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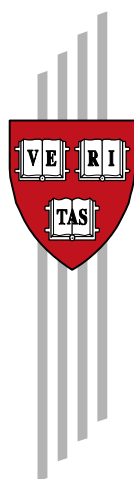
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Two Policies to Alleviate Unemployment in South Africa

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Abstract: This paper suggests two policies to alleviate unemployment in South Africa—a targeted wage subsidy coupled with ease of dismissal for subsidized workers and immigration reform.

Keywords: wage subsidy, unemployment, South Africa

JEL Codes: J08, J60, O55

This paper is part of the CID South Africa Growth Initiative. This project is an initiative of the National Treasury of the Republic of South Africa within the government's Accelerated and Shared Growth Initiative (ASGI-SA), which seeks to consolidate the gains of post-transition economic stability and accelerate growth in order to create employment and improve the livelihoods of all South Africans. For more information and the entire series of papers, visit the project's web site at <http://www.cid.harvard.edu/southafrica>.

Two Policies to Alleviate Unemployment in South Africa

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1 Introduction

At transition in 1994, the new South African government inherited an economy that had systematically disadvantaged most of the population. For almost a half century, Blacks¹ had been subject to an intentionally second-class education, labor laws that precluded their advancement, business regulations that outlawed many forms of firm ownership, and laws that kept them from living in the metropolitan areas that were the center of commerce. Unemployment was about 15 percent. A dozen years later and all of these restrictions of the Apartheid system have disappeared from the law. Over this same period, unemployment has about doubled, and the same groups that struggled under Apartheid now disproportionately bear the costs of this unemployment.

There are multiple reasons for the increase in unemployment. South Africa has been subject to the same skill-biased technological change as many other parts of the world and this has hit especially hard in the mining and agriculture sectors—precisely where many unskilled Blacks worked. Concurrently, there was a huge influx of mostly under-educated Black women into the labor market just as the demand for less skilled workers declined. This increase in labor supply coupled with a decline in labor demand would have led to wage declines that society found unacceptable, and the result has been a substantial increase in unemployment.²

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¹I refer to non-Whites in this paper as “Blacks.” This group includes the population groups labeled African, Indian/Asian, and Coloured in South African statistical surveys.

²A companion paper to this one documents the increase in unemployment and discusses in much greater

The socio-economic costs of this unemployment are at least three-fold. First, unemployed South Africans represent lost economic output today. A back-of-the-envelope calculation illustrates the magnitude of this cost. If employment as a fraction of the total population rose to the level of an average of 6 comparator countries, per capita GDP in South Africa would rise by 48 percent. To put this in perspective, the current South African economic growth plan, ASGI-SA, has set as its goal an increase in per capita GDP of 38 percent by 2014. Hence, if employment as a fraction of the population were to rise to the level of comparator countries, the entire ASGI-SA goal would be more than met.³

A second cost of South Africa's high unemployment reflects the dynamic aspects of unemployment. Workers who are unemployed today are not acquiring the experience and skills that will contribute to their productivity in the future. Hence the static costs of unemployment discussed above are amplified over time. An implication of this is that waiting to address unemployment is increasingly costly in terms of foregone future growth. Furthermore, the dynamics are such that unemployment is not a self-correcting problem.

The third cost is harder to measure but just as important. Unemployment contributes to the social ills that accompany a loss of hope. These include crime, disengagement with the political process, and a lack of investment in one's future well-being. Because unemployment is concentrated among adults under the age of 35, their disillusionment with the "new" South Africa carries with it a particular threat to the future of the country.

For all these reasons and more, unemployment is probably the single most pressing challenge facing South Africa today. This paper proposes two specific policy responses to South Africa's unemployment—responses that are tailored to the idiosyncracies of the South African labor market. The first policy is a targeted wage subsidy, and the second is immigration reform to encourage highly skilled immigrants.⁴

The remainder of the paper is organized as follows. Section 2 provides a brief overview

detail why this has occurred. See [1].

³The comparator countries are Malaysia, Mexico, Thailand, Turkey, Poland, and Venezuela. The details of the calculation are as follows. Employment as a share of the total population is the product of the share of the population that is working age times the share of the working age population that is in the labor force times the share of the labor force that is employed. The calculation is done using aggregate data from the World Bank's World Development indicators. This calculation highlights the fact that the labor force participation rate (the fraction of the population in the labor force) is the driving factor in this comparison. South Africa's labor force participation rate is one of the lowest in the world. In 2001, the only reporting entities with lower rates were West Bank and Gaza, Algeria, Syria, and Saudi Arabia—countries where female labor force participation is not especially encouraged.

One can of course change the list of comparator countries and obtain different results, but the main message is robust—low labor force participation coupled with low employment of those in the labor force create a very binding constraint on South African economic growth.

⁴An alternative view of how to address the unemployment problem can be found in [4]. That study has several policy recommendations, but focuses heavily on providing subsidized credit for labor-intensive industries.

of the dimensions of unemployment in South Africa. This section provides a set of facts that any policy to address unemployment must confront. Section 3 proposes the targeted wage subsidy and discusses implementation details, costs, as well as the more general economic reasoning behind the policy proposal. Section 4 proposes immigration reform. Section 5 addresses links between the proposed policies and two other areas of economic policy— industrial policy and Black Economic Empowerment (BEE). Section 5 also discusses two other possible policy responses to unemployment— education reform and public works programs. Section 6 concludes.

2 The Context— South Africa’s labor market

Any policy to address unemployment must come to terms with the details of the South African labor market. While there are many ways to examine the data, four patterns are key. First, unemployment as well as labor force participation have risen over the past decade. The levels of unemployment by both narrow and strict definitions are quite high. Second, unemployment is not evenly distributed across the age spectrum. Rather, unemployment is concentrated among the younger cohorts. Third, unemployment is high even for those with a Matric, but is close to zero for those who have completed a university degree. Fourth, transitions from unemployment into the formal sector are rare as are transitions from the informal sector to the formal sector. Once one has a formal sector job, though, one tends to stay in the formal sector even if this entails a change of job from time to time. Each of these key patterns are documented below in Tables 1 through 5 using individual-level data from South Africa’s Labour Force Surveys.⁵

The data underlying all of the below tables are taken from multiple waves of the many household-level surveys that Statistics South Africa has collected.⁶ Most of these data are cross-sectional, but the information on labor market transitions is from a panel created by matching households in the LFS waves across time.

