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# The Economic Impact of a Basic Income Grant in South Africa

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## EXECUTIVE SUMMARY

The *Basic Income Grant* potentially supports economic growth and job creation through at least three transmission mechanisms. First, the income transfers may promote the accumulation of human and social capital. The interactions are mutually reinforcing. Both nutrition and education support health, and health raises not only the absorption of learning but also the total return to education by extending lifespan. The expectation alone of imminent improvements in these social spheres may improve social stability. The recently Cabinet-approved human resource strategy recognises that poverty and inequality limit “the ability of individuals, households and the government to finance the enhancement of skills, education and training that are critical prerequisites for improved participation in the labour market, and therefore, improved income.”<sup>1</sup> In this way poverty reinforces a trap that keeps living standards low and growth prospects dim.

Second, theoretical and empirical evidence indicates that the *Basic Income Grant* may positively influence both the supply and demand sides of the labour market. Closely linked to the optimal management of social risk, the labour supply transmission mechanism operates through the effect that higher living standards exert on the capacity of unemployed job seekers to find work. Likewise, a *Basic Income Grant* has the potential to increase the demand by employers for workers through its direct and indirect effects on productivity. Directly, a *Basic Income Grant* supports the accumulation of human capital by a worker, and it supports the worker’s productivity-bolstering consumption. Better nutrition, health care, housing and transportation all support the increased productivity of the worker. Indirectly, the *Basic Income Grant* supports higher

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<sup>1</sup> Human Resource Development Strategy for South Africa (2001).

worker productivity by reducing the informal “tax” on workers that results from the combination of severe poverty and a remittance-oriented social safety net.

A government grant of a hundred rand provided to a household receiving private transfers is associated with a reduction of twenty to forty rand in remittances to that household. This suggests two important implications: (1) the implementation of the *Basic Income Grant* is not likely to entirely erase the private social support network, and (2) a *Basic Income Grant* will release significant resources to wage-earners to bolster their own productivity-improving consumption. The interaction of this effect and the tax effect discussed above has a further important implication. With a *Basic Income Grant* in place, as employers increase the wages of workers, more of the wage increase goes to the employee’s own consumption. This magnifies the increase in labour productivity, increasing the profits of the business enterprise and potentially increasing employment.

Third, two macro-economic transmission mechanisms exist by which the *Basic Income Grant* may stimulate economic growth. First, the *Basic Income Grant* will bolster the overall level of aggregate demand in the economy. The government’s new human resource strategy identifies how poverty and inequality undermine the generation of “increased aggregate demand for goods and services, therefore limiting economic growth.”<sup>2</sup> Second, the grant has the potential to shift the composition of spending towards labour-absorbing sectors of the economy.

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<sup>2</sup> Human Resource Development Strategy for South Africa (2001).

# 1. INTRODUCTION

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The impact of the current social security system in South Africa on socio-economic development has been largely ineffective. The severe nature and wide extent of poverty indicates that social assistance programmes are not adequately addressing the poverty problem in many of the households that receive grants, and are excluding many households that are poor.

Social security grants are based on the means test, a procedure that selects beneficiaries based on certain eligibility criteria. The inability of the social security system to address poverty and improve economic growth has been attributed to various drawbacks associated with the means test. In the context of South Africa, high costs and low coverage gaps have been cited as major drawbacks to means testing.

In light of research findings that show that social security policy based on targeting mechanisms is not effective in reducing poverty, it is informative to consider the possibilities of non-targeting mechanisms, namely the introduction of a *Basic Income Grant*.

This paper examines the transmission mechanisms through which the *Basic Income Grant* may potentially support economic growth and job creation. The paper begins by defining the concept of a *Basic Income Grant* (Section 2), after which three major areas are evaluated. Social capital, in Section 3, is the first major area evaluated. This section examines the linkages between the grant and the accumulation of social capital. The second major area evaluated, in Section 4, is the labour market whereby the potential impact of the grant on the labour market is analysed. The macro-economy is the final area analysed (Section 5). The section evaluates the macro-economic consequences of the grant, assessing the impact on the level and composition of aggregate demand. The final section (Section 6) provides a conclusion.

## 2. THE CONCEPT OF A BASIC INCOME GRANT

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A *Basic Income Grant* can be defined as a general social assistance grant and social entitlement for all South Africans. The *Basic Income Grant* has no means test and therefore avoids many of the disincentives and costs present in other social assistance systems. In practice, the grant would be calculated on a per person basis and paid out to the primary caregiver in the household.

## 3. SOCIAL CAPITAL

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Research findings document the substantial positive social impact of the *Basic Income Grant* in terms of reducing poverty and raising living standards<sup>3</sup>. This section discusses an extensive body of research that supports the link between these results and consequent social capital development. Several transmission mechanisms are important: nutrition and health, education, and social stability. While these transmission mechanisms are addressed distinctly in the following discussion, the important linkages and complementarities are also addressed.

Both nutrition and education support health, and health raises not only the absorption of learning but also the total return to education by extending lifespan. The expectation alone of imminent improvements in these social spheres can improve social stability. The recently Cabinet-approved human resource strategy recognises that poverty and inequality limit “the ability of individuals, households and the government to finance the enhancement of skills, education and training that are critical prerequisites for improved participation in the labour market, and therefore, improved income.”<sup>4</sup> In this way, poverty reinforces a trap that keeps living standards low and growth prospects dim.

