	33	64	1222	1357
Social							
National government	0						
Provincial government	4159	4825029	37036	130	31	592	657
Municipal government	5	4410	70	63	80	1520	1687

Source: see Table 3.1. The implied average minimum monthly wage is derived by multiplying the daily rate by 19 (see text for explanation).

The two main programmes of the Social sector are the Early Childhood Development programme (ECD) and the Home Community Based Care (HCBC). Plans are underway to introduce a stipend of 1000 Rand per month for ECD workers. For HCBC, the department intends the stipend to be 500 Rand per month. The rationale provided for the much lower stipend of the HCBC programme relates to the nature of the training provided throughout the work opportunity, which is not currently accredited. The Department of Social Development is currently undertaking a mass audit of ECD/HCBC providers to in an attempt to introduce minimum standards to the industry. In Chapter 4, we consider the concept of training wages further.

Many of these projects fall within the social sector, and are in part symptoms of funding arrangements and the historical focus of the programme. For instance, Provinces receive funding from the Department of Social Development for Early Childhood Centres (ECD) on a per child per day basis, in order to improve child welfare through provision of food and educational material, etc. Funding levels vary across the provinces, for instance KwaZulu Natal receives 11 rand per child per day, while the Free State receive 5.20 per child per day. The subsidy is not specifically for job creation, and traditionally it has been child welfare not job creation that has been the focus of these programmes. To that end, those working in the EPWP social sector are typically called volunteers, rather than workers, and receive a stipend, rather than a wage.

Within the Infrastructure sector, while the municipal level pays higher average daily minimum wages the average duration of the work opportunities provided is significantly lower than those offer at the higher levels of government. The provincial governments provide the most job opportunities in infrastructure projects and these opportunities pay more and last longer on average than the infrastructure jobs at both the national and municipal levels.

Within the Environment and Culture sector, the national government dominates but pays the lowest minimum wages of the three levels of government. However, in comparison to the Provincial government, the duration of the job opportunities that are offered by the National government are significantly longer. The few jobs offered in this sector by the Municipal level are well paid and long duration. Many of the EPWP Environment and Culture Sector projects operate on a ‘programme’ basis, such as ‘Working on Fire’, ‘Working for Water’ and ‘Working for Wetlands’. This institutional arrangement gives those programmes much more control over the wages that are paid, and workplace regulation in general.

If we estimated a simple regression trend line relating average job duration to average daily minimum wages for the EPWP data under consideration (2006-07) we would find that the shorter (longer) work opportunities have slightly higher (lower) rates of pay.

A further issue that goes to the core of the problems of the EPWP is that the low wages are accompanied by a low frequency and irregularity of the work opportunity.

There is also considerable variance around the average rate evident in the EPWP project wage outcomes. This variation manifests across space, sector and level of government is largely driven by the sectoral composition of projects at each level.

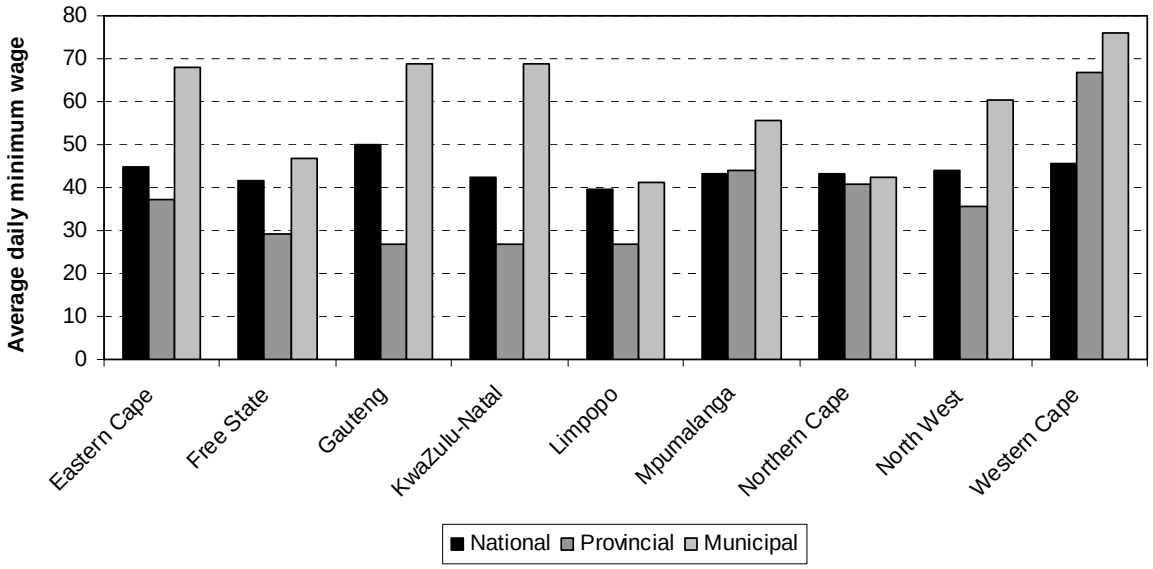
3.3 Spatial variation in average minimum EPWP wages

This disparity also translates into spatial inequalities partly reflecting the spatial composition of sectors but also indicating that some provinces (such as Limpopo and North West) are low paying while others (such as Western Cape and Gauteng) are able to provide higher daily

minimum wage rates. Considering the analysis in Chapter 2, it is clear that these disparities partly reflect the private market economy activity in each of the provinces.

Figure 3.1 breaks the wage data down into province and then level of government within each province (the difference between the province aggregate and sum of national and provincial is local government projects for which no data was available). The variation across provinces is driven by the variation in wages paid by projects run by provincial governments. There is less spatial variation in daily minimum wages paid by national government projects, which reveals the benefits of the 'programme' approach that has been adopted by the Environment and Culture sector.

Figure 3.1 Average daily wage rates by province and level of government, Rand



Source: EPWP, 2nd Quarterly Report, 2007-08, covering April 1 – September 30, 2007, Department of Public Works, South African Government.

Table 3.3 provides both employment and wage data by province and level of government. The data provides additional information to support the GIS analysis presented in Chapter 6. We note that the Provincial jobs are typically lower paid but with higher duration than those offered by the other levels of government. However the wages paid by provincial governments are also more variable across space than those at the other levels of government. There is virtually no variation across the provinces in national government EPWP daily minimum wages.

Table 3.3 EPWP job and wage data by Province and level of government, Rand, 2006-07

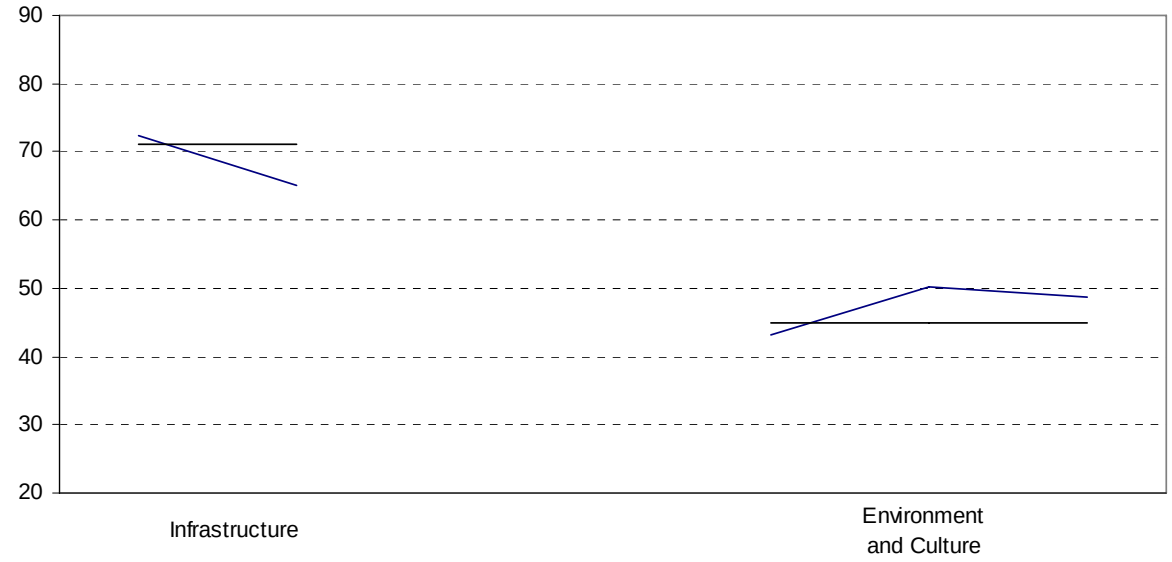
Level of government/ Province	No of projects	Person-days of work (ex. training)	Gross jobs (including learnerships)	Average length of work opportunity (days)	Average minimum daily wage rates (Rand)	Implied average minimum monthly wage (Rand)	Implied average minimum monthly wage (Rand) Feb 2008 prices
National							
Eastern Cape	200	1156513	22318	52	45	850	943
Free State	48	252612	3714	68	42	793	880
Gauteng	73	368357	5527	67	50	953	1058
KwaZulu-Natal	126	1017331	15535	65	42	807	895
Limpopo	94	454451	9913	46	39	749	831
Mpumalanga	76	460803	5731	80	43	820	910
Northern Cape	66	401877	5359	75	43	825	915
North West	28	155107	6304	25	44	833	924
Western Cape	123	636830	27115	23	45	864	959
Provincial							
Eastern Cape	2011	2097122	17535	120	37	705	782
Free State	422	1250052	12403	101	29	558	620
Gauteng	365	1043161	9733	107	27	507	562
KwaZulu-Natal	795	3557914	75427	47	27	511	568
Limpopo	1107	832511	9199	91	27	507	563
Mpumalanga	255	521858	6663	78	44	836	928
Northern Cape	73	453258	4916	92	41	778	864
North West	140	601830	6416	94	35	673	747
Western Cape	388	817073	11681	70	67	1269	1409
Municipal							
Eastern Cape	92	412142	12283	34	68	1290	1431
Free State	31	48088	1055	46	47	892	990
Gauteng	82	491850	12377	40	69	1311	1455
KwaZulu-Natal	93	657207	27003	24	69	1305	1449
Limpopo	39	73326	1360	54	41	784	871
Mpumalanga	107	157436	4345	36	55	1053	1169
Northern Cape	6	14245	327	44	43	808	896
North West	43	100464	1171	86	60	1145	1271
Western Cape	141	230571	5284	44	76	1441	1599

Source: see Table 3.1.

3.4 Sector and level of government variation in average minimum EPWP wages

Figures 3.2 and 3.3 provide some insight into the minimum wage disparities across sectors and projects (administered by National and Provincial government departments). Figure 3.2 shows the average manual daily minimum wage rates paid across 624 Projects – 4 projects in the Infrastructure sector 4 (SANRAL, 3; and Department of Transport, 1) and 620 projects in the Environment and Culture sector (Department of Environmental Affairs and Tourism, 101; Department of Water Affairs and Forestry, 246; and Department of Agriculture, 59). Each observation pertains to a specific National government department. The horizontal lines within each sector show the average for that sector at the National government level.

Figure 3.2 Average manual daily minimum wage rates, National government departments, Rand per day by sector, 2nd quarter 2007-08



Source: EPWP, 2nd Quarterly Report, 2007-08, covering April 1 – September 30, 2007, Department of Public Works, South African Government.

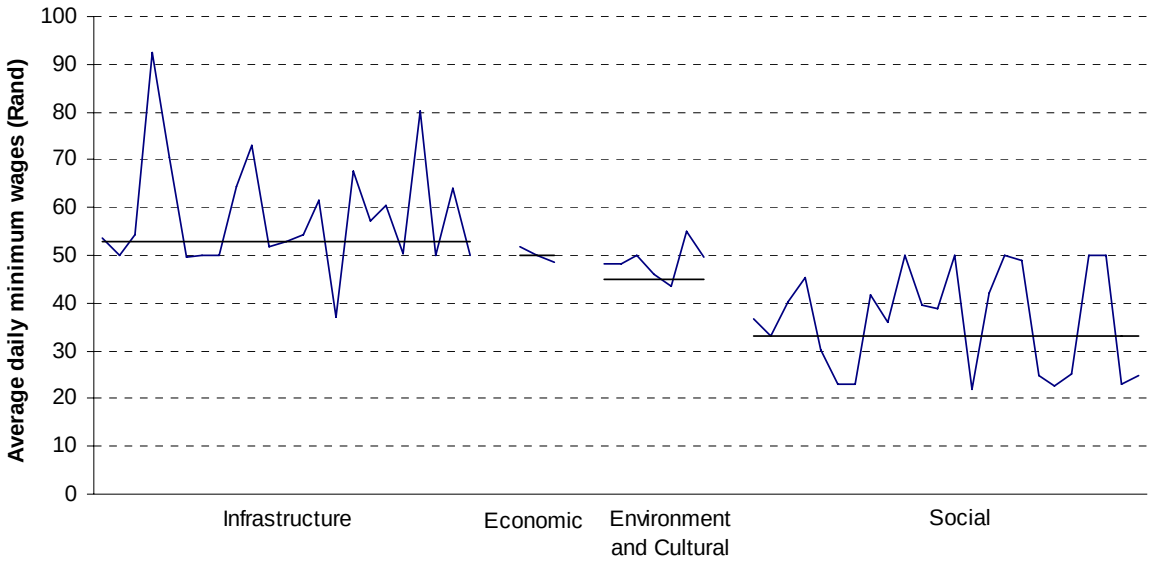
Figure 3.2 shows the average manual daily minimum wage rates paid across 624 Projects – 4 projects in the Infrastructure sector 4 (SANRAL, 3; and Department of Transport, 1) and 620 projects in the Environment and Culture sector (Department of Environmental Affairs and Tourism, 101; Department of Water Affairs and Forestry, 246; and Department of Agriculture, 59). Each observation pertains to a specific National government department. The horizontal lines within each sector show the average for that sector at the National government level.

For National government departments, the average daily minimum wage for manual workers was R71 for projects in the Infrastructure sector and R45 for projects in the Environment and Culture sector. The lowest (highest) average daily minimum wages in the Infrastructure sector were R65 (R72.33) and R43.18 (R50.33) in the Environment and Culture sector.

The disparity in daily average minimum wages paid across EPWP projects is demonstrated more clearly in the Provincial government department projects. Figure 3.3 shows the average manual daily minimum wage rates paid across 5371 Projects (Infrastructure sector 620; Economic sector 134; Environment and Culture sector 219; and Social sector 4398) where each observation pertains to a specific Provincial government department. The horizontal lines within each sector show the average for that sector at the Provincial government level.

For Provincial government departments the average daily minimum wage for manual workers was R53 for projects in the Infrastructure sector; R50 for projects in the Economic sector; R45 for projects in the Environment and Culture sector; and R33 for projects in the Social sector.

Figure 3.3 Average manual daily minimum wage rates, Provincial government departments, Rand per day by sector, 2nd quarter 2007-08



Source: EPWP, 2nd Quarterly Report, 2007-08, covering April 1 – September 30, 2007, Department of Public Works, South African Government.

For Provincial government department projects, the lowest (highest) average daily minimum wage paid was R37 (R92.43) for projects in the Infrastructure sector; R48.53 (R51.94) for projects in the Economic sector; R43.35 (R55.00) for projects in the Environment and Culture sector; and R22.00 (R50.00) for projects in the Social sector. It is clear that in the Provincial government sphere, the Social sector pays the lowest minimum wages. The projects run by Provincial government departments in the Infrastructure sector have the greatest degree of variation, followed closely by projects in the Social Sector.

3.5 Job effectiveness in EPWP project expenditure

Table 3.4 examines what we call the job effectiveness of EPWP expenditure which we define as the Rand spent per person days of work generated. The expenditure includes all programme expenditure, including the wage bill and professional fees; the person days of work excludes training days. The concept of job effectiveness can be seen in terms of labour intensity.

The Social sector, at the provincial level, is the most job effective in terms of its expenditure. That is, for every one day of work generated, 83 rand are spent. Overall, the Social sector generates comparatively more days of work at higher rates of labour intensity. However, as we have seen these jobs are paid at relatively low wages when compared to the other sectors. That is, a large portion of the programme budget is directed to generating days of work, but the work is remunerated at a low wage.

Projects in the Environment and Culture sector operated by both by national and provincial governments are the next best performed in terms of job effectiveness. As previously mentioned, the majority of programmes (708 of 991) operate through national departments on

a ‘programme’ basis, such as the ‘Working on Fire’ or ‘Working for Water’ programmes. This allows these EPWP programmes more control over programme expenditure. Moreover, while this sector requires considerable supporting materials and equipment outlays, it still remains one of the most labour intensive.

Table 3.4 The job effectiveness of EPWP expenditure, Rand, 2006-07

Sector/level of government	Actual Expenditure (including professional fees)	Person days of work (excluding person days of training)	Rand spent per person day of work
	Rand	Days	
Economic			
National	0	0	0
Provincial	110,830,311	239,678	462
Municipal	5,920,366	22,800	259
Environment and Culture			
National	920,640,869	4,697,369	196
Provincial	178,558,134	914,598	195
Municipal	25,364,126	21,008	1207
Infrastructure			
National	258,745,629	206,511	1253
Provincial	3,527,165,113	5,195,474	679
Municipal	1,774,474,986	2,137,111	830
Social			
National	0	0	0
Provincial	400,574,626	4,825,029	83
Municipal	1697500	4,410	385

Source: see Table 3.1. Numbers are rounded to nearest integer.

The EPWP infrastructure sector is the least job effective of all sectors. This is in part due to the investment in materials that is required to engage work in this sector, and additional professional fees for engineers and other contractors for infrastructure design. The labour intensity of expenditure varies greatly however, with provincial projects able to achieve double the number of days of work per rand of expenditure, when compared to national EPWP infrastructure projects. The average minimum wage rates are comparable across layers of government (between 57 and 64 rand), while the duration of work opportunity is comparatively low. The great variation in labour intensity in expenditure needs further explanation. McIntosh Xaba and Associated (2006) suggested that the ideal wage to material ratio for labour intensive projects should lie with the 30 to 40 percentile range. Their analysis, which looked at several EPWP projects as case studies, found that the labour intensity of the many of the projects was below this, falling between 3 and 25 per cent of programme budget. Their case study analysis reported that the cost per job in the infrastructure sector was between R73,000 and R95,000. While the cost per social sector job was R12,661, and in the

environment and culture sectors it was R18,519 and R62,331. The study recommended that the definition of ‘labour intensive’ needs to be clearly defined to ensure that a minimum proportion of programme budget is allocated to beneficiary wages. Our analysis supports their conclusions.

4 Determining minimum wages in the Expanded Public Works Programme

4.1 Introduction

In Chapter 3 we examined the wage outcomes of existing EPWP projects in some detail. In this Chapter we will compare them to various estimates of the poverty line and demonstrate that the program as it is currently designed and implemented is incapable of achieving one of its primary aims - the alleviation of poverty.

While the Logical Framework of EPWP outlines the programme objective as being to '…. alleviate unemployment for a minimum of one million people in South Africa, of which at least 40% will be women, 30% youth and 2% disabled, by 2009' the Department of Public Works, which administers the EPWP has stated that the scheme should pursue multiple aims which include the alleviation of poverty (DPW EPWP Unit, June 2004).

South African government policy, espoused in their Vision and consistent with the Millennium Development Goal (MDG) of the United Nations, is to: (a) reduce unemployment by half through new jobs, skills development, assistance to small business, opportunities for self-employment and sustainable community livelihoods; and (b) reduce poverty by half through economic development, comprehensive social security, land reform and improved household and community assets (ANC, 2004: 8).

While there is considerable uncertainty about how to practically express these grand goals (for example, what is being counted among the unemployed, and, what is a reasonable definition of poverty) the fact remains that the EPWP is one of Government policy levers which is being used to meet these challenges (see Meth, 2004a, 2004b, 2007 for a evaluation of the hazy rhetoric surrounding public statements concerning these goals).

At the outset, it is important to note that the poverty lines implicit in the MDG statements is the UNDP "dollar-a-day" benchmark. We consider that demarcation rule in detail below and reject it as a reasonable guide to differentiating the poor from the non-poor.

In any applied economic exercise, the final results are dependent on the assumptions that are made, given that strict experimental control is impossible. So any analysis can be attacked in a number of ways: (a) the statement of the problem; (b) the assumptions used to motivate the analysis; (c) the analytical method deployed; and (d) the departure of the results from the applicable socio-political constraints.

However, to maximise debate it is important, to make sure everything is as transparent as it can be so that replication of the analytical results is not a problem that clouds the more important considerations such as the socio-political realities.

Our overriding starting point in discussing appropriate minimum wage levels for EPWP projects is expressed by the following logic. With poverty linked intrinsically to and driven overwhelmingly by unemployment, it is a sound strategy to counter the former by directly seeking to reduce the latter.

In that context, the EPWP 'represents government's most direct policy instrument (sic) tackle unemployment' (EEPRU, 2004: vi). This approach is supported by indirect or other policies

that also aim to increase employment which include increasing overall economic activity, wage subsidy strategies, and small business enterprise programmes.

In this Chapter we have four aims:

1. To develop a transparent framework to determine appropriate minimum wage rates for EPWP employment. We will consider issues relating the spatial variation of wages and the desire to preserve real values over time;
2. To employ this framework to make recommendations on appropriate wage rates for EPWP employment giving due consideration to: (a) the various poverty line measures that have been proposed for South Africa; (b) the extent to which own production provides real income; and (c) the potential for accessing other income sources;
3. To consider the impacts of the proposed minimum wages on the market wage structure and likely supply side responses. We will provide a critique of the concept of the reservation wage and its relevance for minimum wage determination in EPWP projects. We will also examine the extent to which EPWP wages displace workers from other sectors.
4. To consider the relationship between EPWP wage income and supplementary social grants. In this section we will discuss the debate between Basic Income Guarantee (BIG) advocates and Job Guarantee (JG) as to the best vehicle to provide income guarantees. The debate is highly relevant to the choices confronting South Africa at this present time.

4.2 Considerations to guide a minimum wage system

4.2.1 Sources of income security in South Africa

We recognise that a "safety net" income level in South Africa can be comprised of a number of sources: (a) income earned from EPWP participation; (b) income earned from other market work; (c) income earned from social grants; and (d) "real" income earned from own-production.

It is acknowledged that South Africa is dissimilar to many African countries in that the (d) component plays less of a role in contributing to overall welfare. There is very scope for reliance on "own production" as a vehicle for reducing poverty in South Africa.

Clearly a complete safety net could be provided from (c). For example, the South African government could introduce a BIG and set the income guarantee above the poverty line. We reject this approach for reasons that are outlined in detail in Chapter 7. We also return to this issue in the specific South African context in a later section of this Chapter (see also Mitchell and Muysken, 2008). It is clear that the expansion of the social grants scheme in South Africa, especially since 2000 has reduced the incidence and severity of poverty, to some extent. The situation remains, however, that chronic poverty driven by unemployment is the norm for the majority of South Africans. We argue in this Chapter that the provision of social grants should be seen as being a complementary initiative to support the primacy of an expanded EPWP rather than being the dominant progressive policy initiative.

In the case of (b), despite solid growth in demand for skilled workers there is still a grave insufficiency of market-based work opportunities in South Africa designed to provide the most disadvantaged workers access to the income distribution system.

Given this insufficiency, we adopt the principle that a desirable and major source of safety net support should come from participation in EPWP work with some supplementation from social grants to accommodate family structure and regional cost of living differentials.

In the longer term, like any employment guarantee system, training pathways should be designed to allow an EPWP worker more scope to choose other working opportunities and thus enhance the potential for earning income from (b). Given these considerations, the safety net income support objective should be reflected in the design of the minimum wage framework that would support the EPWP.

Public work programs such as the EPWP are often seen as a short-run palliative to provide emergency cash earning opportunities for crisis-ridden workers without recourse to other sources of income. However, as we outline in Chapter 7, we prefer to see such public initiatives as permanent buffer stock employment guarantees which scale up and down according the flux of the market economy. In this way, they provide a permanent income support structure within a paid-work environment and avoid the problems that passive welfare brings when the recipients are capable of work and willing to participate.

The advantages in terms of increased productivity potential of a permanent employment guarantee are manifest relative to short-run palliative approaches to poverty.

The development of the analysis and conclusions reached in this Chapter are thus conditioned by this vision of the EPWP – as a national employment guarantee. The regression analysis which we present in Chapter 5 supports the case for longer duration jobs at higher wages. Our theoretical analysis presented in Chapters 7 and 8 suggest that the ideal way to run a large-scale employment programme such as the EPWP is along the lines of an on-going national employment guarantee.

We also would emphasise that the introduction of a national employment guarantee is not tantamount to creating a tier of "second-class workers", who are trapped in low wage, low productivity employment. We understand the concerns of unions expressed in the NEDLAC agreement which led to the EPWP adopting a short-run emphasis. As we argue in this chapter any employment guarantee should offer an appropriate living wage as a minimum (with other conditions which are consistent with the market sector, such as child care, sick leave etc) and provide other social wage benefits which might be consistent with the social charter of the government.

Further, workers who take opportunities offered in a national employment guarantee would be provided with training and work experience, which would aim to facilitate their transition to work remunerated at higher wages and better conditions in the labour market. The reality is that once the national economy increased in size and scope the pool of workers relying on the national employment guarantee would shrink dramatically. The important point, however, is that under a national employment guarantee work would always be available for those willing which would prevent skill deterioration and break poverty cycles. In this way it would function as an effective social safety net but still maintain the workers' attachments to the paid workforce.

On the balance of theoretical and empirical evidence presented in this Report, we think that a short-run EPWP focus is not the most productive option that is available to the South African government.

4.2.2 EPWP objectives and minimum wage determination

Our approach to minimum wage determination for EPWP projects is also influenced by the scheme's own policy objectives. The Department of Public Works, which administers the EPWP has stated that the scheme should pursue multiple aims which include (DPW EPWP Unit, June 2004):

- Short-term job opportunities for the target group;

- Skill formation;
- Long-term job opportunities through self-employment and absorption elsewhere in the economy;
- Poverty alleviation;
- Provision of high-quality assets and social services; and the
- Efficient use of public resources

In this Chapter we consider the level of wages that would be appropriate for the EPWP. Table 4.1 summarises how the EPWP objectives outlined above might guide a discussion of the appropriate wage setting guideline. In the wage setting guideline column we note the implications of the objective for the determining wage levels. In the comments column we provide some observations which include some of the broader impacts or considerations under each objective that need to be considered in relation to the design of the EPWP.

In this Chapter we are focused on the goals of poverty alleviation although the other aims are not unaffected by the chosen wage structure of the EPWP. Consideration of the other objectives is implicit in our later discussion concerning the relative contribution of social grants versus EPWP employment.

Further in Chapters 7 and 8 we consider these broad objectives by making a case to extend the EPWP to become a national employment guarantee. In terms of poverty alleviation, the econometric analysis presented in Chapter 5 demonstrates the capacity of the EPWP to reduce poverty through provision of paid-work opportunities. It is clear that the duration of employment offered as well as the level of the wages received is important in reducing poverty. This finding underpins our recommendation that EPWP opportunities should be increased and lengthened with the aim of creating an on-going employment guarantee capacity in South Africa.

Table 4.1 EPWP objectives and implications for wage setting guidelines

EPWP objective	Implications for wage setting guideline	Other implications
Short-term job opportunities for the target group	Will not affect demand for EPWP workers unless budget restrictions are imposed on the programme. An unconditional employment guarantee overcomes this problem is overcome by offering jobs at the minimum wage to anyone who wants one.	Significant numbers of workers in the market sector are currently employed at wages which are below reasonable estimates of the poverty line. Depending on the pay levels, demand for EPWP opportunities could come from those currently employed as well as those unemployed.
Skill formation	Who should pay for the training – worker or government? The BCEA SPWP says that workers are to be paid at 75 per cent of their wage while receiving training.	Skills development and capacity building is dependent on the training structures embedded in the employment programme. Issues about the current capacity of the SETAs, which deliver the training.
Long-term job opportunities through self-employment and absorption elsewhere in the economy	Higher minimum wage provides opportunity to better risk manage cyclical events and allow for saving. Higher minimum wages allow for personal saving which can resource private skill development and education.	Dependent on overall state of aggregate demand and skills development within the scheme. Need to consider complementary programmes such as financial literacy training, to enhance this outcome. High personal debt levels remain a significant problem for the low income South Africans.
Poverty alleviation	Minimum above reasonable poverty line measures required. Need to consider spatial cost of living variations. Need to examine the rationale and effectiveness of the considerable wage disparity across projects and provinces in EPWP.	Issue about creating a second-class group of workers. Need to ensure adequate social wage and other developmental opportunities are provided in addition to integrating workers into a paid work environment.
Provision of high-quality assets and social services	Higher wages tend to increase the productivity of workers.	Higher wages will provide for better motivation and nutrition and thus better effort. Other factors include the need for well organised workplaces and strong work teams
Efficient use of public resources	Highest wage possible given market wage structure Common wage across projects and space reduces the monitoring and implementation costs.	Investment in people provides the states with the highest return among competing uses of its funds. An adequate minimum wage is a foundation of this investment.

4.2.3 Other considerations which might influence the minimum wage framework

Several other issues have been considered in constructing our argument. First, do current wage rates provide for consumption levels for workers and their households during employment? Second, can the worker save enough under current wage levels to build future capacity to withstand economic shocks? Third, are gender issues important in the wage design? Table 4.2 encapsulates some of these considerations by gender.

In considering an appropriate minimum wage for EPWP projects in relation to the objectives of the programme, we consider an ordering (or hierarchy) of needs (in order): (a) Basic food and non-food needs (absolute poverty line constructs); (b) Social needs (relative poverty constructs); and (c) Capacity building (Sen's capabilities constructs).

Chirwa *et al.* (2004: 14) refer to the sum of these needs as the 'total income required for livelihood promotion' and considers it the amount necessary to enable both 'poverty reduction' and to avert the need by households to 'adopt non-reversible coping and survivalist strategies' which undermine the capacity building of the household but keep the individuals within them alive. Clearly, a different minimum wage would be indicated if we sought to "satisfy" the resource demands applicable to each of these need levels in turn.

The ability to tap alternative income sources is important. It is clear that overall disadvantaged South Africans do not have many options to market participation in terms of "own-production" or other forms of income. The provision of social grants has increased in South Africa over the last decade and constitutes an important income source for households. The question which we consider later in this Chapter is whether the social grants scheme should be restructured to provide a primary source of income for low income South Africans. On balance, we make the case in this Chapter and Chapter 7 that EPWP income should be the primary income floor to ensure that poverty alleviation is achieved. We argue that social grants should be seen as essential supplemental sources of income to address variations in household size and composition. The point remains that whichever source you determine should be the primary vehicle to fight poverty will influence the minimum wage that is applicable to EPWP projects.

In terms of the gender dimension, specific issues need to be considered. In addition to setting an appropriate minimum wage across all EPWP projects that will meet the poverty reduction goals, other specific issues relating to the ease of participation for women should be considered in the wage design.

Taken these considerations into account suggest that:

- Projects should be accessible and inclusive for women who are in poverty and who have family responsibilities. If projects are rationed then some targeting of this same group should be introduced;
- Wages should be equal by gender;
- Projects should be designed to provide employment opportunities close to the residential location of the targeted workers;
- Specific transport concessions and infrastructure should be available to make it easier for women to get to work locations quickly to allow their shared family and work roles to be feasible;
- Child care facilities should be provided and/or improved and their staffing incorporated into EPWP paid work opportunities.

- Work provided by public works programmes should be designed to effectively reduce the unpaid work burden of women and children (Antonopoulos, 2008).

The design of EPWP, to its credit, already has many of these features in place. For instance, gender targeting and gender equity wage policies are in place; some of EPWPs (Working for Water) provide child care facilities in the vicinity of the work opportunity and child care facilities are provided by the EPWP social sector; projects generally providing within reasonable distances or transport is provided; and some projects involve construction of infrastructure that helps to ease the unpaid work burden of women and children. However, a tighter regulatory framework would help to increase adherence to these elements.

These benefits offered by these design features of EPWP are offset by the de-regulated nature of EPWP wages. The issue of the EPWP wage and minimum wages within South African society are not separate from the broader social issues, such as public service provision and quality of the social wage, that face South African society. In advocating a minimum wage for the EPWP worker that will be above an acceptable (and broadly defined) poverty line, we are not reducing the case for increased social wage benefits to be provided by the state.

We thus do not see the minimum wage discussion as being separate from the broader issue of public service provision and the quality of the social wage. In advocating a minimum wage for the EPWP worker that will be above an acceptable (and broadly defined) poverty line, we are not reducing the case for increased social wage benefits to be provided by the state.

Table 4.2 Gender considerations in determining appropriate minimum wage for EPWP

Consideration	Female	Male
Ability to earn additional income from market participation	Low	Low but higher than females
Social grants as a poverty reduction policy instrument	Should this be the primary source of income or act as a supplementary source to EPWP income to address variations in household size and composition?	Same as females.
EPWP income	Same as for Social Grants	Same as for Social Grants
Off-market income sources	Low	Low
Returns from market work	Low	Low but higher than females
Saving potential for future capacity building	Not assumed. Minimum wage should provide some risk insurance against cyclical events and family changes (sickness, death, breakdown).	Same as females.
Unpaid work burden	High	Low

4.2.4 Training wages and minimum wage determination

What about the issue of training wages? It is apparent that some EPWP projects pay "training wages" or stipends which are lower than otherwise as a means to prorate the investment costs of human capital development to the individual (a "user pays" strategy). This practice creates contradictions in programme purpose and is not consistent with international best practice. First, it reduces the effectiveness of the programme in terms of poverty alleviation. Second,

this practice is consistent with neo-liberal economic thinking which argues that when skills are general a private employer would seek to defray some of the investment that they make in skill development of this type by paying a lower wage because they cannot guarantee a recoupment of the returns of the training.

Whether that is a sensible approach for a profit-maximising private firm is one matter but overall the analysis is not applicable to a programme such as the EPWP. First, the aim of the government is not to profit maximise and so the private firm paradigm which is based on private costs and benefits and shareholder primacy is inapplicable. Second, the EPWP is a public sector initiative aimed at nation-building and as such has huge social benefits that go well beyond the benefits that can be captured by any private individual. The economic theory of market failure unambiguously indicates that a user-pays approach will deliver sub-optimal outcomes (in this case, an under-investment in skill development) when there are positive social benefits involved in an activity. In situations such as these the government has a responsibility to ensure that adequate levels of investment take place. Third, evaluations currently suggest that the 'benefits of training and linkage to exit strategies are so uncertain' due to under-developed training capacity and exit strategies (Human Sciences Research Council, 2007: 19).

While we do not advocate paying EPWP workers below any statutory minimum wage that may be introduced on the basis of spreading the costs (and benefits) of training between the employer and employee, we do recommend a training system being integrated into the paid work structure to enhance the productive capacities of the EPWP. As Table 4.1 indicates there is a need to bolster the training infrastructure to overcome some of the capacity constraints identified by HSRC (2007). Clearly, the institutional limitations of the training system need to be addressed although this concern is not the focus of this research task.

4.2.5 EPWP wage disparities and minimum wage determination

A striking feature of the analysis presented in Chapter 3 is the disparity of EPWP minimum wage rates being offered across space, level of government and type of project. It is hard to assimilate that disparity with the uniformity of EPWP aims set out by the Department of Public Works. Relating these objectives to outputs, the Department of Public Works, EPWP unit defined six key outputs that they sought from the EPWP. These are outlined as follows (DPW EPWP Unit, June 2004):

1. Work and income opportunities for participants;
2. Expanding engagement in labour-intensive programmes;
3. Training, skill and information linked to exit strategies for participants;
4. Developing public sector capacity to implement labour-intensive service delivery programmes;
5. Enhancing service delivery to communities; and
6. Expanding labour-intensive delivery to additional/new areas.

There is nothing in either the objectives or these "key outputs" which would justify the disparity noted. Clearly, the disparity comes about because the program, as defined by the Code of Good Practice, has to refrain from interfering with the private market wage structure, and that structure exhibits substantial disparity across space and activity. We discussed this issue in Chapter 3.

Further, once we consider appropriate poverty line levels in Section 4.4, we will soon realise that some of the wage outcomes delivered to workers via the Bargaining Councils or through Sectoral Determinations (which we analysed in Chapter 2) are not sufficient to ensure these

workers escape poverty, which we define later in this Chapter to embrace both absolute (basic needs) and relative (social needs, risk insurance and capacity building) concepts. In that situation, scaling the EPWP wage to be below the market wage structure will lead to undesirable consequences. As we saw in Chapter 2, a high proportion of workers are already working at extremely low wages. Given our later discussion in this Chapter, it is clear that the current wage structure is perpetuating a class of working poor. The EPWP minimum must therefore intrude somewhat on the current wage structure if the EPWP is to progress towards achieving its objectives of poverty alleviation.

We thus argue that a basic goal for any minimum wage system would be to ensure that the workers are able to escape poverty as a direct consequence of their labour. If that principle is paramount then it suggests that the considerable wage disparity across EPWP projects and space be based entirely on spatial cost of living differentials. In fact, as we later argue it is difficult to achieve this through the wage system and we recommend that spatial cost differentials be attended to via the social grants system.

We also note that the impacts of these outcomes on the market sector needs to be considered.

4.3 A framework for setting minimum wage rates for EPWP projects

Given these overriding principles and EPWP aspirations the process for determining an appropriate minimum wage to govern EPWP projects needs to be laid out.

The framework that we recommend in this Section is suitable for the EPWP as it is currently implemented. But, in line with our view that the EPWP should be eventually broadened to become an unconditional Job Guarantee (see Chapter 7 for a justification and the evidence provided in Chapter 5) this framework would be suitable for determining a national minimum wage upon which the private market wage structure would emerge.

The recommended minimum wage determination framework is sketched in Figure 4.1 (see also Chirwa *et al.*, 2004). The following assumptions govern the discussion:

1. We assume that the wage floor is set at the poverty threshold which would enable productive work to be carried out.
2. We assume that the wage floor acts to permit disadvantaged workers a guaranteed access to the distribution system via paid work.
3. We assume “own-production” to be insignificant.
4. We assume that PWP income is the primary (100 per cent) income source for the worker and is supplemented for family size and structure (and regional disadvantage where applicable) by social grants to ensure the household also lives above the poverty line.

The framework for the determination of a minimum wage for EPWP workers should incorporate two (temporal) stages in poverty alleviation:

1. In the first instance, if the EPWP aims to deliver poverty alleviation then it should provide a minimum wage which will guarantee each worker has an income above some reasonable poverty line estimate which we consider would have both an absolute (basic needs) and a relative (social needs and risk management) dimension. Where the EPWP administrative structure is unable for operational reasons provide enough employment to those who seek it then the wage should still be paid during the period that the government bureaucracy takes to offer EPWP employment. That is, no worker should be without an EPWP income due to a lack of actual job slot being made available at any point in time. Some readers might immediately see that this short-run dimension requires something akin to a BIG to be in place via the EPWP wage if there are no EPWP jobs currently

available for immediate start. The difference between this approach and the standard BIG approach advocated by its proponents is the income guarantee would come from an EPWP wage not a basic income. The fact that the recipient my not start work immediately would reflect either frictions across space (short-term time delays in organising work) or more fundamental inefficiencies in the EPWP administrative structure. The former would be unproblematic but the latter would provide a feedback mechanism to evaluate the performance of the administration. The fundamental principle is that no worker should be without an income guarantee;

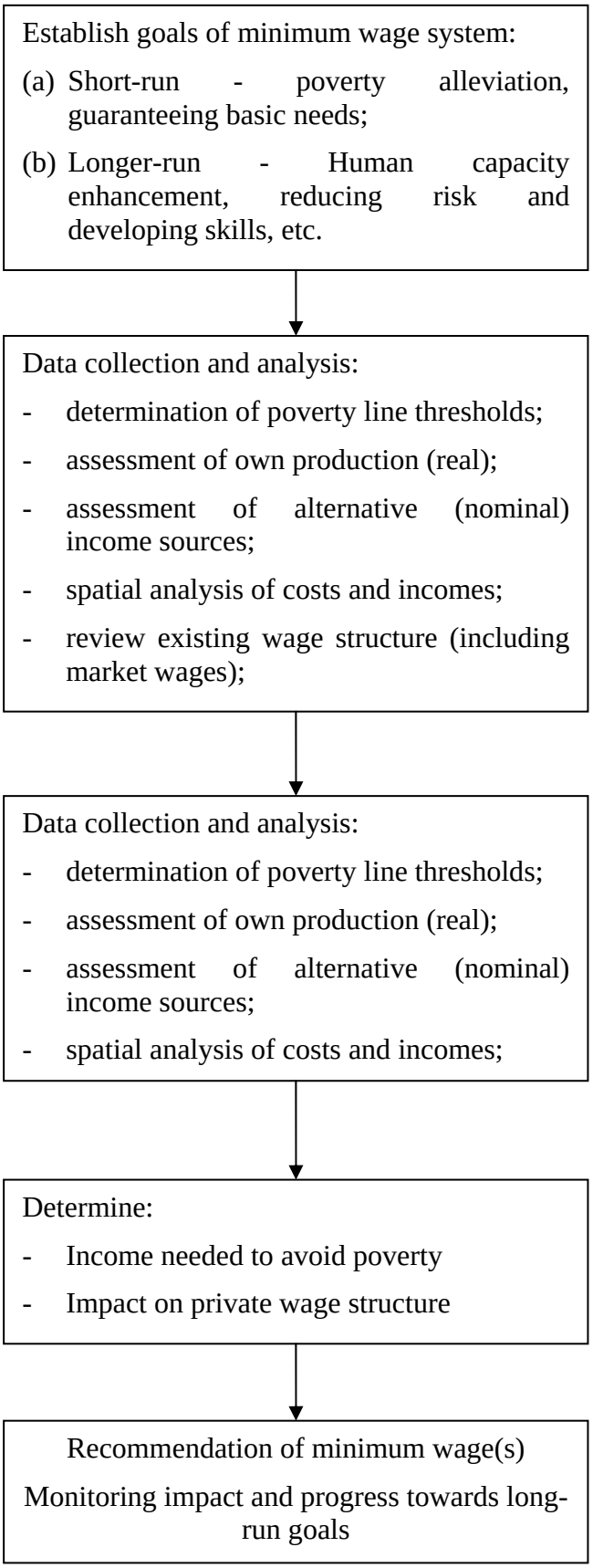
2. Over time, depending on the aspirations of the Government and the South African people, the minimum wage determination framework should provide for mechanisms that allow the concept of a minimum wage to be broadened to reflect more relative considerations which seek to improve the human experiences and capacities of the population. The minimum wage would thus embrace things such as widening the savings capacity of individuals (so they can better accumulate wealth; create personal risk buffers; and smooth out risk over time); developing skills and creating the capacity to benefit from increasing educational opportunities.

However, the distinction between these two stages is not clear cut. For example, there is a need to provide an immediate capacity to EPWP workers to smooth risk and invest in education for their children. In that sense some of the considerations which would be refined as time passed (Stage 2 conceptually) should be reflected in the quantum determined in Stage 1. We reject the conceptualisation of poverty which is defined exclusively in absolute terms.

In this Chapter, we show that existing EPWP wage rates analysed in Chapter 3 do not uniformly provide the resources necessary for a worker to exist above reasonable estimates of absolute poverty lines. However, we argue that a minimalist approach to poverty alleviation based on these absolute poverty lines is not conducive to capacity building and productive enterprise. Eliminating absolute poverty is crucial but the EPWP should aim to go well beyond this rather meagre aim.

We clearly emphasise though that as the system of employment buffers is refined along the principles outlined in Chapter 7 of this Report then the wages paid should provide individuals with opportunities to enhance their own potential (through investment in education for themselves and family members) and create personal risk buffers (through saving and accumulation of wealth).

Figure 4.1 A framework for minimum wage determination



4.4 Poverty estimation and poverty lines in South Africa

4.4.1 Motivation

If the imposition of a minimum wage for a minimum level of employment is intended to ensure that those who gain employment escape poverty then two questions need to be addressed: (a) How do we measure poverty in Rand?; and (b) What is a desirable combination of wage income and non-wage income to alleviate poverty under this measurement definition?

Saunders (2003: 89) identifies two crucial conditions that must be applied to a functional poverty line

> 1. 'that the methods on which it is based reflect "best practice" scientific research methodology and data'
>
> 2. 'that judgements on which it is based are broadly in line with community opinion on the meaning and measurement of poverty.'

He concludes that 'the poverty line should be regularly exposed to these two criteria of *scientific integrity* and *community credibility* if it is to be a valuable tool for monitoring trends and policy impacts' (emphasis in original) (Saunders, 2003: 89).

In this context, our assessments of reasonable poverty lines are unlikely to satisfy all stakeholders (government, residents, international community etc). Further, this Report does not (and cannot) seek to resolve, in any comprehensive manner, the poverty definition minefield that exists in the research and policy domain. Instead we take a more modest role and consider existing definitions (that is, use a range of "poverty lines") and demonstrate how a case can be made for one particular level against another.

