Ex ante Active Labor Market Policy Analysis: a technical note for the case of South Africa

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June 23, 2009
Conference on Employment Guarantee Policies
Levy Economics Institute

Total Employment Impact

- Direct and Indirect Job creation
- Distributional Impact
- *Flexibility* to represent different requirements of a program (e.g. labor intensity of NREGA)

Multiplier analysis based on Social Accounting Matrix (SAM)

Endogenous accounts (N) ⟷ Exog. (X)

	Factors	Households	Activities	Exogenous
Factors	0	0	Factor Incomes	…
Households	Distribution	Redistribution	0	…
Activities	0	Demand	Input-Output	…
Exogenous (Government, Trade, Capital)	…	…	…	…

N + X = Y (sum of an account)

Column sum (expenditure) = Row sum (Revenue)

Keynesian Multiplier Analysis

- $Y = n + x \rightarrow Y = A*Y + x \rightarrow (I - A)*Y = x$

where, $$A = \begin{pmatrix} \frac{n}{Y} \\ \frac{x}{Y} \end{pmatrix}$$

$$dY = \underbrace{(I - A_n)}^{-1} * dx$$

Multiplier matrix (M)

Introduction of a new sector with a new income distribution channel

Suppose, a program under consideration has features, for instance:

- Higher Labor Intensity.
- Job Targeting for unskilled poor workers.
- Different factor income distribution due to targeting.

→The program effectively creates a new sector in terms of input composition.

→No existing data of the new sector, due to hypothetical nature of the new sector.

Hypothetical Integration: concept

	Factors	Factors	Households	Activities	New sector	Exogenous
Factors	0		0	Factor Incomes		...
Factors	0	0	0	0	**Factor Incomes**	
Households	Distribution	**Distribution**	Redistribution	0		...
Activities	0	0	Demand	Input-Output	**Hypothetical Input-Output**	...
New sector	...	**Hypothetical demand**		**Hypothetical Use**		...
Exogenous						

Hypothetical Integration

- Assumptions
  1. No leakages to exogenous accounts.
  2. EPWP specific unskilled from targeting.
  3. EPWP income spent on EPWP service.
  3. EPWP input output symmetry.

Modifying EPWP column sum

				FACTORS				HOUSEHOLDS			ACTIVITIES			X
				1	2	3		4	5	6	7	8	9	10
				1	2	3		1	2	3	1	2	3	1
				FGOS	UL	SL	EPWP	HIGH	POOR	ENT	PRIM	MANUF	SERV	EPWP	
F	1	1	FGOS	0	0	0	0	0	0	0	11076	10315	16071	0	0
A	2	2	UL	0	0	0	0	0	0	0	3826	4365	6209	0	0
C	3	3	SL	0	0	0	0	0	0	0	4030	5421	17723	12	0
			EPWP	0	0	0	0	0	0	0	0	0	0	192	0
H	4	1	HIGH	88266	84396	194213	0	2724	1	109031	0	0	0	0	0
O	5	2	POOR	6431	14420	1766	192	2523	8	3235	0	0	0	0	0
U	6	3	ENT	143486	0	0	0	0	0	139857	0	0	0	0	0
A	7	1	PRIM	0	0	0	0	59179	2238	0	24665	22159	6945	60	0
C	8	2	MANUF	0	0	0	0	19037	213	0	2984	26289	6187	180	0
T	9	3	SERV	0	0	0	0	64707	593	0	20294	20280	20792	156	0
			EPWP	0	0	0	0	0	192	0	60	180	156	0	0
				154409	952	1899	0	25712	70	82953	12207	29348	5872	0	0
			TOTAL	392593	99768	197878	192	173882	3123	335075	79082	118176	79799	600	1