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<sup>3</sup> See Samson *et al* (2001a).

<sup>4</sup> Human Resource Development Strategy for South Africa (2001).

### 3.1 MALNUTRITION AND HEALTH

One major transmission mechanism is the maintenance of proper nutrition supported by accessible social security. A recent *United Nations* report documents the extent to which inadequate early childhood nutrition contributes to long-term health and education problems, leading in turn to lower productivity through poorer health and higher absenteeism.<sup>5</sup> In addition, conditions resulting from childhood deprivation lead to long-term strains on the nation's health and education systems, draining resources that could efficiently target other social priorities. Childhood malnutrition often leads to "severe and costly physical and psychological complications in adulthood."<sup>6</sup>

The transmission mechanisms of early deprivation are manifold. For instance, the associated childhood stress leads to reduced life expectancy.<sup>7</sup> Early malnutrition reduces the capacity of the immune system to protect health.<sup>8</sup> Studies in South Africa find a strong link between poverty and low birth weight.<sup>9</sup> The long-term consequences include higher risks of heart disease, strokes, hypertension and diabetes.<sup>10</sup> The inertial effects are long lasting--the negative consequences of pre-natal malnutrition can be passed on to the next generation. Women who themselves suffered from pre-natal malnutrition are more likely to give birth to low birthweight babies--even if they have proper nutrition during their own pregnancies.<sup>11</sup>

According to the 1999 *October Household Survey* (OHS), children in a quarter of the poorest households (household consumption less than R800 per month) experience hunger because of insufficient resources to buy food. A report issued by the *South*

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5 Philip (2000).

6 Henry and Ulijaszek (1996).

7 Barker (1996).

8 Chandra (1975), Miler (1982).

9 Cameron (1996).

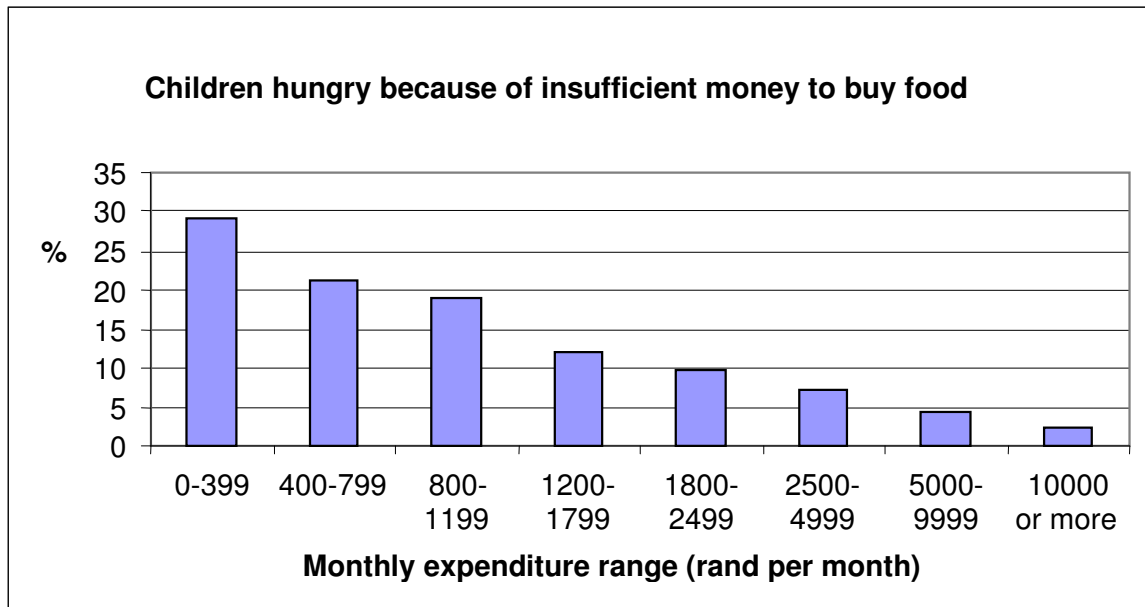
10 Barker (1996).

11 Lumey (1992).

African Human Rights Commission identified fourteen million South Africans as vulnerable to food insecurity, with two-and-a-half million South Africans malnourished.<sup>12</sup> “One in four children under the age of six years (some 1.5 million) are stunted due to chronic malnutrition.”<sup>13</sup>

Figure 1, constructed from 1999 OHS data, shows how child hunger declines as resources for consumption increase.

**Figure 1: Child hunger**



*“Integrated programmes in early child development can do much to prevent malnutrition, stunted cognitive development, and insufficient preparation for school.... Such programmes can improve primary and even secondary school performance, increase children’s prospects for higher productivity and future income, and reduce the probability that they will become burdens on public health and social service budgets.”<sup>14</sup>*

<sup>12</sup> Mgijima (1999).

<sup>13</sup> Mgijima (1999).

<sup>14</sup> Young (1996).