We take it as given that the minimum wage should be associated with some level of income that would allow the recipient to live above the poverty line. While there is a legitimate debate as to whether social grants should do the "leverage" work in terms of poverty alleviation, for reasons outlined in Chapter 7 and Section 4.9 of this Chapter we consider any primary breadwinner (and thence an EPWP worker) should be guaranteed a poverty-free wage directly from the labour market exchange.

4.4.2 The struggle to define poverty

We recognise that the question of poverty measurement is vexed. Defining poverty is always a contested issue. But unless operational definitions are adopted, a government is unable to design policies that will improve the lives of the people they represent – where a basic goal should be to ensure no person within their state lives in poverty. The primary aim of economic development is first and foremost to eliminate poverty.

Given the contested nature of the terrain, we urge a pragmatic approach to poverty definition in this Report to allow for policy mobilisation along the lines argued throughout this discussion. We realise that the area is fraught with conceptual and data difficulties but believe, on balance, that enough information is available to provide workable poverty line estimates upon which feasible and effective minimum wages can be calibrated.

At the outset there is a need to be able to demarcate the poor from the non-poor. Some adopt so-called objective methods for achieving this identification (such as absolute poverty definitions) while others, such as, Sen (1983) advance, within a broad framework of social inclusion and exclusion, a concept of 'capabilities poverty'. Accordingly, Sen constructs development as a process of increasing both incomes and the capabilities of the people,

where the latter involves the social, economic and political institutions of the country at all levels. Within this context, poverty deprives one of basic capabilities.

However, absolute approaches are ambiguous and force the discussion into debating relative poverty concepts. The idea that one can conduct an "objective" exercise in calibration to determine a demarcation line is far fetched. Even in cases of basic or minimum food needs, the calibration is always influenced by subjective (relative) assessments of what is important.

Further, we recognise that the conflation of definition and measurement is common and counterproductive in discussions about poverty demarcation and poverty line determination. We accept that despite all the complexities involved, the conception of what we mean by poverty must precede our inexact approximations through measurement.

The United Nations Development Programme (UNDP, 2000: 20) considers a person can be defined as being in poverty if they are subject to: (a) Income inadequacy; and/or (b) deficiencies in human opportunities (human poverty).

Income inadequacy can be defined in terms of absolute poverty where there is insufficient income to allow a person to acquire basic food needs (unable to attain minimum nutrition requirements). Alternatively, we may consider income inadequacy in terms of relative poverty concepts whereby largely non-food needs are unable to be satisfied (heating, clothing, housing etc). The quality of nutritional intake might also be considered under relative poverty definitions.

In terms of human poverty, the UNDP consider this to include illiteracy, malnutrition, abbreviated lifespan, poor maternal health, illness from preventable diseases. However, this conception of poverty might be broadened to include the inability of a person to achieve their capacities because of a lack of access to adequate services and infrastructure (sewerage, education, clean water, etc).

It is clear that poverty definitions can range from a very narrow (allegedly absolute) concept that can be defined in terms of calories of food intake per day, to broad, difficult to demarcate measures that are relative and make cross-country comparisons difficult.

But even the so-called absolute approaches are fraught. While absolute measures are considered "an objective, even a scientific notion" (see Alcock, 1993: 68) the fact is, that in defining any subsistence level, subjective or relative notions intrude. This is mainly in establishing components of subsistence beyond meagre nutritional requirements. The example cited by Alcock (1993: 70) is Rowntree's use of tea in his definition of absolute poverty despite it having no nutritional value. Rowntree clearly recognised the beverage's importance in English culture, a relative conception.

There is another distinction sometimes made between primary poverty (indigence) and secondary poverty (see Rowntree, 1901). Rowntree (1901: 298) describes indigence as a state where one has resources 'insufficient to obtain the minimum necessaries for the maintenance of mere physical efficiency.' Secondary poverty, then, is resource deprivation beyond indigence.

Primary and secondary poverty measures are components of absolute poverty and are intended to be "distribution free" concepts, meaning they do not relate to the command of resources that other members of the society have at their disposal. This latter concern is the domain of relative poverty conceptions.

There are also conceptual problems with taking a relative approach that transcend the measurement issues. The danger with relative measures is that there will always be someone poor unless in the unlikely event of absolute equality (see Sen, 1983). Accordingly, relative

poverty can exist in states of absolute affluence which reduces the meaning and impact of the defined state.

It is hard to apply this sort of constraining logic to South Africa where the majority do not even achieve basic needs. Noble *et al.*, (2004: 7) correctly point out that these concerns are 'much less relevant to the conditions of South Africa, where the social and economic divides are much more stark than in affluent western European country. Indeed, other critics of the relative approach pointed out that the application of a relative approach in a country where the majority were near starvation would produce anomalous results, as it would result in a poverty line that was too 'low' ... if poverty is associated too closely with inequality then a country in which inequality fell because of famine (everyone is *equally* starving) would be described as experiencing a reduction in poverty, a perverse outcome ...' (emphasis in original).

This dilemma led Sen to develop the "capabilities approach" which Noble *et al.*, (2004: 7) say 'conceived of poverty as being absolute in the space of "capabilities" but relative in the space of "commodities, resources and income".' This links absolute requirements with higher order concerns underpinning inclusion such as participation thresholds.

So Sen's (1983) capabilities approach can be seen as a bridge between the absolute and relative concepts of poverty, in the sense that capabilities such as housing., health etc are absolute but their actual manifestation is relative (that is, what constitutes an adequate house will vary across countries and cultures).

In trying to assess what an appropriate poverty concept should be to guide our conception of an appropriate minimum wage designed to alleviate poverty, Noble *et al.* (2004: 4) provide a sound basis for making sure that any absolute component of the poverty line is adequate:

> Given the fact that a significant proportion of the population lack sufficient basic needs including food, housing, education, safety and health provision, there is no doubt that there is a need for a measurement of poverty (or poverty line) for South Africa based on an absolute concept and defined, perhaps, by reference to the Copenhagen Declaration (1995) …
>
> However there is also a pressing need for a carefully thought out relative measure of poverty.

So we should first make sure we cover the needs demanded by absolute poverty measures and then determine how more relative aspirations can be encompassed. In this context, the Copenhagen Declaration of 1995 said that policy efforts 'should include the elimination of hunger and malnutrition; the provision of food security, education, employment and livelihood, primary health-care services including reproductive health care, safe drinking water and sanitation, and adequate shelter, and participation in social and cultural life.' (Commitments, World Summit for Social Development, Copenhagen Declaration on Social Development, Part C).

So a broader concept of absolute poverty that goes beyond a lack of income emphasises, for example, the need to have access to essential social services. The neo-liberal approach to absolute poverty has typically eschewed a broadening of the concept. They typically equate physical subsistence (of an inactive person) with freedom from poverty and usually are able to conclude that poverty is an insignificant problem in most countries (see Noble *et al.*, 2004: 5 for a discussion).

Supporting the emphasis of the Copenhagen Declaration on multi-dimensional definitions of poverty, Noble *et al.* (2004: 4) propose what they call a consensual' approach to defining

poverty for South Africa to 'help the country overcome the deep social divisions that are apartheid's legacy and become a more equal and unified society.' They also consider this broader approach (relative to lack of income approaches which dominate absolute measures) to be better grounded in theory.

It is clear that absolute estimates of poverty will decline as economic activity increases whereas relative poverty shifts as the average standard of living increases. While the distinction between these two approaches to poverty demarcation has been an important part of the debate about determining poverty lines (see Ravallion, 1994), to some extent these debates are tangential to the need to specify a minimum wage for EPWP projects. However, we are cognisant of the fact that a dogmatic insistence on the use of absolute poverty lines, which are invariant to the changing socio-economic circumstances of the country in question, will exclude a discussion of broader concepts of inclusion and survival. We resolve this dilemma by advocating a minimum wage determination framework (see Figure 4.1) whereby South Africa ensures that the aspirations expressed in the Copenhagen Declaration are met as a matter of urgency but then provides mechanisms whereby broader concepts of social inclusion and risk-reduction. This is in the spirit of the approach that urges a consensual definition of poverty (Noble *et al.*. 2004; Wright *et al.* (2007).

4.4.3 A consensual definition of poverty

After discussing the various definitions (and concepts) of poverty that have emerged in the literature, Noble *et al.* (2004) conclude (following the Taylor Committee, 2002 recommendations to include poverty measures which meld absolute and relative (social exclusion) components) that there is a need to extend the definition of poverty beyond 'simply lack of income' (Noble *et al.*, 2004: 13).

While recognising that multidimensional approaches to poverty definition risk the criticism that they merely produce arbitrary cut-off points sensitive to the opinion of "experts", Noble *et al.* (2004: 11) list three advantages of a poverty definition that is "owned" by the population: (a) it would bring together absolute and relative components into one measure because 'socially perceived necessities' will evolve over time as the economy grows; (b) the consensual process is likely to be more transparent and less arbitrary way to decide what a "necessity" is; and (c) consensual definitions are 'democratic' because the entire population (typically represented via a sample survey) is involved in the demarcation of who among it are to be considered poor.

As part of a national healing process (to overcome the divisions left by apartheid) Noble *et al.* (2004: 13) recommend a measure of poverty that 'reflects the common aspirations of all citizens'. They say (pp 13-14) that a 'consensual definition of poverty would provide a truer policy agenda' and be consistent with South Africa's constitutional objective which is to 'Improve the quality of life of all citizens and free the potential of each person; and build a united and democratic South Africa.'

While emphasising the advantages of a consensual definition, Noble *et al.* (2004: 14) are also acutely aware that it has to be tractable ('adequately operationalised'). They outline a two stage approach:

1. construct a list of socially perceived necessities;
2. create measures of these items;

However, the authors are aware of the problem that a severely polarised society such as South Africa presents to researchers trying to achieve a consensual definition of the socially perceived necessities. Noble *et al.* (2004: 15) say that if we found that 'no common core of

shared beliefs existed … this would make it very difficult to generate meaningful poverty measures.'

Two broad approaches to measurement are considered: (a) direct method - use survey methods to determine which people lack the socially perceived necessities. This could be made specific by determining who was able to access a basket of basic needs across a range of consumption goods and services; (b) indirect method – define the level of income (or expenditure) that would allow a person to command the socially perceived necessities. So the socially perceived necessities would form a basket which would be valued in monetary terms.

Wright *et al.* (2007: 23) report on experimental research where a common set of perceived necessities was explored via social survey methodology. They list among the essential items required for an acceptable standard of living in 2005:

1. Adequate care for the sick – support, medicine, funeral provision;
2. Decent and secure housing (weatherproof housing, sewerage, reticulated water, power, standard white goods, multiple bedrooms);
3. Being able to provide adequate resources for child care and development;
4. Decent neighbourhood amenities and services;
5. Supportive social support networks;
6. Provision of adequate emergency services.

The significant result is that perceived necessities go well beyond the basic food, clothing and shelter requirements which would be produced by narrow absolute poverty measures.

While the authors didn't attempt to operationalise these minimum requirements, it is clear that any budget-based poverty line that was based on them would be significantly higher than those typically discussed and advanced by poverty analysts in the South African context. Such measures as the $2 per day standard would be woefully inadequate in this context.

4.4.4 Determining the poverty line in South Africa

There are several reviews of poverty line methodologies and outcomes for South Africa that are available (for example, Whiteford and Posel, 1995; Woolard and Leibbrandt, 1999, 2007; Budlender, 1999; May, 1998; Hirschowitz, 2000; Klasen, 2000; Roberts, 2000; Aliber, 2001; Bhorat *et al*, 2001; Taylor Committee, 2002; Noble *et al.* 2004; Meth and Dias, 2004; Roberts, 2005; Hoogeveen and Özler, 2005; Frye, 2005, 2007; and Özler, 2007). We do not attempt to rehearse all the arguments provided by these studies but draw upon their conclusions and disagreements.

In 2007 the Government of South Africa announced that StatsSA would release an official poverty line in the second half of 2007 to help the Government better target poverty and hence achieve its aims arising from its commitment to the UN Millennium Development Goals. At the time of the completion of this Report the document has not been made public. In the Treasury/StatsSA (2007: 2) discussion paper 'A national poverty line for South Africa', which accompanied an announcement, it was noted that they were seeking input along the following lines (cited from original dot points):

- Should a single poverty line be adopted or would several reference lines better capture different degrees of poverty and deprivation?

- Should a poverty line represent an "absolute" level of household requirements, or should it be a "relative" index that adapts to rising general living standards and income?
- How should household size be taken into account?
- Should different measures for urban and rural areas, or for different geographic areas be adopted?
- How regularly should the basket of goods used for calculating the poverty line be reviewed? How can we assure that a poverty line remains relevant and accurate over time?

While recognising the importance of each of these issues in deciding an operational poverty line, the discussion to date has clearly indicated that at both the conceptual and operational levels, the question of appropriate poverty lines is subjective, hazy and highly contested. However, as Treasury/StatsSA (2007: 2) say

> The idea of a poverty line is not that household vulnerability can be satisfactorily reduced for analytical purposes to a single index, but rather that a consistent measure, while imperfect as a gauge of household needs, can nonetheless serve as a useful comparative index of trends over time and of relative wellbeing across the social landscape.

While not wanting to reduce the complexity of the issue to something trivial, an operational approach is ultimately required where a monetary figure is generated and this pragmatism has underpinned several poverty studies in South Africa.

The Treasury/StatsSA (2007: 3) approach is

> that the official poverty line should be constructed as *a measure of the money income required to attain a basic minimal standard of living* – enough to purchase a nutritionally adequate food supply and to provide for other essential requirements (emphasis in original).

While this would appear to be leaning to an absolute construction of the task (especially the italicised phrase), the latter clarification ('other essential requirements') is sufficiently general and suggests that the measure should go well beyond the neo-liberal minimalist view which, by any reasonable standards, defines a significant proportion of the poverty problem away.

It is recognised in the Treasury/StatsSA (2007: 4) discussion paper that the direct method of assessing a basic living standard is so fraught that a more robust way of proceeding is to construct a 'measure of "income" adequacy, expressed in money terms … [which] … comprises an aggregate cost of a minimum basket of goods, and therefore indicates a required level of household expenditure, but not the actual composition of individual household consumption.' Of-course, goods in this sense has to be seen more broadly as goods and services, including basic public services along the lines articulated above by Noble *et al.* (2004) and Wright *et al.* (2007).

An arbitrary but typical approach that attempts to overcome measurement difficulties of essentially qualitative concepts is to define poverty in terms of the percentage of households that are below some central tendency (mean or median) measure of overall (but usually equivalised) household income (see Social Protection Committee, 2001). However, even then the Social Protection Committee (2001: 3) recognised that other "primary indicators" include income distribution (income quintile ratio); low income persistence; median low income gap,

regional cohesion; long term unemployment; people living in jobless households; early school leavers not in further education or training; life expectancy at birth; and self perceived health status.'

However, arbitrary proportions of some overall level of income are not satisfactory because they give no hint as to the command over resources that someone who would be considered poor (for example, in the bottom 20 per cent of the income distribution) would enjoy.

Taking the second approach, a further question then is to determine whether the poverty line should be based on an income or expenditure approach. Woolard and Liebrandt (2006: 4) argue that

> Current consumption reflects a household's ability to buffer its standard of living through saving and borrowing, despite income fluctuations. Consumption thus can be thought of as a smoothed outcome of income flows which exhibits less variation than income. In developing countries where a substantial proportion of households derive their incomes from informal activities and agricultural production, consumption and expenditure estimates often better reflect the welfare of low income households (Deaton, 1997).

In advocating an expenditure approach to provide an indicator of poverty, Martins (2007: 203) notes that 'what people can or cannot do and, more importantly, how they survive in a market economy, depends to a large extent on access to the necessary financial resources and assets to meet an increasing portion of their needs.' In this regard, household expenditure embraces cash and in-kind spending of private households. Martins (2007: 205) says that it 'covers all outlays made and consumption in kind by private individuals during a particular period.'

Table 4.3 provides a summary of some of the more notable and recent poverty line estimates for South Africa (taken from Woolard and Leibbrandt, 2006). To provide a contemporary (February 2008) comparison, we adjusted the 2000 prices using the factor of 1.515, being the average CPI in 2000 (100.0) divided into the February 2008 value of 151.5. The 2006 prices were adjusted using a factor of 1.13, being the average CPI in 2006 (134.0) divided into the February 2008 value of 151.5. It is clear that this adjustment provides only an approximate real equivalent but for our purposes is sufficient.

<u>The Household Subsistence Level and Household Effective Level poverty lines</u>

In (relatively) recent South African practice there have been two poverty lines actively debated: (a) the Household Subsistence Level (HSL) and the Minimum Living Level (MLL). Neither measure is currently published.

Woolard and Liebbrant (2006: 12) say that the HSL 'may be defined as an estimate of the **theoretical** income needed by an individual household if it is to maintain a defined minimum level of health and decency in the short term. It is calculated at the lowest retail cost of a budget of necessities of adequate quality, comprising the total food, clothing, fuel, lighting and washing and cleansing materials required for each person, together with the fuel, lighting and cleansing materials needed by the household as a whole, the cost of rent, and of workers transport' (emphasis in original). The HSL defines some short term survival level. It is not consistent with a wage level that will sustain capacity building and risk smoothing, both forward-looking activities. The Household Effective Level (HEL) was proposed which scaled the HSL up by 50 per cent to overcome the perceived stinginess of the HSL. Woolard and Liebbrandt (1999) consider both the HSL and the MLL (see next section) to be minimalist poverty lines. The HEL, while an improvement, is also still close to a basic-needs concept.

Table 4.3 Alternative poverty lines estimates for South Africa

Poverty line construct	Poverty line in 2000 prices	% of persons below poverty line (2000 IES)	Poverty line in February 2008 prices
	Rand per capita per month	Per cent	Rand per capita per month
Poverty line set at per capita expenditure of the 40th percentile of households	346	54.9	524
Poverty line set at 50% of mean national per capita expenditure	538	68.1	815
Stats SA (as reported by Hoogeveen and Ozler) – lower bound	322	52.6	488
Stats SA (as reported by Hoogeveen and Ozler) – upper bound	593	70.4	898
August 2004 Household subsistence level (HSL): metro average of 6 person African households, converted to per capita scale	286	48.5	433
August 2004 Household effective level (HEL): metro average of 6 person African households, converted to per capita scale	429	61.8	650
"Dollar a day" - International poverty line of US$370 (1985 prices) per capita per annum	81	8.1	123
"Two dollars a day" - International poverty line of US$370 (1985 prices) per capita per annum	162	27.0	245
"Poverty line" implied by the Old Age Pension means test for married persons, assuming a household of 5 persons and no non-elderly income earners	454	63.4	688
	Per household	Per cent	Per household
"Indigence" line of R800 per household per month (in 2006 prices)	573	11.7	648
"Indigence" line of R1600 per household per month (in 2006 prices)	1147	38.1	1296
"Indigence" line of R2400 per household per month (in 2006 prices)	1720	55.1	1944

Source: Woolard and Leibbrandt (2006, Table 9). The 2000 prices were adjusted using the factor of 1.515, being the average CPI in 2000 (100.0) divided into the February 2008 value of 151.5. The 2006 prices were adjusted using a factor of 1.13, being the average CPI in 2006 (134.0) divided into the February 2008 value of 151.5.

This assessment is reinforced if we compare the implied poverty line levels provided for in the Old Age Pension (OAP) payment (see Table 4.3) The HSL of R286 per capita per month and the HEL of R429 per capita per month in 2000 prices is still below the qualifying threshold for the OAP (R454 per capita per month). Given that the OAP is not designed to sustain active persons and is paid at the end of a working life after some asset accumulation has been possibly achieved, anything below this quantum would appear to be an unsuitable benchmark to reward an unskilled manual worker.

The Minimum Living Level (MLL) wage norm

The MLL was calculated by the Bureau of Market Research (BMR) at the University of South Africa and was intended to be used as a vehicle to estimate poverty lines. According to Martins (2003: 198) the MLL 'denotes the minimum financial requirements of members of a household if they are to maintain their health and have acceptable standards of hygiene and sufficient clothing for their needs ... [it is] ... the lowest sum possible on which a specific household size can live in our existing social set-up. Sufficient consumption quantities are allowed under each of ten relevant expenditure items, but rational expenditure on them is assumed throughout. As it is unlikely that persons at this living level know a great deal about dietary requirements or about managing of their household budgets to curb unnecessary spending, the sum estimated for the MLL is at best a theoretical minimum.'

The MLL also attempted to provide a practical guide to establishing minimum wage rates for a worker which is a slightly different task from that which aims to establish what level of resources a household requires to escape poverty. However, the two conceptual minima would be clearly related recognising, however, that a productive worker will require worker will require access to more goods and services materials (food, clothing, transport, etc), compared to the resources required to merely remain alive marking time.

The link between the MLL and wage determination is made by Martins (2003: 211) who wrote that:

> The private sector's major drive for success in a capitalistic environment is profit. Profits made and suspected to be made are the major incentives for further and new investments. However, there will always be a social responsibility on both the private sector and the government to pay its workers a living wage. The MLL is calculated to provide such minimum financial requirements. Although these financial requirements are slightly higher than the Poverty Line, they are far lower than salary or wage levels determined through supply and demand in areas where there is no oversupply of labour. Unfortunately, however, there are vast members of unskilled and unemployed people in South Africa who do not receive remuneration based on their scarcity value.

The MLL is no longer published but had the advantage that it was already recognised by employers in South Africa as representing a minimum that should be paid to unskilled workers (see Martins, 2003, Martins and Maritz, 2001). So the quantum proposed under by the MLL, even though the measure is no longer available, may be a useful checkpoint to our minimum wage recommendation for the EPWP given it is an "active" poverty line concept unlike some of the lower measures that ignore the resources needed by the worker to engage in productive activity.

HSRC (2004) reported that the published MLL for a single household was R587 per month in 2001 prices. In February 2008 prices this is equivalent to around R841 per month.

Further, the conceptual underpinnings of the MLL are informed by Sen (1999) who, as is noted above, constructed poverty in broader terms than merely being constrained by low income. Once we consider poverty to be a "deprivation of capabilities" then it becomes

obvious that the poverty line would reflect an income level where individuals could generate these capabilities which might extend to good health and social exclusion.

Dollar-a-day poverty lines

To aid comparative analysis between countries, the World Bank introduced the "dollar-a-day" poverty line (at purchasing power parity at 1985 prices). More recently this has been increased to the $2 a day poverty line (see for example, World Bank, 1990). The "dollar-a-day" approach has proven very popular among researchers and policy makers – it is a simple and easily comprehensible benchmark. The popularity of the measure is in no doubt. Woolard and Liebbrandt (2006: 19) note that 'These rhetorical advantages also help account for the fact that neither a significant subsequent change in the way the poverty line is computed, nor nearly three decades of change in the value of the U.S. dollar, have changed the dollar-a-day *label*: the only serious competitor for attention within the international community is the $2-a-day poverty line, a much more lenient standard but one that is similarly easy for rich-country stakeholders in the development process to remember and relate to' (emphasis in original).

As a vehicle for comparative analysis of poverty dynamics this benchmark is of no concern. However, as a level that should demarcate poverty from non-poverty in any particular country at any particular time, there are many problems with the dollar-a-day benchmark, notwithstanding its popularity among researchers and policy makers.

Meth (2004: 33) after summarising the various purchasing power parity estimates of the dollar-a-day poverty line for South Africa over time concludes that (inflating this poverty line to 2002 prices) generates a consumption level 'so far below any poverty line in use in South Africa (and because it does not have its origins in a benchmark study) there would seem to be little further use that can be made of the PPP adjusted dollar-a-day line.'

We would extend this argument to the "two-dollar-a-day" poverty line. In 2000 prices, a $US2 per day poverty line was equivalent to 174 Rand per capita per month when applied to South Africa (Deaton, 1997 proposed 105 Rand per capita per month in 1993 prices which Özler (2007) claims is close to 174 Rand in 2000 prices). Woolard and Leibbrandt (2006, Table 9) suggest a monthly figure of R162 in 2000 prices is closer the mark, but the differences are of significance to the argument being developed here.

Hoegeveen and Özler (2005) published later as Özler (2007) employ a "cost-of-basic-needs" approach to estimate the poverty line in terms of health requirements. Özler (2007: 497) estimated that a "food poverty line" was around 211 Rand per capita per month in 2000 prices. Özler (2007: 497) defines this as 'the amount necessary to purchase enough food to meet the basic daily food-energy requirements.' This is based on information provided by the Medical Research Council in South Africa and equates to providing around 1,927 per capita per day kilocalories across selected food groups (Özler, 2007: 496).

So a person in receipt of $US2-a-day (adjusted to 2000 South African prices) would be living below the minimum nutrition standard for an idle person. This is clearly inadequate.

Social grants as implied poverty thresholds

It is also claimed that the South African Government Departments already administers implicit "poverty lines" in terms of their means-test thresholds for these various grants (Woolard and Liebbrandt, 2006). Table 4.4 shows the mean-test limits on some of the social grants offered in South Africa.

In the case of the Old Age Pension, the size of the grant for an unmarried person is calculated according to the formula D = 1,15A – 0,5B; and for a married person according to the

formula D = 1,075A – 0,5B where A = the maximum grant payable per annum, B = the annual income of the applicant in the case of an unmarried person, or half the applicant and his or her spouse's annual income in the case of a married person and D = annual grant amount payable. No grant amounting to less that R100 per month is payable. In 2005, the maximum size of the grant is R780.

Table 4.4 Means test limits on social grants in South Africa, 2005 prices

Grant	Recipient unit	Urban (monthly)	Rural (monthly)
Child Support Grant	Primary care-giver and spouse	R800	R1100
Old Age Pension	Unmarried person	R1594	
Old Age Pension	Married person	R2954	

One can use this information to calculate the income threshold (the implied poverty line) for receiving the Old Age Pension. As an example, Woolard and Liebbrandt (2006: 23) show that in the case of the Old Age pension (as at 2005) a married person earning R2954 per month would qualify as being in need of income support under the Old Age pension. Given that an average household size for this cohort is 5 persons and under the assumption there is no other income being earned in the household, then a per capita poverty line of R591 per month (2005 prices) is implied. For a single elderly person the cut off is R1594 per month for an unmarried person.

If these thresholds were considered adequate and were "adjusted" for movements in the CPI since 2005 then an approximate poverty threshold in current prices (February 2008) would be R688 per month (see Table 4.3). This is clearly only an approximate estimate.

Further, we wouldn't want to infer that the poverty threshold for an old age pensioner after a life of work (and asset accumulation) is suitable for a working-age person (and associated family).

Upper- and lower-bound poverty line approaches

Özler (2007) then considered non-food essentials and generated two poverty line measures – a lower bound poverty line (R322 in 2000 prices) and an upper bound poverty line (R593 in 2000 prices). It is important to understand how the two bounds were derived. Özler (2007: 497) assumed that 'once survival food needs are satisfied (to maintain bodily functions at rest), as total expenditure rises, basic nonfood needs will have to be satisfied before basic food needs. Using this approach, Özler (2007: 497) explains that

> The simple average of these mean nonfood expenditures plus the food poverty line yields a lower bound poverty line of R322. The basic idea here is that if a household's total expenditure is equal to the food poverty line, then any nonfood expenditure for that household must be absolutely necessary as the household is giving up basic food needs for those nonfood consumption goods. Using the same technique, but this time calculating the mean total expenditure of households whose food consumption expenditures are equal to the food poverty line, I derive an upper bound poverty line of R593. If the basic needs norms that are anchored to food-energy requirements of South African households are deemed reasonable, then the poverty line for South Africa must lie between R322 and R593 in 2000 prices.

Given this, Özler (2007: 497) says that "a reasonable poverty line for South Africa must lie between 322 Rand (lower-bound poverty line) and 593 Rand (upper-bound poverty line) per capita per month in 2000 prices. However, the lower limit is considered to be extreme poverty rather than a demarcation between poor and non-poor (see also Meth, 2004a).

The upper and lower-limit approach was previously suggested by Woolard and Leibbrandt (2001: 49) who argued that the use of two poverty lines would create a 'poverty critical range'.

Chen and Ravallion (2001) build on this approach and recognise that absolute and relative factors must be considered in an estimate of the poverty line. Meth (2004: 34) converts their estimates of poverty line expressed in 2002 Rand into a range spanning R214 and R422 per month.

Some degree of consistency is noticed between the estimates of Chen and Ravallion (2001) and the estimates provided by Özler (2007). Meth (2004: 34) says that 'expressed in 2002 prices, Hoogeveen's and Özler's lower bound poverty line of R322 in 2000 prices would amount to about R387 per month. This is not all that far from the suggested Chen and Ravallion (2001) figure of R422 per month (in 2002 prices).'

The important point that Meth (2004) makes is that the 'lower figure separates the absolutely poor from the poor, while the higher separates the poor from the non-poor.' So in terms of setting a non-poverty EPWP wage norm we should be focusing on the upper-bound estimates of these poverty lines rather than being tied down to the lower-bounds which do not appear to provide anything like an adequate income for an active worker.

From Table 4.3 we can see that Özler's (2007) upper-bound would be around R900 per capita per month in February 2008 prices.

Given Meth's two-stage demarcation ("absolutely poor from the poor" and "poor from the non-poor") we consider that the upper-bound poverty line is the minimum that one would want to employ as a reasonable aspirational target to evaluate progress in poverty reduction.

Should we be considering per-capita rather than adult equivalised measures? For a discussion about the issues relating to converting per capita measures into per adult equivalent poverty lines see Meth (2004). We are guided by Treasury/StatsSA (2007: 6) who argue that 'It is therefore concluded that it is possible to use a simple measure of household per capita expenditure as the basis for a poverty index, without relying on more complex normalisations.' They suggest that the cost of supporting a child within a household is not significantly different to the cost of supporting an adult and therefore argue that the gains from constructing adult equivalised measures are sufficient to justify the complexity.

As we will see in the next Section, the issue is moot because we only use the poverty line measures to justify a minimum wage for the EPWP worker rather than being a per capita measure applicable to the entire family, where relevant.

Other approaches

In a recent study, Van der Berg *et al.* (2007) claim they follow Sen (1999) 'in viewing poverty as the deprivation of capabilities rather than merely low income' (Van der Berg *et al.*, 2007: 13). However, seemingly inconsistent with this "mentoring", Van der Berg *et al.* (2007: 20) 'set the poverty line at R250 per month or R3000 per year in 2000 Rand values' which they say is 'higher than the $2 a day line used by some others ... which converts into R174 per month in 2000 Rand.

Their poverty line is barely above the "food poverty line" estimated by Özler (2007) – R211 per capita per month. Meth (2007: 34) is also critical of the proposed R250 per capita per month poverty line proposed by Van der Berg *et al.* (2005: 17). We do not consider the approach by Van der Berg *et al*. to be a credible basis for determining EPWP minimum wages.

The Treasury/StatsSA poverty line

Following Özler (2007), Treasury/StatsSA (2007: 8) propose that a lower threshold that defines extreme poverty (incorporating essential food and non-food items) to be around R322 per capita per month in 2000 prices. In February 2008 prices it would be approximately R488 per capita per month (see Table 4.3)

However, they recognise that this minimalist poverty line (demarcating extreme poverty) does not provide any risk insurance for households attempting to cope with changing circumstances. As indicated by Wright *et al.* (2007) this ability to absorb shocks by maintaining some personal wealth buffers is reasonably considered part of the essentials for "poverty-free" living. Further, the basic nutritional and clothing requirements for productive, labour-intensive activity are likely to exceed those that would physically sustain existence. So a reasonable construction of poverty would allow for some productivity component, an awareness of the need for social inclusion to enhance opportunity and self-reliance, and some in-built personal insurance (buffer stock) capacity.

Treasury/StatsSA (2007: 9) say in this regard that 'Research on poverty in post-1994 South Africa has emphasised the vulnerability of households to changing circumstances, and the role of social mobility as a determinant of opportunities to escape from poverty. Considerable movement into and out of poverty has been observed for households around the poverty line, while on the other hand some households experience persistent chronic or severe deprivation.'

Consistent with the recommendations of Özler (2007) and Woolard and Liebbrandt (2005), an upper poverty threshold is considered. Treasury/StatsSA (2007: 9) suggest that 'The lower threshold would seek to capture the extent of extreme poverty, and movements over time in the circumstances of households in extreme poverty … [whereas] … an upper threshold can be estimated … [using] … survey evidence of the average spending on non-food items of households with food expenditures in the area of R211 per capita per month.'

They thus suggest an upper threshold of R593 per capita per month expressed in 2000 prices. So this would be approximately R898 per capita per month in February 2008 prices.

4.5 Price level adjustments, spatial price variation and household size

4.5.1 Maintaining the real value of the minimum wage – price level adjustment

Oosthuizen (2007: 57) says that the welfare of 'poor households … levels depend crucially on two things: their incomes, be they in the form of wages, remittances or social grants, and the prices they face'. The issue of price adjustment to allow the nominal minimum wage to be maintained in real (not relative) terms is thus as important as setting an appropriate relativity against the prevailing wage structure. The concerns that arise, however, surround the choice of price level that is to be used to make the adjustment. In theory, the poverty line should be adjusted to reflect changes in the "basket" of goods and services that is most representative of the expenditure patterns of those who are poor. Clearly the choice of the poverty line in the first instance reflects simplifying assumptions about these patterns of expenditure which may not be relevant for particular individuals or groups of individuals. So the compromise is already made in choosing the level which demarcates "poor" from "non-poor".

While income-expenditure surveys (IES) can provide valuable information about the patterns of expenditure by income class (level) and potentially allow for a "re-weighting" of the standard Consumer Price Index (CPI) regimen (basket of goods and services), the typical solution is to base adjustments on general price level movements. In the short run this is unlikely to introduce distortions and will preserve the real value of the poverty line but over time problems arise. If the

lowest income group's expenditure patterns are significantly different from those used to weight the CPI then the real value of the poverty line can decrease or increase over time depending on how the patterns of spending vary.

In this regard, Oosthuizen (2007: 1) argues that 'irrespective of how the 'representative' household is determined, it is clear that real households may differ sometimes considerably in terms of expenditure patterns, weakening the ability of the price index to proxy the experiences of all households. This is, to some extent, borne out by the claims of individuals across the income distribution that the rates of inflation that they experience are significantly different to (and, as is invariably claimed, higher than) the official consumer inflation statistics.'

In fact, the structure of the South African CPI means that the national figure is not a representative "average" but is rather biased towards upper income earners (Oosthuizen, 2007).

Alternatively, it is well known that the share of expenditure allocated to staples (food) declines with income. As a consequence, as economic growth leads to a decline in the price of staple products relative to other goods and services. If the CPI is used to adjust the poverty line, there will be an upwards drift in the threshold and a corresponding overstatement of those defined as being in poverty in real terms. In this context, use of IES data would prevent this bias and allow real values to be maintained more appropriately.

Against this is the fact that variances in spending varies across the income levels with the spending by the lowest income groups most tightly constrained around the mean for their income group. Oosthuizen (2007: 8) after reporting an earlier South African study (Kahn, 1985) which suggested lower income groups face an inflation rate higher than the "average CPI increase", notes that:

> … even if the rate of inflation is lower for poor households than for higher income households, the former are likely to experience inflation more negatively … [because] … budgets of poor households are often significantly constrained, with relatively large shares devoted to necessities, such as food. Thus, these households are unable to shift expenditure away from luxury items in the face of price increases. At the same time, poor households are less able to substitute expenditure towards lower quality products during times of price increases as they are generally already consuming lower quality products. Finally, unlike higher income households, the poor are unable to access savings that would enable them to smooth consumption during periods of high inflation.

So despite these issues, the danger in not adjusting the poverty line regularly is that the poor endure real losses over time if wages or transfers are calibrated against the line. This is especially so given the lags involved in generating and analysing data from the IES.

We therefore consider it to be better to risk with some "drift" in the poverty line upwards and therefore regularly (each time the CPI is made available) adjust the poverty line, in between more careful calibration based on detailed IES data. This approach will provide a better basis for assessing how the EPWP is performing in relating to its poverty alleviation goal. Indexed pension systems throughout the World operate on this basis and appear to provide some protection to those most vulnerable to real erosion of their standards of living.

At some discrete point in time, however, when IES data is available, the poverty line should be more accurately determined in real terms (relative to the past) although, clearly, any implied downward adjustments in wages and transfers that are dependent on the level of the line would not be easily managed. We also think it would be undesirable to reduce them at this point. More research is required to determine the likelihood of this situation emerging. The problem could be

minimised with annual adjustments being based on CPI and longer period realignments based on IES data.

Oosthuizen (2007: 58) concludes:

> What is clear, however, is that the purpose for which a price index or inflation rate is used should determine the type of weighting structure employed. In the case of monitoring economy-wide consumer price inflation, the price index should reflect the structure of economy-wide consumer spending. In contrast, where the price index is to be used for adjusting state welfare benefits, or merely for the monitoring of the rate of inflation experienced by the poor, the price index should reflect price changes that are relevant to poorer households.

In other words, as part of the development and implementation of a comprehensive framework for setting minimum wages for the EPWP, the South African government should avoid using the generally published CPI in making adjustments to nominal poverty lines. A range of specialist price change weighting mechanisms should be explored and a transparent discussion had which balances practical and political considerations with the aims of the minimum wage system.

4.5.2 Spatial price level adjustment

Should there be a spatially differentiated minimum wage? This could amount to a different minimum wage for urban and rural areas or more finely differentiated wage rules across space. Those who argue for such spatial differentiation indicate that prices and spending patterns vary significantly across space – in particular, between the more expensive (but higher quality) urban areas and the less expensive rural areas.

Given that the minimum wage should be linked closely to the aim of alleviating poverty then it should ensure that standards of living (relative to the locale in which the worker lives) are common across space. However, such adjustments often over-reward urban dwellers relative to rural residents because the higher quality of services and amenities in urban areas is usually ignored (Deaton, 2001).

Data available from StatsSA indicates that there is considerable spatial (regional) variation in the cost of living, as measured by the CPI. The recognition that the cost of living varies across space is well understood but difficult to simplify in practice. Attempts to define spatial poverty lines flounder because both prices and expenditure patterns vary spatially. For example, urban households have higher costs per calorie than rural households but consume a higher quality basket of goods. So not only do adjustments for costs have to be made but also adjustments based on quality have to be considered. Relying on cost adjustments alone leads Deaton (2001) to conclude that poverty line will underestimate poverty in rural areas and overestimate poverty lines in urban areas. Woolard and Liebbrandt (2006: 25) urge ‘great caution be applied before making any pronouncements on the rural-urban issue.’

Treasury/StatsSA (2007: 7) conclude that ‘

> In the South African context, it is recognized that there may be interest in separate measures of poverty by province, between urban and rural areas and for major towns and cities. However, the statistical utility of calculating separate poverty lines is dependent on the adequacy of the relevant survey designs and their geographic coverage. Statistics South Africa has only recently started to include rural areas in the survey work for the consumer price index and a sharp distinction between urban and rural areas is no longer made for planning and municipal purposes.

On balance, there does not appear to be the statistical basis for supporting the construction of a finely differentiated set of minimum wages across space. We recommend that where spatial cost-of-living disadvantage can be clearly identified and estimated, adjustments are made to social grants. So a zone allowance might be paid to the worker via a social grant. As more statistical support is developed to closely monitor spatial price and costs movements then the minimum wage mechanisms could be adjusted accordingly.

We recommend more research is conducted to identify the scale of cost differentials and the statistical support that would be needed to adequately introduce adjustments for spatial cost differentials into the minimum wage system.

4.5.3 Household size and structure

Setting a minimum wage that will provide a buffer against poverty is complicated by the fact that household size and composition varies across the population. This problem bedevils efforts to set poverty lines because there are considerable differences in household consumption due to these composition differences that complicate meaningful comparisons.

Poverty line studies seek to construct a "normalised" household consumption unit based on per capita estimates or in more advanced studies "equivalence units". The aim in these cases is to generate results such that 'a household of given size and demographic composition is taken to have the equivalent needs of a given number of adults (or adult males)' (Woolard and Liebbrandt, 2006: 8).

The relevance of household size and composition for minimum wage setting is less than clear cut. The question at issue relates to the extent to which we want the wage distribution to reflect the overall income distribution aspirations of the government.

We believe that it would become too unwieldy to build adjustments for family size and age composition into the EPWP minimum wage determination framework. Instead we believe that poverty line measures should be equivalised where possible (and achievable) and the social grants system used through family assistance grants to supplement the EPWP wage. We see the role of the EPWP minimum wage as being to ensure that the worker receives enough resources to escape poverty. We see the role of the social wage as supplementing the EPWP wage to ensure the worker's family escapes poverty. The social wage clearly also has a broader role to play outside of the EPWP policy framework.

We also recommend a scaling up of the social wage to ensure that essential public services such as education, health and aged care and the like are provided in adequate supply. This public goods approach to services reduces the need for households to have private income.

4.6 EPWP performance against poverty line estimates

In Chapter 3, we calculated implied average minimum wages for manual EPWP workers on a monthly basis using the information taken from the quarterly EPWP reports. On the basis of the data presented in Chapter 3, a reasonable conjecture is that if we set the minimum monthly EPWP wage rate at the Treasury/StatsSA (2007) upper-bound of R898 per month then many projects across the provinces would be in default. Clearly, how many projects would be in default of the wage norm depends on the actual wage distribution which lies below these averages.

To facilitate a more detailed analysis of this wage distribution, the Department of Public Works made available complete data for the 2006-07 reporting period. Table 4.5 summarises the key details of the wage distribution.

Table 4.5 Summary employment and wage details for EPWP, 2006-07

Sector	Total EPWP jobs	% of total EPWP jobs Percent	Average daily minimum wage Rand	Average (implied) monthly wage Rand	Average (implied) monthly wage Rand Feb 2008 prices
Economic	173	1.1	45.20	859	953
Environmental and Culture	991	40.0	44.27	841	934
Infrastructure	695	47.0	60.76	1154	1281
Social	4164	11.6	31.22	593	658
Total EPWP	7024	100.0	41.00	779	957

Source: Department of Public Works, South Africa. The implied monthly wage is based on a 19-day working month. Percentage totals do not add to 100.0 due to rounding. February 2008 price equivalents explained in Table 3.1.

Table 4.6 uses the complete dataset to compare the wage distribution for 2006-07 with a set of minimum wage scenarios, which are based on those presented in Table 4.3. We have inflated the actual wages offered in the 4th quarter 2006-07 by a factor of 1.11 to give an approximate real February 2008 equivalent (CPI average for 4th quarter 2006-07 was 136.7; CPI in February 2008 was 151.5).

We then compute how many projects in each sector would fall below each of the proposed minimum wages and hence fail to ensure their workers are free from poverty, according to the logic of that particular poverty line.

In addition, we investigated the employment characteristics (Person days as a % of sector total; Jobs as a % of sector total; and Average job length of job) pertaining to EPWP jobs that in 2006-07 were paying a minimum wage above R898 per month, R950 per month and R1000 per month, respectively. The results reveal the nature of "higher-paying" jobs for each of the three monthly wage benchmarks.

This analysis gives a guide to the scale of the problem and the urgency to redesign EPWP wage determination to provide better poverty outcomes.

It is clear that only 39.9 per cent of the 7024 projects overall pay above the Treasury/StatsSA (2007) upper bound of R898 per month (in February 2008 prices). The distribution of these projects across the four sectors is highly skewed. While only 14.4 per cent of the projects, 38 per cent of person-days and 29 per cent of total job opportunities provided in the Social Sector meet this norm, the jobs which do pay above R898 per month are typically longer than the average for the sector and the programme overall. The average duration of jobs that pay above R850 per month in the other sectors is lower than the respective sector average.

While the percentage of jobs paying above R850 per month are relatively low in the Economic sector (32 per cent) and the Social Sector (29 per cent), most of the jobs in the other two sectors pay above this norm (69 per cent of Environment and Culture job opportunities and 89 per cent of Infrastructure jobs). However, these jobs are of average duration at best (taken as a group).