				FACTORS				HOUSEHOLDS			ACTIVITIES			X
				1	2	3		4	5	6	7	8	9	10
				1	2	3		1	2	3	1	2	3	1
				FGOS	UL	SL	EPWP	HIGH	POOR	ENT	PRIM	MANUF	SERV	EPWP	
F	1	1	FGOS	0	0	0	0	0	0	0	11076	10315	16071	0	0
A	2	2	UL	0	0	0	0	0	0	0	3826	4365	6209	0	0
C	3	3	SL	0	0	0	0	0	0	0	4030	5421	17723	0.002	0
			EPWP	0	0	0	0	0	0	0	0	0	0	0.032	0
H	4	1	HIGH	88266	84396	194213	0	2724	1	109031	0	0	0	0	0
O	5	2	POOR	6431	14420	1766	0.032	2523	8	3235	0	0	0	0	0
U	6	3	ENT	143486	0	0	0	0	0	139857	0	0	0	0	0
A	7	1	PRIM	0	0	0	0	59179	2238	0	24665	22159	6945	0.010	0
C	8	2	MANUF	0	0	0	0	19037	213	0	2984	26289	6187	0.030	0
T	9	3	SERV	0	0	0	0	64707	593	0	20294	20280	20792	0.026	0
			EPWP	0	0	0	0	0	0.032	0	0.010	0.030	0.026	0	0
				154409	952	1899	0	25712	70	82953	12207	29348	5872	0	0
			TOTAL	392593	99768	197878	0.032	173882	2931.032	335075	79082.01	118176.03	79799.026	0.10	1

Maintaining average expenditure propensity for EPWP

				FACTORS				HOUSEHOLDS			ACTIVITIES				X
				1	2	3		4	5	6	7	8	9		10
				1	2	3		1	2	3	1	2	3		1
				FGOS	UL	SL	EPWP	HIGH	POOR	ENT	PRIM	MANUF	SERV	EPWP	
F	1	1	FGOS	0	0	0	0	0	0	0	0.14	0.09	0.20	0	0.02
A	2	2	UL	0	0	0	0	0	0	0	0.05	0.04	0.08	0	0.00
C	3	3	SL	0	0	0	0	0	0	0	0.05	0.05	0.22	0.02	0.00
			EPWP	0	0	0	0	0	0	0	0	0	0	0.32	0
H	4	1	HIGH	0.22	0.85	0.98	0	0.02	0.00	0.33	0	0	0	0	0.02
O	5	2	POOR	0.02	0.14	0.01	1.00	0.01	0.00	0.01	0	0	0	0	0.02
U	6	3	ENT	0.37	0	0	0	0	0	0.42	0	0	0	0	0.07
A	7	1	PRIM	0	0	0	0	0.34	0.72	0	0.31	0.19	0.09	0.10	0.27
C	8	2	MANUF	0	0	0	0	0.11	0.07	0	0.04	0.22	0.08	0.30	0.25
T	9	3	SERV	0	0	0	0	0.37	0.19	0	0.26	0.17	0.26	0.26	0.30
			EPWP	0	0	0	0	0	0.06	0	0.0008	0.0015	0.0020	0	0
				0.39	0.01	0.01	0	0.15	0.02	0.25	0.15	0.25	0.07	0	0.05
			TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

				FACTORS				HOUSEHOLDS			ACTIVITIES				X
				1	2	3		4	5	6	7	8	9		10
				1	2	3		1	2	3	1	2	3		1
				FGOS	UL	SL	EPWP	HIGH	POOR	ENT	PRIM	MANUF	SERV	EPWP	
F	1	1	FGOS	0	0	0	0	0	0	0	0.14	0.09	0.20	0	0.02
A	2	2	UL	0	0	0	0	0	0	0	0.05	0.04	0.08	0	0.00
C	3	3	SL	0	0	0	0	0	0	0	0.05	0.05	0.22	0.02	0.00
			EPWP	0	0	0	0	0	0	0	0	0	0	0.32	0
H	4	1	HIGH	0.22	0.85	0.98	0	0.02	0.00	0.33	0	0	0	0	0.02
O	5	2	POOR	0.02	0.14	0.01	1.00	0.01	0.00	0.01	0	0	0	0	0.02
U	6	3	ENT	0.37	0	0	0	0	0	0.42	0	0	0	0	0.07
A	7	1	PRIM	0	0	0	0	0.34	0.76	0	0.31	0.19	0.09	0.10	0.27
C	8	2	MANUF	0	0	0	0	0.11	0.07	0	0.04	0.22	0.08	0.30	0.25
T	9	3	SERV	0	0	0	0	0.37	0.20	0	0.26	0.17	0.26	0.26	0.30
			EPWP	0	0	0	0	0	0.00001	0	0.0000001	0.0000003	0.0000003	0	0
				0.39	0.01	0.01	0	0.15	0.02	0.25	0.15	0.25	0.07	0	0.05
			TOTAL	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Very close to zero linkages