Social security reform provides the income security that effectively reduces the incidence of malnutrition. International studies demonstrate that more than half of additional income is allocated by poor families to increased food consumption.<sup>15</sup> The resulting improvements in health and nutrition directly improve not only the well being but also the productivity of the very poor. International studies document the positive impact of improved nutrition on productivity and earnings.<sup>16</sup> A study in Colombia found that social interventions supporting improved health and nutrition raised lifetime earnings by factors between 2.5 and 8.9.<sup>17</sup> A study in Chile that tracked children over time found that preventing malnutrition yielded productivity returns six to eight times the cost of the social investment.<sup>18</sup>

### **3.2 EDUCATION**

The OHS also provides evidence of the important linkages between social security transfers and educational attainment. Econometric tests document a strong impact of income grants (as measured by the *State Old Age Pension* in three-generation households) on school attendance. Pensions exert a significant and positive effect on the likelihood that a school-age child will attend school, this effect is stronger among the poorer segments of the population. In theory, receiving an income grant affects school enrolment in two ways:

- First, to the extent that there are financial barriers to school attendance – purchasing school supplies, uniforms, tuition, transportation, etc. – the boost in disposable income provided by the grant could help pay the otherwise unaffordable costs of attending school.

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<sup>15</sup> Strauss and Thomas (1995). See also Bouis and Haddad (1992).

<sup>16</sup> Ranis and Stewart (2000), Cornia and Stewart (1995), Strauss (1986), Immink and Viteri (1981), and Wolgemuth (1982).

<sup>17</sup> Selowsky (1981).

- Second, a grant potentially reduces the opportunity cost of school attendance. With a grant in hand, a family might be more able to forgo a child's contribution to household income (or food production in the case of subsistence farmers) in favour of making a long-term investment in education.

The evidence supports this theory. The poorer the household, the stronger the impact of a grant in terms of promoting school attendance. Furthermore, the impact is greater for girls than for boys.<sup>19</sup>

In poor households, defined as those households falling into the lower quarter of all households in a given province ranked by expenditure *per capita*, school-age boys are 3% more likely to attend school full-time if the household receives a pension benefit. The effect is even more pronounced for girls: girls who live in pensioner households are 7% more likely to be enrolled full-time in school than are their peers who live in households without a pension. In general, a R500 increase in income transfers to a poor household of five would increase the probability of attending school by an estimated 2% for a school-age boy and 5% for a girl.

Not only does increasing school attendance among poor children add to human capital, improving future productivity and prospects for economic growth; it can also have an important long-term effect on stemming the spread of HIV/AIDS. Indeed, the World Bank notes that increasing education, and in particular the education of women, is one of the most effective ways to combat the spread of HIV/AIDS.

Numerous international studies corroborate these findings. The positive link between improved household incomes and improved educational attainment by children

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<sup>18</sup> Selowsky and Taylor (1973).

<sup>19</sup> The details of the formal econometric testing are discussed in EPRI Research Paper #25, see Samson *et al* (2001b).

is rigorously documented.<sup>20</sup> The strong result for girls in South Africa's case is particularly important. A recent study by Ranis and Stewart found that the most consistent predictor of successful human development was improved female education, particularly through the consequent improvements in infant survival and child nutrition.<sup>21</sup> Education also improves economic performance not only through improved labour productivity but also through improved capital productivity. A more educated workforce is more likely to innovate, thereby raising capital productivity.<sup>22</sup>

### **3.3 POVERTY, INEQUALITY AND SOCIAL INSTABILITY: GROWTH IMPLICATIONS**

The *Basic Income Grant* provides a social stake for the economically disenfranchised, promoting social cohesiveness and investor confidence. "Research conducted in working class townships around Durban revealed a link between...violence and the erosive effects of apartheid and poverty...."<sup>23</sup> Poverty creates vulnerability to crime, and victimisation in turn erodes human and social capital and undermines access to employment.<sup>24</sup> "The shock of being victimised by crime makes the poor more vulnerable.... In some cases, heightened vulnerability may force victims to resort to criminal activity as a means of survival..."<sup>25</sup> Theoretical economic and empirical cross-country evidence demonstrates that income transfers yield social benefits that increase private investment and stimulate economic growth.<sup>26</sup>

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<sup>20</sup> Alderman (1996), Behrman and Wolf (1987a,b), Birdsall (1985), Deolalikar (1993) and King and Lillard (1987).

<sup>21</sup> Ranis and Stewart (2000).

<sup>22</sup> Lucas (1988).

<sup>23</sup> Louw and Shaw (1997).

<sup>24</sup> Moser, Holland, and Adam (1996).

<sup>25</sup> Louw and Shaw (1997).

<sup>26</sup> Cashin (1995).

A recent World Bank report argues that “the foregone cost of not accounting for the poor may compromise economic growth in the long-run. In order to survive, the poor may... resort to criminal or marginalised activities.... Moreover, denying the poor access to economic and educational opportunities accentuates inequality—an outcome likely to retard economic growth.”<sup>27</sup> An extensive literature documents the link between severe inequality and poor rates of economic growth. Cross-country empirical evidence includes econometric studies, which find a negative effect of inequality on economic growth.<sup>28</sup> These findings are supported by methodological studies.<sup>29</sup>

## **4. LABOUR MARKET EFFECTS**

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Theoretical and empirical evidence demonstrates that the *Basic Income Grant* may positively influence both the supply and demand sides of the labour market.

### **4.1 RAISING LABOUR SUPPLY**

Closely linked to the optimal management of social risk, the labour supply transmission mechanism operates through the effect that higher living standards exert on the capacity of unemployed job seekers to find work. The conventional wisdom stemming from economic theory argues that income transfers to the unemployed will tend to undermine their willingness to supply labour to the market, as additional income reduces the “opportunity cost” of not working. In the absence of income transfers, the alternative to working may be unacceptable living standards. Income transfers make the alternative living standards more tolerable. Empirical evidence from South Africa’s 1997

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<sup>27</sup> Subbarao, Bonnerjee, Braithwaite (1997).