Table 4.6 EPWP projects – employment and wage data relative to relative to wage norms

	Minimum Monthly Wage			
	R488 (a)	R898 (b)	R950	R1000
Economic				
Number of projects paying above	171	69	61	61
Per cent above (per cent)	98.8	39.9	35.3	35.3
Person days as a % of sector total (percent)		14.1	12.7	12.7
Jobs as a % of sector total (percent)		32.3	29.1	29.1
Average job length of job (days)		33	33	33
Average job length for whole sector (days)		75	75	75
Environment and Culture				
Number of projects paying above	991	637	206	154
Per cent above (per cent)	100.0	64.3	20.8	15.5
Person days as a % of sector total (percent)		58.3	20.1	15.5
Jobs as a % of sector total (percent)		68.6	16.8	13.9
Average job length of job (days)		37	52	49
Average job length for whole sector (days)		43	43	43
Infrastructure				
Number of projects paying above	1696	1499	1321	1320
Per cent above (per cent)	100.0	88.4	77.9	77.8
Person days as a % of sector total (percent)		87.5	82.0	82.0
Jobs as a % of sector total (percent)		89.1	85.2	85.2
Average job length of job (days)		49	48	48
Average job length for whole sector (days)		50	50	50
Social				
Number of projects paying above	3631	599	444	415
Per cent above (per cent)	87.2	14.4	10.7	10.0
Person days as a % of sector total (percent)		37.7	31.2	26.1
Jobs as a % of sector total (percent)		29.0	24.2	19.8
Average job length of job (days)		169	168	171
Average job length for whole sector (days)		130	130	130
Total EPWP jobs				
Number of projects paying above	6489	2804	2032	1950
Per cent above (per cent)	92.4	39.9	28.9	27.8
Person days as a % of sector total (percent)		64.3	48.5	45.7
Jobs as a % of sector total (percent)		73.3	50.0	48.3
Average job length of job (days)		50	55	54
Average job length for whole sector (days)		57	57	57

Source: Unpublished data provided by the Department of Labour. Rand amounts expressed in February 2008 values (see text for explanation). (a) is the lower-bound from StatsSA as published in Özler (2007); (b) is the upper-bound from StatsSA as published in Özler (2007). The figures in the final column for Person days as a % of sector total; Jobs as a % of sector total (percent), and Average job length of job are computed for the projects who paid above R1000 per month during 2006-07.

The picture changes somewhat when we consider the jobs that are paying above R950 and R1000 per month. In terms of the R1000 per month benchmark that we recommend in this Report, the following features are worth noting:

- 85 per cent of total Infrastructure jobs pay above R1000 per month, and they are just below the average duration for the sector (48 days compared to 50 days) but well below the average duration for the overall EPWP programme in 2006-07 (57 days). This has implications for the transition process should the R1000 minimum be introduced. Workers need not be made worse off by a lower minimum monthly wage if duration of the work opportunity expands significantly.
- Only 20 per cent of the total jobs in the Social sector pay above R1000 per month but their average duration is 171 days, which sets them apart from all the other EPWP jobs on offer.
- A modest percentage of total jobs in the Economic and Environment (29 per cent) and Culture (14 per cent) sectors pay above R1000 per month. The average duration of these jobs in the Economics sector is very low (33 days compared to 75 for the sector as a whole) while the highest paying jobs in the Environment and Culture sector are above average in duration for that sector (49 days compared to 43). In both cases, the higher paying jobs are short-term relative to the average for the programme as a whole.

4.7 Recommending a minimum wage for the EPWP

4.7.1 Recommendation

In determining what poverty line demarcation should be used for calibrating the minimum wage in the EPWP programme we make the following observations:

1. The absolute concept of poverty has to be the starting point because it recognises that a minimum basket of goods and services is required by any one person to survive in any particular locality. Survival encompasses being in good health and having enough nutrition to engage in productive pursuits. The measure will vary somewhat between persons and environmental localities (for example, different clothing requirements for locations with extreme heat compared to locations with extreme cold). But despite these variations the concept can lead to broadly objective measurement in the sense that science can define nutritional requirements and the like.
2. A sophisticated society should aspire to reducing relative poverty which leads into considerations of social exclusion and participation in community in the broadest sense. In this context an individual is poor if they are excluded from the typical patterns of life and cannot participate in the normal tempo of the society. It is not enough to merely have enough food, shelter and clothing that will enable barest physical survival. One's mental health and sense of inclusion transcend these minimum requirements and so a relative poverty conception links the fortunes of individuals to both the level and the distribution of wealth in the economy.
3. A productive worker also requires additional resources to ensure they can function effectively. These include access to adequate extra nutrition, specialist clothing and footwear, access to education and training facilities and such.
4. Providing capacity to smooth risk and accumulate assets is also an essential part of the developmental process.

We thus take the upper bound of published in Özler (2007) and used in Treasury/StatsSA (2007) as the starting point for determining a reasonable minimum wage for EPWP workers.

We note that there was little consideration given by the respective authors in relation to this upper bound to the proposition that the poverty line should actually provide scope for risk smoothing and capacity building requirements. We consider these capacities to be essential in building a modern economy where everyone can participate and contribute and be independent of the welfare system.

There was also little consideration given to the extra costs that are entailed as a result of working rather than being idle.

The question is how would we evaluate the quantum necessary to provide some extra capacity in this regard? To answer this question more fully, we would require further research.

However it is reasonable to conjecture that somewhere between R950 per capita per month and R1000 per capita per month would be a useful augmentation to the Treasury/StatsSA (2007) upper bound *as a starting point* in providing this future looking capacity in the South African people.

We have found that a relatively small number of EPWP jobs have wages that lie between R950 per month and R1000 per month. So the choice of one against the other as the minimum wages is moot.

But more importantly, in terms of providing risk insurance and some capacity to invest in future personal development, we believe it is better to err on the upward side of the possibilities. In the same spirit as the "dollar-a-day" norm, which gained popularity because it was easy to remember and easy to conceptualise, we resolve recommend a minimum EPWP wage in the first instance of R1000 per month.

We would recommend the South African government conducts further research to test whether this minimum wage is an adequate expression of their desire to eliminate poverty. We consider it would provide a useful interim minimum wage that would immediately improve the fortunes of those who would rely on EPWP employment as their primary source of income.

4.7.2 Transition process

In the transition phase, we note that some EPWP projects would be paying more than the suggested minimum of R1000 per month. In terms of the analysis presented in Table 4.6, there would be 1950 projects (out of 7024) paying above the norm. We also recognise that currently problems of policing the wage system combined with the short-term nature of the employment (particularly in the Infrastructure sector) means that many workers who are reported to be earning above R1000 per month may not have actually received those wages at all. Further, we have seen that the opportunities available that are paying above R1000 per month are at the shorter duration end of the spectrum.

In terms of an optimal Job Guarantee (see Chapter 7 for details), the wage should be uniform across the programme and only adjusted, say for productivity sharing purposes. There should be no wage structure within an ideal employment guarantee. However, at present there is some heterogeneity in the skill levels of the tasks being undertaken within the EPWP which would justify some wage structure. For example, supervisors with some responsibility for the overall work flow etc are employed as EPWP workers. We consider the best solution to this problem is to define the higher skill levels as being outside of the normal EPWP workforce, and, instead be reclassified within the normal public sector wage structure.

Taken together, these considerations suggest that there are three broad policies that might be considered in the transition stages: (a) only approve new EPWP jobs that pay the R1000 per month norm (in February 2008 prices); (b) phase out jobs that are paying above that norm as EPWP jobs, and, instead, consider reclassifying them as standard public sector positions and incorporate them into that particular wage structure; and (c) extend the duration of the work opportunities so that workers in jobs that are receiving more than R1000 per month at present can still enjoy higher overall annual incomes.

In this way, the EPWP would become a true minimum wage at a wage level that was deemed to be above the poverty line and important functions that were deemed to be necessary and therefore on-going that currently were paying above the norm would be maintained within a different wage structure. The latter positions would inherit the characteristics of that wage structure and allow the EPWP minimum wage to become the wage floor.

4.7.3 Real minimum wage adjustment

Consistent with the discussion in Section 4.5.1 an agreed and regular process should be determined to ensure that this minimum is at least maintained in real terms over time.

4.8 The role of the social wage

In addition to providing adequate wages under the EPWP, the social wage can also play a significant role in reducing poverty and sustaining households. Meth (2004) provides a good analysis of the impact of the social wage on consumption. Either direct income transfers (that is, social grants) or dollar saving service provision (for example, infrastructure services such as subsidised housing, health, education and transport) can be effective ways in which the social wage can be offered and reduce poverty.

The debate about whether the social wage should be delivered predominantly as cash transfers leaving the individual to apportion the benefits or whether it should be in the form of collective public good provision is beyond the scope of this Report.

Either method of delivery can be effective and the particular manifestations that are chosen deserve further analysis to ensure effective service delivery and resource usage is achieved.

Social grants form part of the social wage and we consider them explicitly in Section 4.9.

4.9 The role of social grants

4.9.1 The growth of social grants

It is without doubt that over the last 7 or 8 years, the dramatic increase in provision of social grants in South Africa, which have targeted the poor and disadvantaged has been an effective strategy to reduce the burden of poverty.

Tables 4.7 and 4.7 provide a snapshot of the expansion that occurred in social grant provision (and take-up) over the last decade or so. The South African Treasury (2005) reported that real total spending on social grants grew on average at a rate of 20.2 per cent per annum between 2001-02 and 2005-06. The forward estimates for 2006-07 and 2007-08 were that this real growth would slow to 9 per cent per annum partly as a result of a strategy by the Government to bring the growth within the bands of their inflation targets (3 to 6 per cent per annum).

The highest growth (in actual outlays) has come from the child support assistance spread across foster care, care dependency and child support grants. Both the quantum of the grant and the volume of recipients have grown significantly over the last decade. Most of this assistance is means-tested and therefore well targeted.

Table 4.7 Social grant growth, 2001-02 to 2007-08, millions of Rand

Type of grant	R million expenditure						
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Old age pension	12954	15285	17146	18504	19996	21443	23105
War Veteran	23	27	34	36	29	25	22
Disability	4585	7201	10329	12570	14438	15510	16932
Grant-in-aid	1	1	2	29			
Foster care	364	787	1142	1563	2044	2340	2712
Care dependency	226	309	639	760	938	1040	1147
Child support	2400	4558	7690	11431	14483	16575	17805
Total	20553	28168	36982	44885	51927	56969	61724

Source: National Treasury (2005) *Provincial Budgets and Expenditure Reviews, 2001-02 to 2007-08,* available via http://www.treasury.gov.za. The 2006-07 and 2007-08 data are projections.

Table 4.7 Social grant growth, 1997 to 2006, number of beneficiaries

Type of grant	Number of beneficiaries			
	August 1997	April 2001	April 2005	January 2006
Old age pension	1,742,253	1,877,538	2,093,075	2,126,373
War Veteran	11,495	6,175	3,340	2,889
Disability	754,830	627,481	1,307,459	1,311,148
Grant-in-aid	9,720	9,489	23,131	26,217
Foster care	42,917	85,910	256,325	299,865
Care dependency	3,815	28,897	85,818	88,679
Child support	400,599	974,724	5,633,647	6,894,428
Total	2,965,629	3,610,214	9,402,795	10,749,599

Source: see Table 4.8. The child support figures for 1997 relate to the maintenance grant which preceded the introduction of the child support grant in 1998.

Pauw and Mncube (2007: 40) conclude that

> A large proportion of the population falls outside the economic mainstream, and given their poor employment probabilities, they are often unlikely to gain from economic growth and new employment opportunities. For this portion of society, welfare grants are an important source of income. Rapid expansion of the social security net between 2000 and 2006 has undoubtedly had a large impact on poverty in South Africa, and although the precise poverty implications are still difficult to determine, the fact that most of the social welfare programmes are means tested suggests that the beneficiaries were largely the poor households. Today a relatively large share of the population relies on welfare transfers as a main or secondary source of income.

4.9.2 Basic income as a solution to poverty

Many researchers and policy commentators seize on this type of data as the basis of their advocacy for the introduction of a Basic Income Guarantee (BIG) as the primary policy

weapon against poverty. They highlight the fact that there is a lack of employment alternatives available to most poor South Africans and that the social assistance grants system has demonstrated an ability to reduce poverty in that country. These advocates note that the current social assistance schemes in South Africa provide no support to able-bodied people of working age who do not have children and who have never been able to build any unemployment insurance credits.

Pauw and Mncube (2007: 25) capture the sentiment in South Africa in this way

> In addition to these deficiencies in the social security system, poverty remains widespread, with about half the population living below the minimum accepted standard of living. A BIG, it is argued, would not only widen the current social welfare provisioning of the state, but would also target the unemployed, thus ensuring that no individual falls through gaps in the system. Since a BIG is not means tested it would not create disincentives to work. It would, however, create further administrative economies of scale.

In that vein, the introduction of a BIG would seem to be an easy way to eliminate poverty and avoid the connection between income receipt and EPWP participation. There is also a concern expressed in South Africa that the public administration may not be capable of managing the EPWP efficiently enough at such a scale that it would provide a poverty free life for the workers who were without alternative employment.

The debate in South Africa that has unfolded since the Taylor Report (2002) advocated a phasing in of a BIG is replicated on the international stage. There has been a vigorous international debate going on between, mainly progressive economists and public policy practitioners as to whether income guarantees or employment guarantees provide the best insurance against poverty.

A full treatment of that debate is beyond the terms of reference of this Report. Mitchell and Watts (2008) consider this issue in considerable detail. We summarise some of the key points that they make in support of employment guarantees.

The provision of an unconditional BIG, set at a 'liveable' level and payable to all citizens, is advocated by a number of public policy theorists as a means of addressing income security (see Van Parijs, 1997; Widerquist and Lewis, 1997; Clark and Kavanagh, 1996; and Lerner, 2000 among others). Most BIG proponents believe that full employment is now unattainable (for example, Nogeura, 2004). We argue that this solution is a palliative at best. It is based on a failure both to construct the problem of income insecurity appropriately and to understand the options that a government which issues its own currency has available to maintain full employment.

We argue that there are no economic constraints in South Africa to achieving full employment. Only ideological and political constraints exist. In fact, each policy response (BIG or JG) requires that the same ideological and political barriers, relating to philosophical notions of citizenship and individual rights, be confronted and overcome. But when compared to a full-scale public sector employment program, the BIG is a second-rate option and is inherently inflationary.

<u>The problematic BIG conception of income insecurity and unemployment</u>

The existence and persistence of unemployment and the link to income insecurity is generally recognised by BIG advocates but the former is rarely explained. An exception, is leading BIG advocated Van Parijs (1991) who presents both an explanation of unemployment and a related model of BIG financing. Drawing from orthodox neoclassical theory, Van Parijs

considers that unemployment arises because wage rigidities impede atomistic competition and prevent the labour market from clearing (see also Seeking, 2006 in his South African analysis). Various explanations for the wage rigidities include trade union power, minimum wage legislation, and bargaining processes, which generate efficiency wages (insider-outsider arrangements). So unemployment is caused by the departure from competitive equilibrium rather than any macroeconomic failure.

Van Parijs (1991) then proposes a rather bizarre, and very neo-liberal solution in terms of a redistribution of the 'property right' represented by the alleged existence of 'employment rents', associated with scarce jobs. Van Parijs (1991: 124) says that '…let us give each member of the society concerned a tradable entitlement to an equal share of those jobs.'

Accordingly, BIG payments can be 'financed' by taxing workers who enjoy 'employment rents'. Van Parijs (1991: 124) claims that:

> …these rents are given by the difference between the income (and other advantages) the employed derive from their jobs, and the (lower) income they would need to get if the market were to clear. In a situation of persistent massive unemployment, there is no doubt that the sum total of these rents would greatly swell the amount available for financing the grant.

In this way, a BIG enables workers to live a decent, if modest, life without paid employment. Van Parijs concludes that the claim that Malibu surfers are living off others is a serious misrepresentation because they live off:

> … their share, or less than their share, of rents which would otherwise be monopolized by those who hold a rich society's productive jobs (1991: 130-31).

But the implicit full employment concept is unacceptable, because it is engineered through an artificial withdrawal of the available labour supply, so that some of the unemployed are reclassified as not in the labour force. There are insurmountable problems with this representation of income insecurity and the BIG financing model.

1. Within their own logic, efficiency wage bargains reflect freedom of association and maximising decisions for both parties to the contract. Productivity would fall if firms only offered the competitive wage. Recruitment would become more difficult and turnover would rise. The wage outcomes are not dysfunctional and are not imperfections that can be eliminated to restore an otherwise (perfectly) competitive labour market;
2. Clearly, if workers are willing to work at the efficiency-wage, and there are queues for jobs, then there must not be enough demand for the output they produce. Unemployment is demand-deficient in this case and firms would not hire more workers at lower wages.
3. Justice, for Van Parijs (1991), occurs when there are no employment rents, which means wages equal their (textbook) competitive levels. Assume that the imperfections (that create the rents) could be eliminated then within the logic of the competitive neoclassical model there would be equal endowments, market-clearing real wages and zero involuntary unemployment. There would also be zero employment rents and zero employment envy, but also no tradable commodities to support the basic income. In other words, this form of BIG financing depends on the existence of market imperfections.
4. The BIG literature presumes that the good life enjoyed by the employed worker is at the expense of the unemployed and that scarcity is the problem. But while jobs might be scarce at present, are there no useful activities in which the unemployed could be engaged?

The final point is at the heart of the difference between the BIG and JG approaches to income insecurity. The solution to income insecurity has to go beyond palliative care. Unemployment is the most significant source of income insecurity (Sen, 1997). A more efficacious, and less apologetic, response to unemployment requires an understanding of why some people do not have access to paid employment and to alter the conduct of macroeconomic policy so that it achieves sustainable full employment at reasonable wages. This requires, in part, the implementation of a JG (as outlined in Chapter 7) and the use of fiscal power (as outlined in Chapter 8).

BIG theory and modern macroeconomics

In addition to constructing the problem of income insecurity incorrectly, the mainstream BIG literature advocates the introduction of a BIG within a 'budget neutral' environment. This is presumably to allay the criticism of the neo-liberals who eschew government deficits. Following Chapter 8, the term government refers to the entity that has a monopoly over the issue of fiat-currency. One of the sensitive issues for BIG proponents is thus its perceived 'cost'. This issue has been an important part of the debate in South Africa (see Pauw and Mncube, 2007). Following the analysis presented in Chapter 8, we can thus appreciate that much of the debate about the viability of the BIG is conducted on the false premise that the government is financially constrained.

Once we recognise that there is no financial constraint on government spending, many of the problems created by BIG theorists can be avoided. First, if the budget impact is kept to a minimum, there would only be a small increase in aggregate demand resulting from a modest BIG scheme which would be unlikely to provide sufficient hours of work to meet labour force preferences. Second, it is highly unlikely that labour participation rates would fall with the introduction of the BIG, given the rising participation by women in part-time work (desiring higher family incomes) and the strong commitment to work among the unemployed (Widerquist and Lewis, 1997). But there could be an increase in the supply of part-time labour via full-timers reducing work hours and combining BIG with earned income. Third, employers in the secondary labour market will probably utilise this increase in part-time labour supply to exploit the large implicit BIG subsidy by reducing wages and conditions (Van der Veen, 1998). Fourth, some full-time jobs may be replaced with low wage, low productivity part-time jobs leading to falling investment, skill accumulation and ultimately falling average living standards. Finally to "finance" a more generous BIG but keep the budget impact modest, higher taxes would be necessary which could impact on labour supply if substitution effects dominate. While some BI advocates, such as Widerquist and Lewis (1997:35-36), argue that there will be little impact on the participation rate of the recipients of BIG who are on low pay or are unemployed, Lerner (2000) points to the liberating impact on individuals who can make real choices about whether or not to participate in paid work.

Under budget neutrality, the maximum sustainable BIG would be modest. Aggregate demand and employment impacts are likely to be small, and even with some redistribution of working hours; high levels of labour underutilisation are likely to persist. Overall this strategy does not enhance the rights of the most disadvantaged, nor does it provide work for those who desire it (see Mitchell and Watts, 2008; Little, 1998).

However, whether the BIG is to be modest or not, profound macroeconomic problems would still accompany its introduction. The value of the currency is determined by 'what is required to obtain it for payment of the given tax liability' (Tcherneva, 2003). Persistent unemployment can be avoided by the introduction of the BIG through a net government stimulus (deficit). That is, the unemployed could be persuaded to drop out of the labour force upon receipt of an income guarantee.

But the value of the currency will fall given that nothing is provided in return for the government spending. The resulting inflationary bias would invoke interest rate adjustments (given the current inflation-first approach adopted by central banks) that would constrain the economy from achieving sufficient growth to offer real employment options to all aspiring workers.

Demand for labour would clearly increase more through a net government deficit than under a budget neutral regime. However it is the impact on labour supply that is of critical importance. If the level of BIG is increased, total labour supply is likely to decrease, while the impact of lower tax rates on the labour supply of incumbent workers would depend on the relative magnitudes of their income and substitution effects. Given the net stimulus to employment and output, there is the logical possibility of excess demand for labour at full employment, resulting from the artificial reduction of the full employment level of employment, which compounds the inflationary pressure. The alternative is that the excess demand for goods would be increasingly met via imports with consequential effects for the exchange rate and the domestic price level, which would accentuate the inflationary pressure.

In the absence of an inbuilt counter-inflation mechanism, rising wages would make the BIG relatively less attractive. This may lead to some "lifestylers" choosing to return to the labour market, while the government may respond by raising taxes and/or reducing government expenditure, which would tend to raise unemployment. In both cases demand pressure would decline, but to the extent that the inflationary process had assumed a cost-push form, wage and price inflation may only decline slowly.

It is thus possible that an unsustainable dynamic could be generated in which there were periodic phases of demand-pull inflation and induced cost-push inflation at low rates of unemployment, followed by contractionary policy and high rates of unemployment. These economic outcomes are consistent with the indiscriminate Keynesian policy of the past. The dynamic efficiency of such a pattern is highly questionable given that the hysteretic consequences of unemployment keep being manifested. Even if this Keynesian expansion could achieve full employment, considerable economic inflexibility is created. The ebb and flow of the private sector cannot be readily accommodated, and the likelihood of inflation is thus increased (Forstater, 2000). In addition, the inflationary process at full employment could threaten to change the distribution of real income, weakening the inducement to invest and making the achievement of sustained full employment even more difficult (Rowthorn, 1980). Over time there would be political pressure to raise the BIG in line with changing community expectations that reflect higher wage levels. Policy makers would need to correctly anticipate the impact on labour supply.

Thus, the introduction of a BIG policy is likely to be highly problematic with respect its capacity to deliver both sustained full employment and price stability.

In contradistinction, we argue that the JG approach – creating a buffer employment capacity in the economy - is the only way to sustain full employment with price stability in the face of private spending fluctuations. The JG is in effect a buffer stock that operates under a fixed price/floating quantity rule (Mitchell, 1998; Wray, 1998). Given the JG hires at a fixed price in exchange for hours of work and does not compete with private sector wages, employment redistributions between the private sector and the buffer stock can always be achieved to stabilise any wage inflation in the non-JG sector. The payment of market wages to JG workers undermines this counter-inflation mechanism (cf. Harvey, 2003: 8), so that the full employment policy is reduced to an indiscriminate Keynesian expansion. The JG pool thus ebbs and flows according to private sector demand levels.

The failure of BIG theory to acknowledge the social concepts of work

Finally, we need to consider the effect of a BIG on social attitudes to work and non-work. While BIG advocates argue that the universality of the payment will make it more acceptable to the community, this claim ignores the distinction between BIG recipients who choose to work and those that choose more leisure and no paid work. Beder (2000: 2) observes that work is still at:

> "the heart of capitalist culture … [and] … to make sure there is no identity outside of employment, the unemployed are stigmatised. They tend to be portrayed in the media as either frauds, hopeless cases or layabouts who are living it up at taxpayers' expense. Work is seen as an essential characteristic of being human. No matter how tedious it is, any work is generally considered to be better than no work."

There is a presumption in the BIG literature that the good (employed) life that the worker has is at the expense of the unemployed and that the scarcity of jobs is the problem. We cannot say that the provision of an income without work is equivalent to the provision of an income with a job, when there is evidence of significant social needs in local communities (Allen *et al*, 2007), which remain unmet due to inadequate levels of spending to fund the jobs. Scarcity is the chosen policy position of government, rather than being a natural occurrence.

Payment of a BIG to all citizens would signify a further withdrawal by the State from its responsibility to manage economic affairs and care for its citizens. Young people must be encouraged to develop skills and engage in paid work, rather than be the passive recipients of social security benefit. The failure to engage in paid work cannot be narrowly construed as an inability to generate disposable income which can be addressed through a benefit, but entails a much broader form of exclusion from economic, social and cultural life, which has highly detrimental consequences (see, for example, Kieselbach, 2003). Harvey (2003) notes the benefits of stable work with decent wages, health and retirement benefits.

BIG advocates fail to explain how its availability will promote meaningful engagement on the part of the disadvantaged, who have limited income earning opportunities. The universal availability of the BIG, does not overcome the stigma associated with voluntary unemployment of the able-bodied, who do not have caring or other responsibilities.

The achievement of full employment would rule out the need for a BI, if those citizens who are unable to work, due to illness; disability or caring responsibilities were eligible for social security benefits. This is precisely the JG solution.

BIG in developing countries

There is also a concern expressed by BIG advocates that Job Guarantee schemes cannot apply in developing countries because the scale of the problem is too large. Does our logic apply to developing countries? Seekings (2006) claims that in high unemployment countries such as South Africa where there is already a high wage sector defended by vested interests, the introduction of an employment guarantee based on public works projects would be unsustainable.

This is a common argument made by development economists against employment guarantees as a solution to poverty arising from mass unemployment. However, these criticisms typically are based on notions of financial unsustainability underpinned by a government budget constraint. In Chapter 8 we developed a framework which is applicable to modern monetary economies such as South Africa which shows that these orthodox neo-liberal notions of fiscal unsustainability are without foundation.

We consider there to be nothing intrinsically different in a developing economy that maintains sovereignty of its own currency that would prevent the introduction of a JG, particularly when such economies lack adequate social and economic infrastructure. There are political, ideological and perhaps administrative issues that need to be confronted but these are common to both policy suggestions – BIG and JG alike.

Conclusion

Work remains central to identity and independence, and persistent unemployment remains the central cause of income insecurity. While the introduction of an BIG has superficial appeal - by allowing individuals to subsist without work - the model fails to come to grips with the failure of macroeconomic policy to provide paid employment opportunities and secure incomes for all.

Initially, the question is how much do you interfere with the market allocation system. Neo-liberals emphasise the sanctity of the market allocation system and argue that it is better to achieve non-economic objectives such as equity via non-market transfers. Our assumption is that equity (and by implication poverty) is also a substantial economic problem – a failure to maximise the potential of the most value resource available to any country – its labour.

In that sense, most of the debate surrounding the relative merits of in-kind versus income transfers; and the relative merits of using the wage system to achieve redistributive goals fail because they are based on flawed textbook market models that ignore market failure and second-best arguments.

Mitchell and Watts (2008) oppose the use of a BIG as the primary means of poverty reduction for the following reasons:

1. It creates a dependency on passive welfare payments;
2. It creates a stigmatised cohort;
3. It does not provide any inflation buffer and is inconsistent with the macroeconomic principles spelt out in Chapter 8.
4. It does not provide any capacity building. A BIG treats people who are unable to find adequate market-based work as “consumption” entities and attempts to meet their consumption needs. However, the intrinsic social and capacity building role of participating in paid work is ignored and hence undervalued. It is sometimes said that beyond all the benefits in terms of self-esteem, social inclusion, confidence-building, skill augmentation and the like, a priceless benefit of creating full employment is that the “children see at least one parent going to work each morning”. In other words, it creates an intergenerational stimulus that the BIG approach can never create.

In Chapters 7 and 8 we set out the conditions that must be met if a full employment strategy is to be both effective and sustainable Unlike the BIG model, the JG model meets these conditions within the constraints of a monetary capitalist system.

It is a far better vehicle to rebuild a sense of community and the purposeful nature of work. It is the only real alternative if intergenerational disadvantage is to be avoided. It also provides the framework whereby the concept of work itself can be broadened to include activities that many would currently dismiss as being leisure, which is consistent with the aspirations of some BIG advocates.

It also allows for capacity building by integrating training and skills development into the paid work environment.

4.9.3 Recommendations concerning the role of social grants

We do not favour social grants being extended to some form of BIG as the primary means through which the fight against poverty is conducted. We argue that, instead the EPWP should be progressively scaled up to become a true employment guarantee along the lines discussed in Chapter 7. This approach utilises the buffer stock principle in relation to its interaction with the market economy and ensures both full employment and price stability. If the R1000 minimum was made uniform and became, effectively, the national minimum wage, then this would provide an adequate and on-going income level for workers.

The current social grant system should then be restructured to ensure that families of workers are also able to live beyond poverty. At present, the social grant program is comprised of a number of means-tests grants which target those who are not in the labour market – the aged, children and those with disabilities. The upshot is that there is 'no effective social assistance available for poor people of working age, even for people who are living in a state of persistent poverty' (Frye, 2007: 15). The holes in coverage in social grants should be redressed to ensure that all people are covered in terms of their poverty needs.

Budlender and Woolard (2006:55) ask if grant income is different from other income. That is, whether impacts of the social grant are simply due to increases in household income, or if the nature of the grant influences its impact. Their review finds that the nature of the grant affects consumption patterns.

Most importantly, we recommend that the R1000 minimum wage be made available to all those who are able and willing to work irrespective of whether the State is in a position to provide immediate work. We recognise that the duration of planning processes, administrative inefficiencies or other factors may lead to there being difficulties in providing enough immediate employment opportunities across all regions in South Africa to absorb the number of workers who would take up the offer.

In that situation, and consistent with the poverty alleviation objectives of the EPWP, the minimum wage should still be paid upon the person signing in for work. While this might have the semblance of a BIG, the dynamics of this system would be very different. The primary source of income would still be work (or a willingness to work) and it would then be the responsibility of the government administration not to waste this great productive capacity through inefficiency. We also recognise that frictions exist across time and space which would require the on-going EPWP minimum wage to be paid while workers shift housing or projects change.

No South African should be left without an adequate income if they are willing and able to work.

For those unable to work because of age, disability, illness or child-rearing, the primary source of poverty alleviation should be a upgraded social grant system.

4.10 Labour market impacts, supply responses and reservation wages

4.10.1 Overview

In this Section we consider the impact that the R1000 per month minimum wage might have on the South African labour market. The impact on labour demand and labour supply is contingent on the form in which the wage offer is made. We consider the options in this section. At the outset, we consider the conventional analysis that is proposed by neo-liberal economists to be erroneous in this situation. First, the aim of the South African government is to significantly reduce unemployment and to eliminate absolute poverty and also provide for

an improved personal capacity to manage risk via savings (that is, reducing relative poverty). The proposal to increase the minimum EPWP wage is consistent with that overriding objective. However, maintaining sectors in the private labour market that pay "poverty wages" is not consistent with that policy. It in the interests of the South African economy that higher productivity employment is fostered rather than relying on low-wage, working poor jobs to absorb the unskilled labour force. Second, the EPWP can serve an industry policy to promote a quickening of this move to a high-wage, high productivity economy by placing pressure on market economy employers through the wage floor it establishes. This is precisely what is being proposed in this Report.

Table 4.9 provides a summary of the lower paid occupations in South Africa as specified in agreements from Bargaining Councils or in Sectoral Determinations. A full discussion of the range of minimum wages was presented in Chapter 2.

Table 4.9 Minimum wage rates in selected sectors and occupations, South Africa

Sector	Qualifier/Occupation	Monthly Rand Wage
Furniture	Free State	1118.27
Clothing	Non-metro areas B	1058.94
Leather	General Goods and Handbag Section A	1682.24
Building	Kimberley B	1093.10
Hairdressers	Semi-national	665.00
Meat	Gauteng	1331.00
Motor Trade	National	1290.90
Farm SD	Urban	1041.00
Taxi SD	Workers not elsewhere classified	1086.87
Domestic Worker SD	Rural	946.04
Wholesale and Retail	General Assistant Area A	1737.00
Wholesale and Retail	General Assistant Area B	1495.00
Wholesale and Retail	General Assistant Area C	1458.00
Motor Trade	Area B	1280.16
Security Guard	General Worker Rural	881.00
Security Guard	General Worker Rural (First 6 months)	811.00
Forestry	As at 2007	836.00

Source: see analysis in Chapter 2.

We have done our best to present the current (or most recent) prevailing minimum wages in Table 4.9. The data suggests that if the R1000 per month EPWP minimum was introduced several sectors (for example, some areas of hairdressing, rural domestic workers, some rural sections of the security industry, forestry) would be impacted given their wages are below the R1000 level.

But the way in which these impacts might unfold is, in part, dependent on the way in which the EPWP minimum wage was introduced.

1. If the EPWP minimum wage was not generalised (and we recommend that it is) then the major impacts will work via the supply side. This impact, in turn, would depend on the scale that the EPWP was offered at.
2. If the EPWP was maintained at its present scale then the impact will be small by definition although the probability of job competition from those already in employment would be likely.
3. If the EPWP wage became the national minimum then both demand and supply effects would be present. Employers currently paying below the wage would be confronted with the decision of operating that new legal minimum or closing down. What happened to the workers who lost their jobs depends on how many EPWP jobs were created and the impact of the higher wages on spending and overall job creation. There would also be a dynamic present to restructure existing employment along the lines we discuss below.
4. If the EPWP was scaled up into an unconditional wage offer to anyone who wants a jobs (which we recommend) then the supply effects are likely to be significant.

In this latter context, employers paying below the R1000 would start to find it difficult to attract labour as the EPWP jobs (being always available, local and better paid) would become far better alternatives to the available labour. The employers would then be forced to invest in productive capital to increase the productivity of labour and pay at least R1000 per month to retain labour. There may be some cases where a worker would agree to working below that if the job provided them with other non-pecuniary rewards that compensated. It is unlikely that all the workers who are currently earning below R1000 per month would be attracted to the EPWP.

If the EPWP minimum wage became the statutory minimum in South Africa, and following the discussion that we present in Chapter 7, it is clear that this is the most desirable way in which to introduce and sustain a national employment guarantee system, then the private sector employers would face an immediate need to restructure their workplaces (invest in higher quality capital) to meet the new legal minimum wage levels but more importantly to stop the migration of their labour forces to more attractive EPWP employment. Some employers would close their operations because they would not be able to operate at the higher costs. Economic development always involves a movement from lower productivity-higher cost production to higher productivity-lower cost production. The ability of the EPWP to absorb this displaced labour would depend, in turn, on its scale. If there was a true EPWP safety net operating then these closures would shift workers into higher income areas and represent an improvement. That is the rationale of using the EPWP as a quasi-industry policy which can stimulate the South African economy towards the desirable high-wage, high productivity growth path.

The extent of job losses on the demand side is unknown and the debate typically becomes mired in estimates of elasticities of labour demand (both short- and long-run), which measure the response of employment demand of changes in wage rates. There is little agreement about this issue in the wider international literature for any country. Disputes focus on differing theoretical conceptions, methods of estimation, and the applicability and quality of the data used in the applied analysis. See Chapter 2 for further discussion and our rejection of the applicability of most of this literature.

Restructuring in some sectors would involve a different service delivery model. For example, a credible recent South African study by Breitenbach and Peta (2001) concludes that the demand for domestic workers is wage inelastic which means that increases in the minimum wage within reasonable bounds are unlikely to provoke employment losses although they did

suggest that the nature of the work dominated by live-in arrangements might give way to more usual work organisation.

However, we consider the dynamics generated in each of these situations to be of great advantage to the South African economy in its quest for modernisation and development. The mobilisation of a huge untapped labour force, the reduction in severe poverty and the impetus to higher levels of capital investment and productivity are all likely to increase the international competitiveness of the economy, attract foreign investment, and significantly increase overall living standards in South Africa.

4.10.2 Supply side effects and reservation wages

Quantifying the response

Table 4.9 does not provide any indication of the scale of the workforce that might be attracted in to an unconditional EPWP minimum wage offer of R1000 per month.

The supply side response will be made of three components: (a) workers currently employed who are earning below the proposed R1000 per month minimum; (b) workers who are currently unemployed but counted in the narrow definition of the labour force (so conventionally unemployed by ILO standards); and (c) marginal workers who are captured within the broader definition of unemployment (but who are not conventionally unemployed by ILO standards). The latter group are the so-called discouraged workers.

What is a reasonable estimate of the numbers of workers that would be willing to work in the EPWP if the minimum wage was set at R1000 per month?

Vaidya and Ahmed (2007) were commissioned by the EPWP unit within the Department of Public Works to estimate labour supply elasticities among non-urban households. These elasticities depict the percentage change in labour supply offered for work for each percentage point change in the wage on offer. Vaidya and Ahmed (2007) concluded that a daily wage of R30 in 2004 prices would attract 2.4 million to EPWP employment, while a wage of R50 in 2004 prices would attract 3.7 million (at one job per household). They further estimated that in the case of R50 in 2004 prices, 53 per cent of the 3.7 million workers would come from the unemployed and the rest would come from other less attractive employment. The R50 wage in 2004 prices would be very close in real terms to our monthly recommended minimum of R1000 in early 2008. The 53:47 per cent split provided by Vaidya and Ahmed (2007) is driven by assumption rather than any behavioural analysis. So it remains untested.

Further, the Vaidya and Ahmed study makes two limiting assumptions about employment duration in their estimates. Their assumption 1 is 80 days and assumption 2 is for 100 days of EPWP work per annum. Research conducted on the India employment guarantee scheme shows that the labour supply response to such a scheme will be far lower than the estimates provided by Vaidya and Ahmed because the poor will not give up activities that are long term and sustainable – at lower wages - for a short term job that pays a higher wage. Even within the neoclassical logic of the Vaidya and Ahmed study it would not be rational for an individual to undermine their longer-term prospects for short-term activities that earn, temporarily, a higher return. Research from the Indian scheme also suggests that the labour supply response would be far lower than predicted due to the nature of the work on offer – hard manual labour. It is highly likely that many will seek to remain with other incomes sources in preference to undertaking exacting work of this nature.

Meth (2007) estimates that between 2.5 and 3 million South Africans have no employment or other income support and are below the poverty line. So if the estimates of Vaidya and Ahmed (2007) are accurate then a wage of R1000 per month (approximately R50 per day in

2004 prices) would attract only 1.9 million of these individuals. This result is in part because Vaidya and Ahmed (2007) only consider non-urban households. However, as we have noted the impacts suggested by Vaidya and Ahmed are likely to be significantly overestimated.

Our substantive criticism of the study by Vaidya and Ahmed (2007), however, relates to the concept of the reservation wage which underpins their analysis. We will consider that later in this section. To get an idea of the scale of the problem – persons earning below R1000 per month who might desire EPWP work at that wage we consulted recent publicly-available statistics from StatsSA.

From the most recent 2005-06 IES we know that R1000 per month would be higher than the mean household income for most people in the bottom two deciles (This point was verified in personal correspondence the author had with Charles Meth who has studied the 2005-06 IES in detail). So R1000 per month is not an insignificant intervention into the income distribution.

Further information is available from the StatsSA Labour Force Survey (LFS). The September 2007 LFS, reveals a very low employment-population ratio which is a striking reminder of the failure of the South African economy to generate strong sustained employment growth relative to its potential (see Table 4.10). By comparison, the total OECD average employment-population ratio in 2006 was 66.1 per cent (OECD Employment Outlook 2007, Statistical Annex). Even the transition eastern European countries recently admitted to the OECD averaged around 56 per cent.

Table 4.10 Labour Force summary aggregates, South Africa, persons 15-65 years, September 2007

	Persons	Rate (%)
Working age population	30,413,000	
Labour Force	17,178,000	
Participation Rate		56.5
Not in labour force	13,235,000	
Employed	13,234,000	
Employment Population ratio		43.5
Official unemployment	3,945,000	23.0
Discouraged job-seekers	3,425,000	16.6

Source: StatsSA, Key findings: P0210 - Labour Force Survey (LFS), September 2007.

Note: the participation rate is the percent of the Working Age Population in the Labour Force. The Employment-Population ratio is the percentage of the Working Age Population that is employed. The official unemployment rate is the percent of workers in the Labour Force without work. The Discouraged job-seekers rate is the number of discouraged workers expressed as a percentage of the official Labour Force plus the Discourage workers.

The low employment rates also are mirrored in the higher official and broader unemployment rates. The official unemployment rate was 23 per cent and if you add discouraged workers to that figure one would get an unemployed underutilisation rate of around 36 per cent (sum of unemployment and discourage unemployment as a percentage of the official labour force plus discouraged workers). Underemployment (part-time workers without enough hours of work) would add to this high level of resource wastage.

Given that the discouraged workers are willing to work but have given up looking we can consider them as being part of the total pool of unemployed workers who would be candidates for EPWP work at the R1000 minimum wage rate.

The September 2007 LFS published by StatsSA provides information on workers (employers, employees and self-employed) aged between 15 and 65 years by monthly income and sector. Table 4.11 presents this data which provides slightly different estimates of employment than those presented in Table 4.10.

From Table 4.11, we see there were around 3.4 million workers currently in employment who earn below R1000 per month. These workers are spread across the formal, informal and domestic sectors. Taken together they comprise about 20 per cent of the total employed labour force which might be attracted to the EPWP at a monthly wage of R1000.

Table 4.11 Workers in South Africa, 15 to 65 years, by monthly income and sector, 000s, September 2007

Monthly income	Formal	Informal	Domestic	Total
None	28	284	0	314
R1-R500	281	619	253	1156
R501-R1000	975	559	421	1971
Total below R1000 per month	1284	1462	674	3441
Per cent below R1000 per month	9.9	53.8	62.7	20.5
R1001-R2500	2850	640	349	3864
R8001+	1410	47	0	1471
Don't know/refused	706	51	13	773
Unspecified	44	13	0	103
Total	12908	2718	1075	16816

Source: September 2007 LFS, Statistical release P0210, March 27, 2008, Table 3.5, p.18.

Table 4.12 draws this information together to estimate the potential (maximum) EPWP workforce at R1000 per month. Assuming **all** the unemployed and discouraged workers were to take EPWP at that wage rate (if it was an unconditional demand side offer), around 7.4 million workers would offer their services or some 24.3 per cent of the working age population.

In addition, assuming **all** the workers currently earning under R1000 per month were attracted into EPWP employment by the R1000 per month minimum wage, some 3.4 million workers would be involved or 11.3 per cent of the working age population.

Some might suggest that this scale of involvement would be impossible to organise. Evidence from the Argentinean Head of Households program implemented in 2001 to overcome the crisis in that country demonstrates that a national employment guarantee scheme can be scaled up efficiently and quickly. More than 660,000 jobs were created in two quarters in the early stages of the program in Argentina. The jobs created covered around 5 per cent of the labour force at that time.

Table 4.12 Potential maximum labour supply response at R1000 minimum wage rate, 000s

Source of labour	Persons	Total as % of Working age Population
Formal	1,284	4.2
Informal	1,462	4.8
Domestic	674	2.2
Total employed	3,441	11.3
Official unemployed	3,945	13.0
Discouraged workers	3,425	11.3
Total (maximum) supply response	10,811	35.5

Source: Tables 4.10 and 4.11.

Overall, around 35.5 per cent of the working age population might be attracted to the EPWP under the maximum response assumption. Around 32 per cent of the total response would come from those already employed. The difference between 950 and 1000 Rand per month would be minimal in this regard.

Clearly this response is an overestimate. Detailed survey analysis would be required to estimate the actual numbers. The short-term market disruption would be focused on the potential 3.4 million workers who are currently employed and earning wages that are below the poverty line. As noted above, the total impact of this dynamic depends on how the EPWP was expanded and whether the wage became a national minimum.

The larger the supply response of the unemployed the more effective the policy would be in alleviating poverty.

The reservation wage concept

Most of the wage levels that were considered by Vaidya and Ahmed (2007) were below any reasonable measures of the poverty line. We consider it a wrong-headed approach to then proceed to estimate variations of wage levels within this range that at the margin might elicit x per cent more workers into the labour force (or a particular segment of the employed labour force) when your primary goal is to alleviate poverty and develop a high productivity economy.

The reservation wage concept inherits all the problems that pervade the neoclassical economics text book paradigm. It does not consider concepts of equity or basic human needs. It inherits the ahistorical, asocial, amoral standpoint that is adopted by neoclassical economic theory and in dealing with modern problems such as extreme poverty and unemployment it is all but useless.

The theoretical assumptions the approach makes to operationalise applied work are problematic in the extreme.

First, workers are assumed to have perfect knowledge and perfect foresight so that they rationally and continuously compute discounted present value life-cycle real earnings paths at different wage offers and juxtapose these paths with the real value of non-work. These

assumptions are inapplicable in any economy and ignore the vast evidence on satisficing behaviour that Simon introduced to the economics literature.

Second, the labour market is assumed to be price clearing and in a continuous state of full employment so that workers are "always on their supply curves". What happens when the economic outcomes are rationed is not described by the neoclassical labour market model. Any conclusions drawn in this rationed environment become arbitrary.

South Africa has a highly constrained labour market and the idea that the majority of its working age population, who are at the bottom of the market and largely excluded from meaningful and productive economic activity, conduct optimising calculus to determine whether they will work or not is far fetched. McLaughlin (1992: 147) says that 'the low levels of out-of-work benefit incomes, together with little access to credit, result in little room for manoeuvre or abilities to build pathways into various forms of employment among long-term unemployed people.'

Third, there is no credible evidence to support the neoclassical view that a certain nominal wage will induce an individual to exchange non-work for work. Paid work offers a number of rewards that go beyond the wage rate some of which are of a non-pecuniary nature (for example, access to credit). Vaidya and Ahmed (2007) ignore the non-pecuniary aspects of work which labour economists have found to be highly significant in determining labour supply decisions.