Table 1 provides a view, over time, of unemployment and labor force participation. In Table 1 and in the following tables, the participation and unemployment variables are defined using what is often referred to as the “broad” definition. The broad definition includes individuals who state that they are available to work while the (unused) more narrow ILO

⁵Some of the historical data in Table 1 pre-dates the Labour Force Surveys and in that case, the data are from the annual October Household Surveys.

⁶Data before 2000 are typically from the October Household Surveys while the figures from 2005 are drawn from the March Labour Force Survey (LFS). The data on labor market transitions are from matched waves of the LFS. The LFS was designed such that, for the waves used in this paper, 80 percent of the sample was included from one wave to the next (e.g. 20 percent out-rotation). The LFS, though, tracked dwellings, not people. For the results in this paper, only individuals who could be matched from one wave to the next were included. See [1] for details.

Table 1: Participation, Employment and Unemployment Rates by Year (%)

Survey Year	Participation	Employment	Unemployment
Men			
1995	69.25	53.63	22.57
1997	66.88	47.33	29.23
1999	70.85	49.60	30.00
2001	74.02	48.43	34.57
2003	74.04	47.59	35.73
2005	74.71	50.17	32.85
Women			
1995	51.19	31.73	38.01
1997	50.85	27.93	45.08
1999	58.54	33.25	43.20
2001	65.06	34.51	46.96
2003	65.32	34.09	47.81
2005	65.27	33.82	48.19

¹ All statistics are for the population of 16-64 year olds, and calculated using sample weights.

² Unemployment is calculated using the broad definition that includes discouraged workers.

³ Source: October Household Survey (1995, 1997, 1999); Labour Force Surveys (September 2001, September 2003 and March 2005).

definition requires the individual to have actively looked for work in the past four weeks. Results using the narrow definition are found in [1]. For purposes of determining the likely groups impacted by policies to alleviate unemployment, the broad definition is more appropriate. Some definitions are useful. Define those who are employed as EMP , those who are unemployed as $UNEMP$ and those who are not economically active as NEA . Then the participation rate is given by $\frac{EMP+UNEMP}{NEA+EMP+UNEMP}$. The employment rate is given by $\frac{EMP}{NEA+EMP+UNEMP}$ and the unemployment rate is given by $\frac{UNEMP}{EMP+UNEMP}$.

Table 1 illustrates three key points. First, labor force participation rates are low by international standards but have risen over the past decade.⁷ The increase is especially large

⁷The 1995 figures should be viewed with some caution. The 1995 October Household Survey did not include several districts in KwaZulu Natal because they were considered too dangerous for survey teams. The population in these areas was about 3 million, so the omission may be important. Survey weights

Table 2: Participation, Employment and Unemployment Rates by Level of Education (%)

Education level	Participation	Employment	Unemployment
Men			
Less than a matric	68.47	43.17	36.95
Matric	87.32	59.07	32.35
Some post-matric	92.08	81.04	11.99
Degree	91.01	86.95	4.46
Women			
Less than a matric	59.09	26.97	54.36
Matric	76.44	40.25	47.35
Some post-matric	88.97	71.85	19.25
Degree	88.35	83.69	5.27

¹ All statistics are for the population of 16-64 year olds, and calculated using sample weights.

² Unemployment is calculated using the broad definition that includes discouraged workers.

³ A matric is defined as having completed grade 12, standard 10, form 5 or matric. Post-matric includes individuals who have both grade 12/standard 10 and either a certificate or a diploma. Degree includes individuals with a bachelors degree, honors degree or higher degree.

⁴ Source: March 2005 Labour Force Survey.

for women with participation rates increasing from 50 percent to 65 percent just from 1997 to 2005. Second, employment rates are quite low. Only about half of men work by 2005 and only about a third of women do. Third, the unemployment rates are high and have risen over time. The figures in Table 1 make the case quite clearly that the magnitude of unemployment is a pressing problem and not one that is dissipating on its own.

Tables 2 and three divide the aggregate figures in Table 1 into two policy-relevant slices. In Table 2, the data for 2005 are divided by education level while in Table 3, the same data are divided by age cohort.

Table 2 shows that unemployment is primarily a problem for those individuals with a Matric or less. Even among those with a Matric, the unemployment rate for men is still

were calculated to compensate for this problem (see [2]. However, the fact that these areas are not directly represented leads one to view the 1995 results with caution.

32 percent and for women it is 47 percent. Clearly, finishing high school is not sufficient to guarantee entry into the labor market. The rates for those with some post-Matric education fall by almost two-thirds and for those with a university degree, unemployment is minimal.⁸

Table 3 highlights the age pattern of employment and labor force participation. The large jump in participation from the 16-19 year old cohort to the 20-24 year cohort reflects the transition from school into the labor force. The unemployment problem is especially concentrated in the 20-24 year cohort for men where the unemployment rate in 2005 was 60 percent. For 20-24 year old men, the rate falls to 40 percent and by age 30 it is down to 28 percent. Thereafter it continues modest declines. For women, the same pattern is apparent, but the numbers are uniformly higher. For women in the 20-24 year cohort, the unemployment rate is a staggering 73.5 percent. Although it declines with age, unemployment for the 35-39 year cohort is still 41 percent.

Tables 4 and 5 are different from the previous tables in that they give data on labor market transitions rather than a single snapshot at a given point in time. In order to focus on the school to work transition, the figures in Tables 4 and 5 are only for individuals from the ages of 18 to 35.⁹ Table 4 presents transition rates for all such individuals while Table 5 does so just for those individuals with at least a Matric.