<sup>28</sup> Alesina and Rodrik (1994), Persson and Tabellini (1994).

<sup>29</sup> Perotti (1992, 1994, 1996), Lipton (1995).

OHS contradicts this neo-classical economic theory (see Appendix I). Recent data suggest that higher living standards may be associated with higher rates of finding employment, even when controlling for the effect of remuneration on consumption.

Figure 2 demonstrates the link between prior living standards and the rate at which individuals wanting employment found jobs. The population of individuals in Gauteng, KwaZulu-Natal, and the Western Cape who expressed an interest in employment in October 1997 was divided into five quintiles based on *per capita* household consumption in September 1997. Then the rates at which job seekers in each quintile found jobs in October 1997 were calculated.

Figure 2 maps the job-finding rates across quintiles for the three provinces, demonstrating that higher prior living standards are linked to higher job-finding rates. Individuals who can better afford leisure nevertheless choose to find jobs and are apparently better able to secure employment. The data raises questions about the applicability to poor households in South Africa of the conventional argument that income transfers will lead to reductions in labour supply.

Figure 2: Living standards and job-finding rates



## 4.2 RAISING LABOUR DEMAND

Income transfers to the poor act as a wage subsidy, allowing wage increases to more efficiently raise the productivity of workers. Currently, the imperative of providing remittances to family members, friends, and other individuals in need reduces the remaining wage available to sustain the worker's productivity. Wage increases are in part "taxed" by associated increases in remittances, since the working poor provide the primary social safety net for the ultra-poor. As a result, the "efficiency wage" effect is diluted—wage increases do not lead to as powerful a productivity-enhancing effect as they would if the remittance pressures were reduced. This tends to create a low wage trap, as higher wages provide a public good, and market failure ensures that this "good" is insufficiently provided.

A theoretical model of firm behaviour reflecting these conditions (see Appendix II) demonstrates that providing income transfers to the poor leads to increased employment, even benefiting those who do not receive a net income transfer. Income transfers reduce poverty, mitigating the demands on workers for remittances. This allows workers to channel more of their wages to productivity-enhancing consumption and human capital investment, increasing firm competitiveness and thus raising production and the demand for labour.

Empirical evidence in South Africa and in other countries supports this hypothesis. An *International Labour Organisation* (ILO) study documents how the tendency for large family remittances to flow from urban to rural areas places South African firms at a structural disadvantage, resulting in reduced employment.<sup>30</sup> A large body of cross-country evidence documents the substantial role remittances from the working poor play in creating a social safety net for the very poor.

Empirical and theoretical analysis supports the applicability of the “efficiency wage” hypothesis to South Africa. Higher wages increase productivity in several ways:

- (1) Higher wages improve equity, reducing social tension and economising on capital inputs through fuller utilisation—fewer strikes, more opportunities for extra shifts, etc.
- (2) Higher wages support improvements in health and education, contributing to higher labour productivity and the generation of capital-saving innovations.
- (3) The improved distributional effects of higher wages increase expected returns to capital by reducing political risk.<sup>31</sup> A *Dresdner Bank* study of South African manufacturing sectors found evidence of a positive efficiency wage effect in many industries.<sup>32</sup> This is consistent with international experience in many low wage developing countries.<sup>33</sup>

A *Basic Income Grant* has the potential to increase the demand by employers for workers through its direct and indirect effects on productivity. Directly, a *Basic Income Grant* supports the accumulation of human capital by a worker, and it supports the worker’s productivity-bolstering consumption. Better nutrition, health care, housing and transportation all support the increased productivity of the worker. Indirectly, the *Basic Income Grant* supports higher worker productivity by reducing the informal “tax” on

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30 Standing, Sender, and Weeks (1996).

31 “Hochtief, the multi-national German construction company, may have broken off talks with Murray and Roberts, the engineering and construction group, earlier this year as a result of fears arising from the Zimbabwe crisis.... This is one of the first concrete examples of a large investment decision that was directly affected by the events in the neighbouring country.” (Business Report, September 10, 2000, page 1).

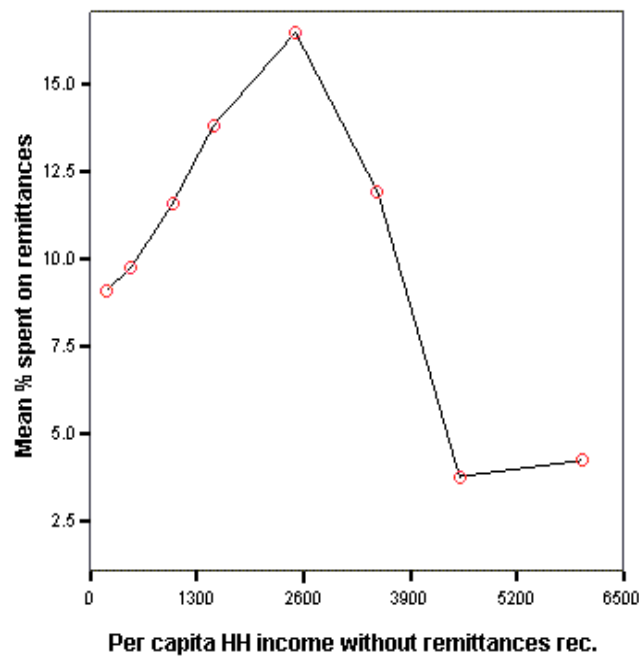
32 Piazzolo and Wurth (1995).