Fourth, it is incorrect to assume that individuals 'only consider the level of income available in or our of work' (McLaughlin, 1992: 147). Individuals also consider the sources of income and its certainty in addition to the real value of different offers.

Reservation wage studies are also notoriously inaccurate when applied to countries with high official unemployment and high discouraged worker numbers coupled with inadequate social security safety net systems. This is exactly the mix that is present in South Africa. These studies show that estimates of reservation wages are highly sensitive to duration of unemployment and the context of the unemployment (extent of the problem and social security system) (see Dawes, 1993 among others). Even within the logic of the reservation wage approach one has to perform panel data analysis to overcome the possible duration biases. Without a dynamic approach one can place little reliance on the estimates, notwithstanding all the other problems that bedevil this class of empirical analysis.

Surveys that try to assess reservation wages are also susceptible to biased results. Several problems can arise. Walker (2003) summarises them as: (a) The respondents may not understand the exact dimensions of the employment being associated with different wage offers; (b) the concept of a minimum wage that would be accepted is often conflated with other notions such as fairness; (c) the valuation process implied by the theoretical framework is typically beyond the capacity of individuals who do not possess perfect foresight nor perfect information about the alternatives; (d) workers may provide an ambit claim; (e) workers do not want to disclose accurate information about wages to survey staff; (f) there is a difficulty pinning down spatial intentions (where a person might want to work) that accompany the wage information (see also Jones, 1988; Kingdon and Knight, 2001).

Walker (2003: 52-53) sums up

> In a country where unemployment is low, and where there are a sufficient number of job vacancies, knowing the determinants of reservation wages may be useful for explaining whether relatively high reservation wages are reducing the supply of labour. However, in South Africa the problem in the labour market is rather inadequate demand for unskilled labour. In an area like KMP, where 46% of the

> economically active respondents are classified as searching, networksearching or marginalised unemployed, this amounts to a substantial portion of the population. With this in mind one may wonder what use reservation wage information can be.
>
> …. there is no evidence that the unemployed are out of work due to excessive wage aspirations, in relation to the wage they could command in employment … those who are deeper in unemployment (i.e. more discouraged) … are least likely to have a reservation wage above their predicted wage … Unemployment is a result of the low availability of jobs for unskilled people rather than unrealistic wage expectations.

Quite apart from the conceptual and empirical difficulties that pervade reservation wage studies, the work by Vaidya and Ahmed (2007) presents some specific applied problems that cast doubt on the veracity of the resulting empirical estimates.

Vaidya and Ahmed (2007) make several contentious assumptions to motivate their computations. First, they assume that they can make inferences about the distribution of reservation wages of the unemployed indirectly by examining the pay and earnings of the employed. The logic they employ is to discover what they term 'revealed evidence on the upper limits of the reservation wage rates of those in employment' (p.14) by seeing how much a person is earning. This assumes that all economic rents are absent for all persons used to compile the "revealed preference" dataset. There is no justification given other than 'time constraints, technical complexity' for making this oversimplification.

There is no provision in the theory that underpins the reservation wage concept for a range of wages that are "optimal". Indeed, this would violate the whole notion that the reservation wage concept is built up – that of marginal analysis and switching points beyond which market realities and individual preferences depart.

Even within the logic of the neoclassical paradigm, it is likely that a number of workers are receiving wages well above any "reservation wage", that is, they are earning economic rents. In this case, there is no way of knowing the extent of the upper bias in estimates generated by assuming that the observed wage distribution equates to some "upper limit" reservation wage.

Second, Vaidya and Ahmed (2007: 15) assume that 'as far as reservation wage rates are concerned, those in employment are a random selection of those in the labour force. Therefore the distribution of the reservation wage rates of those in employment is representative of the distribution of the reservation wage rates of those available for employment but not employed at the time of the survey. This is an important assumption underpinning this study.'

This assumption cannot be maintained in a highly segmented labour market differentiated across ethnic groupings, gender and geographical space. There are clear selection biases operating in the South African labour market that have the result that the pool of employed workers could not be classified as being a "random" or "representative" selection of the overall labour force.

Without that assumption, even within the internal logic of the reservation wage concept, the study is flawed and the results not reliable.

Third, while the demarcation between urban and non-urban households is problematic anyway (see StatsSA, 2003), Vaidya and Ahmed (2007) make no allowance for migration responses between urban and non-urban areas. This is especially problematic given South Africa's national Spatial Development Perspective; which seeks to ration capital investment across space and provide labour market intelligence to encourage migration.

<u>Targeting scarce EPWP jobs?</u>

If the EPWP remains a highly constrained programme, then it is important that the rationed scheme provides benefits to those most in need. A minimum wage of R1000 per month will likely attract better off workers who are already employed. However, the response would depend on how long the EPWP jobs were offered for. Short-term opportunities would be unlikely to attract many workers from alternative employment (or income sources).

This is one of the major reasons why it should become an unconditional JG. In the likely event that the South African government will continue to constrain the EPWP in terms of numbers of jobs available, then rationing devices have to be introduced to ensure that the scheme is properly targeted. Reservation wage studies provide no guidance at all in this respect.

In a rationed state there is always going to be a queue of frustrated job seekers. The EPWP administration has to introduce measures to ensure a proper ordering of that queue.

Setting the wage below the minima that are found in the market economy (as shown in Table 4.10) will reduce the number of employed people seeking to compete for EPWP work with those who are currently unemployed (either officially or discouraged). But that would be a counterproductive exercise if the aim of the employment was to alleviate (that is, negate) poverty among the recipients of the jobs.

In this respect, we disagree with the analysis of Walker (2003, especially that centred around Table 16) who advocates a sensitivity analysis to ensure only the most impoverished workers are attracted to the limited number of EPWP jobs. Instead, we advocate setting a proper minimum wage (that will alleviate poverty) and then using non-wage rationing systems to distribute the limited number of jobs. Of-course this would be unsatisfactory, but the source of the problem would be the unwillingness of the South African government to use the fiscal choices available to it to expand the EPWP to a level that absorbs those without work on a national scale.

How then might we target the jobs? Direct targeting would simply identify the poor and the unemployed and provide them with access to the wage earning opportunities. There are problem though that an administration would have to deal with which would be overcome if the employment guarantee is universal. In a rationed system, structures to identify who was in most need of a job, to determine the spatial allocation of the jobs, and to prevent localised corruption (“selling jobs”) would have to be implemented.

In this sense, an unconditional job offer within the EPWP at the minimum wage is consistent with the literature on indirect targeting which is proposed to resolve the difficulties involved with direct targeting. So in an indirect targeting approach we simply set the wage rates at such a level so that the poor self-select and the better-off applicants will not pursue the employment opportunities.

This means that the EPWP minimum has to become the wage floor for the national economy.

4.11 Conclusion

Those who consider poverty alleviation from a social democratic perspective typically argue that a solution lies in a major redistribution of existing national income (often advocating a basic income guarantee), whereas the neo-liberal approach is to have minimal redistribution accompanying a “freeing up” of the market to ensure opportunities for economic activity are maximised which in turn provide the solution to poverty. Neither solution is particularly robust.

The Job Guarantee approach considers the problem at its heart – a failure of the economy as a system to generate enough "paid" employment opportunities at a living wage. Note that there are usually enough "jobs" available in any economy at any point in time. The problem with market economies is that not enough of these "jobs" are presently "funded" and so they remain latent or notional. The need is there. The productivity of the activity is guaranteed. But what is missing is the wage offer to match the unemployed worker to the activity.

Relying on the market to do this is fraught and as is evident by the huge numbers of unemployed that exist in market economies around the world. The fact is that private market activity is unlikely to ever generate enough employment to meet the desires for work of the available labour force (including discouraged workers). Further, the private market ignores a range of activities which are valuable to community and environmental well-being but which do not stimulate allocations based on private cost and benefit calculus (that is, narrowly defined private returns and profit).

Taken together, this suggests that substantial economic activity can be generated and employment offered in "jobs" that are beneficial to the community and the environment if "wage offers" can be made. The JG is the framework for turning these "jobs" into paid work.

Further, the social democratic approach which emphasises redistribution typically plays down the benefits of participation in paid employment – both social and economic. Certainly poverty is a deficiency of income. But when it is driven, as it typically is by a lack of employment then poverty is a broader problem than a lack of income. Accordingly, an attack on poverty should initially be employment-focused rather than income-focused.

However, clearly it is futile to turn the unemployed/underemployed poor into the working poor which tends to be the approach taken in the US, for example.

The solution to poverty is thus two-fold:

1. Ensure there is sufficient work;
2. Ensure it is paid a living wage (or is supplemented by adequate social grant income).

In this Chapter we have provided analysis and the logic to ensure that the EPWP provides a living wage. In Chapters 7 and 8, we provide the logic and rationale for extending the EPWP so that it can eliminate poverty in general rather than for those who are lucky enough to access the work opportunity.

5 The wage income transfer function of the Expanded Public Works Programme in South Africa

5.1 Introduction

In this Chapter we use descriptive statistical analysis and formal regression techniques to assess how effective the EPWP has been in improving the living standards of the South African unemployed. This analysis is performed by controlling for other relevant factors so that the specific contribution of the EPWP to poverty alleviation can be isolated.

The regressions are based on data derived from the Community Agency for Social Enquiry (CASE) survey of EPWP participants in the 'Working for Water' and the 'Working on Fire' programmes.[1] CASE surveyed 1,005 participants in both programmes in late 2006. Due to missing data on crucial variables the dataset was reduced to 867 respondents, of whom 718 have participated or continue to participate in the EPWP.[2] The remaining 149 respondents did not participate in the EPWP and represent the control group.

We also employ the regression results to model by different scenarios. To provide a basis for public debate on how the EPWP programme might be expanded we run two quite different scenarios:

1. The annual number of EPWP jobs is held constant (200,000) and we vary the duration and target groups:
    a. The length of the employment is modified;
    b. The jobs are targeted in such a way that the poverty alleviating effect is maximised;
    c. The programme is tailored to include the most impoverished groups in the South African society, respectively.
2. Expanding the programme more generally to cover a broader group of South African unemployed – we call this scenario the Job Guarantee option.

In each case, we model the impacts of three possible minimum wages: R900 per month; R950 per month; and the preferred minimum of R1000 per month, which we discussed in Chapter 4.

5.2 Descriptive analysis of respondents

Table 5.1 provides summary statistics of the sample population that was used in the regression analysis divided into EPWP participants (718 persons) and EPWP non-participants (149 participants). To facilitate the later Multi-Level modelling (MLM), we present relevant characteristics by three levels of influence: (a) personal (the respondent); (b) household (of which the respondent is part); and (c) regional (where the household is located).

In terms of the personal characteristics, there are considerable differences between the participants and non-participants. These differences particularly manifest in relation to age, gender and ethnicity. For example, 22 per cent of the participants are younger than 25 years

of age compared to the control group which is older (15 per cent of the sample under 25 years of age.

Table 5.1 Descriptive statistics participants and non-participants in CASE survey

Respondent characteristics[a]	Participants	Non-Participants
Personal characteristics		
Age: younger than 25	0.22	0.15
Gender: male	0.45	0.33
Ethnicity: African (as opposed to Coloured)	0.85	0.77
Education: completed primary school or less	0.26	0.29
Disabled (physical, hearing or visual impairment)	0.12	0.11
Household characteristics		
Household size (mean)	4.9	4.7
Income earners per household (mean)[b]	1.6	1.2
Access to social grants	0.61	0.65
Access to home grown food	0.39	0.33
Access to other income	0.30	0.56
Regional Characteristics		
Urban environment	0.29	0.17

Source: CASE 2007. [a] We present shares unless stated otherwise. [b] For EPWP participants this excludes the income earner in the EPWP, but includes employment the EPWP participant had to give up participating in the EPWP.

Furthermore we observe stark differences in respondents' access to other sources of income (that is, income derived from non-EPWP work).

Finally, EPWP participants are more likely to reside in urban areas than non-participants, where an urban area is defined as a city having more than 20,000 inhabitants as of 2003.

To properly isolate the effectiveness of the EPWP in reducing the poverty for participants the differences in other factors that are likely to impact on the probability that an individual will be in poverty have to be controlled for. The variables summarised in Table 5.1 are likely to be variously influential in this regard. For example, access to other income is likely to have a strong impact on the probability that an individual will be in poverty. In other words we need to separate the contribution to this probability that can be attributed to EPWP participation from the contributions of other relevant determining factors. While the set of control factors used in the analysis has been carefully considered (and to some extent has emerged from the feedback received during the formal modelling process) it is possible that some other factors of influence are present which both show strong differences between participants and non-participants and affect the poverty outcome. So we always have to exercise caution in interpreting the results of a formal econometric modelling exercise and condition our response to them by our conceptual understandings of the phenomena under examination.

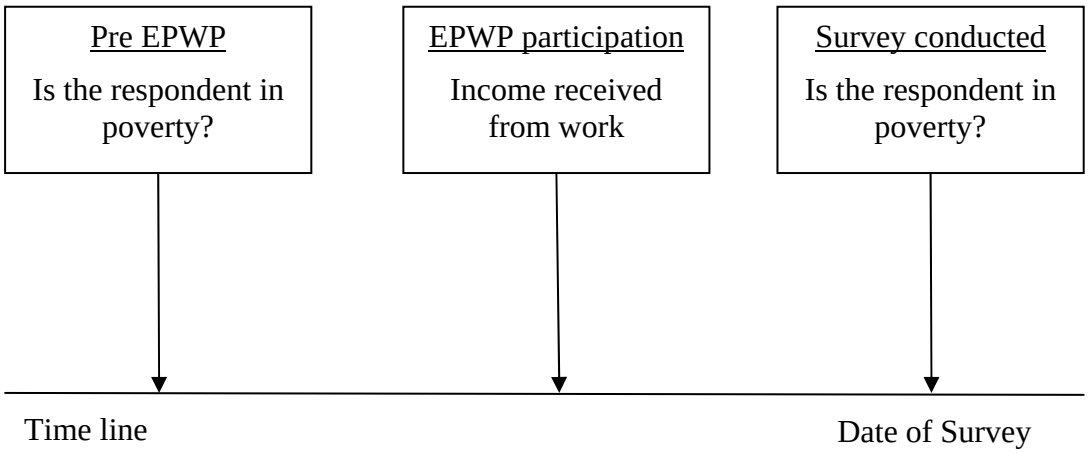
5.3 Data limitations

In an ideal world, we would employ the so-called 'difference-in-difference' modelling technique to assess the effectiveness of the EPWP in assisting participants in their struggle to escape poverty.

In this context, we would estimate the 'treatment' effect of EPWP participation by identifying the variations in poverty outcomes between participants in the EPWP (the target group) and non-participants (the control group).

In doing so, we would have to control for potential temporal differences. These differences relate to the possibility that the economic circumstances in South Africa may change during the course of the EPWP programme, which affects poverty outcomes, but is unrelated to the EPWP.

Figure 5.1 Optimal design to test differences-in-differences



To account for temporal differences we would need to assess the poverty situation both prior to the introduction of the EPWP and during or after completing EPWP participation, both for EPWP participants and non-participants. Figure 5.1 captures the optimal design for data generation which would allow us to test differences-in-differences. This framework would allow any changes in poverty outcomes due to external factors (to EPWP participation) to be controlled for.

Unfortunately, the CASE data do not allow for such an analysis. As an example of its limitations, we do not have information on the income of non-participants prior to the introduction of the EPWP.

As a way forward, we assume that any influential external factors have not had a biased impact on the poverty outcomes for EPWP participants relative to non-participants. Consequently, we do not conduct a 'difference-in-difference' analysis, but rather present an analysis that focuses on differences between participants and non-participants at the time the survey was conducted.

5.4 Multi-level regression modelling analysis

5.4.1 The multi-level modelling approach

To determine the impact that participation in the EPWP and the wage income that has been derived from such participation has had on poverty alleviation we naturally choose to focus

(as the unit of measurement) on the individual (who is the participant). However, we also use appropriate techniques to control for household characteristics.

However, poverty is typically not fully explained by personal or household circumstances and the incidence of poverty is unevenly distributed across geographic space. Table 5.2 presents three indicators that are typically associated with poverty in South Africa to illustrate the point.

We observe considerable disparities between the provinces across all three indicators. For example, the expanded unemployment rate in North West and Limpopo is double the rate found in the Western Cape. Illiteracy (inability to both read and write) is high in the Eastern Cape and Mpumalanga, while access to piped water is poorly organised in the Eastern Cape, KwaZulu Natal and Limpopo. Such regional differences will clearly impact on the measured poverty rates but are not necessarily attributable to individuals or households who reside in such regions.

Table 5.2 Population characteristics to South African provinces, 2007

Provinces	Expanded unemployment rate %	Illiteracy rate %	Share of Population with no access to piped water %
Western Cape	23.8	22.4	1.8
Eastern Cape	42.1	32.6	15.2
Northern Cape	36.5	27.9	2.5
Free State	37.2	24.7	4.6
KwaZulu Natal	41.5	28.4	16.7
North West	44.9	29.2	9.7
Gauteng	32.0	20.5	2.6
Mpumalanga	38.3	34.3	11.2
Limpopo	53.1	32.7	19.3
South Africa	37.9	27.6	11.0

Source: Labour Force Survey, March 2007, Statistics South Africa.

Notes: The expanded unemployment rate requires persons to be unemployed, and able and willing to start work within 2 weeks. The official unemployment rate requires an additional condition. An unemployed person must have actively searched for work in the last 4 weeks. Consequently, the expanded unemployment rate is a broader measure of labour underutilisation than the official unemployment rate, as it includes the discouraged unemployed.

If neighbourhood and regional effects are important then we might expect greater similarity in poverty outcomes within regions than across regions. To allow an assessment of spatial level effects to be made, we have to employ a methodology which recognises the multiple levels of influences on poverty outcomes. We can thus identify three main levels:

- The individual or household level (in this analysis we concentrate on the individual unit because it is at this level that EPWP participation occurs and then control for relevant household characteristics);

- The neighbourhood level (in specific terms the municipality in which the household is located); and
- The regional level (in specific terms the province in which the municipality is located).

We differentiate neighbourhoods (municipalities) and regions (provinces) as separate spatial levels because there is no way of knowing *a* priori the level of spatial aggregation at which the spatial effects are significant. There is plausible research around that can justify both levels being included in the formal modelling process.

Table 5.3 shows the breakdown of the 9 provinces into 31 municipalities that are present in the data set (that is, the data set only contains respondents residing in these municipalities). So in terms of our hierarchical ordering the analysis is conducted for:

- 867 respondents at Level 1;
- 31 municipalities at Level 2; and
- 9 provinces at Level 3.

Table 5.3 Provinces and municipalities included in the formal modelling

Provinces	Municipalities
Western Cape	Breede River/Winelands, Breede Valley, Cape Town, Theewaterskloof, Stellenbosch, Witzenberg
Eastern Cape	Amahlathi, Kou-Kamma, Nelson Mandela, Qaukeni
Northern Cape	Bo Karoo, Kai! Garib
Free State	Letsemeng
KwaZulu Natal	Impendle, Ingwe, Jozini, Mtubatuba, Mkhomazi Wilderness Area, Ndwedwe, Kwa Sani, St Lucia Park, uMngeni
North West	Kgetlengrivier, Rustenburg
Gauteng	Johannesburg, Nokeng tsa Taemane
Mpumalanga	Highlands, Mbombela, Middelburg
Limpopo	Greater Letaba, Thulamela

To accommodate research problems of this kind, we have to take into account the hierarchical nature of the observations (the different levels of influence). We will employ logit econometric estimation in a Multilevel Modelling framework (see Figure 5.2) to explore the relationship between EPWP participation and changes to poverty indicators. Conventional logistic analysis and standard regression techniques would treat each individual (and their data) as being statistically independent to respectively, compute odds ratios or estimate elasticities. This would ignore the fact that the individual outcomes may be clustered by the region they live in (or family if we had convincing data at that level). In this sense we might attempt to consider the impact of the region as fixed effects and create dummies for each. Using this approach we would also ignore possible randomness in the slopes (the assumption being that the relationship between poverty and the explanatory variables is the same across all regions). To explore this issue we could create interactive dummies (region-specific

slopes) for all explanatory variables but the size of the regression would then compromise the analysis in terms of loss of degrees of freedom.

Another approach would be to compute aggregate measures for each person, for example means and use these to analyse the data. This is the 'means as outcomes' approach and it suffers from what has been called the ecological fallacy where there are lower actual correlations among individuals than are found among regions (the averages).

There are methods available which explicitly acknowledge that one individual's outcome may be dependent on another individual's outcome if they live in the same neighbourhood. We can adjust the estimated standard errors to take into account the likelihood that individuals within a region are not independent observations but individuals across regions are independently observed.

However a more comprehensive modelling strategy, which draws on the previous paragraph, is to use Multi-Level modelling (MLM) techniques, which were specifically developed to analyse data that is hierarchically structured with lower levels (individuals in our study) clustered into higher levels (neighbourhoods and regions).

MLM allows us to assess the presence and form of any cross level effects. The benefits of this approach are that it overcomes the bias in standard error estimation which pervades conventional regression approaches using such datasets (Hox, 2002). The bias arises from the fact that individuals outcomes are likely to be more similar within an area than with other individuals in other neighbourhoods. The correlation between outcomes for individuals within an area is likely to be higher than the correlation between individuals across areas. So the within-area correlation means that the data is not independent and as such the estimates for standard errors are too small, which, in turn, can lead to spurious inference by type-I errors (Hox, 2002).

Figure 5.2 The MLM modelling framework

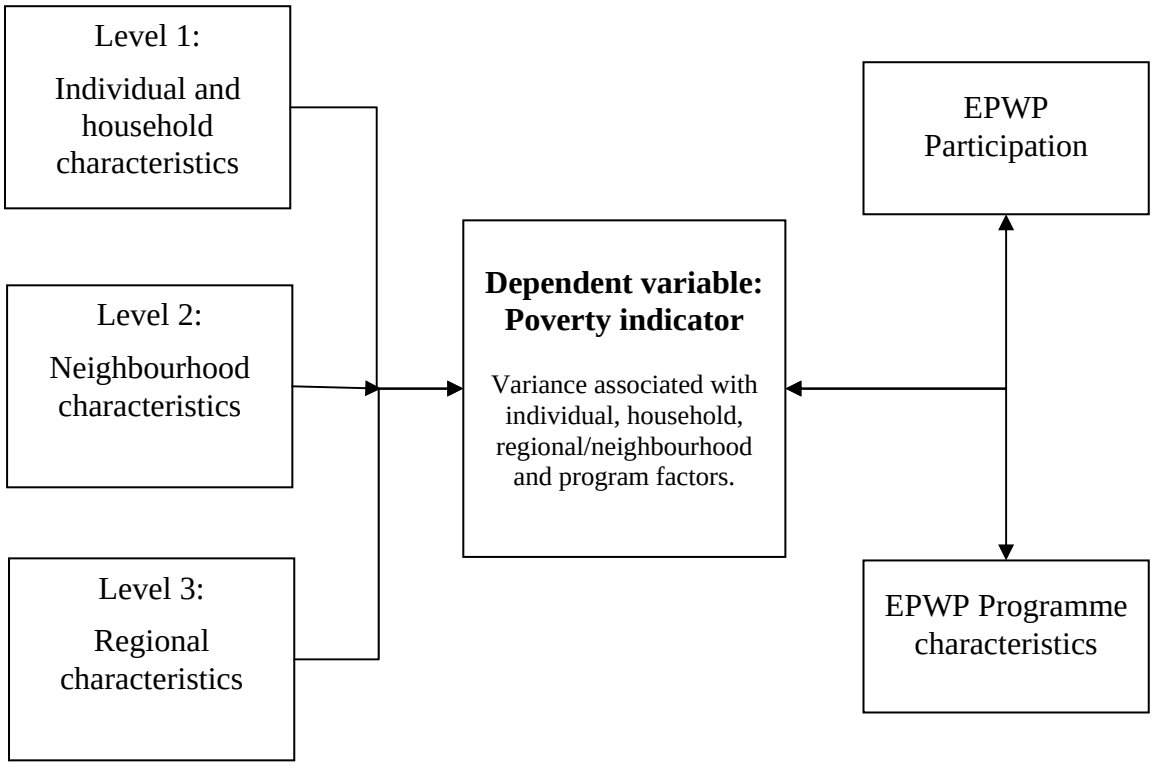


Figure 5.2 schematically represents the MLM approach which combines a matrix of Level 1 individual/family characteristics as variables explaining the within-group (that is, within-area) variance in the response variable (poverty indicator) with Level 2 neighbourhood (municipality) and Level 3 region (province)) characteristics which explain the between-area variance in the response variable. We also include the "EPWP programme characteristics" as a separate component. Within this control structure we seek to determine the influence of EPWP participation on poverty.

A properly structured MLM study thus requires us to articulate the influences on the response variable by hierarchical level. We thus posit the following influences:

1. Level 1 - Personal/Household circumstances: The CASE data provides a significant amount of detail about the characteristics of participants and non-participants in the EPWP and the circumstances in which they live. A comprehensive set of factors including age, gender, ethnicity, educational level, household composition, and household access to social grants will be used in the analysis as control variables.
2. Level 2 - Neighbourhood (spatial) circumstances.
3. Level 3 – Regional (spatial) circumstances.
4. EPWP participation and related circumstances: In addition to EPWP participation, the CASE data provides some limited insight into the dimensions of the EPWP work undertaken (for example, training experiences, history of engagement, type of work etc). The DRA data is superior in this aspect. Departmental data, documenting average employment duration and wages paid per project for each EPWP sector, will also be useful. Estimating the separate influence of these factors has the potential to provide useful information that can feed into our Scenario analysis in Research Task 2. While the participation will be entered as a Level 1 influence the other dimensions of the EPWP projects will enter as Level 2 influences and thus allow us to correctly differentiate the participation from the location, design and type of project.
5. Receipt of Social Grant: Clearly we want to determine the relative impacts of social grants and EPWP participation, and how positive linkages between the two interventions can be enhanced and reinforced. Sixty per cent of survey respondents in both the DRA and CASE data sets receive at least one form of social grant in addition to their EPWP wage. Our modelling strategy will provide quantitative estimates of the respective impact of these policy dimensions.

MLM techniques are suitable in these circumstances and will allow us to separate the individual influences from the neighbourhood/regional influences and programme characteristics in a statistically robust way.

5.4.2 Dependent variable – determining the poverty indicator

The dependent variable (the variable to be explained) in our MLM regression analysis is a poverty indicator, consistent with our desire to model the impact of EPWP participation on poverty reduction. For the purposes of this exercise a favourable socio-economic outcome is defined as one where a person moves out of poverty as a result of EPWP participation.

Following our discussion in Chapter 4, we recognise that there is no exact measure of poverty that is inclusive enough to capture all relevant dimensions. The World Bank (1990) defines poverty as 'the inability to attain a minimal standard of living'. This inability can be captured using either an income or an expenditure approach. However, as Woolard and Leibbrandt

(1999: 8) indicate, 'the point at which we draw the (poverty) line is always somewhat arbitrary and often highly contentious.'

While the exercise in Chapter 4 sought to deliberate on what a reasonable minimum wage is for the EPWP, the aims of the modelling analysis are somewhat different and so it is adequate to use some reasonable benchmark of poverty. In this regard, we consider two poverty lines that have been widely used in South Africa: (a) the Household Subsistence Level (HSL); and (b) the Minimum Living Level (MML). Woolard and Leibbrandt (1999) find the two measures generate similar results. The MLL is used in this analysis and given the fact that the measures behave similarly, we consider that the results would not have been significantly different had the HSL measure been used. While the MLL is now discontinued, its strengths and weaknesses are widely known and so it provides a suitable threshold for this analysis. Clearly the benchmark preferred from Chapter 4 lies above the MLL (scaled to a common price base).

The MLL uses household expenditure analysis and differentiates the poverty line by household size. Table 5.4 presents the latest poverty line for South African households taken from Martins (2007).

Table 5.4 Minimum Living Level poverty index

Household size	Poverty line (monthly household income) Rands per month
One	807
Two	1,050
Three	1,350
Four	1,696
Five	2,031
Six	2,373
Seven	2,673
Eight or more	3,248

Source: Martins (2007).

How do we use these poverty lines in the MLM regression analysis? The dependent variable is designed to capture the poverty situation of the household to which the respondents belong. Based on information in the CASE data set, we determined monthly household income.

We then combined estimated monthly household income with information about the size of each household to determine whether a household is in poverty or not (using the thresholds presented in Table 5.4). If a monthly household income falls below the relevant poverty line threshold (by family size) then we ascribe a value of one to the poverty variable and zero otherwise. So our dependent variable (poverty indicator) is a binary variable (zero-one) which demarcates households in poverty (one) from those who are not in poverty (zero).

5.4.3 Regression results – Does EPWP participation reduce poverty?

We also constructed a binary variable to represent EPWP participation, which took the value of one if the respondent had participated and zero otherwise. Binary variables of this type are sometimes called dummy or categorical variables because they demarcate membership or not of specific categories (in this case, EPWP participation).

The final components in the regression model were included to control for differences between the EPWP participant population and the non-participant population. We use the variables described in Table 5.1 as control variables. Again the limitations of the data set force us to make assumptions about what variables to include and what conceptual influences they are representing.

The results of our MLM logit regressions are presented in Table 5.5. For ease of interpretation the main participation effects is provided in the first row.

Table 5.5 Multi-level logit regressions for EPWP's contribution to poverty reduction

Independent variables	Probability of a household being in poverty
Treatment effect (EPWP participation)	– 0.21 (0.04) ***
Control I: Personal characteristics	
Age: younger than 25	0.02 (0.03)
Gender: male	– 0.09 (0.03) ***
Ethnicity: African (as opposed to Coloured)	0.12 (0.04) ***
Education: completed primary school or less	0.01 (0.03)
Disabled (physical, hearing or visual impairment)	0.01 (0.04)
Control II: Household characteristics	
Household size (mean)	0.05 (0.01) ***
Income earners per household (mean)	– 0.24 (0.05) ***
Access to social grants	– 0.19 (0.03) ***
Access to home grown food	0.03 (0.03)
Access to other income	– 0.27 (0.03) ***
Control III: Regional characteristics	
Urban environment	– 0.02 (0.05)
Multi level effects	– 0.02 (0.05)
Variance explained at individual level	0.140 (0.007) ***
Variance explained at municipality level	0.006 (0.004) *
Variance explained at province level	0.003 (0.004)
Log likelihood	– 392
Sample size	867

* Significant at 10% level, ** Significant at 5% level, *** Significant at 1% level. Constant not reported; standard errors in brackets.

The results show that once we control for the different relevant individual, household and regional characteristics available in the data set, EPWP participation clearly reduces the chance of being in poverty. That is, the standard error of the coefficient that captures the treatment effect is smaller than the value of the coefficient, which means we can safely infer that the coefficient associated with the EPWP variable is non-zero. Consequently we can rule out that participation has no effect on poverty. Further, the negative sign on the coefficient

means that the households of which the participant is part, are less likely to be in poverty than households that have no access to EPWP employment.

The coefficients of several control variables are also significant, indicating that households of female participants and African participants are more likely to be in poverty. The same applies to progressively larger households and to households having fewer income earners. Households that have access to social grants or other sources of income are also less likely to be in poverty.

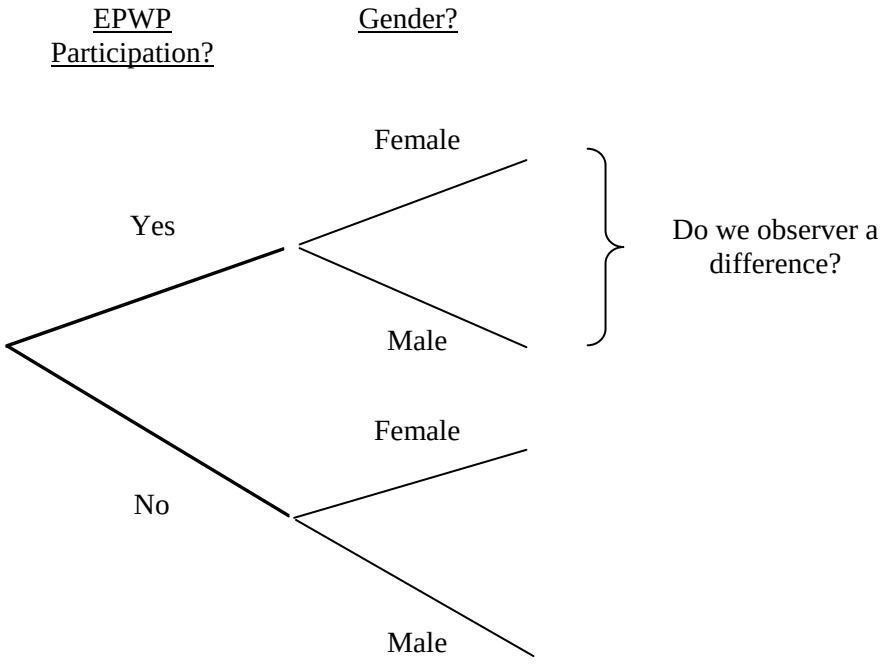
The multi level elements show interesting effects as well. Individual effects have most explanatory power for being in poverty or not, but as predicted, previously spatial effects also play a significant role. Though the provincial level effect is not significant, the municipality level effect is significant. This suggests that poverty "spills over" across space so that poverty in one neighbourhood is likely to increase the probability of poverty in contiguous or closely-proximate neighbourhoods. The presence of these spatial spill-over effects thus means that poverty is not exclusively driven by individual or household characteristics but is also influenced by regional (municipality) characteristics. There is extensive literature on neighbourhood effects and social network effects which underpin empirical findings such as this. This finding will prove valuable when determining the consequences of better targeting the EPWP which we take up later in this Chapter.

What factors contribute to the gains from EPWP participation? To examine this question we need to introduce so-called "interaction effects" into the MLM regression framework.

5.4.4 Regression results – interaction effects

Figure 5.3 gives a schematic overview of how interaction effects are introduced into the regression framework and how we can interpret them. They are constructed by multiplying relevant independent variables (from Table 5.5) by the EPWP dummy variable. In the example shown in Figure 5.3 we "interact" the participation decision with the participant's gender, which gives us four categories ('yes, male'; 'yes, female'; 'no, male'; 'no, female').

Figure 5.3 Schematic overview of interaction effects



Given that we are interested in factors that explain why EPWP participation contributes to poverty alleviation, the inclusion of the interactive terms allows us to test, for example whether such participation is more successful for male than female participants. To explore such differences, we focus on differences between the first two categories of the interaction variable (for example, 'yes, male'; 'yes, female').

We created a number of such interaction variables which allow us to explore the combined impact of EPWP participation and:

- Provision of training within the EPWP;
- Type of EPWP programme;
- EPWP tenure;
- Workload;
- Gender;
- Educational level;
- Age;
- Ethnicity;
- Access to social grants; and
- Urban residence.

The results are presented in Table 5.6.[3] The conclusions we draw are summarised as follows:

- Neither the availability of training in the EPWP job, the type of project or the workload of any EPWP job influence the poverty alleviating capacity of EPWP participation.[4] With respect to the training impact, this result is of no surprise given that the results are based on the CASE survey which was taken around the time of participation. If training was effective then it would increase the person's ability to compete in the labour market and thus have more enduring impacts on poverty reduction. Indeed, the ability for paid work employment programmes to offer effective "on-the-job training" leading to the development of productive capacity is one reason why we favour employment guarantees over social grants as a primary solution to poverty reduction.
- In terms of personal characteristics, gender and ethnicity differences influence the chances to escape poverty once a person is participating in the EPWP. Male and coloured participants are significantly more likely to escape poverty once entering the EPWP than female and African participants.
- Having access to social grants during EPWP participation significantly reduces the chance that a household will remain in poverty relative to EPWP participants who are without access to social grants.
- The location of EPWP participation (urban or rural) does not alter the success of EPWP participation in reducing poverty.

Table 5.6 Participation effects on household poverty

Interaction terms	Probability of the a household being in poverty
Programme attributes:	
Training (as opposed to no training)	0.01 (0.03)
'Working on Fire' (as opposed to 'Working for Water')	0.04 (0.05)
Five or more days (as opposed to less than five) a week employed	– 0.06 (0.05)
Individual attributes:	
Male (as opposed to female) participant	– 0.10 (0.03)***
Low educated (as opposed to more highly educated) participant	0.00 (0.03)
Young (as opposed to older) participant	0.05 (0.04)
African (as opposed to coloured) participant	0.11 (0.05)**
Household attributes:	
Access to social grants (as opposed to no access) while participating	– 0.19 (0.03)***
Regional attributes:	
Residing in an urban (as opposed to a rural) area while participating	– 0.03 (0.05)

* Significant at 10% level, ** Significant at 5% level, *** Significant at 1% level. Standard errors in brackets.

5.4.5 Summary of regression analysis

Our regression analyses demonstrates that EPWP participation is effective in alleviating poverty after controlling for a range of relevant factors at various levels of impact. We find clear positive 'treatment' effects relating to EPWP participation.

The EPWP's capacity to reduce poverty increases further if EPWP participation is combined with the provision of social grants.

Though stand-alone provision of social grants also reduces poverty, the impact is accelerated if combined with EPWP participation. As we will argue below, there are additional benefits from EPWP participation that go beyond the wage income transfer benefits and make employment guarantees a superior means of reducing poverty in South Africa.

The contribution of EPWP participation to poverty alleviation is more pronounced for men than for women and for coloured participants than for Africans.

5.5. Scenario analysis – reviewing the target population and wage structures

5.5.1 Introduction

In this section we use the results of the MLM regression analysis to develop various EPWP expansion scenarios. The EPWP is currently in its fourth (of five) years. Relatively detailed information is available for the first three years.

In the first three financial years, just over 700,000 jobs have been created, which means the EPWP is well on its way to creating the targeted 1 million jobs over the course of the five years.[5] However, in terms of what really matters – the number of person-days provided – the

performance of the programme is unsatisfactory. The average duration of the job opportunities is also low as we found in Chapter 3.

Table 5.7 summarises the achievements of the EPWP to date as presented in the Mid-Term Review (HSRC, 2007. It is clear that the two dominant sectors are 'Infrastructure' and 'Environment & Culture', despite the fact that DBSA (2007) argues that the Social sector has the greatest potential for up scaling the EPWP.

Table 5.7 The EPWP report card

EPWP Indicator	5-year target	3-year status	% Progress over 3 years
1. Number of work opportunities created	1,000,000	716,399	72%
a. Infrastructure	750,000	362,257	48%
b. Environment & Culture	200,000	269,233	135%
c. Social	150,000	57,064	38%
d. Economic	12,000	10,003	83%
2. Person-years of employment created	650,000	219,914	34%
a. Infrastructure	250,000	115,817	46%
b. Environment & Culture	200,000	66,484	33%
c. Social	200,000	35,884	18%
d. Economic	18,000	1,730	10%
3. Training (number of training days)	15,579,000	2,973,817	19%
a. Infrastructure	9,000,000	1,124,840	12%
b. Environment & Culture	2,005,000	1,110,870	55%
c. Social	4,535,000	715,925	16%
d. Economic	39,000	22,182	57%
4. Project budget, R billion			
a. Infrastructure	R15.0	R17.4	116%
b. Environment & Culture	R4.0	R3.2	80%
c. Social	R2.0	R0.7	35%
d. Economic	Unspecified	R0.3	Unspecified
5. Actual expenditure	R21.6[1]	R12.8	59%
6. Demographic characteristics of workers			
a. Youth	400,000	280,176	70%
b. Women	300,000	332,187	111%
c. Disabled	20,000	7,192	36%

Source: Data assembled from the Quarterly Reports of the EPWP Containing data and information for the period 1 April 2004 to 31 March 2007, or drawn by datasets provided by the EPWP Unit.

[1] The R21.6 billion allocated in "Actual expenditure" is the total of all yearly budgetary allocations and not a target set in the original Logframe.7

The South African government has invested 12.8 billion Rand in the first three financial years to create 716,399 jobs or 219,914 person years of work (see Table 5.8 for details). Approximately 2.4 billion Rand was invested in wages for EPWP beneficiaries, which implies that on-costs (the total costs to wage cost ratio) are about 5.4 to 1. Although, the EPWP Mid-Term Review (HSRC, 2007) found that the labour intensity, particularly that of infrastructure spending had been decreasing from 27 per cent of programme budget in 2004-05, to 22 per cent in 2005-06, to just 8 per cent in 2006-07. Clearly, the labour intensity of programme expenditure is highly variable, and would benefit from a tighter regulatory framework. Despite this reality, the on-cost estimates derived from the actual programme expenditure play an important role in the scenario analysis, and are used to determine the total investment required per EPWP job.

Costing estimates of potential expansions of the EPWP in the 'social' sector produced by DBSA (2007) produce a (weighted) average on-cost estimate of 3.2. These estimates ranged from 1.6 for the 'School Sport Coaches' initiative to 7.2 for the 'School Nutrition' programme. The high estimate for the 'School Nutrition' programme is caused by the involved food purchases for school pupils. These predicted estimates are above the current on-cost factors in the 'social' sector imputed in Table 5.8, which also shows that the on-cost factor is not stable across sectors or over time. In our scenario analysis we will use the average on-cost estimate of 5.4 to 1.

However, international evidence from India (MRD, 2005) suggests that public works schemes can be run under a "labour to non-labour" expenditure ratio of no more than 1.5.[6] Other sources suggest a 60/40 rule where 60 percent of total costs are consumed by wages and the remainder being non-wage costs. If this was the case the on-cast ratio would be 1.67 which is in the ball-park of the Indian estimate and considerably lower than the current EPWP on cost estimate.

So in the context of the ratio of wages to other costs that have prevailed in the EPWP programme since 2004, if the South African government could move towards this ratio of 1.67 then considerable reductions in the nominal investment required would be possible. In this Report we perform the scenario analysis using the historical cost evidence presented in Table 5.8 as the basis for the extrapolations but then provide the estimates for a on-cost ratio of 1.67 to provide a comparison.

We recognise that one could be highly critical of basing the scenario analysis on historical evidence given that the labour intensity of the programme expenditure is not properly regulated and this means that EPWP employers have very little incentive to maximise the labour intensity of their expenditure. Given that the EPWP does not come with "ring-fenced budgets", EPWP employers have to realign their normal budgets to results in EPWP job creation. They have no quotas or expenditure guidelines and the result is that labour intensity of expenditure is not maximised.

As a result our simulations are not based on what labour intensity expenditure should or could be. In that sense, they significantly overstate the budget outlays that would be required to expand the programme. However, by providing the 1.67 comparison as a benchmark we allow the reader to understand the extent to which historical practice has been unnecessarily inefficient in terms of achieving labour intensity.

We also provide a note of caution in terms of seeing the on-costs ratio in purely technical terms. In part, the way we consider the ratio depends on the objectives of the programme. For example, in the "School Nutrition" project, the goals include the provision of a healthy breakfast for all pupils (a glass of milk every morning). The investment in milk is included in

the total EPWP budget and in a technical sense this is counted as a non-EPWP wage cost thus inflating the on-cost ratio. The specific "School Nutrition" project has a on-cost ratio of 7.23 which would seem to be "inefficient" in terms of the 60:40 (1.67) ratio but clearly the non-wage costs are not all relating to what we typically would consider to be on-costs. We recommend therefore a more transparent way of accounting for the costs in the EPWP projects to ensure that labour intensity is maximised but valuable accompanying investments are also preserved.

We also note that there is a fundamental difference between the nominal and real costs of any activity. We explain this point in more detail in Chapter 8 but it cannot be over-emphasised that the only costs that matter in considering policy design are the real costs which in the case of EPWP participants (and their households) amounts to the extra consumption of real goods and services that the participation elicits. The outlays required to fund the EPWP are better considered investments rather than costs.

Table 5.8 Government EPWP outlays, 2004 to 2007 (in million Rand)

Years	Sector				
	Infrastructure	Economic	Environment & Culture	Social	Total
2004 – 2005:					
Total costs	2,471.8	24.4	643.4	18.7	3,158.3
Wage costs	671.8	2.9	132.6	15.8	823.2
On-cost factor	3.68	8.36	4.85	1.18	3.84
2005 – 2006:					
Total costs	1,515.9	26.5	795.8	143.4	2,481.5
Wage costs	328.1	1.5	220.6	85.4	635.7
On-cost factor	4.62	17.29	3.61	1.67	3.90
2006 – 2007					
Total costs	5,560.4	116.8	1,124.6	402.2	7,203.0
Wage costs	451.5	11.8	262.8	191.3	917.5
On-cost factor	12.31	9.87	4.28	2.10	7.85
Total 2004-2007:					
Total costs	9,548.0	167.6	2,563.8	564.3	12,843.8
Wage costs	1,451.5	16.3	616.0	292.6	2,376.4
On-cost factor	6.58	10.30	4.16	1.93	5.40

Source: EPWP (2005, 2006, 2007).