The rows give the labor market status of the individual in September 2003 while the columns give the status six months later in March 2004. For example, in Table 4, of those who were actively searching for a job in September 2003, 44.97 percent were still searching six months on while 18.89 percent had become discouraged and stopped their search. Only 12.26 percent found employment in the formal sector. Together, Tables 4 and 5 illustrate a three key points. First, transition from the informal sector to the formal sector is fairly rare, but having a Matric raises the likelihood from 18 to 27 percent. Second, once one has a job in the formal sector, one tends to keep a job (not necessarily the same one) in the formal sector. The retention rates are 77 percent for all those between ages 18 and 35 and almost 81 percent for those 18 to 35 with a Matric. Third, the picture is less promising in the informal sector where the likelihood of having a job in that sector six months on is only about 40 percent. Clearly, there are barriers to obtaining a job in the formal sector but once one has the job, the likelihood of retaining employment in the formal sector is high. These patterns are also found when examining the entire population (instead of restricting to the younger cohorts.) For the entire population, of those who are employed in the formal sector in one period, almost 85 percent were in the formal sector the previous period.¹⁰

⁸Some level of unemployment is to be expected due to simple churning and search. Hence, one never observes an unemployment rate of zero.

⁹See [1] for similar tables covering the entire population.

¹⁰See, for example, Tables 18 and 19 in [1].

Table 3: Participation, Employment and Unemployment Rates by Age Group (%)

Age Group	Participation	Employment	Unemployment
Men			
16-64	74.71	50.17	32.85
16-19	21.58	6.60	69.40
20-24	68.63	27.22	60.34
25-29	92.83	56.35	39.29
30-34	94.20	67.46	28.38
35-39	93.38	73.51	21.29
40-49	88.84	71.52	19.49
50-64	70.76	59.13	16.44
Women			
16-64	65.27	33.82	48.19
16-19	20.06	3.76	81.27
20-24	68.70	18.21	73.50
25-29	85.81	35.17	59.01
30-34	84.60	44.60	47.28
35-39	81.99	48.41	40.95
40-49	75.06	52.57	29.97
50-64	44.34	35.41	20.14

¹ All statistics are for the population of 16-64 year olds, and calculated using sample weights.

² Unemployment is calculated using the broad definition that includes discouraged workers.

³ Source: March 2005 Labour Force Survey.

Table 4: Transition matrix of employment status for all youth

	<u>State Sep 2003</u>		<u>State Mar 2004</u>				
	N	NEA	Discouraged	Searching	Informal	Formal	Total
NEA	<i>1,231,796</i>	63.87	14.30	13.32	3.32	5.20	100
Discouraged	<i>760,545</i>	20.85	37.08	28.71	5.36	8.01	100
Searching	<i>918,747</i>	18.19	18.89	44.97	5.68	12.26	100
Informal	<i>362,946</i>	10.71	9.98	17.37	43.83	18.10	100
Formal	<i>1,261,128</i>	6.08	3.62	8.48	4.38	77.44	100
Total	<i>4,535,162</i>	27.08	15.73	21.29	7.68	28.22	100

¹ Values are weighted proportion of youth (age 18-35) in row employment state in September 2003 that transition to the column employment state by March 2004.

² Individuals are classified as discouraged if they desire employment but have not searched for work in the past four weeks.

³ Source: September 2003 and March 2004 waves of Labour Force Survey Panel.

Table 5: Transition matrix of employment status for youth with at least a matric

	<u>State Sep 2003</u>		<u>State Mar 2004</u>				
	N	NEA	Discouraged	Searching	Informal	Formal	Total
NEA	<i>254,597</i>	59.21	11.10	15.66	2.00	12.03	100
Discouraged	<i>200,856</i>	18.93	32.78	34.73	4.21	9.35	100
Searching	<i>342,750</i>	18.08	15.98	44.82	4.84	16.28	100
Informal	<i>94,873</i>	8.66	6.85	17.04	40.70	26.76	100
Formal	<i>691,878</i>	6.54	2.72	6.31	3.74	80.69	100
Total	<i>1,584,954</i>	19.19	10.99	20.38	5.97	43.46	100

¹ Values are weighted proportion of youth (age 18-35) in row employment state in September 2003 that transition to the column employment state by March 2004.

² Individuals are classified as discouraged if they desire employment but have not searched for work in the past four weeks.

³ A matric is defined as having completed grade 12, standard 10, form 5 or matric.

⁴ Source: September 2003 and March 2004 waves of Labour Force Survey Panel.

Tables 1 to 5 set the stage for the policies suggested in the next two sections. More detailed descriptions of the data and especially more time series data are presented in [1].

3 A targeted wage subsidy

The first policy proposal to alleviate unemployment is a targeted wage subsidy. The subsidy is intended to facilitate the school-to-work transition. The targeted population is recent school leavers. A critical component of the targeted wage subsidy is a probationary period during which subsidized workers may be dismissed at will. The remainder of this section is organized as follows. First, a brief description of how a wage subsidy operates is presented. This is followed by the economic argument for the proposed targeted wage subsidy. Finally, implementation issues and projected costs are discussed.

3.1 What is a targeted wage subsidy?

A tax on wages (often through payroll deduction) is the norm in many developing countries. Furthermore, in those countries with large informal sectors, the tax is normally only collected on wages earned in the formal sector. This very standard fiscal policy discourages employment in the formal sector and, on the margin, encourages investment in capital instead of labor. Finally, a wage tax raises revenues for the treasury. A wage subsidy turns all of these results on their head. By lowering the cost of labor employed in the formal sector, a wage subsidy increases the demand for labor employed in the formal sector, increases employment in the formal sector, favors labor at the expense of capital, and costs the treasury. A *targeted* wage subsidy does this for only a subset of workers, and by so doing, increases the relative attractiveness of hiring the targeted group relative to those who are not targeted.

3.2 The economic argument for a targeted wage subsidy

Any economic argument for a targeted wage subsidy must quickly confront the question of what is wrong with the labor market absent any policy. What, in particular, are the market imperfections? In the South African context, there are several.

The data overwhelmingly suggest that there is something that is preventing young school leavers from entering the labor market. Unemployment in 2005 was over 50 percent using the *narrow* definition of unemployment. For those 10 years older, the unemployment rate had about halved. As shown in Tables 4 and 5, the labor market dynamics indicate that while there is a lot of churning in the labor market, once workers get a job in the formal

sector, they tend to stay employed, albeit not necessarily in the same job. These patterns point to the importance of somehow getting younger workers into those first jobs.