33 A recent World Bank study finds “significant efficiency wage effects” using firm-level data from Mexico (Maloney and Ribeiro 1999). Another World Bank study using an endogenous growth framework for Guatemala found similar results (Sakellariou 1995). Likewise, a study of Zimbabwean firm-level data is consistent with positive efficiency wage effects (Valenchik 1997). Similarly, a study of the cement industry in Turkey finds that higher wages improve productivity by increasing technical efficiency (Saygili 1998).

workers that result from the combination of severe poverty and a remittance-oriented social safety net.

Figure 3, estimated from SALDRU data, documents the extent to which remittances impose a burden on wage earners. The percentage of a household's resources allocated to remittances rises steeply as *per capita* income increases. On average, remitting households earning R2600 per month pay nearly 17% of their income in remittances to family members, friends, and others in need who live outside the household.

**Figure 3: Remittances and household income**



A study of the interaction between public and private transfers in South Africa finds that a government grant of R100 provided to a household receiving private transfers led to a reduction of R20 to R40 in remittances to that household.<sup>34</sup> This suggests important implications:

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<sup>34</sup> Jensen (1996).



- (1) The implementation of the *Basic Income Grant* will not erase the private social support network,
- (2) A *Basic Income Grant* will release substantial resources to wage earners to bolster their own productivity-improving consumption.
- (3) The interaction of the productivity effect and the tax effect discussed above has a further important implication. With a *Basic Income Grant* in place, as employers increase the wages of workers, more of the wage increase goes to the employee's own consumption. This magnifies the increase in labour productivity, increasing the profits of the business enterprise and potentially increasing employment.

## **5. MACRO-ECONOMIC EFFECTS**

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There are two types of macro-economic transmission mechanisms by which the *Basic Income Grant* can stimulate economic growth. First, the *Basic Income Grant* will bolster the overall level of aggregate demand in the economy. Second, the grant has the potential to shift the composition of spending towards labour-absorbing sectors of the economy.

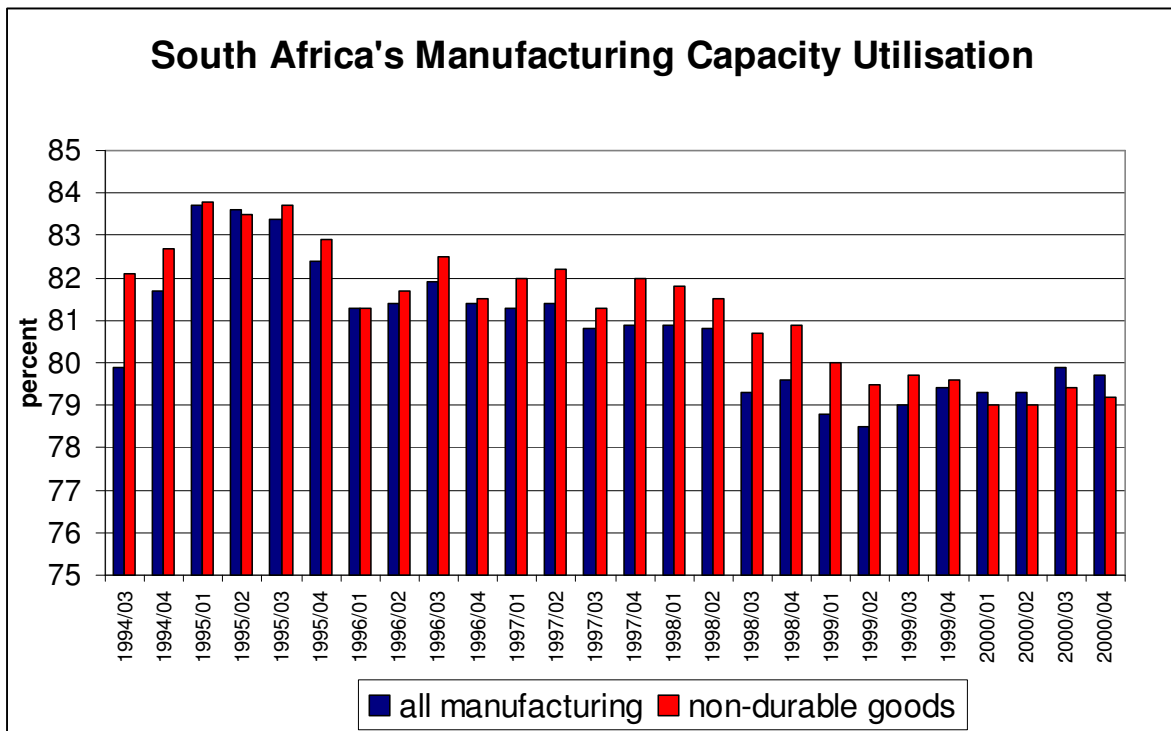
### **5.1 INCREASING THE LEVEL OF AGGREGATE DEMAND**

A *Basic Income Grant*, by shifting resources from savings to consumption, stimulates the overall level of economic activity. Given the high rate of unemployment and large levels of excess capacity, the growth effects of this stimulus are likely to be substantial.