Table 5.9 contains information about monthly wages in the EPWP which on average have fluctuated around 900 Rand over the first three financial years of the programme. Even in terms of a one-person household, three out of the four sectors pay monthly wages below the Minimum Level Living index discussed earlier. It is only because of the relatively high wages paid in the 'infrastructure' sector that the average monthly wage in the EPWP is above the poverty line. We note however, that the duration of work opportunities in the Infrastructure sector are far lower than those in the Social sector (see Chapter 3).

To motivate the scenario analysis we use three monthly wage levels:

- 900 Rand per month reflecting the overall programme average discussed above;
- 950 Rand per month as per the discussion in Chapter 4; and
- 1000 Rand per month, which is the preferred minimum wage we recommend for all EPWP jobs as per the discussion in Chapter 4.

Table 5.9 also provides information about EPWP job duration. Although officially, EPWP jobs are allocated over four months we observe large sectoral deviations in the average tenure. EPWP jobs in the 'economic' sector last for only 2 months on average, while jobs in the 'social' sector last 5.5 months on average. In our scenario analysis we will use the overall average and hence assume EPWP job duration to be 3.8 months.

Table 5.9 Wages and job duration in the EPWP by sector, 2004-2007

Years	Sector				
	Infrastructure	Economic	Environment & Culture	Social	Total
2004 – 2005:					
Monthly wage (Rand)	1,058	850	693	671	965
Job duration (months)	5.8	0.7	3.3	14.3[a]	4.9
2005 – 2006:					
Monthly wage (Rand)	970	575	770	657	839
Job duration (months)	3.1	1.5	3.5	7.1	3.6
2006 – 2007:					
Monthly wage (Rand)	1,083	806	822	691	892
Job duration (months)	2.8	4.2	2.5	7.5	3.2
Total 2004-2007:					
Monthly wage (Rand)	1,044	784	772	679	900
Job duration (months)	3.8	2.1	3.0	7.5	3.8

Source: EPWP (2005, 2006, 2007).

[a] This number appears to be an outlier but is due to the way the data has defined the total work days and the numbers of work days per month for 2004. Since there were only relatively few EPWP jobs created in the Social sector in 2004 compared to other years and sectors, it will not have a significant influence on the overall average job duration (3.8 months) that we use in our analysis.

5.5.2 Scenarios simulated

To provide a basis for public debate on how the EPWP programme might be expanded we run two quite different scenarios:

1. The annual number of EPWP jobs is held constant (200,000) and we vary the duration and target groups:
    a. The length of the employment is modified;
    b. The jobs are targeted in such a way that the poverty alleviating effect is maximised

c. The programme is tailored to include the most impoverished groups in the South African society, respectively.

2. Expanding the programme more generally to cover a broader group of South African unemployed – we call this scenario the Job Guarantee option.

In each case, we model the impacts of three possible minimum wages: R900 per month; R950 per month; and the preferred minimum of R1000 per month, which we discussed in Chapter 4.

5.6 Scenario 1: Annual job numbers constant, EPWP job duration and target group varied

5.6.1 Overview of Scenario 1

What is the optimal length of an EPWP? In Chapter 7, we argue that the EPWP should be revised to become an unconditional (open-ended) job offer to anyone who wants to work at the minimum wage but who is unable to currently find employment elsewhere. In terms of the twin macroeconomic goals of full employment and price stability this is the optimal strategy.

In this scenario we take a different approach and consider the job duration only in terms of addressing poverty. The poverty line employed in the MLM regression analyses is unsuited for this exercise, as it only measures a flow of income that is deemed to be sufficient to fund the basic needs in life. In other words, it does not consider the position that EPWP participants start from - the residue or "stock" of poverty. For example, some participants may be heavily indebted as a reflection of past income deficits. A heavily indebted person clearly needs more income during the period of indebtedness than the "flow measures" embedded in poverty line estimates suggest in order to manage his/her household finances. To achieve a sustainable reduction in poverty we thus have to consider broader issues of disadvantage.

Our EPWP job duration analysis will therefore focus on the link between EPWP job duration and the capacity of participants to actually improve their living standards.

The CASE data provides four pieces of information about the EPWP participant's standard of living prior and during EPWP participation: (a) the household debt situation, (b) school attendance of children; (c) household nurturing; and (d) acquisition of household items. EPWP participants indicate in the survey that they used their EPWP income to:

- Reduce their outstanding debt; and/or
- Allow their children to attend school (instead of forcing them to do work at home); and/or
- Provide sufficient daily meals; and/or
- Acquire household items.

In the CASE Survey EPWP participants provide information about how the EPWP has changed their circumstances in each of these spending areas. This information can be used to investigate whether the situation facing households has improved (or worsened) on any of the four elements as a result of EPWP participation.

We use these changes to develop a measure of the change in what we call the Poverty Stock. If one of these elements have improved we assign a "+1" so that the best situation is "+4". A worsening of any one of the elements is also possible and the worst (minimum) score possible is "-3".[7] The range in the changes in the Poverty Stock therefore will lie between

minus 3 and plus 4. We attach equal weights to each of the elements because we are not in a position to make any judgements as to what the optimal spending allocation should be.

Table 5.10 shows the dynamics of our Poverty Stock index across the CASE survey respondents. Less than 4 per cent of the EPWP participants reported deterioration in their Poverty Stock while around a quarter reported no overall change. However, more than 70 per cent reported an improvement in their Poverty Stock. These results are consistent with our previous findings, where we saw that EPWP participation increases the probability that a respondent (and their household) will be above the poverty line (used in the analysis).

The duration experiment we conduct in this Section seeks to determine the length of the spell of EPWP participation that maximises (positive) change in the constructed Poverty Stock index. Since the dependent variable (that is, the Poverty Stock index) is an ordinal index, the appropriate strategy is to estimate what are called Ordinal Probit regressions. Our main independent variable is EPWP work experience measured in months, which coincides with the number of months the participant had access to EPWP income.

At present the unemployed are entitled to 4 months of work per annum or 24 moths in a five year cycle, employment can be ongoing for 2 years or beneficiaries may engage in different EPWP work opportunities until their 24 month allocation is exhausted. This means, among other things, that the projected one million EPWP job opportunities will not likely go to 1 million different unemployed South Africans.

Table 5.10 Changes in the Poverty Stock index due to EPWP participation

Poverty Index score	Distribution of participants
– 3	0.0%
– 2	0.7%
– 1	3.4%
0	22.4%
1	52.0%
2	19.3%
3	2.0%
4	0.3%
Total	100%

Source: CASE (2007).

We have subdivided EPWP work experience into six categories:

1. Less than 3 months;
2. 3 to 5 months;
3. 5 to 7 months;
4. 7 to 9 months;
5. 9 to 11 months; and
6. more than 11 months

The aim of the regression experiment is to determine the duration of EPWP work experience which maximises the improvement in the Poverty Stock index.

Table 5.11 presents the results. We control for personal, household and regional characteristics that we included in previous regressions (results not reported) and have made the "3 to 5 months" spell of EPWP employment the reference category, which means the coefficients of all other work experience categories are to be read as "differences" (more or less depending on the sign) relative to the reference category.

Table 5.11 Multi-level probit regression on EPWP's contribution to poverty reduction

Independent variables	Improvement in 'Stock of Poverty'
EPWP work experience in months:	
Less than 3 months	0.17 (0.13)
Between 3 and 5 months	reference
Between 5 and 7 months	0.48 (0.26)*
Between 7 and 9 months	0.52 (0.15)***
Between 9 and 11 months	0.36 (0.18)*
More than 11 months	0.28 (0.16)*
Level of EPWP Income	0.00 (0.00)***
'Working on Fire' (as opposed to 'Working for Water')	0.22 (0.13)*
Provinces:	
Western Cape	– 0.31 (0.12)***
Eastern Cape	– 0.13 (0.22)
Northern Cape	– 0.67 (0.40)*
Free State	– 0.50 (0.09)***
KwaZulu Natal	– 0.12 (0.15)
North West	– 0.32 (0.16)**
Gauteng	– 0.20 (0.16)
Mpumalanga	– 0.24 (0.19)
Limpopo	reference
Log likelihood	– 641
Sample size	579

All control variables used in Table 5.5 are included in the model, but not reported in this table. Robust standard errors in brackets (clustered on municipalities).

The major relevant conclusions are:

1. An improvement in the Poverty Stock is dependent (statistically significant) on the work experience provided by the EPWP job (and as a consequence on the length of the period of access to EPWP income).
2. EPWP employment spells of less than three months do not lead to a significantly different outcome in terms of change in the Poverty Stock index, compared to the current regime.
3. However, lengthening the spell of EPWP employment beyond 5 months clearly leads to a more rapid improvement in our Poverty Stock index than in the current design. Clearly the sustained access to additional funds assists EPWP participants in improving their state of poverty. There is nothing optimal implied by the higher level of significance attached to "Between 7 and 9 months". This is just an artefact of the sample used.
4. We find that improvements in the Poverty Stock are related positively to the level of EPWP income (which is hardly surprising) and that 'Working on Fire' projects are more successful in reducing the stock of poverty than 'Working for Water' projects.

5.6.2 Scenario 1A: 200,000 jobs, differentiating the duration of jobs

The findings in Table 5.11 suggest that increasing the duration of EPWP job opportunities beyond four months will greatly improve the programme's capacity to alleviate poverty. In Table 5.12 we present some estimates of the Rand investment required to improve the EPWP by increasing the length of each EPWP job within the overall constraint of only creating 200,000 jobs.

Table 5.12 Investment required for changing duration of EPWP job opportunities, various minimum wages

Duration (in months)	Jobs	Monthly wage (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
3.8	200,000	900	3.70	1.14
		950	3.91	1.21
		1000	4.11	1.27
8	200,000	900	7.79	2.41
		950	8.22	2.54
		1000	8.65	2.68
12	200,000	900	11.69	3.62
		950	12.33	3.81
		1000	12.98	4.01

The South African government currently invests 3.70 billion Rand to create 200,000 EPWP jobs each having a 3.8 month average duration period. We can see that this current investment would increase by a modest R0.4 billion if the wage over all EPWP jobs was set at R1000 per month (that is, the average wage equals the minimum wage for all jobs). If we

increased the duration, for example, to 8 (12) months, this will increase this investment proportionately. For simplicity we assume that on costs are unrelated to the duration of a project. However, increasing the duration of the project will in all likelihood reduce the incidence of start-up costs. Start-up costs (both in terms of capital input and bureaucratic costs) will be a substantial part of the total on costs. So our estimates are conservative and err on being overestimates. We can see that the investment required if the on-cost ratio was 1.67 (right hand column) is considerably smaller.

We also make no attempt to capture the so-called endogenous benefits arising from the expanded income that the higher public investment generates. These multiplier effects will be positive, increase economic activity elsewhere in the economy, and reduce the overall public investment accordingly as taxation revenue rises and the market economy begins to absorb some of the workers in the EPWP. All the scenarios presented avoid this complexity. For further discussion of possible multiplier effects arising from the EPWP see Section 5.8.

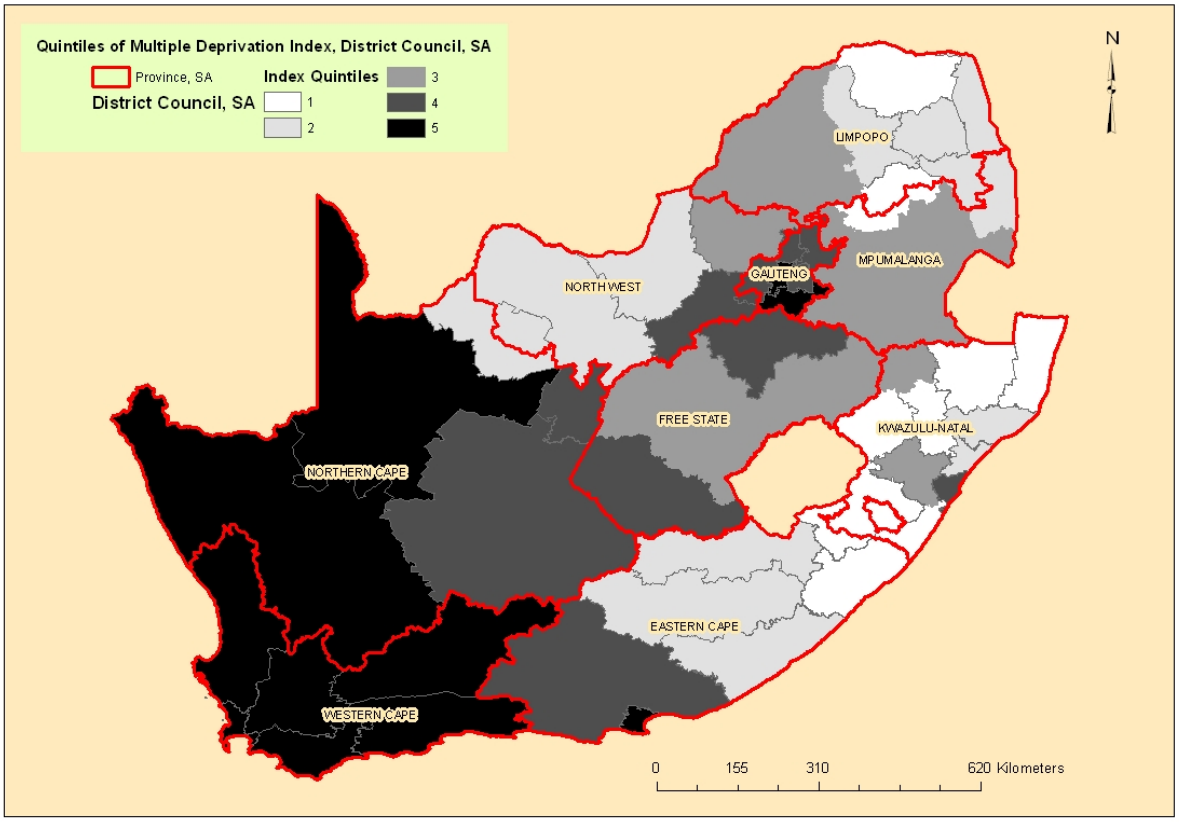
5.6.3 Scenario 1B: 200,000 jobs, 4 months each, improved targeting

In Section 5.4 we found that spatial effects (at the municipality level) play a role in explaining the persistence of poverty, which suggests that apart from the length of EPWP participation we should also consider spatially targeting EPWP employment to maximise poverty alleviation for a given outlay.

To that end, we use a socio-economic deprivation index, constructed by the University of Cape Town (McIntyre and Okorafor, 2003). This deprivation index includes nine socio-economic factors, which are clustered into one index using principal component analysis.[8] HST (2006) recalculated the socio-economic deprivation index to the District Council level.[9] Although this index has known limitations, we base the following scenario on the HST disaggregated socio-economic index.

Figure 5.4 shows the deprivation index for South Africa, based on 2001 StatsSA Census data. We have created five quintiles of deprivation. Darker colours imply less deprivation. We observe that deprivation concentrates in the eastern parts of the country, predominantly in KwaZulu-Natal, Limpopo and the eastern parts of the Eastern Cape.

Figure 5.4 Socio-economic deprivation at the District Council Level, 2001



Source: HST (2006).

In Scenario 1B we hold the number of jobs created per year (200,000) and the current maximum duration (4 months) constant. The variation we introduce is by way of targeting the EPWP towards the socio-economically poor District Councils.[10] To motivate this we allocate 40 per cent of the 200,000 jobs to the poorest quintile, 25 per cent of the total available EPWP jobs to the second quintile, 20 per cent to the third quintile, 10 per cent to the fourth and 5 per cent to the fifth quintile. Clearly this is an arbitrary weighting which could be varied to suit the interests of different stakeholders. It does, however, capture our intent. Within the quintiles we allocate EPWP jobs according to the size of the pool of unemployed. Since there is no increase in the aggregate number of EPWP jobs in this scenario, redistributing jobs is budget neutral.[11]

Table 5.13 shows the consequences of targeting the poor in terms of EPWP job distribution for the first and fifth quintile. We present the current job distribution (based on LFS, 2007), the projected distribution and the differences between both job allocations. The overall pattern is evident:

1. District councils in the first quintile (the poorest) will experience an increase in EPWP employment, while District Councils in the fifth quintile (the richest) will experience a decrease in EPWP employment.
2. This suggests that the current allocation of EPWP jobs is not spatially targeted towards the poorest socio-economic District Councils.

Table 5.13 Changing the target group of EPWP job opportunities

Municipality	Current allocation	Projected allocation	Change
First quintile:			
Greater Sekhukhune DM	13,850	21,490	7,640
O.R.Tambo DM	770	1,190	420
Ugu DM	7,380	11,440	4,070
uThukela DM	6,740	10,450	3,710
uMzinyathi DM	3,850	5,970	2,120
Zululand DM	1,920	2,990	1,060
uMkhanyakude DM	3,850	5,970	2,120
Vhembe DM	2,310	3,580	1,270
Sisonke DM	7,700	11,940	4,240
Alfred Nzo DM	3,210	4,980	1,770
Fifth quintile:			
City of Cape town	390	260	– 130
West Coast DM	190	130	– 70
Cape Winelands DM	640	430	– 220
Overberg DM	320	210	– 110
Eden DM	130	90	– 40
Sedibeng DM	900	600	– 300
Central Karoo DM	1,670	1,110	– 560
Namakwa DM	4,040	2,680	– 1,360
Siyanda DM	1,920	1,280	– 650
City of Johannesburg	3,590	2,380	– 1,210
Nelson Mandela	1,280	850	– 430
Total (quintile 1 to 5)	200,000	200,000	0

Source: LFS (March 2007), Stats SA. All figures are rounded. Consequently, the third column need not be the exact summation of the first two.

5.6.4 Scenario 1C: 200,000 jobs, duration differentiation, improved targeting

Scenario 1C incorporates both changing job duration and spatial redistribution of EPWP job provision to maximise the reduction in poverty for the given number of jobs. That is, we not only allocate larger shares of EPWP jobs to poorer District Councils (as described under Scenario 1B), but also differentiate job duration by the extent of poverty at the District Council level.

More specifically, we assume that jobs:

- in the first quintile last for 12 months;
- in the second quintile last for 10 months;
- in the third quintile last for 8 months;
- in the fourth quintile last for 6 months;
- in the fifth quintile last for 4 months.

Table 5.14 summarises the impacts of such a differentiation on budget outlays. Several interesting points emerge from this simulation:

- The first row shows the status quo scenario (no duration differentiation and no poverty targeting) for the three monthly wage levels being considered;
- The second row introduces duration differentiation as scheduled above, but it does not include improved targeting as introduced in Scenario 1B. We find that duration differentiation more than doubles the investment required to create 200,000 jobs; and
- The third row introduces improved targeting in addition to duration differentiation. The investment required rises by about R1.2 billion per year because the improved targeting redistributes EPWP jobs from low to high poverty District Councils and since by assumption the high poverty District Councils receive longer lasting EPWP jobs, the total required investment in the EPWP increases.
- The total investment required is significantly lower if the on-cost ratio can be pushed down to 1.67.

Table 5.14 Investment required for changing the duration of EPWP job opportunities

Duration (in months)	Jobs	Spatial job distribution	Monthly wages (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
3.8	200,000	No	900	3.70	1.14
			950	3.91	1.21
			1000	4.11	1.27
Quintile dependent	200,000	No	900	8.32	2.57
			950	8.78	2.71
			1000	9.25	2.86
Quintile dependent	200,000	Yes	900	9.45	2.92
			950	9.97	3.10
			1000	10.50	3.25

5.7 Scenario 2: Expanding the number of EPWP jobs

5.7.1 Overview

The various options explored under Scenario 1 all assume that the current annual total of 200,000 EPWP jobs is maintained. Given the nearly 8 million unemployed in South Africa that number of EPWP jobs will only marginally impact overall unemployment and subsequently will do little to alleviate poverty. This does not subtract from our findings that EPWP participation is beneficial in terms of poverty alleviation for the few who are fortunate enough to get an EPWP job.

In Scenario 2 we explore the number of jobs (and subsequent budget outlays) needed to provide for acceptable reductions in the expanded unemployment rate. Two scenarios are considered:

- Scenario 2A analyses what is required to bring down the overall unemployment rate – we model various maximum national unemployment rates;
- Scenario 2B analysis what is required to reduce unemployment rates at the District Council level below a nationwide standard.

We keep all parameters constant during these simulations. That is, an EPWP jobs lasts 12 months. As in the previous scenarios we provide a comparison based on-cost ratios of 5.4 and 1.67. We also run a simulation for the three monthly minimum wage rates discussed above: R900 per month; R950 per month; and the preferred minimum of R1000 per month.

We abstract from spatial targeting, though Scenario 2B implicitly addresses spatial targeting.

5.7.2 Scenario 2A: Expanding the EPWP to reduce the overall unemployment rate

The expanded unemployment rate was 37.9 per cent in March 2007. The expanded unemployment rate includes those who are considered to be discouraged – that is, they are officially measured as being outside the labour force because they are not actively seeking work but are identical to the unemployed (who are measured as being within the labour force) in the sense that they would take a job if offered. Table 5.15 presents the outcomes from this simulation.

The important point here in understanding the results of the analysis in Table 5.15 is that the labour supply sensitivity to the business cycle is already measured by the discouraged workers. So a consideration of cyclical labour force participation responses is not required in this instance. We make no presumptions on whether the official StatsSA LFS data is accurate. We take it as given.

The first row of Table 5.15 shows that 595,000 EPWP jobs would have to be created annually to reduce the overall unemployment rate to 35 per cent. This would require a total investment of around R35 billion annually if the EPWP wage was R900 per month and R38.6 billion annually at the preferred EPWP wage of R1000 per month assuming the on-cost ratio is 5.4. The investment falls proportionately if the programme moves towards an on-cost ratio of 1.67.

More jobs would be required to reduce the national expanded unemployment rate further. For example, some 3.7 million jobs would be required to bring the national expanded unemployment rate down to 20 per cent and this would require a total investment of around R217 billion and R230 billion depending on the minimum wage paid at an on-cost ratio of 5.4.

We realise that even in a fully employed economy the unemployment rate would be around 2 per cent so we call this the full employment option.

Table 5.15 Expanding the EPWP: targeting the overall unemployment rate

Maximum national unemployment rate	Jobs needed	Monthly wages (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
35%	595,000	900	34.75	10.7
		950	36.68	11.3
		1000	38.61	11.9
30%	1,635,000	900	95.39	29.4
		950	100.69	31.1
		1000	105.99	32.7
25%	2,670,000	900	156.04	48.2
		950	164.70	50.8
		1000	173.37	53.5
20%	3,710,000	900	216.68	66.9
		950	228.72	70.6
		1000	240.76	74.3
2%	7,455,000	900	435.00	134.3
		950	459.17	141.7
		1000	483.34	149.2

5.7.3 Scenario 2B: Expanding the EPWP to reduce local unemployment below a threshold

Given the stark differences in the expanded unemployment rate between District Councils, the South African Government could also opt to maintain expanded unemployment rates in every District Council at or below a certain maximum threshold. This policy goal is tougher than the one employed in Scenario 2A.

Table 5.16 shows the results of the simulations. If the maximum acceptable expanded unemployment rate in any District Council is say 50 per cent, then 155,000 jobs have to be created through the EPWP. This would require a public investment of around 9 billion Rand annually if the EPWP wage was R900 per month and 10 billion Rand annually at the preferred EPWP wage of R1000 per month at the historical on-cost ratio of 5.4. As before this falls proportionately as the on-cost ratio falls and we show the results for the 1.67 assumption.

Eradicating unemployment in South Africa (2 per cent unemployment rate) would require R459 billion to be invested annually if the EPWP wage was R900 per month and R510 billion annually at the preferred EPWP wage of R1000 per month at the historical on-cost ratio of 5.4. Note again that this is an overestimate given the existence of some frictional unemployment at full employment.

Table 5.16 Expanding the EPWP: targeting District Council unemployment rates

Maximum national unemployment rate	Jobs needed	Monthly wages (Rand)	Total investment required (billion of Rand) On-cost ratio: 5.4	Total investment required (billion of Rand) On-cost ratio: 1.67
50%	155,000	900	8.99	2.78
		950	9.49	2.93
		1000	9.98	3.09
45%	300,000	900	17.54	5.42
		950	18.52	5.73
		1000	19.49	6.03
40%	605,000	900	35.32	10.92
		950	37.28	11.53
		1000	39.24	12.14
35%	1,110,000	900	64.74	20.02
		950	68.34	21.13
		1000	71.93	22.25
30%	1,830,000	900	106.81	33.03
		950	112.74	34.87
		1000	118.67	36.70
25%	2,710,000	900	158.43	49.00
		950	167.23	51.72
		1000	176.03	54.44
20%	3,725,000	900	217.54	67.28
		950	229.63	71.02
		1000	241.72	74.75
2%	7,455,000	900	435.00	134.53
		950	459.17	142.00
		1000	483.34	149.48

Alternatively, one could target the groups such as Women and Africans, which are especially vulnerable to poverty as indicated by the results of Table 5.5. Table 5.17 details the number of unemployed in these population groups and the required public investment associated with creating EPWP jobs to employ them and subsequently assist them in escaping poverty. The simulations are based on the historical on-cost ratio of 5.4.[12]

Table 5.17 Expanding the EPWP: targeting specific groups

Specific groups	Jobs needed	Monthly wages (Rand)	Total investment required (billions of Rand)
Women	4,557,000	900	266.26
		950	281.06
		1000	295.85
Africans	7,010,000	900	409.59
		950	432.35
		1000	455.11

5.8 Qualifications – the impact of multipliers

The outlays estimated in the various scenarios that we have presented are deliberate over-estimates of the total impacts. This strategy was designed to make the analysis tractable and as simple to understand as possible. We have already noted the considerable sensitivity to the on-cost ratio that we have used. It is likely that labour intensity approaching that achieved in the Indian employment guarantee programme can be attained by the EPWP. As the on-cost ratio falls the required investment falls.

A further simplification relates to the existence of expenditure multipliers. It is well known that an injection of spending to an economic system sets in train mechanisms whereby "multiplied" effects are enjoyed as the extra income is spent and ripples out to other beneficiaries. In the context of this exercise, the public investment in extra EPWP jobs would increase income directly according to the initial outlays. But the second-round effects based on the initial demand for goods and services throughout the economy would stimulate broader employment growth. The total "induced" (or multiplied) impact is dependent on the extent to which each successive round of spending "leaks" out of the expenditure system via taxes, imports or saving. Economists typically summarise the total impacts using the so-called *multiplier* which is a number depicting the extent to which national income increases per dollar of initial spending injection. This figure can then be used to estimate how many extra jobs would be generated in the economy for every EPWP job opportunity created.

While the task of estimating the multiplier and its correspondence with employment generation is beyond the scope of this Report it is clear that if the multiplier is positive then our investment estimates will be overstated by the extent to which the private economy generates extra work itself in response to the EPWP expansion.

One recent study is helpful in this regard (Antonopoulos, 2008). Antonopoulos was commissioned by UNDP to undertake research concerning the gender and employment in South Africa. The report examines the impact of budgetary outlays associated with the EPWP using a gender disaggregated Social Accounting Matrix. The study assumes an increase in programme budget from 600 million Rand to 9 billion Rand (2000 prices) per annum, and that the additional jobs would be full-time annual jobs that are exclusively undertaken by poor and ultra-poor households. The key findings that are relevant to our Report are: (a) An investment of 9 billion Rand (2000 prices) in EPWP social sector would create 571,505 new jobs, and amount to 1.1 per cent of GDP. In addition to direct job creation, indirect job creation would be in the order of 200,000. Over half of jobs created would go to females. The injection of 772,000 jobs would reduce the unemployment rate (official) 25.5 to 19 per cent; (b) For every three jobs created through the EPWP intervention, another one job would open

up in the economy; (c) the impact on GDP growth would be in the order to 1.8 percent or 15 billion Rand. New direct and indirect taxes would amount to 3 billion Rand. The net increase in government spending (6 billion Rand) would be equivalent to 0.7 per cent of GDP or 2.3 per cent of government expenditure. Income distribution would improve, with the proportion of income received by the upper 50th percentile decreasing from 92.2 to 91.8, and the lower 50th percentile improving from 7.8 to .8.2; (d) the subsequent investment would be pro-poor, with ultra-poor households receiving the highest incremental change income, of 9.2 per cent. All households involved in the intervention classified 'poor' would cross an annual poverty line of R20000. The depth of poverty of the ultra-poor would be reduced by between 59 and 71 per cent, and ultra-poor households would cross the ultra-poverty line of R12000; and (e) the social benefits arising from the investment relate to accreditation and human capital acquisition, asset accumulation, enhanced service delivery and multipliers associated with local economic investment.

5.9 Summary of Scenario analysis

The scenario analysis has provided us with valuable information about the parameters of the EPWP programme. We have learned that EPWP job duration (in months) matters for the wage income transfer function of the programme, which is hardly surprising. Providing sustained (beyond the current four month average) access to EPWP employment and subsequent EPWP income accelerates the poverty alleviation process of South African unemployed. An unconditional Job Guarantee would be ideal in this environment.

Furthermore our analyses reveals that the current allocation of EPWP jobs is not targeted at the most deprived District Councils, though multi-level regression analyses results presented in Section 5.3 demonstrated that such spatially targeting would be important in alleviating poverty.

Finally, we explored the potential of expanding the EPWP to help more impoverished South Africans. The simulations exposed the crucial role played by the on-cost ratio assumption. If the EPWP programme was able to replicate the ratio found in the Indian employment guarantee programme, the required public investment would be considerably lower.

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[1] See CASE (2007) for a detailed description of both programmes.

[2] Several respondents who are reported to be enrolled in both programmes were excluded from our analysis because they were recorded as not receiving any wages. Several reasons might explain this anomaly: (a) privacy reasons (respondents unwilling to disclose income information); (b) they may have only recently joined the projects; and/or (c) there could be administrative problems paying wages. If the latter reason is important, then institutional reform is required immediately as it would seriously hinder the wage transfer function of the EPWP.

[3] Each set of interaction effects presented in Table 7.6 belongs to a separate regression similar to those shown in Table 7.5. Full regression results are not shown in order to focus on interaction effects.

[4] Though training is a compulsory component of the EPWP, about 30 per cent of EPWP participating respondents report not to have received training. Since training is unlikely to impact on the wage income transfer capacity of the EPWP (which Table 7.6 confirms), the far from full coverage of training provision is not a concern to our analysis. However, for an analysis studying the employability effects of EPWP it would be a major concern.

[5] Financial years run from 1 April to 30 March.

[6] Labour costs consist of wage costs of EPWP participants. All other costs are included in 'non-labour costs', which includes wages of supervisors.

[7] A worsening in 'household item acquisition' is not possible. The variable only measures whether a respondent was able or not able to acquire household items. Consequently, the minimum score of the 'stock of poverty' indicator is '– 3'.

[8] The nine variables that were included, are: the share of the area's population: 1) that are children below the age of 5; 2) that are black Africans; 3) that are from a household that is headed by a female; 4) whose household heads have no schooling; 5) of adults between 25 and 59 classified as both not working and looking for work or not working and not looking; 6) that live in traditional dwelling, informal shack or tent; 7) that have no piped water in their house or on site; 8) that have a pit or bucket toilet or no form of toilet; 9) that do not have access to electricity or solar power for lighting, heating or cooking. Data is sourced from the 2001 StatsSA Census.

[9] Ideally we would like to disaggregate one level deeper to the municipality level. However, the quality of data collection at that level is dubious. Consequently we exploit the spatial data at the district council level.

[10] We are cognisant of the fact that current policy structures do not provide a central budget that allocates funds to the various regions to create EPWP jobs. Rather EPWP jobs are funded from existing local budgets. Nonetheless this scenario is instructive as it demonstrates how better results can be achieved overall for the same total expenditure.

[11] This budget neutrality depends on the wages paid in the programme. Throughout this report we recommend a unilateral minimum wage, which implies that budget neutrality is preserved as long as the number and the length of EPWP jobs remains unchanged. We drop the latter assumption in Scenario 1C.

[12] Given the ultra poor status of women and African participants, it is not surprising that contemporary EPWP participation is a less effective means for them to escape poverty relative to men and coloured participants (see Table 7.6). However, we promote sustained access to EPWP employment (longer duration) and potentially higher wages in the programme as a means of lifting the ultra poor out of poverty.

6 Using GIS analysis to assess the performance of the Expanded Public Works Programme in South Africa

6.1 Introduction

In this Chapter we consider spatial deprivation in South Africa and employ Geographical Information System (GIS) techniques to analyse whether the EPWP provides benefits to the areas that are most in need. We have seen from Chapters 3 and 5 that there is significant spatial variation in EPWP wages and projects. In this Chapter we analyse more deeply the spatial performance of the EPWP.

Analysis of the situation of poverty and inequality in South Africa reveals that deprivation is not only socially concentrated, but also spatially clustered (see Figure 6.1; also see Noble *et al*, 2006). For instance, the former homelands areas of South Africa comprise the nation's most impoverished communities and are still home to almost half of all Africans (Makgetla, 2006: 146). These communities, which were infrastructure and service deprived under the apartheid, continue to endure such circumstances, and face limited or absent growth trajectories, which is accentuated by a national context with persistent high unemployment, underemployment and mass poverty. Urban areas do not escape these challenges. Since transition informal settlements on the outskirts of cities have rapidly expanded, due to increasing in-migration, as the rural poor have become increasingly mobile in their search for enhanced livelihoods.

Sources of income in South Africa's poorest municipalities are predominately obtained from the government social grant system or remittances from friends/family members (Makgetla, 2006: 162). Moreover, redistribution through local government budgets, explored through municipal expenditure per person by quintile, indicates municipalities in the wealthiest quintile average R3637 per person expenditure, while expenditure of municipalities in the poorest quintile, largely consisting of the former homeland areas, averaged only R146 per person.

Approaches to spatial development, outlined in the National Spatial Development Perspective (NSDP), have encouraged clustered development, and expansion along growth corridors, to maximise the cost effectiveness of investment. The approach considers an area's potential for economic development in view of factors such as industry composition, contribution to Gross Value Added, population density, incidence of poverty, infrastructure, amongst other factors. Its scope intends to influence the planning across the whole of government. The NSDP suggests only limited or concentrated penetration into deprived areas with relatively low population density, identifying spaces with economic potential (generating a definite proportion of GVA) and high density of poverty and population, as potential sites for expansion of fixed economic capital investments and further economic development. The NSDP identifies 26 areas of significants and these targeted areas naturally include the metropolitan areas. There is overlap between the incidence of poverty and 23 of these targeted areas and 77.31 per cent of people living below the MLL are in close proximity to areas of economic significance. Sparsely populated rural areas, which are spread across 67.44

per cent of South Africa's land mass, and have 70 per cent (3.8 million) of their population (5.36 million) living under the MLL fall beyond the scope of the NSDP.

While the NSDP applies an efficient targeting strategy for capital investment and economic development, social investments remain mandatory. These social investments include provision of a combination of social grants, education and training, basic utilities, human resource development and labour market intelligence to enable one to self-select out of potentially unsustainable localities (NSDP, 2003; Makgetla, 2006: 162). These investments are key across the whole country, and are especially important in areas with low economic activity and persistent poverty. To further highlight, the average income per capita in these communities (the poorest local government quintile) is lower than nine per cent of the national average. Reliance on welfare is high, there is significant out migration, and infrastructure/services are poor.

While the issue of spatial development is vexed, subsidies are not sufficient to build sustainable communities, and the problem of unemployment and poverty can not be solved by transferring people from rural areas to expanding informal urban settlements. To address the situation of demand deficiency, investment in employment which can enhance developmental, sustainability and livelihood outcomes of local communities is necessary. The coincidence of high unemployment and deficiencies in delivery of basic services suggests that it may be beneficial to stimulate the economy by creating jobs that are suitable for low/unskilled workers to enhance local economic conditions and social services. The EPWP follows this logic, yet the programme's scope and scale are constrained and mismatch the context.

The EPWP only partially meets the employment aspirations of the unemployed. HRSC (2007) indicate that overall only 7 per cent of the unemployed received EPWP job opportunities in 2006/07 given the official definition. In the data we present below we estimate this figure to be around 4.4 per cent.[1]

While acknowledging the problem that shortfall in EPWP opportunities in aggregate poses for the effectiveness of the programme to reduce poverty, the analysis in this Chapter simply assesses whether the current constrained expenditure has been adequately distributed across provinces and municipalities with high levels of need (measured in terms of unemployment and unemployment rates).

The spatial analysis in this Chapter uses 2001 Census data and EPWP administrative data. In general, the EPWP administrative data has significant limitations and was initially unsuitable for the sophisticated GIS analysis that we had planned. Endnote 1 (see above) describes the length that we went to render this data to the best quality possible. The analysis employs 2001 Census data reconfigured for 2005 provincial and municipal boundaries and EPWP administrative data for 2006-07, also mapped to 2005 boundaries.

6.2 Are EPWP benefits distributed according to areas with high unemployment levels?

6.2.1 Performance at the provincial level

Table 6.1 presents labour force data and EPWP administrative data for South Africa by province. This data allows us to relate EPWP outcomes to the underlying local labour market performance and make assessments of the effectiveness of the EPWP accordingly.

From a policy-makers view point, high regional unemployment and high regional unemployment rates are both cause for concern, although they represent two slightly distinct concepts with differing policy implications.

Table 6.1 Does the EPWP benefit those provinces most in need?

Province	Actual EPWP Expenditure	EPWP Person Work Days	EPWP Gross Job Opportunities	EPWP Youth Employment	Unemployment
	% Total	% Total	% Total	% Total	% Total
Western Cape	15.9	9.5	14.6	19.4	15.5
Northern Cape	3.2	4.9	3.5	5.6	2.3
Gauteng	11.1	10.7	9.1	10.7	30.7
North West	6.6	5.0	4.6	4.0	7.3
Free State	10.0	8.6	5.6	5.4	6.2
Mpumalanga	5.7	6.4	5.5	7.4	6.5
Limpopo	4.6	7.7	6.8	7.2	6.9
KwaZulu-Natal	12.2	26.4	32.9	23.6	16.8
Eastern Cape	30.8	20.7	17.2	16.8	7.8

Province	UR	Labour Force	EPWP Person Days per Job	EPWP Work Days per Rand Expenditure	EPWP Gross Jobs to Unemployment
	% Total	% Total	Days	% Total	%
Western Cape	26.1	12.3	38.21	0.001	8.4
Northern Cape	33.4	2.1	81.54	0.004	8.9
Gauteng	37.2	28.5	68.65	0.002	1.6
North West	41.2	7.3	63.28	0.002	2.8
Free State	43.0	6.3	89.68	0.002	3.8
Mpumalanga	43.1	6.7	68.12	0.003	3.5
Limpopo	47.3	7.96	66.48	0.004	3.5
KwaZulu-Natal	49.0	19.2	46.97	0.005	6.5
Eastern Cape	54.3	10.1	70.10	0.002	5.8

Source: Department of Public Works, EPWP Monitoring and Evaluation Unit, Unpublished Data. Statistics SA, 2001 Census Data, realigned for 2005 boundaries.

Analysis of the *number* of unemployed highlights regions where the magnitude of the labour market problem is greatest, while regions with high unemployment rates represent areas where there are high *proportions* of the labour force unemployed, in other words where the risk of unemployment is highest.

Unemployment rates are often of particular interest to labour market economists, because they pinpoint areas where the demand constraints in the overall economy are being spatially distributed. High rates of unemployment clustered spatially suggest that particular labour markets may be performing relatively badly due to a combination of structural or institutional factors, local economic factors (such as business location decisions and investment) or the composition of the resident labour force. These factors place these regions at a disadvantage when overall demand is below full employment.

The number of people unemployed however will tend to be correlated with the population size of the province or municipality. Thus relatively high numbers of unemployed may be reported in areas with large populations even where labour market dynamics are relatively favourable. For instance, even with an average level unemployment rate of 37.2 per cent in 2001, as Gauteng contains almost one-third of South Africa's labour force, it has a very large number of persons unemployed.

While economists may focus on regional unemployment rates in order to highlight areas with 'problem' labour market dynamics, the number of people unemployed may also be of interest to policy makers concerned with service delivery and the volume of services required.

6.2.2 Results at the provincial level

The following points summarise the results of our analysis at the provincial level:

- EPWP outcomes exhibit significant spatial variation in terms of percentage of jobs to unemployed, person days per job and jobs generated per Rand spent.
- Eastern Cape and KwaZulu-Natal, are highly disadvantaged provincial labour markets in terms of their share of national unemployment and unemployment rates, together represent nearly half of the EPWP person days of work generated nationally, and a large share of EPWP actual expenditure and gross job opportunities in 2006-07.
- With this important exception EPWP employment would appear to be somewhat poorly spatially targeted given the regional share of unemployment. EPWP under-provides job opportunities in Gauteng and North West province and over-provides opportunities in the Western and Northern Capes. The programme is also not especially targeted towards a number of provinces with relatively high unemployment rates: Limpopo, North West province and the Free State.
- While Limpopo has the second highest rate of unemployment it ranks much lower in terms of the share of EPWP person days of work, it also has a below average rate of EPWP gross jobs given its unemployment.
- KwaZulu-Natal, Northern Cape and Limpopo however rank highly in terms of the labour-intensity of their expenditure, measured in terms of work days per Rand of expenditure.
- Gauteng and the North West province have a much lower share of EPWP gross job opportunities and work days given their share of unemployment, although both regions have relatively low rates of unemployment, which suggest that their local labour markets may be less problematic than other provinces.
- The Northern and Western Cape both have significantly higher job to unemployment ratios than other provinces, although the Western Cape has much shorter duration of employment opportunities.
- While Kwazulu-Natal has a relatively large share of EPWP employment these jobs are short-term relative to other provinces.

6.2.3 Performance at the municipal level

Table 6.2 shows labour force data and EPWP administrative data for South Africa by municipality. Once again this data allows us to relate EPWP outcomes to the underlying local labour market performance and make assessments of the effectiveness of the EPWP accordingly.

In Table 6.2 population weighted deciles have been constructed, where Decile 1 is the lowest 10 per cent (in population terms) unemployment rate regions and Decile 10 is the highest 10 per cent (in population terms) unemployment rate regions (see Figure 6.1 for the corresponding map). EPWP outcomes are reported for municipalities in each of the decile bands.

Table 6.2 Does the EPWP benefit those local municipalities most in need

Unemployment rate deciles	Gross Jobs to unemploy-ment	Actual expenditure including professional Fees	Person-days of work	Gross Number of Jobs	Number of youth employed (18 to 35 yrs)	Person days per Job	Number women Employed
	%	% Total	% Total	% Total	% Total	Days	% Total
1 (Lowest)	17.9	12.4	11.4	14.4	21.4	46.2	13.0
2	3.4	10.9	7.5	8.8	7.6	49.8	7.5
3	4.4	6.2	6.2	4.6	5.4	78.4	4.0
4	2.7	13.7	10.5	9.9	11.3	62.6	8.9
5	2.0	4.0	5.2	4.8	5.6	63.5	5.8
6	3.2	4.1	3.3	2.8	2.8	67.7	2.2
7	4.1	9.6	13.6	16.6	9.9	48.1	13.1
8	3.7	11.3	10.1	9.2	8.8	64.2	8.8
9	4.5	6.9	12.7	9.0	9.2	82.6	10.6
10 (Highest)	8.4	20.8	19.4	19.8	18.0	57.2	26.0
Bottom 30%	5.5	39.1	42.2	38.1	35.9	68.0	45.5

Source: Department of Public Works, EPWP Monitoring and Evaluation Unit, Unpublished Data.

6.2.4 Results at the municipal level

The following points summarise the results of our analysis at the municipal level:

- The bottom 30 per cent of regions (highest unemployment) absorb a larger share of actual EPWP expenditure, per person days of work and job opportunities. Employment for youth and women is also above 30 per cent for the bottom 3 deciles.
- The last decile (highest unemployment) ranks highest in terms of its share of actual expenditure, and generates a commensurate share of person-days of work and gross job opportunities. Over one-fifth of expenditure goes to the top ten per cent of the population

in the highest unemployment rate regions. The duration of job opportunities is however slightly below average.

- The data suggests that EPWP programmes have been somewhat spatially targeted towards high unemployment rate local municipalities. A phased-in expansion could be better concentrated in areas with very high unemployment rates such as Eastern Cape municipalities in the south-east and Limpopo in the north (see Figures 6.1 to 6.5 and the related discussion). While person days are high in many of these areas they may not be sufficient.
- Significantly the EPWP job to unemployment rate is much higher (18 per cent) in the lowest unemployment rate municipalities (top performing labour markets), shown in Decile 1 (largely in the Northern Cape, Western Cape and northern parts of Limpopo, see Figure 6.1). The rate is over three times the average rate of jobs to unemployed for the bottom three deciles, in the poorest performing local labour markets.
- The first decile, with the lowest unemployment rates, would seem to have a disproportionate share of programme expenditure and job opportunities. These top-performing municipalities have the greatest share of youth job opportunities generated by EPWP of all the deciles (21.4 per cent), but these work opportunities are shorter in duration.