Several market imperfections are consistent with this pattern in the data. First, firms may be unwilling to hire recent school-leavers because they need training and, once trained (at some expense), the better workers may leave for other jobs. The firm that hires away the worker can afford to offer more because that firm does not have to incur the costs of training. The classical solution to this problem is to put the burden of the cost of training on the employee, but because entry-level workers are relatively poor and/or do not have ready access to credit, this solution is ill-fitted to the particulars of the South African experience. While a targeted wage subsidy is not a first-best policy response, it works in the right direction.

Another market imperfection arises due to the externalities associated with having unemployment (even narrowly defined) in the 50 percent range for young school-leavers. These externalities are at the societal level and include an increase in crime and the more fuzzy but still important notion of the disengagement that goes along with the feeling that one has nothing left to lose and little for which to hope. While these are costs to society, they are not costs to an individual firm, and hence the resulting externalities. A wage subsidy that re-engages the young school-leavers alleviates these externalities.

A third market imperfection arises due to negotiated union wages and the indirect effect of these negotiated wages on non-union wages. Simply put, wages are too high to clear the market. This too is consistent with the patterns found in the data. If wages are above those that would clear the market, there is a surplus of workers willing to work at those wages, and firms can be picky about who they hire. If at prevailing wages firms can fill jobs with experienced workers, there is no reason to expect these firms to instead gamble on a new and inexperienced worker. The result, consistent with the data, is substantial unemployment of new labor force entrants. Taking the existence of negotiated wage agreements as simply part of the economic landscape in South Africa, a targeted wage subsidy works to alleviate the resulting unemployment.

Each of these three market imperfections argue for a nationwide targeted wage subsidy. Arguments for a *national* policy are bolstered by the pervasiveness of unemployment throughout the country. The fact that unemployment is a country-wide multi-sector problem suggests that the unemployment is unlikely to be solved by labor reallocating on its own from one area or sector (with excess jobs) to another with unemployment. Hence, a policy response from government is called for. Arguments for a *targeted* policy are bolstered by the fact that unemployment is clustered among younger workers.¹¹

¹¹While there may be other worker-level attributes that are correlated with unemployment, for policy purposes it is important that the targeted attribute be readily observable (such as age) rather than something more amorphous such as “ability.”

A fourth market imperfection consistent with the patterns in the data relates to the costs of dismissal. It is risky to take on a new worker if that worker's quality is unknown before hiring and if dismissal is difficult. When dismissal is easy, firms can offer a job at a wage that, in expectation, is appropriate to the worker's expected productivity and then dismiss those workers that are sub-par while retaining and adjusting upwards the wage of those that are acceptable. When dismissal is difficult, this sort of "experimentation" on the part of the firm is curtailed and too few new workers will be hired.

This market imperfection becomes more relevant when: a) there is greater uncertainty about a worker's productivity; and b) when the costs of dismissal are high. Both conditions are quite salient in South Africa today.

There is often uncertainty about just how productive a recent school-leaver will be because, for many jobs, school performance is not very informative. This is especially true to the extent that secondary schools are not teaching the skills that are demanded in the workplace. Graduating secondary school with high marks in, say, English literature, may not say much about whether one will be a skilled pipefitter. Furthermore, even when secondary schools are teaching the relevant skills (e.g. mathematics), the huge variance in the quality of South African secondary schools further contributes to the uncertainty that employers face when judging the productivity of a prospective employee.

Dismissal costs in South Africa are also perceived to be high. There are compelling historical reasons for many of the rules governing dismissal. Furthermore, in many cases, firms can in fact dismiss workers in the first several months of employment. Workers, though, typically have a right of appeal and the process is perceived by many firms as burdensome. The burden is especially large for smaller firms. Even if, at the end of the day, firms can dismiss workers in the early stages of employment, the perception remains that such dismissal is potentially costly.¹² Combined with firms' uncertainty about worker quality, this perception curtails employment.

The data support the view that uncertainty about worker quality coupled with high dismissal costs contribute to unemployment. The data show, for example, that the critical bottleneck is entry into the job market. Once one has obtained a job in the formal sector, the likelihood of being employed in the formal sector the next period is quite high (about 85 percent.) The likelihood of finding that first job, though, is depressingly low.

A targeted wage subsidy will, on the margin, encourage a bit more risk-taking, but a much more direct policy response is to tie the targeted wage subsidy to revised rules for dismissal for those workers receiving the subsidy. For this reason, it is essential that the targeted wage subsidy entail a probationary period during which a "no-questions-asked" dismissal policy is in effect. This provision of the proposed targeted wage subsidy addresses the market

¹²Results from the World Bank's Investment Climate Surveys support the notion that firms perceive government regulation as especially burdensome in South Africa.

imperfection that arises due to the combination of existing labor market regulations and asymmetric (between employer and employee) information regarding a worker's quality. By allowing firms to easily dismiss recently hired workers, the risk is born by the worker (who has every incentive to prove his or her abilities) rather than by the firm. Current regulations make it too cumbersome to dismiss a new worker and this puts the risk on the firm. By giving firms the ability to dismiss new hires, employment is likely to increase for exactly that group of South Africans who are currently most shut out of the formal labor market.

Moving beyond specific market imperfections, the economic argument for a targeted wage subsidy is also supported by a well-established economic model of labor markets.¹³ The basic model is an overlapping generations model in which worker quality is not directly observable. In such a model, there are two generations—older workers and younger workers. Over time, the old workers leave the labor market and the young become old. The old are distinguished by those who have worked in the previous period (and gained skills so doing) and those who have not. In such a model, the demand for labor depends upon the worker's expected skill level, but there is a cost to learning that skill level. The higher that cost, the lower the overall demand for labor. Furthermore, the higher that cost, the more likely it will be that firms use other observables to make their best guess as to a worker's true skill level, and this opens the door to possible discrimination.

This model gives rise to a troubling equilibrium. In that equilibrium, the demand for labor is lower than it would be if workers' types were observable (since firms hire based on expected skill levels), the incentives to obtain skills are diminished (since workers cannot be sure they will reap the benefits of their acquired skills), and racial inequality worsens (since firms' best guess as to worker quality may involve race). A targeted wage subsidy works to break this self-reinforcing and troubling equilibrium by, in effect, subsidizing search (by workers) and experimentation (by firms.) The targeted wage subsidy, in the context of this model, serves to increase employment, reduce discrimination, increase skill acquisition, and increases investment (because mobile capital is complementary to labor.)