Income transfers to the poor stimulate aggregate spending, leading to increased economic activity which promotes economic growth. An analysis of South Africa's productive capacity does not support the contention that income transfers to the poor

might be inflationary or unsustainable. Since 1995, utilisation of productive capacity in manufacturing has fallen by approximately 5%, as shown in Figure 4. The substantial increase in economic activity generated by income transfers will tend to increase capacity utilisation, probably more with non-durable manufacturing than with durable manufacturing. This spending will provide a demand-side stimulus that increases the demand for labour, promoting increased employment. The government's new *Human Resource Development Strategy* identifies how poverty and inequality undermine the generation of "increased aggregate demand for goods and services, therefore limiting economic growth."<sup>35</sup>

**Figure 4: Manufacturing capacity utilisation**



Source: SARB.

<sup>35</sup> Human Resource Development Strategy for South Africa (2001).

## 5.2 SHIFTING THE COMPOSITION OF AGGREGATE DEMAND

Lower income groups tend to concentrate spending on labour-absorbing sectors of the economy. Income transfers to the poor shift aggregate demand towards labour-intensive job-creating industries, because it increases the consumption of the poor, the composition of which is relatively labour-intensive. Relatively affluent consumers spend a relatively large share of expenditure on capital-intensive and import-intensive goods, creating a bias against labour-intensive production in the country. The largest components of South African imports (excluding capital goods) include appliances, electronics, automobiles, jewellery, and other goods consumed disproportionately by the relatively affluent. Redistributing income to lower income individuals is likely to stimulate job creation, particularly if appropriate policies are implemented to enable the unemployed to undertake productive activities that meet the resulting increased economic demand. Effective micro-credit policies combined with logistical support for entrepreneurs can effectively maximise the resulting job creation.

## 6. CONCLUSION

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The *Basic Income Grant* may support economic growth and job creation in three major ways. First, it may support both increased labour supply and demand, raising employment levels and supporting economic growth. Second, it may promote the accumulation of social capital, which raises the productivity of labour and capital and fuels economic growth and job creation. Third, at a macro-economic level, it raises the level of aggregate demand while shifting the composition of demand in a way that potentially promotes higher rates of growth and employment.

## **APPENDIX I: INCOME TRANSFERS AND LABOUR SUPPLY**

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This appendix presents initial findings linking living standards to effective labour supply. Although conventional wisdom posits that increased income reduces incentives to work, theory calls into question whether this negative relationship holds among people who live in deep poverty. As South Africa considers the introduction of income transfers to the poor, it is necessary to consider the impact of raising poor incomes not only on the basic health and welfare of the poor but also on labour market outcomes as well. How would higher disposable income induce a positive labour supply response? Consider the position of poor people who want to work in South Africa.

Low income individuals who want a job must surmount more than a shortage of labour demand; they frequently face poor health, poor living standards, and poor interviewing skills; they often live miles from potential work opportunities, and they lack sufficient financial resources to overcome these obstacles. Unless someone who wants work can put together the resources for clean clothes, a decent meal, and bus fare to meet a prospective employer, her chances of landing a job are that much slimmer. Under these circumstances, a small increase in disposable income could improve her capacity to carry out an effective job search. Anecdotal evidence supports the relevance of this scenario. This appendix explores household survey data in order to scientifically evaluate the hypothesis. In the following pages, we test the notion that increases in disposable income among poor people in South Africa stimulate labour supply and improve job-finding success rates.

## **DATA**

The data employed relies on two sources. Our first data set is the 1997 *October Household Survey* (OHS), an annual nationally representative survey of 30,000 households designed to monitor trends in labour, health, and welfare. The OHS provides information on the propensity of jobless individuals to actively seek work and can be used to infer job-finding success rates. Another data set, the 1993 *South African Integrated Household Survey*, commonly known as the SALDRU survey (after the University of Cape Town's *South African Labour and Development Research Unit*, which administered the survey together with the World Bank) provides corroborating information on the participation of jobless individuals in active job search. The SALDRU survey covers a smaller sample population (about 9,000 households) but is also nationally representative.