6.3 The geography of EPWP performance: GIS mapping and analysis

The maps published in this Chapter analyse the data from EPWP programmes at the local municipality level 2006-07, as well as unemployment data taken from the 2001 Census (where municipal boundaries have been adjusted to their state in 2005). These maps begin to assist us in developing an understanding of the spatial gaps in provision and where the EPWP programme might need to be developed spatially.

A comparison of Figures 6.1 and 6.2 suggests that there would appear to be some degree of spatial congruency between those areas with high unemployment rates and person work days generated by EPWPs. The important point to note is that unemployment rates are highly spatially clustered in South Africa, and while there is a degree of targeting of EPWP outcomes in high unemployment rate municipalities in KwaZulu-Natal, Limpopo and Eastern Cape, EPWPs are not nearly as clustered as rates themselves.

Such a finding needs to be tempered by the observations that in addition to unemployment rates, policy makers may also be concerned with the volume of unemployment, which explains the targeting of densely populated municipalities in and around major cities such as Johannesburg and Cape Town, shown in Figure 6.2.

Figure 6.3 shows that at the local municipality level there would appear to be a fairly poor spatial fit between under-performing local municipalities, and the job to unemployment ratio. Municipalities mapped in grey are regions with a ratio of less than 2 per cent of their 2001 resident unemployed in EPWPs in 2006-07, which is half the average rate for this dataset. While the EPWP is generating work opportunities across a range of labour markets at the local municipality level, and in areas of high unemployment and chronic poverty, in many areas the scale of the programme is below that required, and well below the rate recorded nationally.

Poor performing regions in Mpumalanga, central Limpopo, and south Eastern Cape appear to have insufficient EPWP job opportunities given numbers of unemployed. Municipalities in the provinces of Gauteng and Free State also have uniformly below average outcomes, shown

in grey. KwaZulu-Natal performs poorly in some regions, although there are notable exceptions in Utrecht, Umvoti, Nongoma, Nkandla, Okhahlamba, Mtubatuba and Vulamehlo.

Major cities with high volumes of unemployment such as Durban, Cape Town and Johannesburg are likewise below average in terms of the ratio of job opportunities to unemployed. Generally speaking, the provision of EPWP person work days is however relatively adequate in municipality with lower unemployment rates, such as those in the Northern and Western Cape.

Figure 6.4 which maps the labour intensity of expenditure in terms of person work days generated per Rand of actual expenditure (including professional fees), again indicates that high unemployment rate regions, particularly in the Eastern Cape are generally not well met by labour intensive programmes. Matatiele on the border of KwaZulu-Natal and the Eastern Cape is an exception. The labour intensity of programmes also appears to be quite low in the Western Cape and much of the Free State, with the exception of Tswelopele, Nala, Maquassi Hills and central Karoo.

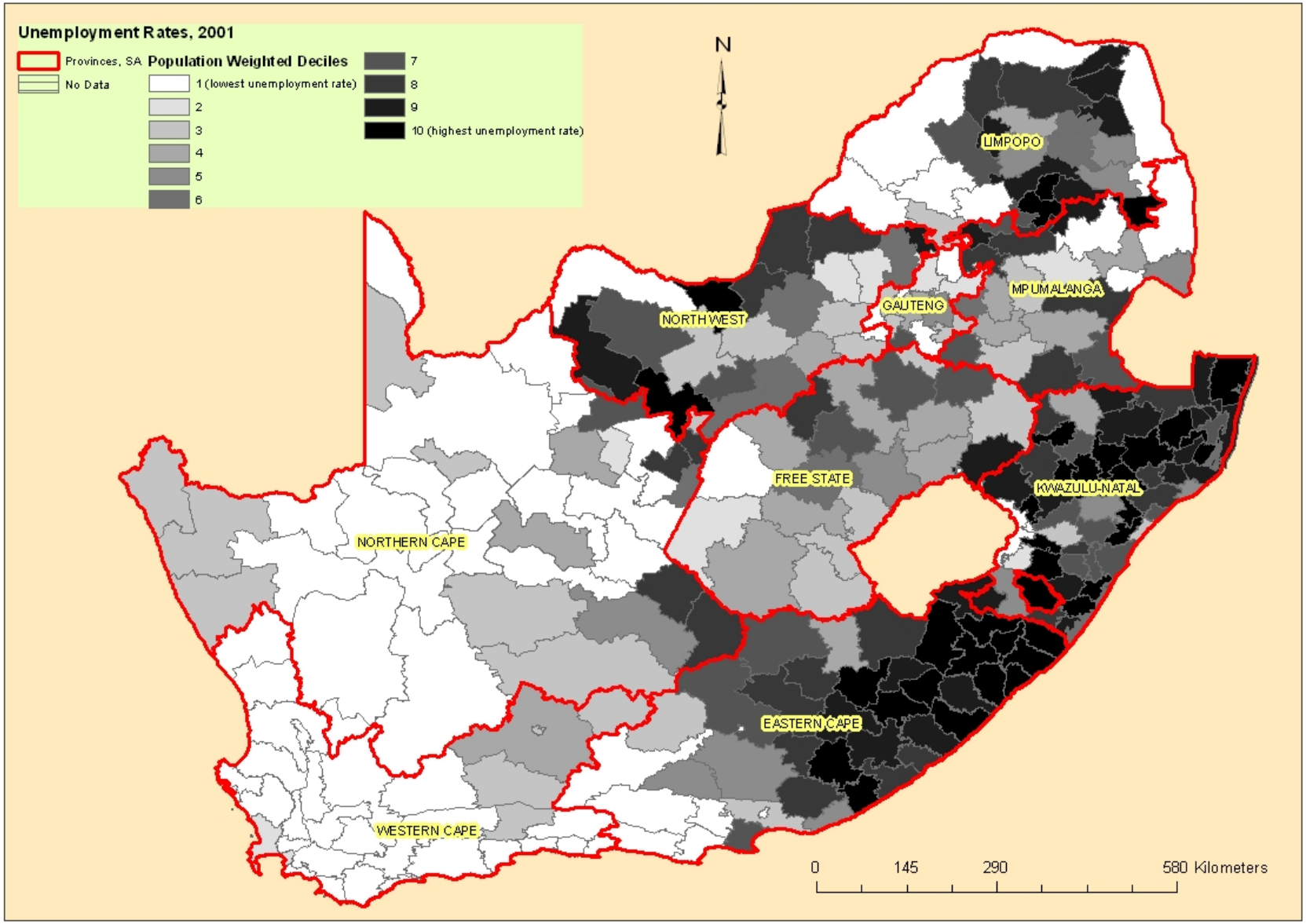
The Northern Cape EPWPs record a significant share of labour intensive programmes relative to other provinces. EPWPs in high unemployment rate regions in and around central KwaZulu-Natal are also labour intensive in terms of their expenditure, as are programmes in municipalities of Ratlou and Molopo. Likewise programmes in northern and central Limpopo, particularly EPWPs in Greater Tubatse perform reasonably well in terms of the labour intensity of expenditure, with the exception of municipalities near Pietersburg.

Figure 6.5 shows that long-duration job opportunities (measured in person days per job opportunity) correlate reasonably well with the map of unemployment rates. Municipalities in high unemployment rate provinces of Limpopo and Mpumalanga perform quite well with a reasonable share of medium to long-term job opportunities being generated on average. Long-term job opportunities are also more likely to be generated in EPWP situated in north-west Kwazulu-Natal and in Northern Cape and Free State.

While many EPWP jobs are created in Durban, they tend to have a short duration. Also very few long-term jobs are being created in the southern regions of Eastern Cape where unemployment clusters. Likewise in Johannesburg and surrounds, as well as Cape Town in the Western Cape, the job opportunities generated tend to be short-term. EPWPs in Emthanjeni in the Northern Cape, also performs well in terms of creating long-term job opportunities.

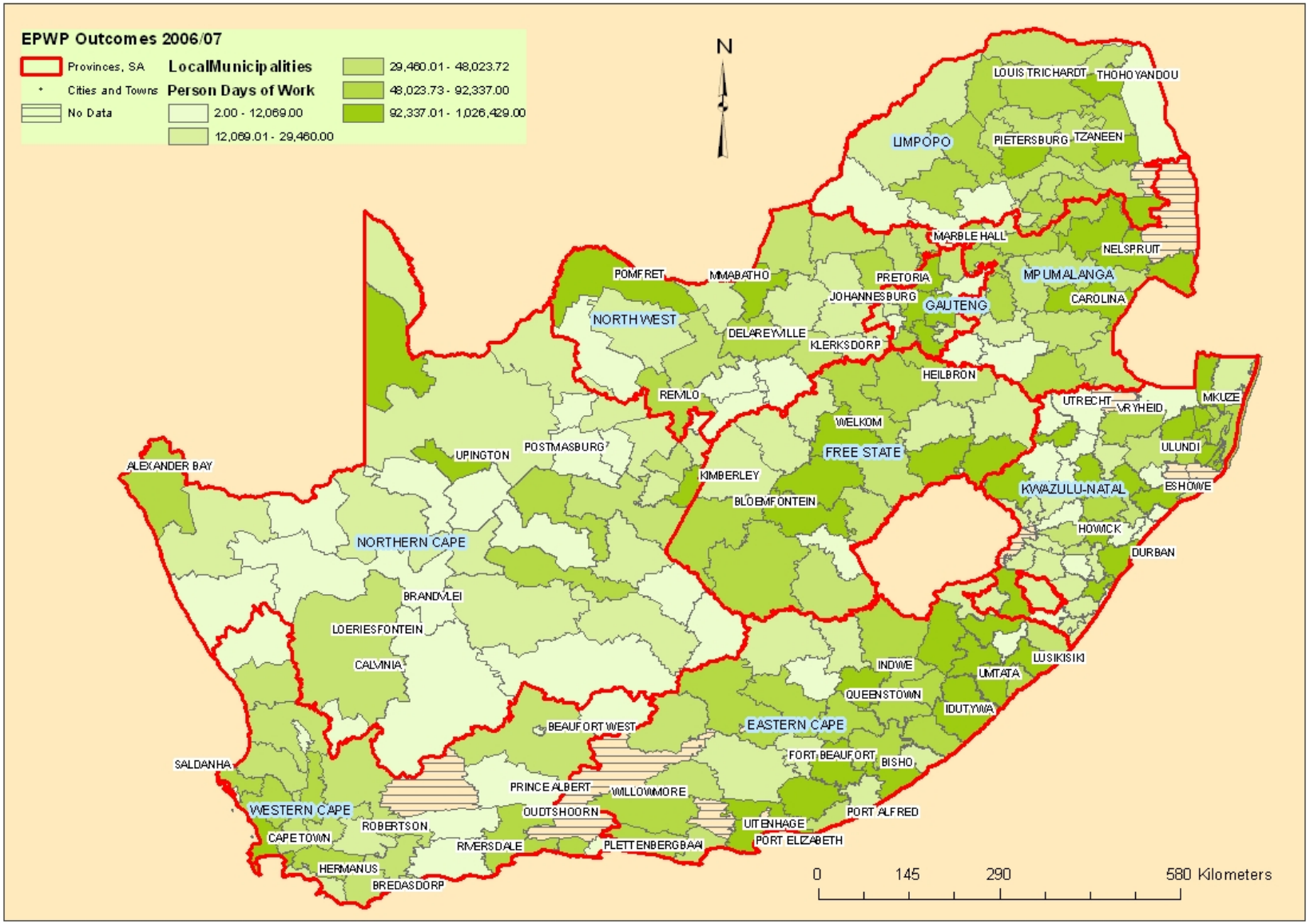
So it appears that long-term programmes (duration of 2 years or more) tend to locate in those areas with comparatively scarce labour, while short-term programmes tend to locate in areas of excess labour supply and in urban settlements.

Figure 6.1 Unemployment Rate 2001, Local Municipality Boundaries 2005



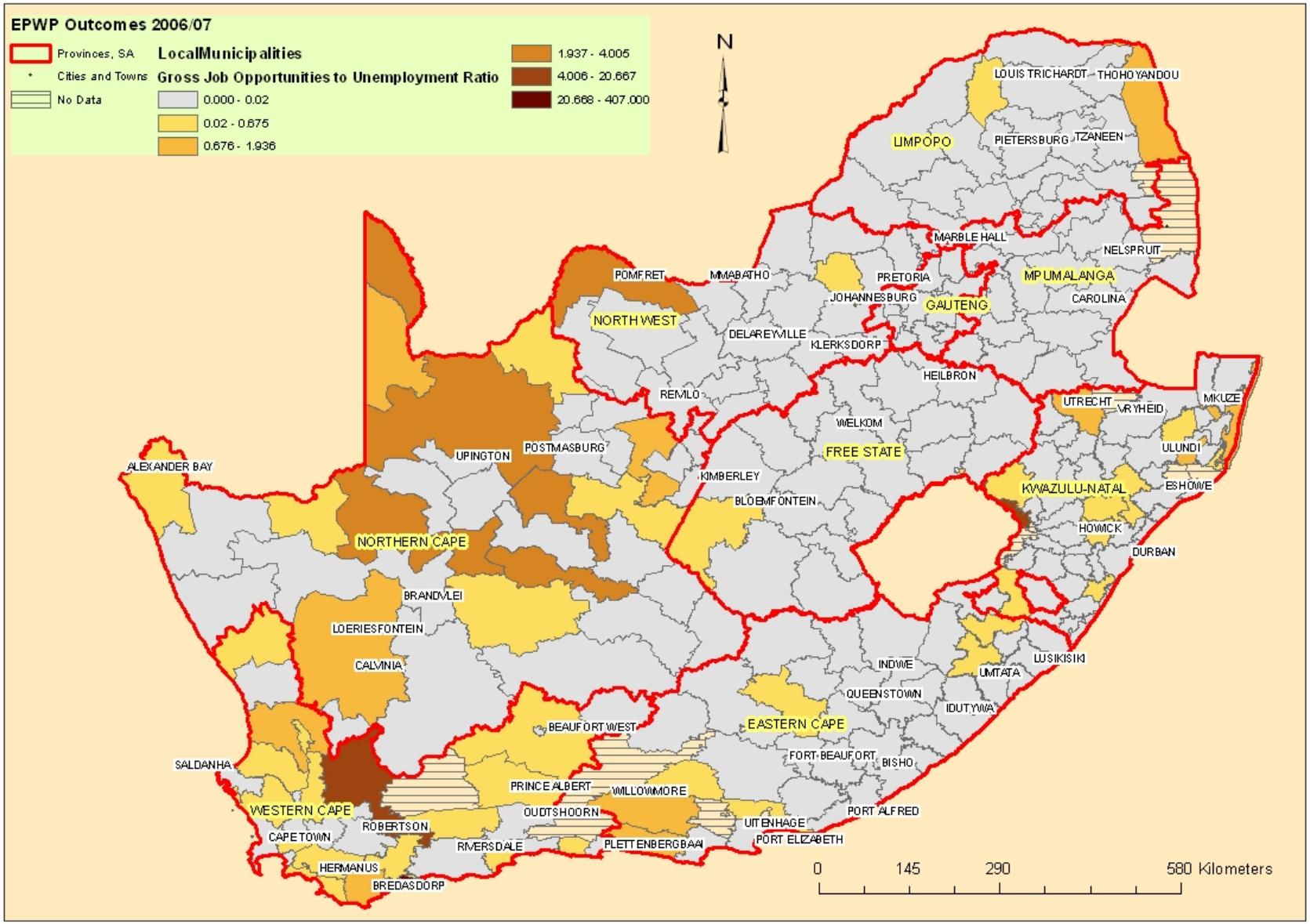
Source: Statistics SA, Table Census 2001 by Municipalities and Official Employment Status. Bands created using population weighted deciles.

Figure 6.2 EPWP Outcomes, Person Days of Work, 2006-07, Local Municipality Boundaries 2005



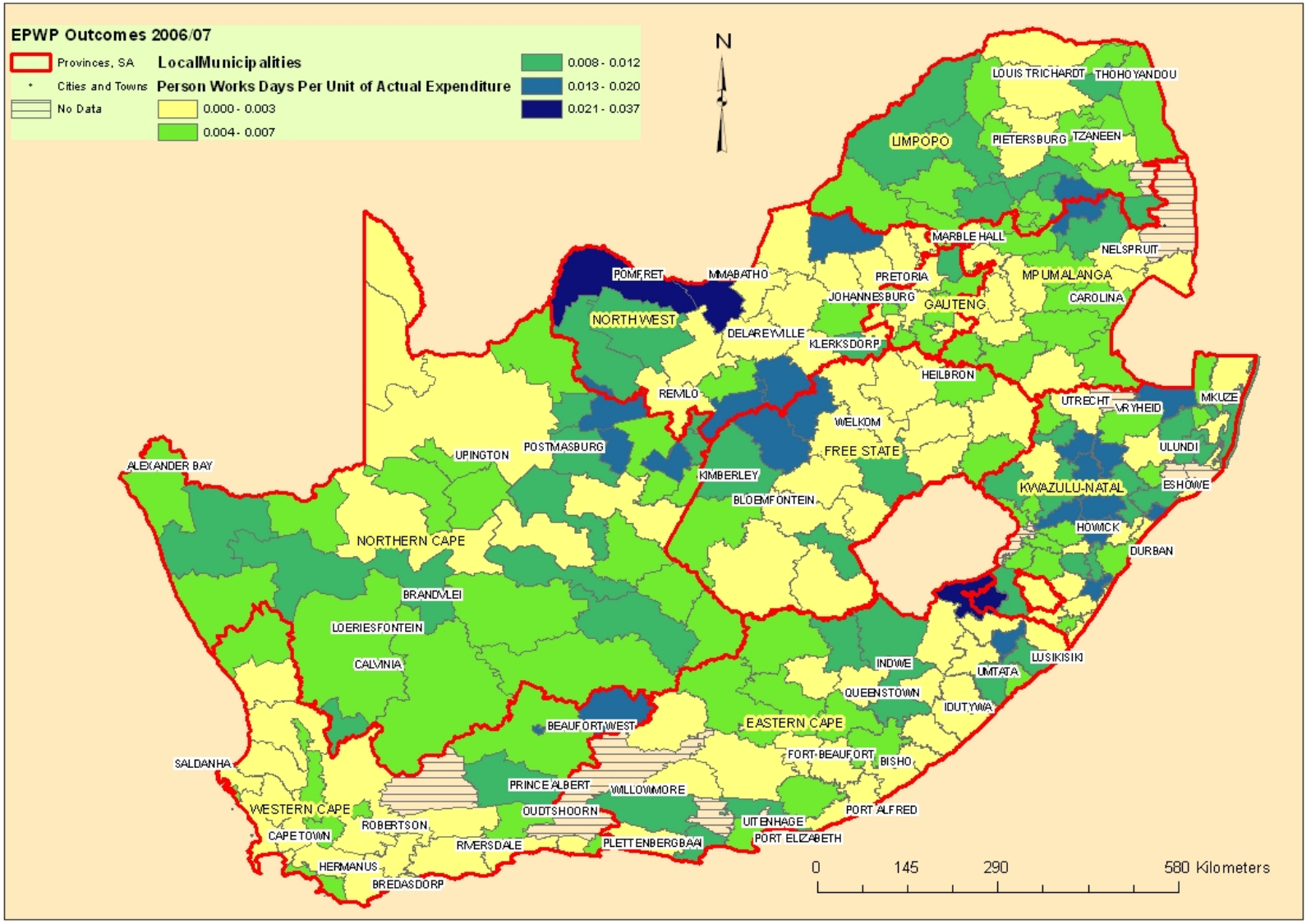
Source: Department of Public Works, EPWP Monitoring and Evaluation Unit, Unpublished Data. Bands created using natural breaks.

Figure 6.3 EPWP Outcomes, Ratio of Gross Job Opportunities to Unemployment, 2006-07, Local Municipality Boundaries 2005



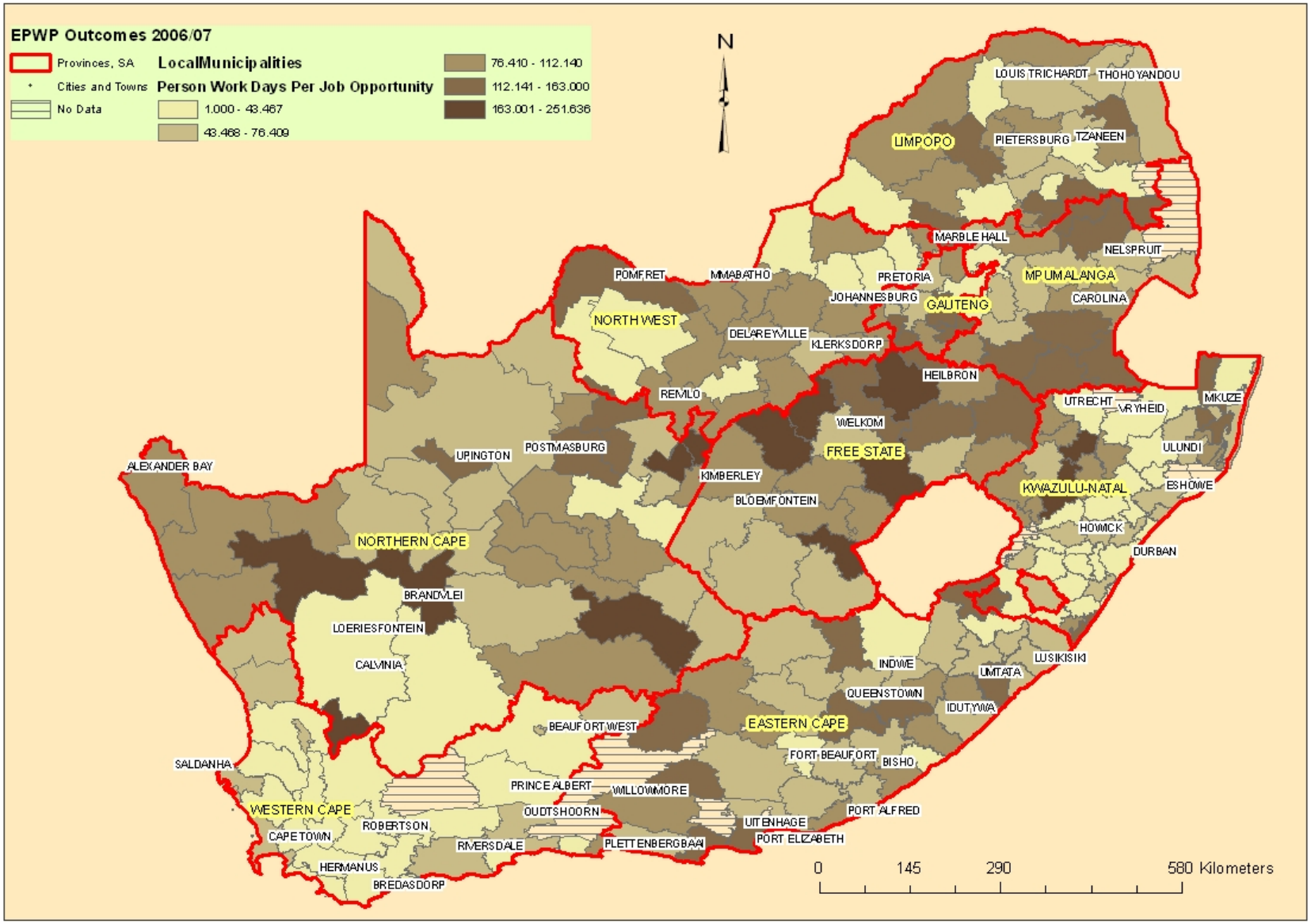
Source: Department of Public Works, EPWP Monitoring and Evaluation Unit, Unpublished Data. Bands created using custom boundaries.

Figure 6.4 EPWP Outcomes, Person Work Days Per Unit Actual Expenditure, 2006-07, Local Municipality Boundaries 2005



Source: Department of Public Works, EPWP Monitoring and Evaluation Unit, Unpublished Data. Bands created using natural breaks.

Figure 6.5 EPWP Outcomes, Person Days Per Job Opportunity, 2006-07, Local Municipality Boundaries 2005



[1] Care was taken to retain all records and correct spatial information on the raw EPWP administrative dataset. However 77 records were deleted from the EPWP administrative data because they did not contain sufficient or correct spatial information to enable alignment with the Stats SA 2005 municipal boundary file. Marginal error may have been introduced in aligning 2006-07 data to the most up-to-date 2005 geographic shapefile, downloaded from the Municipal Demarcation Board: http://www.demarcation.org.za/. There are 247 municipalities with EPWPs recorded in 2006-07, of a total 257 municipalities in the 2005 boundary file. Municipality identifiers were assigned to EPWP prgrammes with missing data by means of infrastructure/road shapefiles, supplied by the National Department of Public Works.

7 The concept of employment guarantees – the path to full employment and price stability

7.1 Overview

In this Chapter we consider the concept of a national employment guarantee as a precursor to considering the way in which the EPWP can be expanded to better meet its goals without compromising responsible macroeconomic management. This is a conceptual chapter and provides the basis for an understanding of the different ways in which buffer stocks can be used to control inflation. We show that there is only one buffer stock alternative that delivers both full employment and price stability. We call this the Job Guarantee (Mitchell, 1998).

In Chapter 8, a theoretical framework is developed which provides the essential conceptual background to recent developments in modern monetary economics and this background, in turn, engenders an understanding of how the introduction of a Job Guarantee (JG) is consistent with sound macroeconomic management by providing the basis for maintaining full employment with price stability.

In terms of Chapter 8, the broad theoretical macroeconomic framework we present is based on the recognition that fiat currency systems are in fact public monopolies *per se*, introduce imperfect competition to the monetary system itself, and that the imposition of taxes coupled with insufficient government spending generates unemployment in the private sector.

An understanding of this wide spread monetary framework allows us, once we have appreciated how unemployment occurs, to detail the role that government can play in maintaining its near universal dual mandates of price stability and full employment (see Mitchell, 1998; Wray, 1998; Mosler, 1997-98; Mitchell and Mosler, 2002, 2006; Mitchell and Muysken, 2008).

Orthodox economic theory advances the use of unemployment as an inflation control mechanism. The wave of support for the concept of the Non-Accelerating Inflation Rate of Unemployment (NAIRU) by policy makers is indicative of the level of influence the orthodox theories have had over the last 30 years. Under a NAIRU regime, inflation is controlled using tight monetary and fiscal policy, which leads to a buffer stock of unemployment. We show that the NAIRU is a costly and unreliable target for policy makers to pursue as a means for inflation proofing.

However, inflation control in an economy that exploits the fiscal power embodied in a fiat-currency issuing national government to introduce full employment can instead be based on an employment buffer stock approach. In the context of an employment buffer stock policy approach we specifically consider the JG model developed by Mitchell (1996, 1998, 2000a, 2000b) (see also Mosler, 1997-98; Wray, 1998; and Mitchell and Muysken, 2008).[1] Under a Job Guarantee (JG), the inflation anchor is provided in the form of a fixed wage (price) employment guarantee.

In the South African context this guarantee would be best administered via a revamped and reorganised EPWP. Chapter 4 deals with our recommendations on what this fixed wage might be.

Full employment requires that there are enough jobs created in the economy to absorb the available labour supply. Focusing on some politically acceptable (though perhaps high) unemployment rate is incompatible with sustained full employment.

Further, central banks have, increasingly, been given the responsibility by government for managing the price level. In conducting monetary policy to fulfil their major economic objectives, central banks manipulate the interest rate and attempt to manage the state of inflation expectations. These policy tools are employed to achieve an alleged optimal level of price stability and capacity utilisation (typically assumed to be invariant in the long-run to nominal aggregates). Where negative real effects from the operation of inflation-first monetary policy are acknowledged they are theorised to be necessary for optimal long term growth and employment and small in magnitude.

These considerations suggest that the central bank, as part of the consolidated currency-issuing government sector, has another, somewhat similar yet far more effective buffer stock option which is in fact an alternative way of managing the unemployment programme. We will argue that a superior use of the labour slack necessary to generate price stability is to implement an employment programme for the otherwise unemployed as an activity floor in the real sector, which both anchors the general price level to the price of employed labour of this (currently unemployed) buffer and can produce useful output with positive supply side effects (see Mitchell and Muysken, 2008).[2]

The employment buffer stock approach (the JG) exploits the imperfect competition introduced by the operations of the fiat (flexible exchange rate) currency which provides the issuing government with pricing power and frees it of nominal financial constraints. The JG approach represents a break in paradigm from both traditional Keynesian policies and the neo-liberal NAIRU-buffer stock approach. The difference is a shift from what can be categorised as spending on a *quantity rule* to spending on a *price rule*. For example, under the policy frameworks typically employed by Western countries, including South Africa, the government generally budgets a quantity of dollars to be spent at prevailing market prices. This is what we mean by spending on a quantity rule. In contrast, with the JG option, the government additionally offers a fixed wage to anyone willing and able to work, and thereby lets market forces determine the total quantity of government spending. We categorise this as spending based on a price rule.

Under the JG scheme, the government continuously absorbs workers displaced from private sector employment. The JG workers thus constitute a buffer employment stock and would be paid the minimum wage. Many economists who are sympathetic to the goals of full employment are sceptical of the JG approach because they fear it will make inflation impossible to control.

We address these issues by outlining the inflation control mechanisms inherent in the JG model. Briefly stated, if the private sector is inflating, a tightening of fiscal and/or monetary policy shifts workers into the fixed-wage JG-sector to achieve inflation stability without unemployment.

7.2 Unemployment buffer stocks and price stability

Mitchell and Muysken (2008) argue that there have been two striking developments in macroeconomics over the last thirty years. First, a major theoretical revolution has occurred in macroeconomics (from Keynesianism to Monetarism and beyond) since the mid 1970s such that the neo-liberal policy agenda now dominates. Second, unemployment rates have persisted at the highest levels known in the Post World War II period. In terms of South

Africa, the high levels of unemployment are evidence of that government's adoption of the failed neo-liberal policy structure.

Multilateral neo-liberal influence on South African government policy is evident in the re-engagement by the World Bank and the International Monetary Fund (IMF) with that country in the early 1990s. The World Bank actively engaged in 'inclusive dialogue among all segments of South African society', and provided 'analysis to support the economic transformation' of the economy (World Bank, 1999a). In the Post 1994 democratic era the Bank has vigorously involved itself in knowledge provision and assistance to the South African government to enhance the countries access to international financial markets and global trade competitiveness (World Bank, 1999a; see also Groener, 2001).

In 1999, the World Bank (1999b: 10) used the prevailing neo-liberal rhetoric to articulate the challenges it thought faced the South African government –

> How to generate employment and sustainable livelihoods for the poor on a large scale - at the lowest fiscal cost? … How can Government best re-orient its own programmes and build partnerships with the private sector and NGOs to speed up delivery and help the poor consolidate their assets? … How to re-orient public expenditures to have the greatest impact on poverty, within an overall fiscal constraint?

Analysis by Groener (2001) suggests that the South African government has developed a 'dual commitment to social transformation and neo-liberalism'. Initially, the government was strongly oriented to social transformation given the long period of apartheid. But as time has passed, the South African government fell prey to the heavily promoted neo-liberal policy agenda by the IMF and the World Bank.

Even though the IMF has not been a significant creditor of South Africa nor implemented a structural adjustment package, there is no doubting that its' neo-liberal doctrines have influenced economic policy makers. This was initially exemplified in the government's decision in 1996 to pursue its Growth, Employment and Redistribution (GEAR) policy. The GEAR policy design mimicked the architecture common in IMF Structural Adjustment Programmes in the sense that it established Federal budget cuts accompanied by a move to restrictive (anti-inflationary) monetary policy, massive privatisation and trade liberalisation as policy priorities.

The fact that after some 14 years, labour markets in South Africa fail to provide necessary income earning opportunities for a large proportion of the population is indicative of the fail of these neo-liberal policy frameworks which have emphasised export-led growth (but failing to acknowledge that exports are a cost), financial deregulation (which facilitated significant exit of much needed wealth from the country to "safe havens"), trade liberalisation, cuts in government spending (particularly in the social policy arena), persistently high interest rates and widespread privatisations which have transferred significant amounts of public wealth into the hands of a few.

Mitchell and Muysken (2008) show how the adoption of the neo-liberal agenda by most Western governments accompanied the abandonment of full employment as a genuine policy goal. The theoretical construction which allegedly "justified" this policy change was the natural rate hypothesis and its assertion that there is only one unemployment rate consistent with stable inflation. In the natural rate hypothesis, there is no discretionary role for aggregate demand management and only microeconomic changes can reduce the natural rate of unemployment. The natural rate hypothesis manifests in the modern concept of the NAIRU. Accordingly, the policy debate around the World became increasingly concentrated on

deregulation, privatisation, and reductions in the provisions of the Welfare State with tight monetary and fiscal regimes instituted.

The almost exclusive central bank focus on maintaining price stability on the back of an overwhelming faith in the NAIRU ideology, has marked the final stages in the evolution of an abandonment of earlier full employment policies. The modern policy framework is in contradistinction to the practice of governments in the Post World War II period to 1975 which sought to maintain levels of demand using a range of fiscal and monetary measures that were sufficient to ensure that full employment was achieved. Unemployment rates were usually below 2 per cent throughout this period.

Under inflation targeting (or inflation-first) monetary regimes, central banks shifted their policy emphasis. They now conduct monetary policy to meet an inflation target and, arguably, have abandoned any obligations they have to support a policy environment which achieves and maintains full employment (Mitchell, 2001b). Unemployment since the mid-1970s has mostly persisted at high levels although in some economies low quality, casualised work has emerged in the face of persistently deficient demand for labour hours.

However, central bankers do not characterise their approach in this way and they avoid recognition of the empirical fact that contractionary monetary policy continues to generate output and employment losses which are permanent. Instead the dominant paradigm suggests that full employment is a natural derivative of the maintenance of price stability even though this approach to price stability requires the maintenance of an unemployed buffer stock.

The use of unemployment as a tool to suppress price pressures has, based on the OECD experience in the 1990s, been successful in that inflation is now no longer driven by its own expectations. One explanation is that unemployment temporarily balances the conflicting demands of labour and capital by disciplining the aspirations of labour so that they are compatible with the profitability requirements of capital. Similarly, low product market demand, the analogue of high unemployment, suppresses the ability of firms to pass on prices to protect real margins. Other explanations for the effectiveness of unemployment in controlling inflation are possible. The empirical evidence is clear that most OECD economies have not provided enough jobs since the mid-1970s and the conduct of monetary policy has contributed to the malaise (see Modigliani, 2000). Central banks around the world have forced the unemployed to engage in an involuntary fight against inflation and the fiscal authorities in many cases have further worsened the situation with complementary austerity.

While the economy of South Africa has always been two-tiered and in that sense somewhat different to a typical Western industrial economy described above, the same trends towards neo-liberalism are evident. It is clear that the fiscal austerity imposed on South Africa by its government severely limits the ability of programmes such as the EPWP to improve the circumstances of those most in need. In Chapter 8 we will show that the EPWP, albeit severely limited in scope by voluntary fiscal constraints imposed on the programme by the Government, is an effective vehicle for employment and poverty alleviation.

How useful is the NAIRU as a guide to policy? Mitchell and Muysken (2008) analyse a growing literature which points to the conclusion that the NAIRU is useless as a guide to policy (see also Mitchell, 2000b). While there may be some stability between inflation and unemployment for a period, experience from many OECD countries suggests that a sudden shock, especially from the supply side (as in 1974) can worsen the unemployment resulting from a deflationary strategy, which is attempting to exploit a given Phillips curve. Evidence from the OECD experience since 1975 suggests that deflationary policies are effective in

bringing inflation down but impose huge costs on the economy and certain demographic groups, which are rarely computed or addressed.

The overwhelming quandary that the NAIRU approach to inflation control faces is whether the economy, once deflated by restrictive aggregate demand management, can be restarted without inflation. If the underlying causes of the inflation are not addressed, a demand expansion will merely reignite the tensions and a wage-price outbreak is likely (Cornwall, 1983; Rowthorn, 1980). As a basis for policy the NAIRU approach is thus severely restrictive and provides no firm basis for full employment and price stability.

Further, despite its centrality to policy, the NAIRU evades accurate estimation and the case for its uniqueness and cyclical invariance is weak. Given these vagaries, its use as a policy tool is highly contentious.

7.3 Employment buffer stocks and price stability

7.3.1 Overview

It is clear that central bankers are now using buffer stocks of unemployed to achieve a desirable price level outcome. While the real effects of such a policy have been contested, there is overwhelming evidence to suggest that the cumulative costs of this strategy in real terms have been substantial. In addition to lost output, other real costs are suffered by the nation, including the depreciation of human capital, family breakdowns, increasing crime, and increasing medical costs. However, and most important to a central banker, the effectiveness of an unemployed buffer stock has been shown to deteriorate over time, with ever larger numbers of fresh unemployed or underemployed required to function as a price anchor that stabilises wages.

The question that arises is whether using a persistent pool of unemployed (or casualised underemployed) is the most cost effective way to achieve price stability? In Chapter 8, we develop the principles of a macroeconomic framework in which modern governments such as in South Africa operate. This will in turn underpin the argument developed here that a better alternative would be to utilise an employed buffer stock approach.

We recognise that central banks have, increasingly, been given the responsibility by government for managing the price level. In conducting monetary policy to fulfil their major economic objectives, central banks manipulate the interest rate and attempt to manage the state of inflation expectations. These policy tools are employed to achieve an alleged optimal level of price stability and capacity utilisation (typically assumed to be invariant in the long-run to nominal aggregates). Where negative real effects from the operation of inflation-first monetary policy are acknowledged they are theorised to be necessary for optimal long-term growth and employment and are small in magnitude.

However, several researchers have found that sacrifice ratios remain significant and persistent, meaning that GDP losses during disinflation episodes are substantial. Additionally, a major component of this monetary policy stance is the persistent pool of unemployed (and other forms of labour underutilisation, for example, underemployment) (see Ball, 1994; Ball and Sheridan, 2003, Mitchell and Bill, 2004) as a buffer stock for wage and thereby price stability. The unemployment pool is thus widely recognised and monitored as a price anchor, a primary concern for price stability in general, and a prime object of monetary policy. Recognising that the effectiveness of unemployment *per se* as a price anchor is a further function of the terms, conditions, and administration of the unemployment programme, we also recommend management of the unemployment policy and programmes be made a function of the agency responsible for said price stability - the central bank.

Additionally, we will show that the central bank, as part of the consolidated currency-issuing government sector, has another, somewhat similar yet far more effective buffer stock option which is in fact an alternative way of managing the unemployment programme.

A superior use of the labour slack necessary to generate price stability is to implement an employment programme for the otherwise unemployed as an activity floor in the real sector. This both anchors the general price level to the price of employed labour of this (currently unemployed) buffer and can produce useful output with positive supply side effects.

In this vein we are suggesting that all politicians in countries that have a sovereign currency (such as South Africa) should set a minimum acceptable living standard and ensure that a base level job is always available at a wage which would allow all citizens to achieve that living standard independent of welfare payments. This is the essence of the JG. Analogous to the central bank's function of lender of the last resort, the JG functions as a buffer which absorbs all potential employment, at the accepted minimum wage. Government then is also the employer of the last resort (ELR). An additional advantage is that by creating an employment buffer stock government also facilitates inflation control.

7.3.2 The concept of a Job Guarantee

The JG proposal was conceived independently by Mitchell (1996, 1998) and Mosler (1997-98). In the period spanning the immediate post-war years through to the mid 1970s, most advanced western nations, maintained very low levels of unemployment. This era was marked by the willingness of governments to manipulate levels of aggregate demand to ensure enough jobs were created to meet the preferences of the labour force, given labour productivity growth. Governments used a range of fiscal and monetary measures to stabilise the economy in the face of fluctuations in private sector spending.

While both private and public employment growth was relatively strong, the major reason that the economy was able to sustain full employment was that it maintained a buffer of jobs that were always available, and which provided easy employment access to the least skilled workers in the labour force (see Ormerod, 1994). Some of these jobs, such as process work in factories, were available in the private sector. However, the public sector also offered many buffer jobs that sustained workers with a range of skills through hard times. In some cases, these jobs provided permanent work for the low skilled and otherwise disadvantaged workers.

The JG proposal recognises that a stock of jobs providing opportunities for the less skilled must be maintained by the public sector if there is to be a true path to full employment. This type of cohesion is a pre-condition for strong communities. The introduction of a JG would restore the buffer stock capacity to any economy and ensure that, at all times, the least advantaged workers in our community have opportunities to earn a wage and to live free of welfare support and poverty.

While it is easy to characterise the JG as purely a public sector job creation strategy, it is important to appreciate that it is actually a macroeconomic policy framework designed to deliver full employment *and* price stability based on the principle of buffer stocks where job creation and destruction is but one component. Mitchell (2000b) discusses the link between the JG approach and the agricultural price support buffer stock schemes like the Wool Floor Price Scheme introduced by the Australian Government in 1970. While generating full employment for wool production, there was an issue of what constituted a reasonable level of output in a time of declining demand. The argument is not relevant when applied to unemployed labour. If there is a price guarantee below the prevailing market price and a

buffer stock of working hours constructed to absorb the excess supply at the current market price, then a form of full employment can be generated without tinkering with the price structure. The other problem with commodity buffer stock systems is that they encouraged over-production, which ultimately made matters worse when the scheme was discontinued and the product was dumped onto the market. These objections do not apply to maintaining a labour buffer stock as no one is concerned that employed workers would have more children than unemployed workers (see Graham, 1937).

Graham (1937) discussed the idea of stabilising prices and standards of living by surplus storage. He documents how a government might deal with surplus production in the economy. Graham (1937: 18) said the 'State may deal with actual or threatened surplus in one of four ways: (a) by preventing it; (b) by destroying it; (c) by "dumping" it; or (d) by conserving it.' In the context of an excess supply of labour, governments now choose the dumping strategy via the NAIRU. It makes much better sense to use the conservation approach via a JG. Graham (1937: 34) noted

> The first conclusion is that wherever surplus has been conserved primarily for future *use* the plan has been sensible and successful, unless marred by glaring errors of administration. The second conclusion is that when the surplus has been acquired and held primarily for future *sale* the plan has been vulnerable to adverse developments …

The distinction is important in the JG model. The Australian Wool Scheme was an example of storage for future sale and was not motivated to help the consumer of wool but the producer. The JG policy is an example of storage for use where the 'reserve is established to meet a future need which experience has taught us is likely to develop' (Graham, 1937: 35). Graham also proposed a solution to the problem of interfering with the relative price structure when the government built up the surplus. In the context of the JG policy, this means setting a JG wage below the private market wage structure. To avoid disturbing the private sector wage structure and to ensure the JG is consistent with price stability, the JG wage rate should probably be set at the current legal minimum wage, though an initially higher JG wage may be offered if the government sought to combine the JG policy with an industry policy designed to raise productivity.

We argued in Chapter 4 that the EPWP minimum wage should indeed be set above the current minimum "market wage" because the latter fails to pay wages above an acceptable poverty line. We recognise that in the South African context there is a minima determined by each sector and hence no national minimum wage (see Chapter 2). In this case, the EPWP minimum wage proposed would effectively become the floor for all sectors and hence would become the national minimum wage.

Under the JG, the public sector offers a fixed wage job, which we consider to be price rule spending, to anyone willing and able to work, thereby establishing and maintaining a buffer stock of employed workers. This buffer stock expands (declines) when private sector activity declines (expands), much like today's unemployed buffer stocks, but potentially with considerably more liquidity if properly maintained.

The JG thus fulfils an absorption function to minimise the real costs currently associated with the flux of the private sector. When private sector employment declines, public sector employment will automatically react and increase its payrolls. The nation always remains fully employed, with only the mix between private and public sector employment fluctuating as it responds to the spending decisions of the private sector. Since the JG wage is open to everyone, it will functionally become the national minimum wage.

7.3.3 Inflation control under a Job Guarantee

The fixed JG wage provides an in-built inflation control mechanism. Mitchell (1998) called the ratio of JG employment to total employment the Buffer Employment Ratio (BER). The BER conditions the overall rate of wage demands. When the BER is high, real wage demands will be correspondingly lower. If inflation exceeds the government's announced target, tighter fiscal and monetary policy would be triggered to increase the BER, which entails workers transferring from the inflating sector to the fixed price JG sector. Ultimately this attenuates the inflation spiral. So instead of a buffer stock of unemployed being used to discipline the distributional struggle, the JG policy achieves this via compositional shifts in employment. The BER that results in stable inflation is called the Non-Accelerating-Inflation-Buffer Employment Ratio (NAIBER) (Mitchell, 1998). It is a full employment steady state JG level, which is dependent on a range of factors including the path of the economy.[3]

A plausible story to show the dynamics of a JG economy compared to a NAIRU economy would begin with an economy with two labour sub-markets: A (primary) and B (secondary) which broadly correspond to the dual labour market depictions. Prices are set according to mark-ups on unit costs in each sector. Wage setting in A is contractual and responds in an inverse and lagged fashion to relative wage growth (A/B) and to the wait unemployment level (displaced Sector A workers who think they will be reemployed soon in Sector A). A government stimulus to this economy increases output and employment in both sectors immediately. Wages are relatively flexible upwards in Sector B and respond immediately. The compression of the A/B relativity stimulates wage growth in Sector A after a time. Wait unemployment falls due to the rising employment in A but also rises due to the increased probability of getting a job in A. The net effect is unclear. The total unemployment rate falls after participation effects are absorbed. The wage growth in both sectors may force firms to increase prices, although this will be attenuated somewhat by rising productivity as utilisation increases. A combination of wage-wage and wage-price mechanisms in a soft product market can then drive inflation. This is a Phillips curve world. To stop inflation, the government has to repress demand. The higher unemployment brings the real income expectations of workers and firms into line with the available real income and the inflation stabilises - a typical NAIRU story.