While the economic argument for a targeted wage subsidy is, in the final analysis, quite compelling, there are several caveats of which policy makers need be aware. Six are discussed next.

- *Destructive Churning:* The probationary period during which recipients of the wage subsidy may be freely dismissed has the potential to be abused. Suppose the probationary period is six months. (Implementation details are discussed in the next section.) Firms could hire subsidized workers, keep them for five months and 29 days, and then sack them. Due to the pervasiveness of unemployment of the targeted population that would receive the wage subsidy, there will probably be a ready supply of

¹³The arguments given here are motivated by [3].

workers to take the place of the newly sacked. While this is a concern, the concern is alleviated for three reasons. First, it's lousy business to fire good workers. If a worker proves to be a good hire, it makes little sense to sack them simply because one can. That said, there will be at least some of this churning, since there will be some firms that will hire a worker for, say, half the prevailing wage if the subsidy is 50 percent and which will simply not find it profitable to hire even a good worker at 100 percent of the wage. On net, though, the policy will still increase employment so long as some good workers are retained. Second, the firm incurs some training costs when it hires a new worker, and these costs would need to be re-incurred if the workforce was constantly being rotated. This too is lousy business. Third, even if the firm abuses the policy and sacks workers just before the end of the probationary period, it is not clear that the worker is worse off than she would have been absent the policy (in which case she probably would still be unemployed.) A goal of the targeted wage subsidy is to get workers through the "front door" and then let the market decide if the fit is a good one. Some churning, then, is inherent in this goal. Policy makers are going to be ill-equipped to separate out the churning that occurs because some fits are poor and the churning that is simply destructive. It is important not to try, since this would re-introduce many of the regulatory burdens that prevent employment now.

- *Substitution with non-targeted workers:* The wage subsidy favors the targeted population. The flip side of this coin is that the policy disfavors the non-targeted population, and this is generically true of any targeted wage subsidy. The non-targeted population consists of two groups. Those who are currently employed and those who are not. Substitution of new subsidized workers for those South Africans who are already employed is not likely to be substantial because of the regulations surrounding dismissal of established workers. Substitution of subsidized workers for unsubsidized and unemployed job searchers is of greater concern. There will be some of this substitution—that's the logic behind targeting younger workers in the first place. One of the goals of the policy is getting the young over the hurdle of obtaining that first job. The sheer numbers of unemployed younger workers versus unemployed older workers argues that while some substitution may occur, overall employment is sure to increase. Also, as noted in the next section, the amount of the subsidy is, in absolute terms, modest so any substitution between older and younger unemployed workers is likely to occur at the lower paying jobs.
- Another potential drawback of a targeted wage subsidy is that it may stigmatize the targeted population in the eyes of employers. Research in developed countries has sometimes found the counter-intuitive result that the targeted group had employment declines, not increases, and the "flawed good" story is the usual explanation. Because the proposed policy is for *all* recent school leavers, this argument loses force. In general, this concern is one that favors a more widely defined target group.

- The targeted population for the wage subsidy is recent school leavers and this raises the caveat that the policy could induce students who would otherwise remain in school to leave for a (subsidized) job. This would result in a clearly unintended and unfortunate consequence of the targeted wage subsidy. To the extent that students rationally consider the opportunity cost of remaining in school, it is true that a targeted wage subsidy will, on the margin, induce some students to leave school sooner than they otherwise would. From a public policy perspective, the issue is one of magnitude— is this likely to be an empirically important phenomenon? This seems unlikely, and the design of the subsidy (discussed in the next section) is such that the subsidy goes to everyone who turns 18 years old, and those who remain in school can use it at a later date. This feature of the policy is intended to mitigate just this concern.
- A macroeconomic concern that arises with a broad-based wage subsidy is that of inflation. It is possible that the wage subsidy will increase the wage (inclusive of the subsidy) paid to workers, and that this could fuel inflation. This seems unlikely in the South African context. This is because a well-targeted wage subsidy amidst high unemployment is much more likely to increase the quantity of labor hired (contributing to real growth) than it is to simply increase the wage paid to existing workers. Put another way, a targeted wage subsidy would have to be stunningly successful before it would contribute to inflation.
- The last caveat concerns potential fraud. The goal of a targeted wage subsidy is to incentivize firms to hire new workers. The program entails funds being paid from the Treasury to individuals (or firms) and with this comes the risk of fraud. For example, the policy needs to be designed such that it is difficult for a person to set up a dummy firm, hire (at a subsidized wage) a handful of friends to do no work, and then all involved simply split the subsidy payment. While no program is going to be completely immune to fraud, a well-designed program will be less subject to this problem. This leads to the broader issue of implementation.

3.3 Implementation issues— How to craft the policy

The precise details of exactly how a targeted wage subsidy could be implemented are beyond the scope of this paper. For example, this paper is silent on just which government agency is best suited to administer the subsidy, the amount of staffing necessary to administer the policy, and the like. Several higher-level issues, though, must be addressed if the policy proposal is to go beyond a mere notion. In this section, these issues are discussed. The intention here is to focus ideas and provide a basis for future discussion. The goal is not to definitively nail down the policy specifics. Here, then, is how a targeted wage subsidy in South Africa might work.

- *Eligibility:* Every South African becomes eligible for the wage subsidy when he or she turns 18 years of age. Upon turning 18, each South African receives an account (“Subsidy Account”) into which Government has placed a sum of money. Every 18 year old receives the same amount. This money can only be used to subsidize the wage that the individual receives while working for a registered firm. Also, upon turning 18, each citizen is given a wage subsidy card that might look much like a credit card. It could well have a magnetic strip that would contain information on the recipient (e.g. name, birth date, and other government identification data) as well as the “balance” in the individual’s account. When the individual took a job in the formal sector (e.g. for a registered firm), a fraction of the individual’s wage (up to a given limit) would be drawn from the individual’s Subsidy Account. For an individual earning approximately an average minimum wage, the subsidy might comprise up to half of the wage. For an individual earning a much higher wage, the subsidy would be a much smaller fraction of the wage.