## **METHODOLOGY**

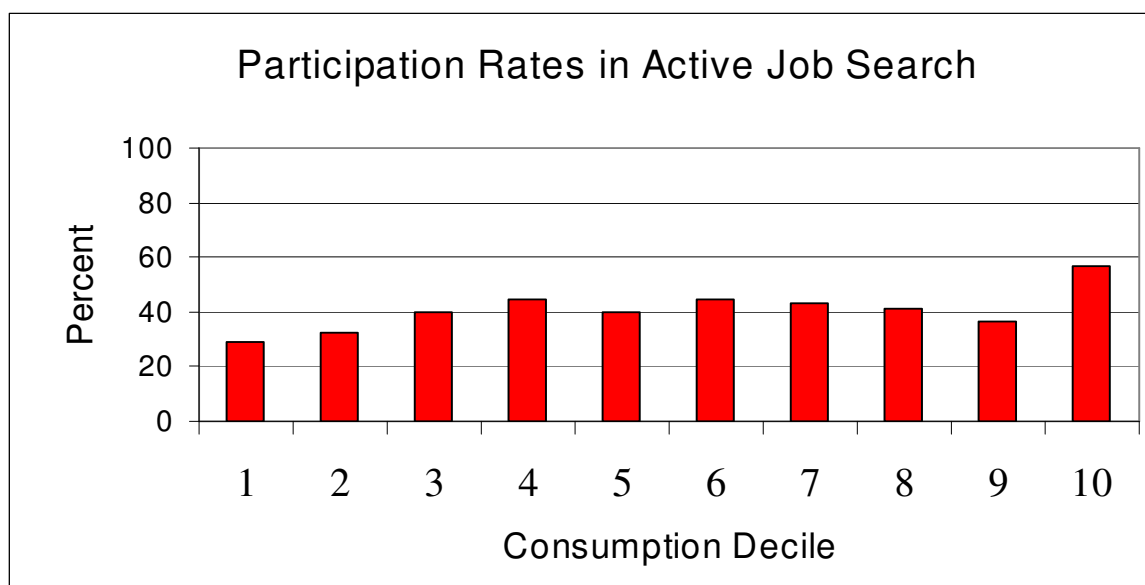
Ideally, this type of study would use panel data to measure the impact of changes in income on job-seeking behaviour. Panel data is not available, so an alternative approach is adopted. Job seekers are sorted into consumption brackets and marginal changes in job-seeking behaviour moving between brackets are evaluated. Consumption is more relevant than income, as it provides a better sense of the real resources contributing to the productivity/employability of job seekers. In addition, consumption data is more reliable than income data. Consumption brackets are based on monthly *per capita* household expenditure and are defined individually for each of South Africa's provinces. Job seekers are defined broadly to include all jobless individuals who express an interest in working, regardless of whether or not they are actively seeking employment.

### DESCRIPTIVE ANALYSIS

First, the impact of increased consumption on the job-seeking patterns of the unemployed poor is evaluated. Two issues are addressed. First, how does increased consumption affect the likelihood that a job-seeking poor person will actively look for work? Second, how does increased consumption affect the chances that a poor person will secure a job?

Appendix Figure A1 summarises the key results. From both the SALDRU survey and the OHS, we can judge the propensity of job-desiring people to “participate” in an active job-search. According to both surveys, the percentage of people desiring work who participate in active job searching rises as we move upwards through the poorest deciles of the distribution. The percentage of active job seekers rises from 29% to 40% over the first three deciles of the SALDRU data and from 41% to 47% over the same deciles of the OHS.

**Appendix Figure A1: Living standards and labour market participation**



Overall, the percentage of active job seekers is lower in the SALDRU than in the OHS – 40% versus 46%. But since the SALDRU survey asked respondents about their job-seeking activity over the past one week, compared with the past four weeks in the OHS, this disparity is expected.

Although this discussion is focused on trends in the bottom of the consumption distribution, it is worth noting briefly the stark divisions that mark South Africa's labour market. People in the bottom of South Africa's income distribution are separated from their richer compatriots by massive economic inequalities. As the legacy of apartheid continues to separate the races, so too does it divide the labour market. The types of jobs poor people can hope to find – manual labour and domestic work mostly – are very different from jobs open to people with greater economic resources. We can infer from these results that, among South Africa's poorest job seekers, individuals who are able to consume a little more per person per month are more likely to actively pursue work.

Our analysis of job finding success rates is based on a small sample of 359 individuals in the OHS who started new jobs in October 1997. We classify these 359 individuals as "successful job-seekers," add them to our sample of people seeking jobs in October 1997 and examine the ratio of job-finders to job-seekers by consumption bracket. Since our household expenditure data is for September, the month before job-finders started their jobs, we have a measure of insulation from the potential simultaneity of new found employment influencing consumption.

Unfortunately, we cannot discern which of our successful job seekers are moving out of unemployment and which are merely changing jobs. Observations of job-switchers will tend to increase job-finding rates in higher consumption brackets, because people who already had jobs in September will have higher consumption levels before starting their new positions. It may be reasonable to assume that job switching is more common in higher consumption brackets where skilled workers are more able to choose their employers. Nonetheless, to the extent that job-switchers account for a portion of our poor job-finders, our results will be biased in favour of a positive consumption/job-finding relationship.

Since our sample of job-finders is so small– 359 job-finders out of almost 16,000 job seekers – and since our results are driven by the distribution of job seekers across consumption brackets, we have to be careful when drawing conclusions for provinces with small numbers of job finders. Here it makes more sense to look at quintiles than to look at deciles. We cannot have much confidence in our decile analysis with so few observations for job-finders; we can be more certain of overall trends by reducing the number of consumption brackets and examining results on a quintile basis. Only two provinces had more than 50 job-finders to divide over 10 consumption brackets. Both provinces showed increasing job-finding rates over the first four deciles of the population.

## **CONCLUSION**

The data indicate the presence of a positive relationship between level of consumption and propensity to engage in active job-search. An increased propensity to look for work and higher consumption enable more well off individuals to find jobs with greater rates of success. Although better data and a more rigorous analysis will be needed to adequately address numerous econometric problems, these results imply that higher consumption is associated with stronger job-seeking behaviour and improved job seeking outcomes. There is no evidence to support the notion that higher levels of consumption discourages labour supply among South Africa's jobless poor.