Introducing the JG policy into the depressed economy puts pressure on Sector B employers to restructure their jobs in order to maintain a workforce. For given productivity levels, the JG wage constitutes a floor in the economy's cost structure. The dynamics of this economy change significantly.

The elimination of all but wait unemployment in Sector A and frictional unemployment does not distort the relative wage structure so that the wage-wage pressures that were prominent previously are now reduced.

The wages of JG workers (and hence their spending) represents a modest increment to nominal demand given that the state is typically supporting them on unemployment benefits. It is possible that the rising aggregate demand softens the product market, and demand for labour rises in Sector A. But there are no new problems faced by employers who wish to hire labour to meet the higher sales levels in this environment. They must pay the going rate, which is still preferable, to appropriately skilled workers, than the JG wage level. The rising demand *per se* does not invoke inflationary pressures if firms increase capacity utilisation to meet the higher sales volumes.

With respect to the behaviour of workers in Sector A, Gordon (1997: 833) said that if 'there is a job guarantee programme, the employees can simply quit an obnoxious employer with assurance that they can find alternative employment.' With a JG, wage bargaining is freed from the general threat of unemployment. However, it is unclear whether this will lead to higher wage demands than otherwise. In professional occupational markets, some wait unemployment will remain. Skilled workers who are laid off are likely to receive payouts that forestall their need to get immediate work. They have a disincentive to immediately take a JG job, which is a low-wage and possibly stigmatised option. Wait unemployment disciplines wage demands in Sector A. However, demand pressures may eventually exhaust this stock, and wage-price pressures may develop.

A crucial point is that the JG does not rely on the government spending at market prices and then exploiting multipliers to achieve full employment which characterises traditional Keynesian pump-priming. In Section 7.4.1 we argue that traditional Keynesian remedies fail to provide an integrated full employment-price anchor policy framework. In fact, a Keynesian policy agenda would impact more significantly on inflation if it was true that a JG was inflationary as a result of its impacts on demand in the product market.

7.3.4 Would the NAIBER will be higher than the NAIRU?

This last point invokes a fierce debate as to relative sizes of the NAIBER vis-à-vis the NAIRU. Some commentators argue that the NAIBER would have to be greater than the NAIRU for an equivalent amount of inflation control (for example, Sawyer, 2003). There are two strands to this argument. First, the intuitive but somewhat inexact view is that because JG workers will have higher incomes (than when they were unemployed) a switch to this policy would always see demand levels higher than under a NAIRU world. As a matter of logic then, if the NAIRU achieved output levels commensurate with price stability then, other things equal, a higher demand level would have to generate inflationary impulses. So according to this view, the level of unemployment associated with the NAIRU is intrinsically tied to a unique level of demand at which inflation stabilises.

Second, and related, it is claimed that the introduction of the JG reduces the threat of unemployment which serves to discipline the wage setting process. The main principle of a buffer stock scheme like the JG is straightforward – it buys off the bottom (at zero bid) and cannot put pressure on prices that are above this floor. The choice of the floor may have once-off effects only.

It should be noted that while it is clear that JG workers will enjoy higher purchasing power under a JG compared to their outcomes under a NAIRU policy, it is not inevitable that aggregate demand overall would rise with the introduction of JG. We take this issue up later but for now assume for argument sake that aggregate demand overall does rise when the JG is introduced.

When aggregate demand is higher when the JG is introduced than that which prevailed in the NAIRU economy, a traditional economist (and some Post Keynesians, such as Sawyer, 2003) might wonder why inflation is not inevitable as we replace unemployment with (higher paying) employment. Sawyer (2003: 898) represented the problem as 'the level of unemployment achieved could be below a supply-side-determined inflation barrier … the NAIRU.' The higher demand may stimulate private investment which then puts upwards pressure on prices. However, the government could react by introducing contractionary measures which would increase the JG pool (as employment was redistributed from the inflating sector to the fixed-wage JG pool) and thus keep inflation under control.

We note that rising demand *per se* does not necessarily invoke inflationary pressures because by definition, given the logic developed in Chapter 8, the extra liquidity is satisfying a net savings desire by the private sector. Additionally, in today's demand constrained economies, firms are likely to increase capacity utilisation to meet the higher sales volumes. Given that the demand impulse is less than required in the NAIRU economy, it is clear that if there were any demand-pull inflation it would be lower under the JG. So there are no new problems faced by employers who wish to hire labour to meet the higher sales levels. Any initial rise in demand will stimulate private sector employment growth while reducing JG employment and spending.

The impact on the price level of the introduction of the JG will also depend on qualitative aspects of the JG pool relative to the NAIRU unemployment buffer. It is here that the so-called threat debate enters. In our view the JG buffer stock is a qualitatively superior inflation fighting pool than the unemployed stock under a NAIRU. Therefore the NAIBER will be lower than the NAIRU which means that employment can be higher before the inflation barrier is reached.

In the NAIRU logic, workers may consider the JG to be a better option than unemployment. Without the threat of unemployment, wage bargaining workers then may have less incentive to moderate their wage demands notwithstanding the likely disciplining role of wait unemployment in skilled labour markets (see Sawyer, 2003). However, when wait unemployment is exhausted, private firms would still be required to train new workers in job-specific skills in the same way they would in a non-JG economy. However, JG workers are far more likely to have retained higher levels of skill than those who are forced to succumb to lengthy spells of unemployment. It is thus reasonable to assume that an employer would consider a JG worker, who is already demonstrating commitment to working, a superior training prospect relative to an unemployed and/or hidden unemployed worker. This changes the bargaining environment rather significantly because the firms now have reduced hiring costs. Previously, the same firms would have lowered their hiring standards and provided on-the-job training and vestibule training in tight labour markets.

The functioning and effectiveness of the buffer employment stock is critical to its function as a price anchor. Condition and liquidity is the key. Just as soggy rotting wool is useless in a wool price stabilisation scheme, labour resources should be nurtured, as human capital constitutes the essential investment in future growth and prosperity. There is overwhelming evidence that long-term unemployment generates costs far in excess of the lost output that is sacrificed every day the economy is away from full employment (see Mitchell, 2001a). It is clear that the more employable are the unemployed the better the price anchor will function.

The JG policy thus would reduce the hysteretic inertia embodied in the long-term unemployed and allow for a smoother private sector expansion. Therefore JG workers would constitute a credible threat to the current private sector employees. When wage pressures mount, an employer would be more likely to exercise resistance if she could hire from the fixed-price JG pool. As a consequence, longer term planning with cost control would be enhanced. So in this sense, the inflation restraint exerted via the NAIBER is likely to be more effective than using a NAIRU strategy.

Another associated factor relates to the behaviour of professional occupational markets. In those markets, while any wait unemployment will discipline wage demands, the demand pressures may eventually exhaust this stock and wage-price pressures may develop. With a strong and responsive tertiary education sector combined with strong firm training processes skill bottlenecks can be avoided more readily under the JG than with an unemployed buffer stock in place. The JG workers would be already maintaining their general skills as a

consequence of an on-going attachment to the employed workforce. The qualitative aspects of the unemployed pool deteriorate with duration making the transition back in the labour force more problematic. As a consequence, the long-term unemployed exert very little downward pressure on wages growth because they are not a credible substitute. The International Labour Organisation (1996/97) said that 'prolonged mass unemployment transforms a proportion of the unemployed into a permanently excluded class.' The ILO argued that these people 'cease to exert any pressure on wage negotiations and real wages.' The result is that 'the competitive functioning of the labour market is eroded and the influence of unemployment on real wages is reduced.'

In summary, Mitchell and Wray (2005: 238) concluded that in 'hiring off the bottom' the JG

> does not seek to employ any specific number of workers nor does it seek specific skills. Most importantly, it does not chase wages upward and thus never competes with higher and rising private sector wage offers. As a consequence, ELR can achieve and sustain noninflationary full employment at any level of aggregate demand.

We thus hypothesise that the threat factor under the JG would be higher and as a consequence we anticipate that the NAIBER would in fact be lower than the NAIRU.

7.4 Employment buffer stocks and macroeconomic policy

While we have analysed the inflation control mechanisms inherent in the JG model in detail in the previous section, we focus in this section on other macroeconomic aspects. An important insight relates to the differences between the JG and a generalised demand expansion. We explain why the focus of the JG makes it a better instrument to pursue full employment compared to a generalised Keynesian expansion. Using the analysis from Chapter 3 we also discuss the financial considerations of the JG in a modern monetary economy and argue that the JG does not violate Balance of Payments constraints.

7.4.1 Does the JG operate akin to a generalised demand expansion?

In the discussion of the relative magnitudes of the NAIBER versus the NAIRU we noted that aggregate demand may or may not increase with the introduction of a JG. A common misconception considers the JG to be similar to any Keynesian approach that 'increases employment by raising aggregate demand' (Mitchell and Wray, 2005: 235). This misconception has been at the heart of a debate within Post Keynesian economics about the JG approach, characterised by the exchange between Sawyer (2003, 2005) and Mitchell and Wray (2005). Sawyer (2003) perpetuated the view that the JG is similar to any traditional Keynesian generalised demand expansion. The point is important because if Sawyer's representation is valid then the debate quickly moves to comparing different options that could be pursued by expansionary fiscal policy – that is, by increasing government spending, lowering taxes, or in Friedman's conception dropping money from helicopters.

Mitchell and Wray (2005: 236) showed that the JG approach cannot be characterised as Keynesian 'pump-priming' because it is a buffer stock programme, which 'hires off the bottom' (paying the minimum wage). The size of the buffer stock of jobs is determined by private activity levels (principally fluctuations in private investment) and non-JG government spending. The stock will fluctuate with movements in aggregate demand. However, the maintenance of full employment under a JG is independent of the state of aggregate demand. This relates to our description above that the JG creates loose full employment.

While Sawyer (2003: 884) said that the 'ELR scheme seeks to remove demand-deficient unemployment through the provision of required aggregate demand', Mitchell and Wray

(2005: 237) demonstrated that the 'ELR *can be* implemented without raising aggregate demand' (their italics). While aggregate demand will increase by more than the JG wage bill (for example, to pay for working capital used by the JG workers), the government can tighten fiscal policy to ensure that this demand increase does not threaten inflation. It is thus not inevitable that the introduction of a JG policy would stimulate aggregate demand. In that sense, the introduction of the JG could be accompanied by either deflationary or expansionary fiscal policy. Mitchell and Wray (2005: 236) concluded that the JG approach 'represents the minimum stimulus required to achieve full employment and does not rely on market spending and multipliers—and "works" regardless of the level of demand.'

So in contradistinction to Keynesian pump priming, which competes for labour at market prices, the JG buys labour which attracts a zero bid (that is, no employer is currently prepared to offer these workers employment at the going wage) in the market economy.

7.4.2 Why not just pursue full employment through generalised Keynesian expansion?

Progressive economists are mostly united by the proposition that the orthodox NAIRU approach to inflation control is costly and unacceptable. The neo-liberal solution to the resulting unemployment is to pursue supply-side policies (labour market deregulation, welfare state retrenchment, privatisation, and public-private partnerships) to give the economy room to expand without cost pressures emerging. Progressive economists, in general reject this strategy because the sacrifice ratios are high and the distributional implications (creation of under class and working poor and loss of essential services) are unsavoury.

However most progressive economists still advocate, as an alternative, the policy recommendations of Keynes himself. Specifically, they advocate generalised fiscal and monetary expansion mediated by incomes policy and controlled investment as a solution to unemployment (Davidson, 1994; Ramsay, 2002-3; Seccareccia, 1999; Kadmos and O'Hara, 2000; Sawyer, 2003, 2005). Davidson (1994: 79) is representative of this mainstream Post Keynesian approach and wrote that 'Government fiscal policy is conceived as the balancing wheel, exogenously increasing aggregate demand whenever private sector spending falls short of a full employment level of effective demand and reducing demand if aggregate demand exceeds the full employment level.'

Under the generalised expansion approach, the government ensures spending is sufficient to purchase all available output by the government itself. They purchase goods and services at market prices, or by the government providing incentives to profit-seekers to expand activity. Both policy measures will be conducive to private employment expansion. Typically, public and private capital formation is targeted.

Four major criticisms of the generalised expansionary approach can be made. First, indiscriminate demand expansion in isolation is unlikely to lead to employment opportunities for the most disadvantaged members of society. Second, generalised expansion fails to address spatial labour market disparities which are now common across OECD economies. Third, generalised expansion does not incorporate an explicit counter-inflation mechanism. Fourth, how does generalised expansion address environmental concerns given that market allocations are the basis for the employment expansion?

The regional disparity issue is addressed by Mitchell and Juniper (2007) in what they call a Spatial Keynesian framework. They show that a generalised expansion will not have the capacity as a stand-alone policy to target regions in need of employment creation which may

be reliant on a declining industry. Further, aggregate policy is not able to account for feedback or spill-over effects between regions such that social networks and neighbourhood effects transmit shocks from one region to another. This behaviour underpins the observations common in OECD economies that clusters of high unemployment regions or *hot spots* form as a result of spatial interdependency (Mitchell and Bill, 2006). Arestis and Sawyer (2004a: 11, 18) argued correctly that 'the industrial structure of a region and … variations in productive capacity as well as in aggregate demand of the region … [drive these disparities and conclude] … in terms of policy implications, appropriate demand policies are required to stimulate investment and underpin full employment.' But how can we be sure that the investment will provide jobs in failing regions? Upon what basis are the most disadvantaged workers with skills that are unlikely to match those required by new technologies going to be included in the generalised expansion?

Accordingly, public investment is unlikely to benefit the most disadvantaged workers in the economy. The JG is designed to explicitly provide opportunities for them. By way of example, during the golden age in Australia (1945-1975) when public capital formation and social wage expenditure was strong, full employment was only achieved because the public sector (implicitly) provided a JG for low skilled workers (Mitchell, 1998). This experience is shared across all advanced economies.

Where is the inflation anchor in the standard Keynesian approach? Most progressive economists who still advocate this approach construct the solution to unemployment in terms of solving the deficient effective demand (closing the aggregate spending gap) by stimulating net spending via purchasing goods and services and/or labour at market prices. An economy struggling with high unemployment will typically react to increases in nominal demand by quantity adjustments (rising output). This applies to the introduction of a JG as well as a generalised expansion. However, the generalised expansion approach will inject considerably more nominal demand into the spending system, directly and via the multiplier processes, than would be the case under the JG. Accordingly, the generalised expansion approach relies on demand stimulus to approach full employment and provides no nominal anchor to the economy. If the quantity adjustment gives way to price adjustment then full employment may never be reached. The advocates of generalised expansion argue that the expansion could be accompanied by the introduction of an incomes policy. While an incomes policy may help constrain costs pressures there are few examples of successful incomes policy being implemented and sustained in any economy. Ultimately, they do not provide a long-term inflation anchor.

By way of sharp contrast, the JG does not rely on the government spending at market prices and then exploiting multipliers to achieve full employment. The latter approach characterises Keynesian pump-priming and as a consequence fails to provide an integrated full employment-price anchor policy framework. Under a JG policy, the net spending to finance the JG pool is the minimum required to restore full employment, as defined above.

The generalised Keynesian expansion relies on the market to provide the increased employment. Therefore the allocations that follow largely reflect private costs and benefits, hence environmental constraints are likely to emerge. As noted above, JG proponents emphasise the regional dispersion of unemployment. Higher output levels are required to increase employment, but the composition of output remains a pivotal policy issue. JG jobs would be designed to support local community development and advance environmental sustainability. Indeed, an environmental criterion could be used to determine which jobs are acceptable for the JG, introducing an environmental planning aspect to the policy framework. JG workers could participate in many community-based, socially beneficial activities that

have intergenerational payoffs, including urban renewal projects, community and personal care, and environmental schemes such as reforestation, sand dune stabilisation, and river valley and erosion control. Most of this labour intensive work requires very little capital equipment and training (Mitchell, 1998).

It is this spatially targeted employment policy that Mitchell and Juniper (2007) called Spatial Keynesianism, in contrast to the bluntness of orthodox Keynesian tools which fail to account for the spatial distribution of social disadvantage.

We do not want it thought that the JG is the only solution available to government. While advocates of the generalised expansion approach usually ignore any role for a buffer employment stock policy, which allows the government to guarantee full employment using automatic stabilisers by purchasing at fixed prices, the fact is that both approaches can co-exist, although such a co-existence, for reasons noted below may not be optimal. This position also qualifies our discussion in Chapter 8 where we advocate government spending when unemployment is too low. As we argued above that spending should not necessarily be of a general nature. Further, the JG does not replace social security payments to persons unable to work because of illness, disability, or parenting and caring responsibilities. Clearly, and emphatically, a mixture of both approaches is likely to be optimal – a generalised expansion alone is not preferred.

7.4.3 Financial considerations of the Job Guarantee in a modern monetary economy

There are several questions of a financial nature that are often asked in relation to the proposal to introduce a national JG. A more detailed discussion of the options facing a government which issues fiat currency in a modern monetary economy is presented in Chapter 8. In this section we consider several specific issues that are relevant to a discussion of the JG. First, does the implementation of the JG imply that it would be financed entirely by net spending? In Chapter 8 it will be shown that the government can always meet the financial demands involved in implementing the JG. Whether the government budget is in deficit or not is endogenous and dependent on the saving desires of the non-government sector. There is little doubt that in a stagnant economy, the JG pool would increase (as private employment falls) and the government budget would be expected to reveal larger deficits. But logically, the budget could be in surplus with a JG policy operating if there was a strong private sector expansion underway. The major point is that the size of the budget is not a reasonable policy target for a government interested in maintaining full employment.

Second, some commentators who have criticised the JG do not reveal a solid understanding of the material discussed in Chapter 8. For example, Kadmos and O'Hara (2000: 10) stated that 'government spending can never be restrained. The government is in a position to hire all unemployed workers at any price it chooses, financing this labour force by printing as much money as required that will achieve full employment.' In reality, the appeal to 'printing money' is erroneous. Mitchell and Wray (2005: 242) argued that

> government always spends by crediting bank accounts and taxes by debiting them. If spending exceeds taxes, then HPM [high powered money] remains as bank reserves, but it is misleading to say that deficits are financed by printing money. … ELR will be "financed" in the same manner as any other government spending. … If the government credits to bank balance sheets resulting from payment of ELR wages (and other associated spending) lead to excess banking system reserves, these are

immediately drained by automatic central bank intervention—either by winding down loans at the discount window or through open market sales of bonds.

This notion is explained more fully in Chapter 8.

Third, some economists believe that the high powered money creation required to finance the budget deficits created by the JG will generate inflation. But this common perspective, firmly Monetarist in origin, profoundly misrepresents central bank operations. As indicated in the quote of Mitchell and Wray above, central bank operations are always defensive and are undertaken to drain excess reserves. So unless the central bank sets a zero cash target interest rate there won't be any excess money in the system.

Fourth, will the JG place upward pressure on interest rates as in the crowding out story? While the JG is not necessarily financed by net government spending it is likely that the government would be in deficit if the JG pool was rising. The crowding out hypothesis suggests that if this deficit was financed by debt issuance, interest rates would rise and damage private spending which was sensitive to interest rates. In response, we emphasise that central banks set the short-term interest rate taking into account a range of considerations including the expected inflation rate, currency rates and other aggregates. With a deficit, the central bank (or the treasury) has to sell bonds to drain excess reserves and keep control of their target rate of interest (unless they are targeting a zero overnight rate). So as we outline in Chapter 8, a deficit-financed JG will actually place downward pressure on interest rates.

7.4.4 Does the Job Guarantee violate Balance of Payments constraints?

The JG approach has attracted further criticism from those concerned with external stability. Some economists focus their critique of the JG on alleged stop-go constraints on growth emerging from current account constraints (Davidson, 1994). The alleged constraint is often used to justify contractionary policies. This made sense under fixed exchange rates because the current account influenced central bank reserves and made domestic expansion dependent on the defence of the external parity. Under floating exchange rates the constraint is not binding and domestic policy can pursue full employment targets leaving the exchange rate to absorb any adjustment.

But it is clear that a further source of cost pressure could come via the exchange rate for small trading economies. Under a fixed exchange rate regime, unless there is a coordinated fiscal policy among countries, it would be difficult for a small open economy to pursue its own full employment strategy. If the JG was introduced into a fixed exchange rate regime, and if the JG increased aggregate demand, then higher import spending would spread throughout the fixed exchange rate bloc. Then the small country would face a borrowing crisis that would negate its full employment ambitions.

However, a pure fiat-currency economy is by definition a flexible exchange rate regime and the JG is a viable approach in these conditions. In this context, we can identify two external sources of inflation. First, imports may rise because the JG workers would have higher disposable incomes than before. Once again we stress that this is not inevitable. The Government could tighten demand elsewhere. However, if demand increases, the higher imports may promote exchange rate depreciation. Second, depending on export and import price elasticities, net exports may increase their contribution to local employment and demand.

One traditional Keynesian way to insulate the wage-price system from the depreciation is to introduce an incomes policy. This could involve a framework where workers and firms agree to allow the real depreciation to stick. So to provide jobs for everyone, current labour and

profit income recipients would have to reduce their real claims on national income to provide space for the unemployed to increase their consumption.

The JG, however, directly controls any inflation arising from higher import prices and/or higher export demand. The JG wage provides a floor that prevents serious deflation from occurring and defines the private sector wage structure. However, if the private labour market is tight, the non-JG wage will rise relative to the JG wage, and the JG pool will drain. The smaller this pool, the less influence the JG wage has on wage patterning. Unless the government stifles demand, the economy will then enter an inflationary episode, depending on the behaviour of labour and capital in the bargaining environment. In the face of wage-price pressures, the JG ensures inflation control by choking aggregate demand and inducing slack in the non-JG sector. The slack reveals itself as loose full employment.

We would also argue that under flexible exchange rates these sustainability concerns are no longer applicable. Balance of payments considerations should not be allowed to get in the way of deficit spending to achieve full-employment. A current account deficit merely indicates that foreigners desire to accumulate financial assets denominated in the domestic currency and are willing to ship more real goods and services (in aggregate) than they receive in return to accomplish this desire. While the desires of the foreign sector may change over time, a fiat-issuing sovereign government under flexible exchange rates should not determine its net spending decisions (aimed at maintaining full employment) with reference to any particular foreign balance.

7.5 Job Guarantee and social policy

The social policy aspects of JG have been a topic of heated debate from the very beginning. In this section we discuss the various questions at issue: Are the jobs under the JG real jobs? Does the JG produce zero value output? Does the JG provide career paths back into private employment? Does the JG replace unemployment with underemployment? Should the JG be accompanied by an abolition of unemployment benefits and other income support payments?

7.5.1 What about the quality of jobs under the Job Guarantee? Are they real jobs?

Some commentators have criticised the JG approach on the basis that there would not be enough meaningful opportunities to efficiently utilise the unemployed. Sawyer (2003: 891) argued that if JG jobs are to be inclusive to all they would ‘not require much skill’ or ‘use skills which are widely available in the population’ and would ‘lead to the production of useful output’ which is not ‘necessary in that the output is only forthcoming when aggregate demand is low and the ELR jobs are required.’ In other words, only when demand is low does JG increase output which is precisely when the output is not desired.[4]

In relation to this, Sawyer (2003: 894) provided a strange twist on marginal productivity theory, when he argued that if JG pays low wages, then productivity of JG workers must be low. We see productivity as mostly socially determined, not as some characteristic of the individual worker. Further, the productivity in question should be social productivity, not productivity in a market sense. We do not believe that low pay in the JG programme necessarily ensures low *social* productivity of the JG programme. For example, a childcare programme employing JG workers could have very high social productivity.

Taking a similar tack, Kadmos and O’Hara (2000: 10-12) criticised the focus on government consumption of low-skilled services by JG advocates. They claimed the leading sectors rely on information, knowledge, communications and networking. They advocated a boost to public infrastructure investment which enhances the profitability of private sector investment, in addition to contributing to aggregate demand and employment. Clearly, if a political will

exists to construct public infrastructure then employment levels will rise subject to real resource availability. This is independent of the need for a JG. Yet, the JG should be accompanied by social wage spending to increase employment in education, health care and the like (Mitchell, 1998). But a sole reliance on public sector investment to achieve full employment, would create considerable economic inflexibility. The ebb and flow of the private sector would not be readily accommodated and an increasing likelihood of inflation would result (Forstater, 2000).

Further, it is surprising that these types of criticism are applied exclusively to public sector job creation (usually vilified as so-called make work plans or raking and boondoggling) while the fact that in all OECD economies thousands of low-wage, low-skill private sector jobs are created every day is largely ignored. Sawyer (2003: 893-893) is representative of this dualism. Mitchell and Wray (2005: 239) said that it appears that Sawyer

> is disturbed only when the public sector creates such jobs, because of problems of switching on jobs which have capital requirements, problems in "undercutting of wages for mainline public sector jobs" by being "substitutes for mainline public sector employment," problems in yielding output "in competition with output which is or could be produced by the private sector," problems relating to the spatial and temporal distribution of unemployment and the like.'

It is remarkable that the invisible hand of the market is presumed to operate smoothly without creating problems, while the visible hand of government is believed to be incapable of dealing with logistical complications.

The JG is based on the employment buffer stock principle and this places some specific requirements on the structure of the jobs. Importantly, the JG has to provide for a fluctuating labour force that varies inversely with private demand. The cyclical nature of JG jobs presents an operational design challenge for the administration of such a scheme and the design of the JG jobs. As Mitchell and Wray (2005: 239) put it:

> JG jobs would have to be productive yet amenable to being created and destroyed in line with the movements of the private business cycle. While challenging this is not an impossible requirement for public policy to meet. The private sector does not have a monopoly on being able to mobilise a diverse range of resources and successfully complete thousands of tasks within a tight and complex schedule.

The cyclical nature of the jobs suggests that in designing the appropriate ELR jobs the buffer stock should be split into two components:

- a core component that represents the average buffer stock over the typical business cycle given government policy settings, trend private spending growth, and a mismatch of labour force characteristics and employer preferences; and
- a transitory component that fluctuates around the core as private demand ebbs and flows.

The existence of a stable core, which might change slowly and predictably as government policy settings change, would allow JG administrators to more easily allocate workers to jobs. Many of these core jobs would be more or less permanent. More ephemeral JG activities could then be designed to switch on when private demand declined below trend. These activities would not be used to deliver outputs that might be required on an ongoing basis, but would still advance community welfare (see Mitchell, 1998 for examples of such jobs). It is difficult to be precise about the size of the typical average buffer stock over the course of a business cycle.

However, it would not be difficult to establish what the national unemployment rate would be given the stance of fiscal and monetary policy and levels of private spending at any point in time. The difference between this rate and the full employment rate (around 2 per cent of the labour force) is then the implied size of the JG pool. Finally, if the government decided to play a more substantial role in the economy by expanding their commitment to areas like public education, public health or environmental sustainability, then the core buffer would fall substantially.

Sawyer (2003) raised the issue of labour force churning whereby a high proportion of those who enter official unemployment exit that status regularly. While large movements in and out of the short-term unemployment pool are common in most labour markets it does not make the operation of the JG any more difficult as Sawyer implied. Mitchell and Wray (2005: 239) noted that in fact many of those who lose jobs 'will prefer to undertake full-time search rather than accepting temporary ELR work … The relatively low pay will act as a disincentive for many job losers'. Therefore there is no reason for ELR to induce all of those with short-term spells of unemployment into ELR work.

Sawyer (2003) also argued that if aggregate demand was high enough then the JG pool would disappear. While logically correct, there is very little chance that the private sector demand (coupled with standard government demand for labour) will ever create that many jobs. Mitchell (2001b) argued that full employment was only sustained during the post war period by the implicit existence of a public sector buffer stock (see also Ormerod, 1994).

Once modelling along the lines outlined above provided a guide to the steady-state JG jobs that would be required, work allocations would be prioritised among a broad array of community enhancing activities. In this way, it is unlikely that any important function or service would be terminated abruptly, due to a lack of buffer stock workers, when the private demand for labour rises. Thus, the design and nature of JG jobs would reflect the underlying notion of a buffer stock. This stock would, in turn, have a steady-state or core component determined by government macroeconomic policy settings, and a transitory component determined by the vagaries of private spending. In the short-term, the buffer stock would fluctuate with private sector activity and workers would move between the two sectors as demand changes. Longer-term changes in the size of the average buffer stock would reflect discrete changes in government policy. Given that unemployed people are already supported by the public sector welfare system, the JG would require only a low level of additional public investment to allow currently unutilised labour to perform a range of useful activities of benefit to the broad community.

By ensuring that there are always employment opportunities for people within the target groups, the JG strategy would help to reduce poverty. It is a policy direction that facilitates social inclusion, not exclusion, and the focus on community development recognises the multi-faceted nature of the problems confronting areas of high unemployment. The JG would also serve to reduce regional disadvantage. The policy would not eliminate inequality between geographical regions on its own. However, it would help communities in disadvantaged areas to maintain continuity of income and labour force attachment, without recourse to welfare dependence.

Importantly, the JG strategy also acknowledges the strains on our natural ecosystems and the need to change the composition of final output towards environmentally sustainable activities. Environmental projects are ideal targets for public sector employment initiatives as they are likely to be under-produced by the private sector due to their heavy public good component. If a portion of JG jobs were used to repair and restore the environment, the workers would re-gain personal dignity, and society would gain from the increased provision

of goods and services which support sustainability. It is not increased demand *per se* that is necessary but increased demand in sustainable areas of activity.

In determining whether a JG job is superior to unemployment (that is, whether it is socially beneficial to employ unused labour) we only have to determine whether the marginal benefits are positive. With creative thinking and professional administration this very low benchmark would be easily exceeded by the JG jobs on offer.

The JG is thus designed to ensure that the lowest skilled and experienced workers are able to find employment. The JG is a full employment-price stability policy and should be judged on those terms. It does not presume that JG jobs will suit all skills. For some skilled workers who become unemployed in a downturn the income loss implied would be significant. Yet, Seccareccia (1999) acknowledged that a fully employed economy with the JG workers paid minimum wages represents a Pareto improvement, when compared to the current unemployment.

7.5.2 Does the Job Guarantee produce zero value output?

Sawyer (2003: 895) approached the quality of jobs issue by concluding that JG workers would usually be 'paid more than they produce' which implies that the output they produce is not valued by the economy. Indeed, the criticism that JG jobs are not 'real jobs' carries with it the related claim that the output produced is not 'real output'. So if the JG wage (w) is greater than the productivity of the JG job (q) then according to Sawyer (2003: 895) 'the ELR workers are making net claims on the rest of the economy (equal to $w - q$) … [and] …that the net claims … are greater than those currently made by the unemployed.' (2003: 895). Sawyer (2003: 895) then concluded that if the output '… is not valued by others, it is as though the ELR worker is producing nothing.' How should we assess this claim?

First, it suggests that the only mechanism that can validate output as being of value is the private market (which includes government spending that competes in the private market for resources). Even neoclassical theory acknowledges that private benefits and costs can diverge from social benefits and costs. Many activities which produce outputs are possible which have zero private market value but deliver positive contributions to the community (positive social value). The JG would likely focus on labour intensive activities which would fall into this category. It is also obvious that many jobs are created in the private sector, especially in the low skill service sector (for example, fast food shops) which may have very little or even negative social value. In assessing social value, we also have to consider the impacts on the previously unemployed individual who transits from welfare dependence via the JG. There is substantial evidence that these benefits are likely to be significant (Mitchell, 1998). Mitchell and Wray (2005: 241) concluded that it 'is difficult to believe that ELR will produce less social value than fast food production'.

Second, there is a problem that economists have to confront relating to the static concepts of work and productivity which underpin the criticism that JG jobs are not productive. To accommodate the benefits of technological progress, a debate about the future of paid work is clearly important. The concept of gainful work which relates to performing work for profit will have to be broadened to embrace a range of other activities not usually considered to be work. We clearly will need to make a transition in the way we link work and income generation such that old-style capitalist concepts of the work ethic are replaced with more creative uses of human activity. Further the right to work and hence income has to be preserved for all. In advocating a transition, we do not support those who advocate for institutionalising non-work via a basic income guarantee. We do not consider that society is advanced enough as yet to embrace a culture whereby some do not work at all but receive

State support without commensurate activity being required. Social attitudes take time to evolve and are best reinforced by changes in the educational system.

In this context, the JG is a progressive, forward-looking approach for a state aiming to rebuild communities based on the purposeful nature of work that can extend beyond the creation of surplus value for the capitalist employer. It also provides the framework whereby the concept of work itself can be extended and broadened to include activities that we would dismiss as being leisure using the current ideology and persuasions, as well as to encourage private sector activities currently counted as productive in a narrow sense that societies of the future will view as socially destructive.

7.5.3 Does the Job Guarantee provide career paths back into private employment?

Kadmos and O'Hara (2000) and Seccareccia, (1999) claimed the low-wage service JG employment produce skills which are of little benefit to the private sector (see also Sawyer, 2003). Kadmos and O'Hara (2000) alleged that in a tightening labour market with structural unemployment, firms drive up wages to retain skilled staff, thereby maintaining unemployment in the context of wage/wage inflation. But structural unemployment is itself a loaded term because it ignores the fact that firms adjust hiring standards across the business cycle and offer training slots as part of their recruitment strategies when labour markets tighten. Certain individuals are excluded from job/training offers by discriminating firms because they are deemed to possess undesirable personal characteristics, although discrimination reduces as activity increases (Thurow, 1976).

For that reason economists should question why these discriminative practices occur rather than perpetuating the idea that there are structural labour market impediments. Moreover, the JG redresses this discrimination that many wrongly call structural unemployment. For instance, via regionally-based job creation programmes, the JG can productively employ all workers who cannot find a private employer.

The JG also does not preclude training initiatives (see Mitchell, 1998). Appropriately structured training within a paid employment context helps overcome the churning of unemployed through training programmes, workfare and other schemes under current neo-liberal policies. Specific skills are usually more efficiently taught on the job.

As a consequence, a properly designed JG can help previously unemployed persons to make transitions into careers in the private sector and also stimulate employers to modify their recruitment behaviour.

7.5.4 Does the Job Guarantee replace unemployment with underemployment?

Related to the criticism that the JG does not provide real jobs to the unemployed, Sawyer (2003: 894) argued that the JG 'in effect constitutes unemployment by another name' because it would create jobs that are prone to underemployment. The International Labour Organization (ILO) defined two types of underemployment: (a) time-related underemployment which relates to insufficient hours of work (and is the measure of underemployment adopted at the Sixteenth ICLS (ILO, 1998)); and (b) underemployment reflecting an 'inadequacy of employment situations', which refers to '…situations in the workplace which reduce the capacities and well-being of workers compared to an alternative employment situation' (ILO, 1998). While imprecise, the ILO suggested that these situations might include 'inadequate use of occupational skills; excessive hours of work; inadequate tools, equipment or training for the assigned tasks; travel to work difficulties; inconvenient work schedules; and recurring work stoppages because of delivery failures of raw material or

energy.' Before the 1998 ICLS convention, the ILO used the ICLS 1966 definition of underemployment which separated 'visible underemployment' (time-related) from 'invisible underemployment' which referred to situations where workers were not fully using their skills in their current employment (because the job itself is low skill and/or the worker is idle part of the time) (ILO, 1990).

Clearly the JG solves the problem of time-related underemployment. The JG workers can voluntarily choose what fraction of full-time hours they wish to work. In fact, the introduction of the JG is likely to reduce time-related underemployment. In recent expansions, many OECD economies (notably, the English-speaking ones) have reduced official unemployment but at the same time created a growing proportion of part-time work which has been associated with increasing time-related underemployment. Much of the recorded underemployment is in the low-skill service sector. A full-time JG job at wages commensurate with those prevailing in the low pay private sector service industries would be attractive when compared to a low skill private job that rations the worker hours. As a consequence, the introduction of a JG, which provides the opportunity for workers to engage in full time employment, would likely place pressure on private employers, who have failed to provide sufficient hours of work to satisfy the preferences of their workforces, to restructure their workplaces to overcome the discontent that their underemployed workers feel.

However, the attack on the JG in this context is based on the allegation that it will introduce invisible underemployment. This argument has been advanced by the Post Keynesian economist Sawyer (2003) who surprisingly employed a neoclassical-inspired human capital analysis to outline three scenarios which compares the implied productivity of a JG job (q) to the "true" productivity of the worker in an alternative job (Q). The neoclassical nature of this analysis rests on Sawyer's idea that productivity is embodied in the individual (a central plank of human capital theory) instead of the more reasonable and realistic notion that productivity results from a 'complex mix of individual capacities, team-based collaboration, on-the-job training, and job design and management' (Mitchell and Wray, 2005: 241; see also Sattinger, 1993).

Sawyer (2003: 894) characterised $q < Q$ as the general case because 'ELR jobs are low-skill, low-productivity jobs' and accordingly concluded that 'underemployment replaces unemployment'. It is quite clear that if the JG is to be a functional employment safety net then the jobs made available have to be accessible for the most disadvantaged workers in the labour market. It is empirically irrefutable that this cohort usually is disproportionately represented in the unemployment pool (particularly in long-term unemployment).

If productivity is more complex as noted above then it is likely that q will approximate Q, for most individuals who will rely on JG employment in between stints in the low-pay private labour market (see Mitchell and Wray, 2005).

In severe downturns, when unemployment is widespread and impacting on the broader occupational structure, it is likely that the higher skilled workers will face the choice between taking a JG position or entering wait unemployment. Logically, if they choose a JG (presumably as a temporary option) then some skill-based underemployment will exist. However the output loss implied by this underutilisation is less than under a NAIRU economy and reflects the negative consequences of allowing the level of activity to fall below full employment. The likelihood of skilled workers opting for wait unemployment is also high as they usually receive more generous redundancy payments which help to tide them over during a period of idleness. They may also conceive a career disadvantage in taking a

low-wage JG position given that they would expect the business cycle to improve and their spell of unemployment to be relatively short in duration.

Overall, the introduction of the JG is likely to more closely align the preferences of the workforce with the provision of hours of work than under the current NAIRU approach. JG jobs can clearly be offered at fractions of full-time hours to suit the workers relying on them. There would be no enforced time-related underemployment and workers would be sovereign in the final number of hours they worked. In this sense, workers could more easily align their other commitments (family, recreational) with their working lives (see Wray, 1998).

7.5.5 Would the Job Guarantee be accompanied by an abolition of other income support payments?

The introduction of a JG has no necessary bearing on the availability or operations of existing income support payments. Existing unemployment benefit schemes could easily co-exist with a JG scheme and workers could be given a choice as to whether they accept income support or work in a JG job for a wage. Mitchell (1998), in the Australian context, advocated the abandonment of usual unemployment benefits payments once a JG is introduced, barring the paying of transition income support capacity based on an activity test. The activity test would be the availability of a JG position and once this offer was made no further access to unemployment benefits would be provided.

Sawyer (2003: 897) is critical of this approach and asked 'who would be required to undertake ELR employment (or otherwise receive no income and who would, in effect, be exempt (and receive forms of income support from the State)).' However, this is not a problem specific to the JG but in fact is a basic issue in any categorical benefits system. Workers who are unable to work would have access to the other forms of state-provided income support as they currently do (depending on country concerned). This form of income support is typically split into different categories such as aged pension, sickness benefit, disability support pension, and other types of payments. To be eligible for one of these payments particularly before one qualifies on age alone, individuals have to fit themselves into a relevant category. For its part, the state has to establish mechanisms to screen applicants to ensure the integrity of the pension system. Unemployment benefits are subjected to activity tests and other forms of screens. No new problem is introduced with the JG that doesn't already exist.

What JG does is to provide jobs to all who want to work. In the South African context, we argue that the EPWP should play this role and progressively move towards the model outlined in this Chapter. We also argued in Chapter 4 that important income support to families should still be provided by the South African government's social grant policy to account for family composition and location, in addition to the EPWP wage earned by the working members of the household.

7.6 The Job Guarantee in practice

The full employability agenda has come under fire from a number of sources in recent years (see, for example ILO, 2004). There are now several countries which have implemented direct job creation schemes to counter the major problems associated with persistent unemployment. For example, the Argentinean government introduced the *Jefes de Hogar* programme in 2001 to combat the social malaise that followed the financial crisis in that year.[5] Similarly, the Indian Government has recently introduced the five-year plan called the National Rural Employment Guarantee Act (NREGS) to bridge the vast rural-urban income

disparities and inequality that have emerged as India's information technology service sector has boomed. Finally, the Expanded Public Works Programme (EPWP) in South Africa is intended to overcome the extremely high unemployment and accompanying poverty in that country. The programmes run against the full employability tide because they recognise that the solution to joblessness and the poverty that this brings is in the provision of employment opportunities rather than a focus on the victims. They also recognise that the Government (Federal down to local) have a major role to play in providing for employment guarantees.

While there is a growing interest among governments in several countries in the use of employment guarantees, none of the programmes noted above are consistent with a JG framework as outlined earlier in this Chapter. In this section, we briefly consider the main features of these programmes and how they depart from the JG ideal. Allen (2006) provided a comparative assessment of the three programmes noted above while Tcherneva and Wray (2005) provided a comprehensive analysis of the first four years of the operation of the Jefes programme.

Table 7.1 compares the three programmes against main desirable characteristics of a true JG policy aimed at maintaining full employment with price stability. The lack of universality of the programmes means that unemployed workers are unable to freely enter and exit the programme. Given the categories for qualification are fairly tight, the programmes cannot be seen as offering a perfectly elastic demand curve for labour. So unlike a true JG policy, the three national programmes do not operate as a buffer stock of jobs which allows the wage to serve as a price anchor. A lack of universality is not the only way that these schemes fail to serve the buffer stock role. Each of the programmes provides employment opportunities in labour intensive infrastructure development, social development, environmental protection and business incubation. The Jefes programme also produces consumables (for example, bread). In India, an emphasis is placed on creating assets for say water conservation and then implementing maintenance programmes to protect the wealth created (see Allen, 2006: 51). However, the jobs are typically available in 'project blocks', which according to Allen (2006: 11) 'leaves beneficiaries waiting until the next round of projects start before they can gain employment under the programme.' A JG buffer stock approach would ensure that there was work available on demand, which clearly requires an infrastructure be developed by government to support the policy. Governments must create an inventory of employment opportunities which can be quickly made operational when required. In many of the job creation schemes, particularly in India and South Africa, the jobs on offer were mostly designed to accommodate women and/or those with disabilities. An effective JG policy would ensure an inclusive range of jobs was to accommodate all workers in need of employment.

Allen (2006: 10) concluded that

> all three programs … have innovative components to them, and each are trying to … address situations of mass unemployment, employment growth stagnation, and poverty. However, there are considerable proven deficiencies that hinder the operation of the programs and lead to exclusion of some of the most vulnerable within society. Ultimately only a universal model, which is capable of coming to grips with the complexities of spatial inequality, would be able to achieve the objectives that the current programs are trying to achieve.

In comparing the Jefes plan to the JG ideal, Tcherneva and Wray (2005: 20) concluded that the

> Jefes … has many institutional features, which could potentially make it a true employer of last resort program … However, it is still a partial employment program and therefore, in its present state, it does not benefit from all the desirable ELR features. It is clear that Jefes has not eliminated unemployment. Furthermore, it is difficult to assess its anti-inflationary features, because it is not clear that the program has a powerful countercyclical bufferstock mechanism. We can however see that it provides an institutional framework which can be further enhanced and elaborated to achieve the desired outcomes. In sum, until the program stops limiting entry, eliminates means tests and offers a living wage, it cannot be considered a true employer of last resort. Furthermore, for its long-term viability it needs to be entirely financed out of pesos and not though dollar denominated loans.

On the positive side, the Argentinean and Indian experience suggests that a large-scale direct job creation programme can be introduced within a matter of months to provide productive work opportunities and improved the circumstances for its participants. According to Tcherneva and Wray (2005: 20) the *Jefes* plan also shows that 'a federally funded programme can be administered locally with heavy participation of non-profit and non-governmental institutions … [and] … help broaden the meaning of work by remunerating activities as family care and community involvement.'