An example may help fix ideas. Suppose one turns 18. At that time, one receives the subsidy card and, for the sake of an example, suppose the account tied to that card has had R 5,000 placed into it. (A discussion of the actual recommended level of the subsidy is given below.) The individual could then search for a job and could show the card to the prospective employer. So long as the prospective employer was a registered business, if the employer hired the individual for, say, a monthly wage of R800, then the employer would be able to draw half that wage (R400) from the individual’s Subsidy Account while paying for the other half. Each month, then, R400, would be subtracted from the individual’s Subsidy Account balance. At the end of 12 months, the account would have R200 left in it since R4800 (12 times R400) would have been used up.

It may be preferable to administer the program such that the individual receives their paycheck from the Government and then the government collects the difference between the actual wage and the subsidy amount from the employer. This arrangement may make it more difficult to set up “dummy” firms for fraudulent purposes. Alternatively, the employer could pay the individual his entire wage and then be reimbursed from the Subsidy Account.

The subsidy would be entirely portable. If the individual left a job (or was dismissed), the remaining subsidy balance can be used with another employer. The subsidy, then, is tied to the individual, not the firm.

- *Expiration:* It is proposed that the subsidy not expire. There are competing policy goals here. On the one hand, one wants school leavers to look for a job quickly and earnestly. This might argue for a Subsidy Account that would expire over time. On the other hand, one does not want to penalize those who stay in school beyond 18 years of age. The latter seems a more compelling policy goal, and for this reason,

it is proposed that the Subsidy Account not expire. One would probably want to increase the account at some rate of interest so that it does not diminish in real terms. Indeed, one possibility is to actively *increase* it in real terms with each additional year of education up until one completes a technical post-matric degree. At that level of education, frequently one to two years beyond Matric, the subsidy would be held constant in real terms. While one does not want to discourage or penalize university degrees, the level of the subsidy would be such that it would not be a significant factor in the employment contract for university graduates. Furthermore, university graduates do not really need the subsidy to find employment given the very low unemployment rates for university graduates.

- *Level of subsidy:* As envisioned above, there are two key parameters that set the level of the subsidy. The first is the amount that goes into each Subsidy Account and the second is the rate at which one can draw that down. Unlike many other countries, there is not really a single minimum wage in South Africa. While many wages are set, these tend to be very sector specific.¹⁴

Examining the actual distribution of wages using the 2005 LFS, one finds that conditional on being employed and having an education of a Matric or less, the wage at the twentieth percentile of this distribution was about R9000 per year.¹⁵ Based on the South African CPI and adjusting for inflation since 2005, this is about equivalent to R10,000 per year in June 2007.

For the sake of initiating discussion, suppose each Subsidy Account received an initial funding of half this amount, R5000. Suppose further that the subsidy account will last one year. This would be consistent with rules that set the maximum amount of the subsidy per month at R417. If workers earned more than R10,000 per year, the subsidy per month would be capped at R417. If workers earned less than R10,000 per year, the subsidy would be half their wage and, in this case, the subsidy would last more than 12 months.

The above is intended to be illustrative. Government could choose to adjust either the amount put into the account or the draw rate. The goal of the policy is to induce employers to hire workers that they would not otherwise hire. From an analytical viewpoint, predicting the impact of the policy will depend crucially on the elasticity of demand for labor. At a lower price of labor (the wage), how much more labor do employers demand? While this elasticity surely varies by sector of the economy and by the type of worker hired, the consensus seems to be that this parameter is simply not known with any degree of accuracy. For this reason (and others), it is recommended

¹⁴See [2] for a discussion of wage setting and the roles played by unions and industrial councils.

¹⁵To put this figure in perspective, the Government mandated minimum wage for domestic workers working more than 27 hours a week in urban areas is (R1066 x 12 =) R12792 in 2007. For details on the minimum wages for domestic workers, see http://www.labour.gov.za/basic_guides/bgguide_display.jsp?id=5566.

that Government experiment by conducting a pilot program before any national roll-out of a policy. A pilot program should include randomly assigned subsidy rates and an evaluation of the impact of different subsidy rates on employment outcomes. The results of this experiment can be used to ensure that a national-level policy is both effective (the employment goals are met) and efficient (the subsidy is not so large as to simply convey rents.)

- *Probationary Period:* There will be a probationary period during which a “no questions asked” dismissal policy will be in effect. This period will have to be negotiated with all the active stakeholders, but for the sake of discussion, it is proposed that this period last ten weeks. The goal is to provide the employer enough time to learn whether the employee is a good fit. Too short a probationary period and this purpose is not served. If the probationary period were to extend well beyond the time required to learn a worker’s “fit,” the probationary period will interfere unnecessarily with the existing job security rules governing dismissal. There is an argument to be made that the probationary period should be substantially shorter than the length of time over which one would collect the subsidy. This would allow workers more than one chance should the first job be a poor fit or should the employer abuse the system and systematically fire all subsidized workers.
- *Cost:* While it is difficult to know exactly how costly the program will be, some back-of-the-envelope calculations are informative. As a rough guide, each age cohort contains about one million people. Hence, each year, roughly one million South Africans will turn 18 and receive Subsidy Accounts. Of course, not all of them will use these accounts and a balance in a Subsidy Account that is unused is not a real expense to the Treasury. Some will continue their education, but this will tend to increase the likelihood that they are employed in the future (at which time the Subsidy Account is drawn down), so in present value terms, these individuals are likely to use their accounts. At the extremes of the distribution of individuals, Subsidy Accounts are likely to be unused. At one end of the distribution, some individuals will simply not find employment in the formal sector, even at the subsidized wage and these Accounts are never used. At the very high end of the wage distribution, the amount of the subsidy may be sufficiently negligible that it is never actually used. Finally, if only registered businesses qualify for the subsidized workers, those individuals who work for Government might never use their Accounts. Suppose for the sake of fixing ideas that 75 percent of 18 year olds use their accounts (either right away or in the future.) Then in present value terms, the cost to the Treasury per cohort will be on the order of R 3.75 billion. (R 5000 per person times 1,000,000 people times .75). This does not include the administrative costs of setting up and running the program.