## APPENDIX II: THE MICROECONOMICS OF THE LABOUR DEMAND RESPONSE TO A BASIC INCOME GRANT

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Consider an economy characterised by a representative firm with a fixed supply of capital facing a production function where both the quantity of labour employed and the wage paid are choice variables. The production function is increasing in both the wage paid and quantity of labour employed, but subject to diminishing marginal returns. The wage rate itself does not directly affect productivity and output, but rather it influences the “net wage”, which in turn positively influences productivity and output. The “net wage” is defined as the gross wage less the remittances paid to support poorer family members and friends. The quantity of remittances paid depends positively on the worker’s individual gross wage as well as the overall poverty rate in the society. The poverty rate is determined in part by public policy variables, including but not limited to expenditures on income transfers to the poor.

Mathematically, this economy can be represented by the following equations:

(1) OUTPUT  $Y = Y(NW, L)$

Output  $Y$  depends positively on the two choice variables—the net wage  $NW$  and the quantity of labour employed  $L$ —but subject to diminishing marginal returns. That is,  $Y_{NW} > 0$ ,  $Y_{NWNW} < 0$ ,  $Y_L > 0$ ,  $Y_{LL} < 0$ .

(2) NET WAGE  $NW = w - R$

The net wage  $NW$  is equal to the gross wage  $w$  less remittances paid to poorer family members and friends.

(3) REMITTANCES  $R = R[p(t), w]$

Remittances  $R$  paid by the representative worker depend positively on both the overall poverty rate  $p$  and the individual gross wage  $w$  paid to the worker. The poverty rate is a decreasing function in the public policy variable  $t$ , which in this case represents the total amount of income transfers to the poor.

(4) WAGE BILL  $WB = wL$

The wage bill  $WB$  is the product of the wage paid and the quantity of labour employed. The representative firm chooses the wage  $w$  and quantity of labour  $L$  to maximise profit, which is equal to the value of output less the wage bill. This can be written:

(5) FIRM'S OBJECTIVE  $\text{MAX}_{w,L} Y\{w - R[p(t), w], L\} - wL$

The solution to this problem can be obtained by differentiating the objective function with respect to the two choice variables, yielding a simultaneous system of first order conditions determining the profit-maximising choices for the wage rate and quantity of labour employed. Calculating the total differential equations for this system yields a simultaneous differential equation system representing the differentials of the wage rate and quantity of labour employed as functions of the parameters of the system and the differential of public policy variable representing income transfers to the poor. This system yields the response of wages and employment with respect to the level of income transfers to the poor. The system of first order conditions generated by this calculation are:

(6) LABOUR FOC:  $Y_L\{w - R[p(t), w], L\} = w$

(7) WAGE FOC:  $Y_w\{w - R[p(t), w], L\} = L$

These equations have the following interpretation. The profit-maximising firm must choose the wage rate and labour quantity employed to balance two trade-offs.

- First, the additional amount of output resulting from hiring one more worker must equal the cost of that one additional worker—the wage rate.
- Second, the additional amount of output resulting from increasing the wage by one more rand must equal the cost of that increased wage paid—that is, it must equal the number of workers employed.

In order to evaluate the impact of the policy variable on wages and employment, it is necessary to calculate the total differential equations associated with the above system. The calculated system of total differential equations is:

$$(8) \quad \text{LABOUR DIFFEQ:} \quad Y_{LNI}[dw - R_p p'(t)dt - R_w dw] + Y_{LL}dL = dw$$

$$(9) \quad \text{WAGE DIFFEQ:} \quad Y_{WNI}[dw - R_p p'(t)dt - R_w dw] + Y_{WL}dL = dL$$

This system of simultaneous differential equations can be solved to yield closed form solutions for the differentials for wages and labour in terms of the differential of the public policy variable representing income transfers to the poor. The closed form solutions are:

$$(10) \text{ LABOUR } dL \quad \frac{Y_{WNI} R_p p'(t)}{[Y_{LL} Y_{WNI} (1 - R_w)] - \{(1 - Y_{WL})[1 + Y_{LNI}(1 - R_w)]\}} > 0$$

$$(11) \text{ WAGE RATE } \quad \frac{dw}{dt} = \frac{[(Y_{LL} Y_{WNI}) - (1 - Y_{WL})Y_{LNI}]R_p p'(t)}{[Y_{LL} Y_{WNI} (1 - R_w)] - \{(1 - Y_{WL})[1 + Y_{LNI}(1 - R_w)]\}}$$

The derivative of employment with respect to transfers to the poor is unambiguously positive.<sup>36</sup> Remittances to poor family members and friends are reduced as the poverty rate falls in response to increased public transfers. Net wages rise, leading to higher productivity and increased employment. The magnitude of the resulting job creation depends on several factors.

- The more efficiently the transfers reduce poverty, the more employment will be created.
- The stronger the effect that poverty exerts on inducing remittances, the more jobs will be created as transfers bring poverty levels down.
- The stronger the wage effect on remittances, the more employment will be stimulated by compensating public transfers. A strong wage effect on remittances acts like an inefficient tax on labour income—while public transfers restore the efficiency of the wage.

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<sup>36</sup> Due to diminishing marginal returns to wages and labour employed,  $Y_{WNW} < 0$  and  $Y_{LL} < 0$ . Since increased wages are not 100% captured by remittances,  $R_w < 1$ . Poverty increases remittances, so  $R_p > 0$ , while increases in transfers to the poor reduce poverty, so  $p'(t) < 0$ .

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