A complete operational plan within the Australian context for the implementation of a JG has been developed by researchers at the Centre of Full Employment and Equity and is available on request from the Centre administration.

7.7 Conclusion

Given the overwhelming central bank focus on price stability, and the critical role of today's unemployed buffer stocks of unemployed, we argue that functioning and effectiveness of the buffer stock is critical to its function as a price anchor.

Condition and liquidity are the keys. Just as soggy rotting wool is useless in a wool price stabilisation scheme, labour resources should be nurtured as human capital constitutes the essential investment in future growth and prosperity. There is overwhelming evidence that long-term unemployment generates costs far in excess of the lost output that is sacrificed every day the economy is away from full employment (see Mitchell, 2001a).

It is clear that the more employable are the unemployed the better the price anchor will function. The government has the power to ensure a high quality price anchor is in place and that continuous involvement in paid-work provides returns in the form of improved physical and mental health, more stable labour market behaviour, reduced burdens on the criminal justice system, more coherent family histories and useful output, if well managed.

It is also the case the training in a paid-work environment is more effective than contextually isolated training schemes, which have become the fashion under the active labour market programmes pursued by governments in all countries over the last two decades.

In terms of the South African context, we argue that the EPWP should be progressively revamped to operate like a national JG. The commensurate benefits to the South African economy and the most disadvantaged workers of such a policy improvement would be significant and enduring.

Table 7.1 A comparison of selected national employment creation schemes with the JG ideal

Features of policy	JG	Jefes de Hogar (Argentina)	EPWP (South Africa)	NREG (India)
Universal - unconditional job offer to anyone at fixed wage	Yes	No, means-tested and restricted to heads of household with under 18 or disabled dependents	No, 40% women, 20% youth, 2% disabled, locally determined via a lottery and required valid ID card	No – rural heads of household with 'job cards'
Buffer stock capacity - permanent offer with choice of hours worked	Yes	20 hours per week only, no choice	Maximum of 24 months in a four year cycle, no choice	100 days of work per household year, no choice.
National scale	Yes	Yes	Yes	Yes
Wage provides effective wage floor	Yes	No, 75 per cent of minimum wage	No, locally negotiated minimum wage	No, part of wage can be paid in-kind as food
Wage fixed	Yes	yes (but not set at a sustainable living level)	No, locally negotiated minimum wage	Yes, 60 rupees per day
Loose full employment (price anchor)	Yes	Very little, given lack of universality	No	No
Training opportunities for skill upgrades	Yes	Yes but restricted	2 days of training for every 20 days worked	No
Useful work	Yes	Yes	Yes	Yes
Federal funded	Yes	No, partial federal funding with World Bank loans up to 80 per cent of total costs. Rest comes from NGOs etc.	Yes, but out of capital budgets of departments and municipalities	No, State provides 25 per cent of costs.
Agency of delivery	Local	NGO, local government and local activist groups	Public-Private partnerships with contractor and NGOs	50% Gram Panchayat, 50 district management with NGOs

See Allen (2006: 51, Table 1); Tcherneva and Wray (2005: 20, Table 1).

[1] The term *employer of last resort* (ELR) is interchangeable with the term *buffer stock employment* (BSE) and *Job Guarantee* (JG). The latter two descriptions of the approach to full employment are found in the work of Mitchell whereas the ELR terminology is used by Mosler and Wray and the US commentators. Wray now prefers 'public service employment' (PSE). While ELR is accurate in one sense, it also provides a negative connotation that neither PSE nor JG implies.

[2] Much of this chapter is based on the work of Mitchell and Muysken (2008), which in turn, closely followed the theoretical developments provided in Mitchell (1998), Mitchell and Mosler (2002, 2006) and Wray (1998) to name the principle primary sources.

[3] There is an issue about the validity of an unchanging nominal anchor in an inflationary environment. The JG wage would be adjusted in line with productivity growth to avoid changing real relativities. Its viability as a nominal anchor relies on the fiscal authorities reigning in any private wage-price pressures. Clearly, in a hyperinflation environment, the discipline of the JG wage would fail. But in historical experience these circumstances have been rare.

[4] Elsewhere, he argued that at full employment, output cannot be increased. Since the JG achieves full employment, output cannot be increased once it is implemented. From the analysis earlier in this Chapter, it should be clear that this is incorrect. A JG can achieve full employment at any level of aggregate demand and at any rate of economic growth. Obviously, this does not imply that aggregate demand can be at any level given full employment.

[5] Jefes de Hogar means Head of Households.

8 A modern monetary framework for fiscal policy activism

8.1 Overview

A reasonable reaction to the proposal developed in Chapter 7, to introduce a national employment guarantee, is to draw on orthodox economic theory and claim that such a policy initiative would be inflationary and lead to rising and unsustainable budget deficits, which would force up interest rates. The problem with this reaction is that it is based on a body of economic theory that does not explain (or apply to) a modern monetary system based on sovereign governments who issue fiat currency and operate in a world of flexible exchange rates.

In this Chapter we seek to outline the way in which a macroeconomic system works and the central role played by the currency-issuing government so that the economic efficacy of introducing a national employment guarantee can be better understood.

We present a theoretical framework which demonstrates the actual options and responsibilities that apply to modern governments which issue fiat currency. The main literature in this regard is Mitchell (1998); Wray (1998); Mitchell and Mosler (2002, 2006); and Mitchell and Muysken (2008).

This framework is applicable to the South African economy in the sense that it operates within a flexible exchange rate and maintains currency sovereignty. This is not to say that the policy issues confronting the South African government are not difficult. But the fact that it is a modern monetary economy leads one to explore the tools that are available to such a country to address its policy challenges no matter how stark they may be. In other words, this framework applies to developed and developing countries alike where a operation of a sovereign currency is the common link.

This monetary framework directly challenges the orthodox macroeconomic consensus – based around the concept of a natural rate of unemployment - which has provided the so-called intellectual authority to policy makers who have been intent on pursuing full employability rather than full employment policies.

We show that the full employability consensus is not grounded in any logical understanding of the modern monetary system and negates many of the actual options that are available to fiat-currency issuing governments.

8.2 Modern monetary economies use fiat currencies

The starting point is to understand the central role that government can play in a modern monetary economy. Modern monetary economies use money as the unit of account to pay for goods and services. An important notion is that money is a fiat currency, that is, it is convertible only into itself and not legally convertible by government into gold, for instance, as it was under the gold standard. The fact that the government has the exclusive legal right to issue the particular fiat currency it also demands as payment of taxes renders it a monopoly supplier of that currency. Further, given that this money is the only unit which is acceptable

for payment of taxes and other financial demands of the government, presents them with a range of options it would not otherwise have as we elaborate in the next two sections.

In Figure 8.1, we see the essential structural relations between the government and non-government sectors. The transactions that occur between the treasury and the central bank are of peripheral importance here and only serve to complicate the analysis once they are taken into account. The consolidated government sector (the combined treasury and central bank operations) determines the extent of the net financial assets position (denominated in the unit of account – that is, the currency unit) in the economy. For example, while the treasury operations may deliver surpluses (destruction of net financial assets) this could be countered by a deficit (of say equal magnitude) as a result of central bank operations. This particular combination would leave a neutral net financial position.

While the above is true, most central bank operations merely shift non-government financial assets between reserves and securities, so for all practical purposes the central bank is not involved in altering net financial assets. The exceptions include the central bank purchasing and selling foreign exchange and paying its own operating expenses.

Two relevant points emerge.

1. While within-government transactions occur, they are of no importance to understanding the vertical relationship between the consolidated government sector (treasury and central bank) and the non-government sector.
2. Extending the model to distinguish the foreign sector makes no fundamental difference to the analysis and as such the private domestic and foreign sectors can be consolidated into the non-government sector without loss of analytical insight. Foreign transactions are largely distributional in nature.

As a matter of accounting between the sectors, a government budget deficit adds net financial assets (adding to non government savings) available to the private sector and a budget surplus has the opposite effect. The last point requires further explanation as it is crucial to understanding the basis of modern money macroeconomics.

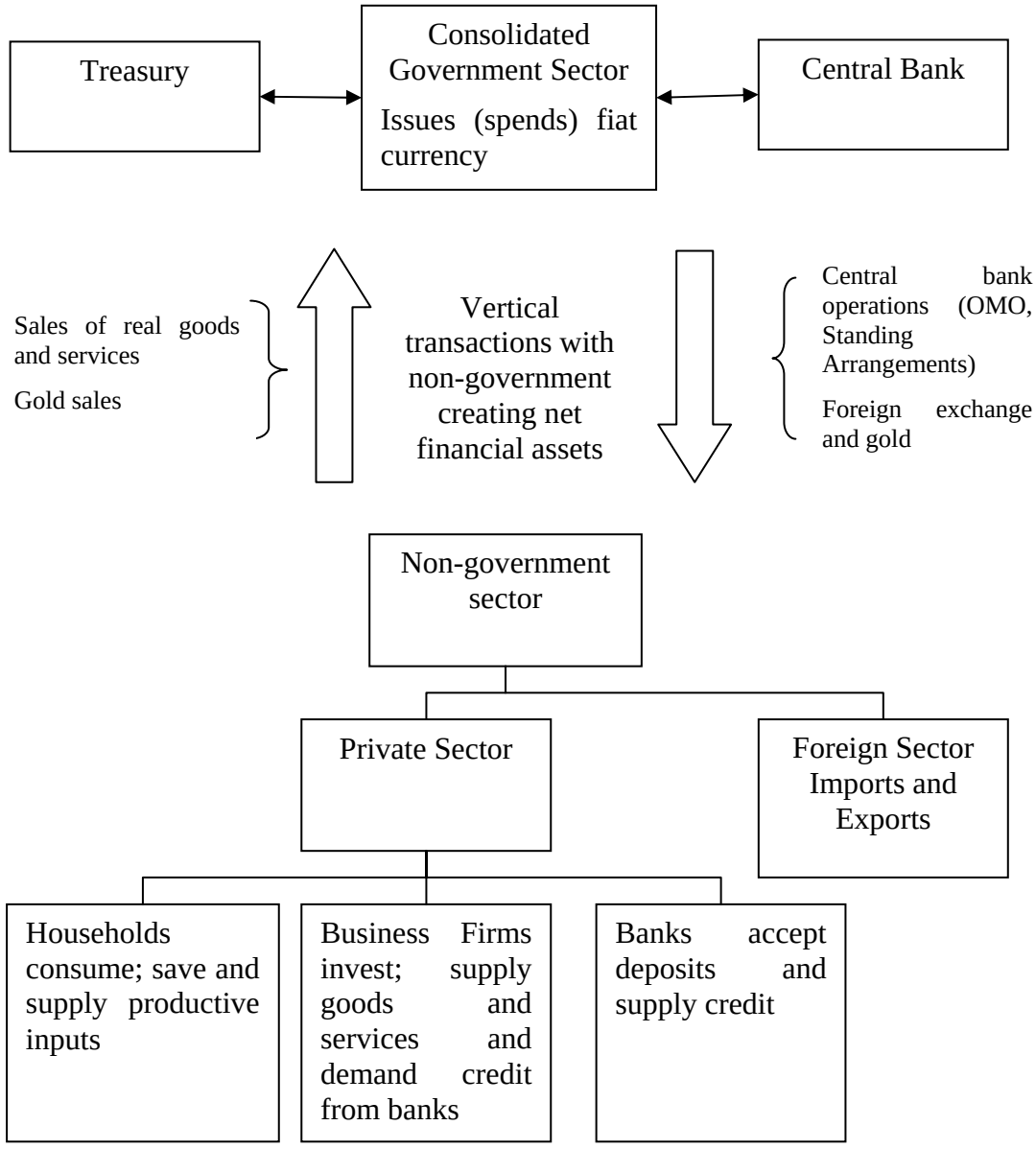
While typically obfuscated in standard macroeconomic textbook treatments, at the heart of national income accounting is an identity - the government deficit (surplus) equals the non-government surplus (deficit). Given effective demand is always equal to actual national income, *ex post* (meaning that all leakages from the national income flow are matched by equivalent injections), the following sectoral flows accounting identity holds

$$(8.1) \quad (G - T) = (S - I) - NX$$

where the left-hand side depicts the public balance as the difference between government spending G and government taxation T. The right-hand side shows the non-government balance, which is the sum of the private and foreign balances where S is saving, I is investment and NX is net exports (that is, exports minus imports).

With a consolidated private sector including the foreign sector, total private savings has to equal private investment plus the government budget deficit. In aggregate, there can be no net savings of financial assets of the non-government sector without cumulative government deficit spending. In a closed economy, $NX = 0$ and government deficits translate dollar-for-dollar into private domestic surpluses (savings). In an open economy, if we disaggregate the non-government sector into the private and foreign sectors, then total private savings is equal to private investment, the government budget deficit, and net exports, as net exports represent the net financial asset savings of non-residents.

Figure 8.1 The essential government and non-government structure



Source: Mitchell and Muysken, 2008.

It remains true, however, that the only entity that can provide the non-government sector with net financial assets (net savings) and thereby simultaneously accommodate any net desire to save (financial assets) and thus eliminate unemployment is the currency monopolist – the government. It does this by net spending. Additionally, and contrary to mainstream rhetoric, yet ironically, necessarily consistent with national income accounting, the systematic pursuit of government budget surpluses is dollar-for-dollar manifested as declines in non-government savings. If the aim was to boost the savings of the private domestic sector, when net exports are in deficit, then as Wray (1998: 81) suggested 'taxes in aggregate will have to be less than total government spending.'

A simple example helps reinforce these points. Suppose the economy is populated by two people, one being government and the other deemed to be the private (non-government) sector (see Nugent, 2003). If the government runs a balanced budget (spends 100 dollars and taxes 100 dollars) then private accumulation of fiat currency (savings) is zero in that period

and the private budget is also balanced. Say the government spends 120 and taxes remain at 100, then private saving is 20 dollars which can accumulate as financial assets. The corresponding 20 dollar notes have been issued by the government to cover its additional expenses. The government may decide to issue an interest-bearing bond to encourage saving but operationally it does not have to do this to finance its deficit. The government deficit of 20 is exactly the private savings of 20. Now if government continued in this vein, accumulated private savings would equal the cumulative budget deficits. However, should government decide to run a surplus (say spend 80 and tax 100) then the private sector would owe the government a net tax payment of 20 dollars and would need to sell something back to the government to get the needed funds. The result is the government generally buys back some bonds it had previously sold. The net funding needs of the non-government sector automatically elicit this correct response from government via interest rate signals.

Either way accumulated private saving is reduced dollar-for-dollar when there is a government surplus. The government surplus has two negative effects for the private sector: (a) the stock of financial assets (money or bonds) held by the private sector, which represents its wealth, falls; and (b) private disposable income also falls in line with the net taxation impost. Some may retort that government bond purchases provide the private wealth-holder with cash. That is true but the liquidation of wealth is driven by the shortage of cash in the private sector arising from tax demands exceeding income. The cash from the bond sales pays the Government's net tax bill. The result is exactly the same when expanding this example by allowing for private income generation and a banking sector.

From the example above, and further recognising that currency plus reserves (the monetary base) plus outstanding government securities constitutes net financial assets of the non-government sector, the fact that the non-government sector is dependent on the government to provide funds for both its desired net savings and payment of taxes to the government becomes a matter of accounting.

This framework also allows us to see why the pursuit of government budget surpluses will be contractionary. Pursuing budget surpluses is necessarily equivalent to the pursuit of non-government sector deficits. They are two sides of the same coin. The decreasing levels of net savings financing the government surplus increasingly leverage the private sector and the deteriorating debt to income ratios will eventually see the system succumb to ongoing demand-draining fiscal drag through a slow-down in real activity.

To summarise the macroeconomic principles that emerge from this discussion: Budget surpluses can be achieved only through decreases in non-government savings (increases in non-government debt) and reduce private savings (increase private debt). Moreover, budget surpluses do not add to government wealth or their ability to spend. Finally, budget surpluses have an inherent tendency to reduce aggregate demand.

8.3 Government spending is not inherently revenue constrained

Spending by private citizens is constrained by the sources of available funds, including income from all sources, asset sales and borrowings from external parties. Federal government spending, however, is largely facilitated by the government issuing cheques drawn on the central bank. The arrangements the government has with its central bank to account for this are largely irrelevant. When the recipients of the cheques (sellers of goods and services to the government) deposit the cheques in their bank, the cheques clear through the central banks clearing balances (reserves), and credit entries appear in accounts throughout the commercial banking system. In other words, government spends simply by crediting a private sector bank account at the central bank. Operationally, this process is

independent of any prior revenue, including taxing and borrowing. Nor does the account crediting in any way reduce or otherwise diminish any government asset or government's ability to further spend.

Alternatively, when taxation is paid by private sector cheques (or bank transfers) that are drawn on private accounts in the member banks, the central bank debits a private sector bank account. No real resources are transferred to government. Nor is government's ability to spend augmented by the debiting of private bank accounts.

In general, mainstream economics errs by blurring the differences between private household budgets and the government budget. For example, Barro (1993: 367) said that 'we can think of the government's saving and dissaving just as we thought of households' saving and dissaving.' This errant analogy is advanced by the popular government budget constraint framework (GBC) that now occupies a chapter in any standard macroeconomics textbook. The GBC is used by orthodox economists to analyse three alleged forms of public finance: (1) Raising taxes; (2) Selling interest-bearing government debt to the private sector (bonds); and (3) Issuing non-interest bearing high powered money (money creation). Various scenarios are constructed to show that either deficits are inflationary if financed by high-powered money (debt monetisation), or squeeze private sector spending if financed by debt issue.

While in reality the GBC is just an *ex post* accounting identity, orthodox economics claims it to be an *ex ante* financial constraint on government spending.

The GBC leads students to believe that unless the government wants to print money and cause inflation it has to raise taxes or sell bonds to get money in order to spend. Bell (2000: 617) said that the erroneous understanding that a student will gain from a typical macroeconomics course is that 'the role of taxation and bond sales is to transfer financial resources from households and businesses (as if transferring actual dollar bills or coins) to the government, where they are re-spent (i.e., in some sense "used" to finance government spending).'

What is missing is the recognition that a household, the user of the currency, must finance its spending beforehand, *ex ante*, whereas government, the issuer of the currency, necessarily must spend first (credit private bank accounts) before it can subsequently debit private accounts, should it so desire. The government is the source of the funds the private sector requires to pay its taxes and to net save (including the need to maintain transaction balances) as we have seen in the previous section.

Clearly the government is always solvent in terms of its own currency of issue. Standard macro textbooks struggle to explain this to students. Usually, there is some text on so-called money creation but no specific discussion of the accounting that underpins spending, taxation and debt-issuance. Blanchard (1997: 429) is representative and said government

> can also do something that neither you nor I can do. It can, in effect, finance the deficit by creating money. The reason for using the phrase "in effect", is that … governments do not create money; the central bank does. But with the central bank's cooperation, the government can in effect finance itself by money creation. It can issue bonds and ask the central bank to buy them. The central bank then pays the government with money it creates, and the government in turn uses that money to finance the deficit. This process is called debt monetization.

To monetise means to convert to money. Gold used to be monetised when the government issued new gold certificates to purchase gold. Monetising does occur when the central bank

buys foreign currency. Purchasing foreign currency converts, or monetises, the foreign currency to the currency of issue (local currency). The central bank then offers federal government securities for sale, to offer the new dollars just added to the banking system a place to earn interest. This process is referred to as sterilisation. In a broad sense, a federal (fiat currency issuing) government's debt is money, and deficit spending is the process of monetising whatever the government purchases. As Wray (1998: ix) noted 'in reality, all government spending is "financed" by "money creation", but this money is accepted because there is an enforced tax liability that is, by design, burdensome.'

However, this conception has no application for the subject of debt monetisation as it frequently enters discussions of monetary policy in economic text books and the broader public debate. Following Blanchard's conception, debt monetisation is usually referred to as a process whereby the central bank buys government bonds directly from the treasury. In other words, the federal government borrows money from the central bank rather than the public. Debt monetisation is the process usually implied when a government is said to be printing money. Debt monetisation, all else equal, is said to increase the money supply and can lead to severe inflation. However, fear of debt monetisation is unfounded, not only because the government doesn't need money in order to spend, but also because the central bank does not have the option to monetise any of the outstanding government debt or newly issued government debt. We will demonstrate in the next section that as long as the central bank has a mandate to maintain a target short-term interest rate, the size of its purchases and sales of government debt are not discretionary. The central bank's lack of control over the quantity of reserves underscores the impossibility of debt monetisation. The central bank is unable to monetise the government debt by purchasing government securities at will because to do so would cause the short-term target rate to fall to zero or to any support rate that it might have in place for excess reserves.

In summary, we conclude from the above analysis that governments spend (introduce net financial assets into the economy) by crediting bank accounts in addition to issuing cheques or tendering cash. Moreover, this spending is not revenue constrained. A currency-issuing government has no financial constraints on its spending, which is not the same thing as acknowledging self imposed (political) constraints.

8.4 Vertical and horizontal relationships in a modern monetary economy

In Figure 8.1, we depicted the vertical relationship between the government and non-government sectors whereby net financial assets enter and exit the economy. What are these vertical transactions between the government and non-government sectors and what is the importance of them for understanding how the economy works? In Figure 8.2, the juxtaposition between vertical and horizontal relationships in the economy is shown as the basis for the following discussion. Arrows going down depict vertical transactions between the government and non-government sectors and horizontal arrows depict transactions between agents within the non-government sector.

In terms of the vertical relationships, Mosler and Forstater (1998) said that

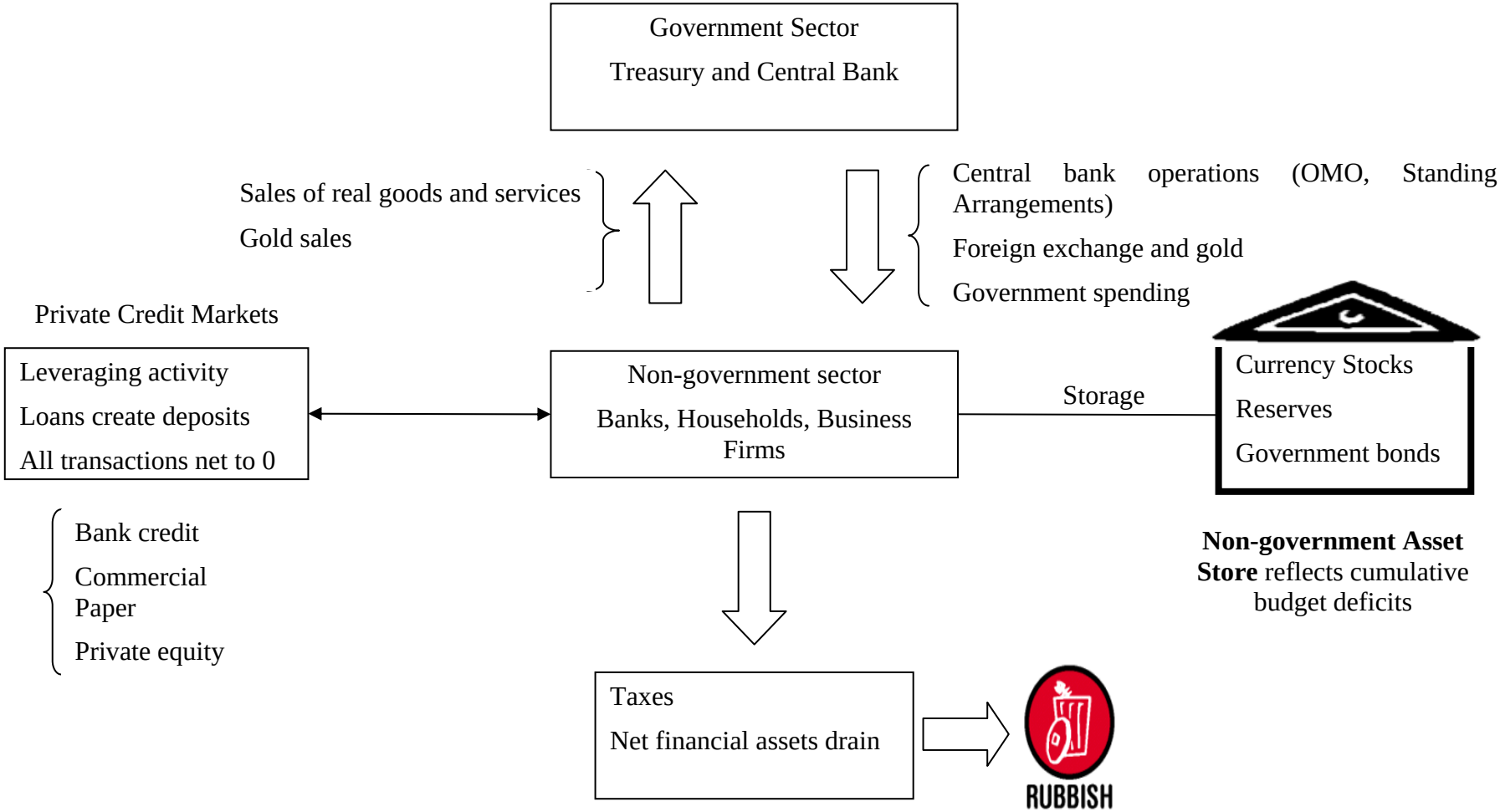
> The tax liability lies at the bottom of the vertical, exogenous, component of the currency. At the top is the State (here presented as a consolidated Treasury and Central Bank), which is effectively the sole issuer of units of its currency, as it controls the issue of currency units by any of its designated agents. The middle section of the graph is occupied by the private (non-government) sector. It exchanges goods and services for the currency units of the state, pays taxes, and accumulates what is left over (State deficit spending) in the form of cash in circulation, reserves

> (clearing balances at the State's Central Bank), or Treasury securities (deposits; offered by the CB) … The currency units used for the payment of taxes (or any other currency units transferred to the State), for this analysis, is considered to be consumed (destroyed) in the process. As the State can issue paper currency units or accounting information at the CB at will, tax payments need not be considered a reflux back to the state for the process to continue.

The two arms of government (treasury and central bank) have an impact on the stock of accumulated financial assets in the non-government sector and the composition of the assets. The government deficit (treasury operation) determines the cumulative stock of financial assets in the private sector. Central bank decisions then determine the composition of this stock in terms of notes and coins (cash), bank reserves (clearing balances) and government bonds.

Figure 8.2 shows how the cumulative stock is held in what we term the *Non-government Assets Store* which stores fiat currency stocks, bank reserves and government bonds. Following our earlier discussion, any payment flows from the Government sector to the Non-government sector that do not finance the taxation liabilities remain in the Non-government sector as cash, reserves or bonds. So we can understand any stocks in the *Assets Store* as being the reflection of the cumulative budget deficits. Taxes are at the bottom of the exogenous vertical chain and go to the "rubbish bin", which emphasises in a graphic way that they do not finance anything. In fact, if one pays taxes with actual cash, generally the central bank shreds the cash once the transaction is accounted for. While taxes reduce balances in private sector bank accounts, the Government doesn't actually get anything – the reductions are accounted for but go nowhere. Thus the concept of a fiat-issuing Government saving in its own currency is of no relevance.

Figure 8.2 Vertical and horizontal macroeconomic relations in a modern monetary economy



Source: Mitchell and Muysken (2008).

Governments may use its net spending to purchase stored assets (spending the surpluses for instance on gold or building sovereign funds by purchasing private sector financial assets stored) but that is not the same as saying when governments run surpluses (taxes in excess of spending) the funds are stored and can be spent in the future. This concept is erroneous. Finally, payments for bond sales are also accounted for as a drain on liquidity but then also scrapped.

The private credit markets represent relationships (depicted by horizontal arrows) and house the leveraging of credit activity by commercial banks, business firms, and households (including foreigners), which are now considered to be endogenous circuits of money (Lavoie, 1985, 2001).

The crucial distinction is that the horizontal transactions do not create net financial assets – all assets created are matched by a liability of equivalent magnitude so all transactions net to zero. The implications of this are dealt with in the next Section when we consider the impacts of net government spending on liquidity and the role of bond issuance.

The other important point is that private leveraging activity, which nets to zero, are not an operative part of the *Asset Store* holdings of currency, reserves or government bonds. The commercial banks do not need reserves to generate credit, contrary to the popular representation in standard textbooks.

8.5 The central bank administers the risk free interest rate and government debt functions to support it

In Section 8.3 we concluded without detailed analysis that the central bank sets the interest rate - the so-called price of money- but cannot directly control the quantity of reserves (and hence the money supply) in the banking system. In this Section we examine in more detail the way in which the central bank operates and the impacts of government sector balances in the money market. In most countries the central bank conducts monetary policy by controlling the short-run interest rate.

The central bank operations aim to manage the liquidity in the banking system such that short-term interest rates match the official targets which define the current monetary policy stance. In achieving this aim the central bank may: (a) Intervene into the interbank money market to manage the daily supply of and demand for funds; (b) buy certain financial assets at discounted rates from commercial banks; and (c) impose penal lending rates on banks who require urgent funds, In practice, most of the liquidity management is achieved through (a). That being said, central bank operations function to offset operating factors in the system by altering the composition of reserves, cash, and securities, and do not alter net financial assets of the non- government sectors.

Money markets are where commercial banks (and other intermediaries) trade short-term financial instruments between themselves in order to meet reserve requirements or otherwise gain funds for commercial purposes. In terms of Figure 8.2 all these transactions are horizontal and net to zero.

Commercial banks maintain accounts with the central bank which permit reserves to be managed and also the clearing system to operate smoothly. In addition to setting a lending rate (discount rate), the central bank also sets a support rate which is paid on commercial bank reserves held by the central bank. Many countries (such as Australia, Canada and zones such as the European Monetary Union) maintain a default return on surplus reserve accounts (for example, the Reserve Bank of Australia pays a default return equal to 25 basis points less than the overnight rate on surplus Exchange Settlement accounts). The provisions of the

SAMOS (South African Multiple Option Settlement system) are similar to practices in other countries such as the US and Japan. The respective central banks do not offer a return on reserves which means persistent excess liquidity will drive the short-term interest rate to zero (as in Japan until mid 2006) unless the government sells bonds (or raises taxes). As we will show presently, the support rate becomes the interest-rate floor for the economy.

The short-run or operational target interest rate, which represents the current monetary policy stance, is set by the central bank between the discount and support rate. This effectively creates a corridor or a spread within which the short-term interest rates can fluctuate with liquidity variability. It is this spread that the central bank manages in its daily operations.

In most nations, commercial banks by law have to maintain positive reserve balances at the central bank, accumulated over some specified period. For South Africa the SAMOS policies relating to 'Intraday Monitoring and Utilisation of the Liquid Asset Requirement Holdings and the Cash Reserve Account' (SARB, 2001) regulate the behaviour of bank reserves.

Commercial banks have to appraise the status of their reserve accounts on a daily basis. Those that are in deficit can borrow the required funds from the central bank at the discount rate. Alternatively banks with excess reserves are faced with earning the support rate which is below the current market rate of interest on overnight funds if they do nothing. Clearly it is profitable for banks with excess funds to lend to banks with deficits at market rates. Competition between banks with excess reserves for custom puts downward pressure on the short-term interest rate (overnight funds rate) and depending on the state of overall liquidity may drive the interbank rate down below the operational target interest rate. When the system is in surplus overall this competition would drive the rate down to the support rate.

The demand for short-term funds in the money market is a negative function of the interbank interest rate since at a higher rate less banks are willing to borrow some of their expected shortages from other banks, compared to risk that at the end of the day they will have to borrow money from the central bank to cover any mistaken expectations of their reserve position. Moschitz (2004: 14) characterised the operational aspects of monetary policy as the central bank 'minimizing deviations of the interbank rate … from the policy rate … [and] … The central bank supplies liquidity in order to fulfill (expected) demand for reserves at an interest rate consistent with the policy rate …'

The main instrument of this liquidity management is through open market operations, that is, buying and selling government debt. When the competitive pressures in the overnight funds market drives the interbank rate below the desired target rate, the central bank drains liquidity by selling government debt. This open market intervention therefore will result in a higher value for the overnight rate.

Importantly, the debt-issuance is a monetary policy operation designed to provide interest-rate maintenance. This is in stark contrast to orthodox theory which asserts that debt-issuance is an aspect of fiscal policy and is required to finance deficit spending.

As a precursor for understanding the interaction between government spending and the money market, Table 8.1 presents the central bank balance sheet in a highly stylised way focusing only on some of the possible vertical transactions shown in Figure 8.2 (see Moschitz, 2004). On the asset side, the open market operations funds are used for liquidity management, while the marginal lending facilities are used to lend money at the discount rate to commercial banks (the central bank as lender of the last resort). The liabilities consist of bank notes in circulation, reserves held by private banks at the central bank (including excess reserves receiving the support rate). Finally, the liabilities also consist of treasury deposits given that the central bank is the government's own banker and the treasury draws on its

account by the central bank when it credits private bank accounts during its spending operations.

Moschitz (2004: 11) argued that the central bank not only supplies liquidity to commercial banks but 'also provides liquidity for the so-called autonomous factors. … [that is] ... banknotes in circulation and Treasury deposits … [and] … decides how much liquidity to supply, taking into account expected demand for reserves (at the policy rate) and the expected size of the autonomous factors.'

Table 8.1 Central bank balance sheet

Assets	**Liabilities**
Open market operations (net)	Bank notes in circulation
	Treasury deposits
	Reserves held by private banks
Marginal lending facility	Deposit facility

Source: Mitchell and Muysken, 2008.

The significant point for this discussion is that net government spending (deficits) which is not taken into account by the central bank in its liquidity decision, will manifest as excess reserves (cash supplies) in the clearing balances (bank reserves) of the commercial banks at the central bank.[1]

We call this a system-wide surplus. In these circumstances, the commercial banks will be faced with earning the lower support rate return on surplus reserve funds if they do not seek profitable trades with other banks, who may be deficient of reserve funds. The ensuing competition to offload the excess reserves puts downward pressure on the overnight rate. However, because these are horizontal transactions and necessarily net to zero, the interbank trading cannot clear the system-wide surplus. Accordingly, if the central bank desires to maintain the current target overnight rate, then it must drain this surplus liquidity by selling government debt, a vertical transaction.

Therefore, it is clear that government debt does not finance spending but rather serves to maintain reserves such that a particular overnight rate can be defended by the central bank. What would happen if the US government, for example, sold no securities? The penalty for the government that doesn't pay interest on reserves would be a Japan-like zero interest rate. For the central bank, running a default support rate, the penalty would be that the interest rate would fall to its support rate. Importantly, any economic ramifications (like inflation or currency depreciation) would be due to the lower interest rate rather than any notion of monetisation.

We can now use these insights to examine the myth of financial crowding out and to extend the analysis to consider the notion that the monopoly control over money as the legal currency presents the government with a range of options that no other sector has. We explicitly trace mass unemployment to the introduction of State money and show the relationship between net government spending and excess labour supply.

8.6 The myth of financial crowding out

In Section 8.3 we disposed of the myth that a currency-issuing government is financially constrained. This myth underpins arguments by orthodox economists against government activism in macroeconomic policy. In this Section we build on the monetary analysis in Section 8.5 to deal with another persistent myth – that government expenditures crowd out private expenditures through their effects on the interest rate.

We have seen that the central bank necessarily administers the risk-free interest rate and is not subject to direct market forces. The orthodox macroeconomic approach argues that persistent deficits 'reduce national savings … [and require] … higher real interest rates and lower levels of investment spending' (DeLong, 2002: 405). Unfortunately, proponents of this logic which automatically links budget deficits to increasing debt issuance and hence rising interest rates fail to understand the analysis we presented in Section 8.3 which shows how interest rates are set and the role that debt issuance plays in the economy. Clearly, the central bank can choose to set and leave the interest rate at 0 per cent, regardless, should that be favourable to the longer maturity investment rates.

While the earlier analysis in Section 8.3 has shown us that the funds that government spends do not "come from anywhere" and taxes collected do not "go anywhere", there are substantial liquidity impacts from net government positions as discussed. If the funds that purchase the bonds come from government spending as the accounting dictates, then any notion that government spending rations finite savings that could be used for private investment is a nonsense.

Nugent (2003) provides clarity to the reasons why these ideas are nonsensical

> One can also see that the fears of rising interest rates in the face of rising budget deficits make little sense when all of the impact of government deficit spending is taken into account, since the supply of treasury securities offered by the federal government is always equal to the newly created funds. The net effect is always a wash, and the interest rate is always that which the Fed votes on. Note that in Japan, with the highest public debt ever recorded, and repeated downgrades, the Japanese government issues treasury bills at .0001%! If deficits really caused high interest rates, Japan would have shut down long ago!

As explained earlier (Sections 8.4 and 8.5), only transactions between the federal government and the private sector change the system-wide balance. Government spending and purchases of government securities (treasury bonds) by the central bank add liquidity and taxation and sales of government securities drain liquidity. These transactions influence the cash position of the system on a daily basis, and on any one day, they can result in a system surplus (deficit) due to the outflow of funds from the official sector being above (below) the funds inflow to the official sector. The system cash position has crucial implications for central bank monetary policy in that it is an important determinant of the use of open market operations (bond purchases and sales) by the central bank.

Government debt does not finance spending but rather serves to maintain reserves such that a particular overnight rate can be defended by the central bank. Accordingly, the concept of debt monetisation is a *non sequitur*. Once the overnight rate target is set the central bank should only trade government securities if liquidity changes are required to support this target. Given the central bank cannot control the reserves then debt monetisation is strictly impossible.

Imagine that the central bank traded government securities with the treasury, which then increased government spending. The excess reserves would force the central bank to sell the same amount of government securities to the private market or allow the overnight rate to fall to the support level. This is not monetisation but rather the central bank simply acting as broker in the context of the logic of the interest rate setting monetary policy.

Returning to the discussion about bank reserves and drawing on our earlier two-person economy, in an accounting sense the money that is used to buy bonds (that is allegedly regarded as financing government spending) is the same money (in aggregate) that the government spent. Nugent (2003) said that 'in other words, deficit spending creates the new funds to buy the newly issued securities.' To use the language of central bankers, government securities function to 'offset operating factors that add reserves', the largest 'operating factor' being net spending by the Treasury. In this sense, the purchase (or sale) of bonds by (to) the non-government sector alters the distribution of the assets in the *Non-Government Assets Store* shown in Figure 8.2.

Ultimately, private agents may refuse to hold any further stocks of cash or bonds. With no debt issuance, the interest rates will fall to the central bank support limit (which may be zero). It is then also clear that the private sector at the micro level can only dispense with unwanted cash balances in the absence of government paper by increasing their consumption levels. Given the current tax structure, this reduced desire to net save would generate a private expansion and reduce the deficit, eventually restoring the portfolio balance at higher private employment levels and lower the required budget deficit as long as savings desires remain low. Clearly, there would be no desire for the government to expand the economy beyond its real limit. Whether this generates inflation depends on the ability of the economy to expand real output to meet rising nominal demand. That is not compromised by the size of the budget deficit.

At this point it seems useful to us to summarise the main conclusions from the above discussion. First, the central bank sets the short-term interest rate based on its policy aspirations. Operationally, Budget deficits put downward pressure on interest rates contrary to the myths that appear in macroeconomic textbooks about crowding out. The central bank can counter this pressure by selling government bonds, which is equivalent to government borrowing from the public. Second, the penalty for not borrowing is that the interest rate will fall to the bottom of the corridor prevailing in the country which may be zero if the central bank does not offer a return on reserves. For example, Japan has been able to maintain a zero interest rate policy for years with record budget deficits simply by spending more than it borrows. This also illustrates that government spending is independent of borrowing, with the latter best thought of as coming after spending. Third, government debt-issuance is a monetary policy consideration rather than being intrinsic to fiscal policy. Finally, a budget surplus describes from an accounting perspective what the government has done not what it has received.

8.7 State money introduces the possibility of unemployment

Once we realise that government spending is not revenue-constrained then we have to analyse the functions of taxation in a different light. We have noted that taxation functions to promote offers from private individuals to government of goods and services in return for the necessary funds to extinguish the tax liabilities.

The orthodox conception is that taxation provides revenue to the government which it requires in order to spend. In fact, the reverse is the truth. Government spending provides revenue to the non-government sector which then allows them to extinguish their taxation

liabilities. So the funds necessary to pay the tax liabilities are provided to the non-government sector by government spending. It follows that the imposition of the taxation liability creates a demand for the government currency in the non-government sector which allows the government to pursue its economic and social policy programme.

This insight allows us to see another dimension of taxation which is lost in orthodox analysis. Given that the non-government sector requires fiat currency to pay its taxation liabilities, in the first instance, the imposition of taxes (without a concomitant injection of spending) by design creates unemployment (people seeking paid work) in the non-government sector. The unemployed or idle non-government resources can then be utilised through demand injections via government spending which amounts to a transfer of real goods and services from the non-government to the government sector. In turn, this transfer facilitates the government's socio-economic programme. While real resources are transferred from the non-government sector in the form of goods and services that are purchased by government, the motivation to supply these resources is sourced back to the need to acquire fiat currency to extinguish the tax liabilities. Further, while real resources are transferred, the taxation provides no additional financial capacity to the government of issue. Conceptualising the relationship between the government and non-government sectors in this way makes it clear that it is government spending that provides the paid work which eliminates the unemployment created by the taxes.

So it is now possible to see why mass unemployment arises. It is the introduction of State Money (which we define as government taxing and spending) into a non-monetary economics that raises the spectre of involuntary unemployment. As a matter of accounting, for aggregate output to be sold, total spending must equal total income (whether actual income generated in production is fully spent or not each period). Involuntary unemployment is idle labour offered for sale with no buyers at current prices (wages).

Unemployment occurs when the private sector, in aggregate, desires to earn the monetary unit of account through the offer of labour but doesn't desire to spend all it earns, other things equal. As a result, involuntary inventory accumulation among sellers of goods and services translates into decreased output and employment. In this situation, nominal (or real) wage cuts *per se* do not clear the labour market, unless those cuts somehow eliminate the private sector desire to net save, and thereby increase spending.

8.8 Unemployment occurs when net government spending is too low

In the previous section we saw that the purpose of State Money is to facilitate the movement of real goods and services from the non-government (largely private) sector to the government (public) domain. Government achieves this transfer by first levying a tax, which creates a notional demand for its currency of issue. To obtain funds needed to pay taxes and net save, non-government agents offer real goods and services for sale in exchange for the needed units of the currency. This includes, of-course, the offer of labour by the unemployed. The obvious conclusion is that unemployment occurs when net government spending is too low to accommodate the need to pay taxes and the desire to net save.

This analysis also sets the limits on government spending. It is clear that government spending has to be sufficient to allow taxes to be paid. In addition, net government spending is required to meet the private desire to save (accumulate net financial assets). From the previous paragraph it is also clear that if the Government doesn't spend enough to cover taxes and the non-government sector's desire to save the manifestation of this deficiency will be unemployment. Keynesians have used the term demand-deficient unemployment. In our

conception, the basis of this deficiency is at all times inadequate net government spending, given the private spending (saving) decisions in force at any particular time.

For a time, what may appear to be inadequate levels of net government spending can continue without rising unemployment. In these situations, as is evidenced in countries like the US and Australia over the last several years, GDP growth can be driven by an expansion in private debt. The problem with this strategy is that when the debt service levels reach some threshold percentage of income, the private sector will "run out of borrowing capacity" as incomes limit debt service. This tends to restructure their balance sheets to make them less precarious and as a consequence the aggregate demand from debt expansion slows and the economy falters. In this case, any fiscal drag (inadequate levels of net spending) begins to manifest as unemployment.

The point is that for a given tax structure, if people want to work but do not want to continue consuming (and going further into debt) at the previous rate, then the Government can increase spending and purchase goods and services and full employment is maintained. The alternative is unemployment and a recessed economy.

8.9 Conclusion

The monetary macroeconomic framework outlined in this Chapter provides a clear guide to the options that a fiat-currency issuing national government have in terms of maintaining full employment. It is clear that most national governments in recent years have eschewed these options and have instead adopted voluntary government budget constraints. By voluntarily constraining themselves, these national governments have acted as if the GBC is an *ex ante* financial constraint. However, as we have shown there is no fundamental financial constraint on such governments.

Once we accept this truth then it is useful to explore some of the options available to a government of this type which would help restore full employment. The theoretical framework provided in this Chapter provides the underpinning for understanding the analysis we presented in Chapter 7 where we compared two buffer stock approaches to maintaining price stability. The first grounded in the NAIRU tradition used the buffer of unemployment to suppress inflationary pressures. The second uses an employment buffer stock to maintain full employment but ensure that inflationary pressures are contained. The employment buffer stock (JG) approach is the logical outcome of modern monetary approach that we have outlined in this Chapter.

[1] This point is also recognised by Moschitz (2004: 12) 'given the supply of liquidity … a change in the autonomous factors must be matched by an equal change of opposite sign in the reserve position.' However, consistent with the public position of the central banks, Moschitz did not acknowledge the implication that the central bank must accommodate a 'change in the autonomous factors' when it wishes to maintain its target interest rate.

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