A difficult policy question arises as to whether Government should start the targeted wage subsidy with 18 year olds only or whether younger cohorts more generally

should initially receive Subsidy Accounts. As noted in Table 3, unemployment is not restricted to current 18 year olds. Rather, unemployment is still about 40 percent for men in the 25-29 age cohort and about 60 percent for women in the same age cohort. There are arguments for including all individuals up to the age of 30 for men and perhaps even 40 for women in the initial roll-out. (The unemployment rates for men in the 25-29 year cohort and for women in the 35-39 year cohorts are each about 40 percent.) Extending the initial eligibility will increase the roll-out cost of the program (perhaps drastically.) Where to draw the eligibility line for the initial roll-out will depend on both budgetary considerations as well as notions of fairness. If, for example, 18 year olds are eligible for the subsidies but not anyone 19 and over, the ineligible group will be at a (possibly severe) disadvantage in terms of obtaining future employment. Of course, these same individuals are unemployed with the current no-subsidy policy.

4 Immigration reform

The second policy recommendation concerns immigration reform. Labor force data indicate that South Africa has a shortage of the most highly skilled workers. While unemployment for those with a Matric or less is very high, unemployment of those with post-graduate training (*beyond* four years of university) is virtually nil. In 2005, unemployment for those with a university degree but no post-graduate training was only 4.46 percent for men and 5.27 percent for women. (See Table 2.) This pattern in the data alone suggests that highly skilled workers and less skilled workers are not very substitutable. And they are not. Rather, highly skilled labor is more a complement than a substitute for less-skilled labor. Increasing the supply of highly skilled labor in this instance will increase, not decrease, the demand for those workers who tend to be unemployed.

“Brain drain” is the phrase that is often used to describe the emigration of highly skilled labor. South Africa can alleviate unemployment by adopting a policy of “brain gain” by encouraging free and open immigration of highly skilled individuals. In particular, encouraging immigration of highly skilled workers from SADC and other African countries, as well as from Asia and the sub-continent would alleviate unemployment of the less skilled.

Prior to 1994, most immigration of skilled labor came from Europe. Since 1994, this has changed and today probably more than half of South African skilled immigration comes from other parts of Africa. South Africa is well-situated to exploit its comparative advantage as a hub for highly skilled individuals from throughout sub-Saharan Africa, and a welcoming immigration policy for highly trained individuals facilitates this. Whereas the South African government effectively loses substantial resources every time a professional

emigrates if that professional had a government subsidized education (as most higher education in South African is), South Africa can freely “import” the training provided by other countries with a welcoming immigration policy for professionals.

The employment impact of a welcoming immigration policy for professionals or other highly skilled labor is hard to estimate. To the extent that current economic growth is constrained by the shortage of highly skilled workers, this constraint will be eased. This will work to alleviate unemployment both due to its direct effect (highly skilled and less skilled workers are complements) and due to its indirect but positive impact on economic growth.

As with the targeted wage subsidy, implementation details matter. At present, there is certainly not a ban on the immigration of highly skilled workers and in some instances, such immigration is officially welcomed. In practice, matters seem a bit more nuanced. It is difficult or impossible to obtain data on individuals who would like to be in South Africa but are not actually there. Interviews with firms, though, provide anecdotal evidence that bureaucratic delays and outright refusals are not uncommon. With respect to immigration policy, there appears to be a general level of frustration with the Department of Home Affairs. Reforming immigration policy will mean addressing these concerns. Independent of just what qualifications will be necessary for an individual to have fast-track visa approval, it is important that the approval process be simple, fast, and automatic conditional on qualifications.

Two key implementation issues arise. The first relates to who qualifies for automatic visa approval and the second is whether such a process should apply to temporary workers or only permanent immigrants. Each are discussed in turn.

- *Educational Qualifications:* The data on employment status and education are quite clear. Unemployment among those with a university degree is minimal. Unemployment among those with a post-graduate training is yet smaller. For those with a post-graduate degree, the 2005 unemployment rate was less than one percent. Five percent unemployment among university graduates might be seen as evidence for setting guidelines such that anyone with a university degree would be welcomed. Two caveats argue against (at least initially) setting such guidelines. First, although unemployment is *on average* very low for university graduates (about 5 percent), it is higher for recent university graduates. For those aged 21-30 in 2005 with a university degree, the unemployment rate was about 9 percent for men and 13 percent for women. In light of this, encouraging immigration of anyone with any university degree is probably too aggressive. The second caveat concerns the varying quality of universities around the world. It is likely that many prospective immigrants will come from other African countries, and whatever weaknesses South African universities may have for historical reasons, South African universities are still quite strong by the standards of many other African countries. For this reason too, encouraging immigration for all university graduates is again probably too aggressive. For these

reasons, it is proposed that immigration policy be adjusted to grant automatic entry for anyone with a post-graduate degree from any university of a list of pre-approved institutions.¹⁶

This is not a particularly radical proposal, although it certainly constitutes a change in current practice. One could easily imagine extending this to anyone with a university degree (as opposed to a post-graduate degree.) As a practical matter, though, it is probably easier to roll out the immigration reform with tighter controls and later loosen them as opposed to beginning with a very liberal policy and later tightening it.

- *Permanent versus Temporary Workers:* The argument for including temporary workers is that immigration reform will induce many more highly skilled workers if temporary workers qualify. There are simply going to be more people willing to try moving to and working in South Africa for, say, two or three years than there will be people willing to commit to a permanent move and change of citizenship. The goal of the policy is to alleviate unemployment and more rather than fewer highly skilled immigrants is conducive to this.

The argument for restricting the liberal immigration policy to permanent immigrants is that firms will not engage in as much training if they know that the worker may leave in the near future. While there is surely some truth to this argument, this effect is likely to be relatively small. By construction, this is a policy that is limited to already highly trained individuals. By including temporary workers in the immigration reform, Government is leaving open the option that these workers might decide to stay and become permanent immigrants.

It is proposed, then, that the liberal and fast-track immigration policy apply to both permanent and temporary workers *and* that if workers arrive as temporary workers and find work (and the data suggest that virtually all will), that they be permitted to stay indefinitely. One way to implement this is to give all workers with qualifying university degrees a fast-track three year visa and then permit automatic renewal conditional on employment.

5 Related policy responses to unemployment

The two policies proposed in this paper do not exist in a policy vacuum. Indeed, they are part of a broader plan to achieve the goals of the Accelerated and Shared Growth Initiative of South Africa (ASGISA.) As such, the employment policies relate to policy in

¹⁶The expectation is that the list of pre-approved universities would not be very restrictive, but rather would just cull out non-accredited and otherwise severely troubled institutions.

two other areas of economic policy— industrial policy and Black Economic Empowerment (BEE). Neither of these areas of policy, on its own, is an especially effective employment policy, although both clearly have employment impacts. Industrial policy typically refers to creating a policy environment that may favor particular sectors of the economy or certain types of firms. A companion paper by Dani Rodrik¹⁷ makes the case for a uniquely South African variant of industrial policy. Insofar as industrial policy favors particular sectors or sorts of firms, it will incentivize employment creation in these sectors or firms. Industrial policy meshes well with policies to alleviate unemployment if the favored sectors or firms are especially intensive in the type of labor that is in excess supply. In the South African context, an industrial policy will be compatible with employment growth if the favored sectors or firms intensively use workers with a Matric or less. The employment consequences of industrial policy are a side issue, not the primary focus, of industrial policy. The primary focus of industrial policy is enhancing economic growth. Rodrik makes the case that there is a happy confluence of industrial policy and accompanying employment growth in the South African context.

BEE is another economic policy that is sometimes claimed to have employment consequences. In the scheme of things, it is hard to make the case that BEE is quantitatively important in either causing or relieving unemployment. BEE would relieve unemployment if it encouraged the employment of Blacks who would otherwise be unemployed or encouraged the formation of new firms that would not otherwise exist. Unemployment, though, is concentrated among the young and the less highly educated, and BEE does not significantly enhance (at least directly) the employment opportunities for these workers. BEE might cause unemployment if its regulations were so onerous as to discourage the creation or growth of firms that, absent BEE, would thrive and hire the otherwise unemployed. While one can surely find anecdotes, there is little evidence to conclude that BEE is quantitatively important in either encouraging or discouraging the births of new firms or the expansion of existing ones. Put another way, BEE is a regulatory burden on firms but it is less important, in terms of its employment impact, than either a targeted wage subsidy or immigration reform.

Two oft-mentioned policies to alleviate unemployment in South Africa are not discussed in this paper, and their omission deserves an explanation. These policies are reform of the education system and a public works program. The reasons for excluding each are discussed in turn.

This paper adopts the quite pragmatic view that employment policy must deal with the labor market that exists, not the labor market one would like to have. Make no mistake about it— if the undereducated unemployed South Africans were instead the products of a first-rate technical education in, say, engineering or design, unemployment would most certainly be alleviated. The oft-heard claim that there is a mismatch between the skill set

¹⁷See [5].

with which many Matriculates graduate and the skill that are in high demand in the labor market is also true. (Table 2 would look quite different, otherwise.) It is generically sound economic policy to invest in a great education system and South Africa is no exception. Fixing the school system, though, is a long term project and one that will not address *today's* unemployed. Indeed, a much improved school system is going to leave those who are the product of today's lesser school system with a yet greater disadvantage in the labor market. This is not a reason to ignore school reform, but it is a reason to think hard about policies that will alleviate unemployment in the near term.

It is too easy to simply blame a less-than-ideal educational system for unemployment even if the educational system really is, at least in part, at fault. From a purely economic viewpoint, a fluid labor market would clear with wages set at whatever level set supply equal to demand. With a better educated labor force, those market clearing wages would be higher. But if the labor market does not clear for structural reasons, it may well not clear at the higher wages that would prevail with a better educated workforce. The bottom line is that a better educated workforce is clearly a good thing and policies that promote this are to be commended. But the claim that the labor market is somehow "broken" because the workers that employers want are not those that are available is not very informative. One hears such claims at the bottom of the educational ladder as well as at the top— in Ethiopia and in Silicon Valley. And in both locales, one must deal with the labor market as it exists, just as policy makers in South Africa must deal with the labor market they have while not losing sight of the one they want.

Another candidate policy that is not one of the listed policies to alleviate unemployment is an expansion of public works programs. The appeal of such programs is pretty obvious. These programs can be situated where rural unemployment is severe. They can hire potentially large numbers of poorly educated and otherwise unemployed workers. Finally, the employment generated also helps address issues of infrastructure investment assuming the public works programs are well targeted. All of that is for the good, but there is little evidence that these programs provide the platform for sustained future employment. Public works programs typically do not provide the sort of training needed to equip workers for gainful employment, nor is training their principal focus. Rather, public works programs are a short-term way to address poverty— an important function in an economy that for historical reasons has an under-developed informal sector and relatively little subsistence agriculture. Also, the simple magnitude of unemployment in South Africa is such that public works programs cannot adequately address unemployment. An ambitious public works program would probably employ, at most, about two to five percent of unemployed South Africans. Preferred policies to address unemployment are policies that set the appropriate incentives and then let the labor markets work. Each of the two policies suggested in this paper do just that.

6 Conclusions

Many have struggled and sacrificed to accomplish all that the new South Africa has achieved. Unemployment threatens those achievements and its burden is mostly borne by those who were previously most disadvantaged. The two policies proposed above are concrete steps toward addressing this threat. A targeted wage subsidy and immigration reform will each alleviate unemployment. The impacts of the two, though, are of likely differential magnitudes. A targeted wage subsidy is an ambitious policy that carries with it a substantial price tag. Reformed immigration policy will have a more modest impact, but its cost to the government coffers is negligible (and maybe even negative as the increased employment will generate tax revenues.)

There are costs to postponing a policy response to unemployment. Over time, human capital tends to depreciate when it is not used. This is both a reason to target school leavers (before their learning becomes forgotten) and to address unemployment in a timely manner. While there are surely political costs to each of the proposed policies, there are also costs to waiting. And these costs are growing.

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