				FACTORS				HOUSEHOLDS			ACTIVITIES			
				FGOS	UL	SL	EPWP	HIGH	POOR	ENT	PRIM	MANUF	SERV	EPWP
F	1	1	FGOS	1.2397	0.5326	0.5232	0.5968	0.5276	0.5968	0.3046	0.6065	0.4904	0.6734	0.5843
A	2	2	UL	0.0899	1.1995	0.1963	0.2216	0.1979	0.2216	0.1142	0.2228	0.1889	0.2556	0.2202
C	3	3	SL	0.1915	0.4222	1.4192	0.4456	0.4230	0.4456	0.2436	0.4211	0.3617	0.6100	0.4802
			EPWP	0.0017	0.0056	0.0030	1.0217	0.0029	0.0217	0.0020	0.0027	0.0027	0.0034	0.3290
H	4	1	HIGH	0.8084	1.6840	1.8117	0.8951	1.8378	0.8951	1.0412	0.8757	0.7367	1.1213	0.9228
O	5	2	POOR	0.0561	0.2196	0.0823	1.0868	0.0739	1.0868	0.0593	0.0652	0.0550	0.0774	0.3926
U	6	3	ENT	0.7777	0.3341	0.3282	0.3744	0.3310	0.3744	1.9075	0.3805	0.3076	0.4224	0.3665
A	7	1	PRIM	0.6004	1.3682	1.2960	1.8356	1.3038	1.8356	0.7586	2.2173	0.9786	1.0613	1.4045
C	8	2	MANUF	0.2173	0.4765	0.4768	0.4787	0.4815	0.4787	0.2768	0.3701	1.5524	0.4597	0.7850
T	9	3	SERV	0.6804	1.4906	1.4938	1.4836	1.5085	1.4836	0.8671	1.3133	1.0853	2.4120	1.5887
			EPWP	0.0054	0.0174	0.0094	0.0680	0.0089	0.067958	0.0061	0.008582	0.008408	0.010691	1.0281

				FACTORS				HOUSEHOLDS			ACTIVITIES			
				FGOS	UL	SL	EPWP	HIGH	POOR	ENT	PRIM	MANUF	SERV	EPWP
F	1	1	FGOS	1.2420	0.5414	0.5266	0.6398	0.5307	0.6398	0.3070	0.6093	0.4925	0.6767	0.5999
A	2	2	UL	0.0907	1.2027	0.1975	0.2373	0.1991	0.2373	0.1151	0.2238	0.1896	0.2568	0.2259
C	3	3	SL	0.1930	0.4283	1.4215	0.4747	0.4252	0.4747	0.2453	0.4230	0.3631	0.6125	0.4908
			EPWP	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3200
H	4	1	HIGH	0.8117	1.6966	1.8166	0.9563	1.8422	0.9563	1.0447	0.8796	0.7396	1.1263	0.9450
O	5	2	POOR	0.0546	0.2150	0.0796	1.0697	0.0714	1.0697	0.0576	0.0627	0.0526	0.0743	0.3853
U	6	3	ENT	0.7791	0.3396	0.3303	0.4013	0.3329	0.4013	1.9090	0.3822	0.3090	0.4245	0.3763
A	7	1	PRIM	0.6079	1.3986	1.3063	1.9927	1.3129	1.9927	0.7663	2.2252	0.9845	1.0702	1.4599
C	8	2	MANUF	0.2172	0.4773	0.4762	0.4890	0.4807	0.4890	0.2766	0.3691	1.5515	0.4585	0.7876
T	9	3	SERV	0.6848	1.5088	1.4999	1.5789	1.5138	1.5789	0.8716	1.3177	1.0883	2.4173	1.6220
			EPWP	0.0000	0.0000	0.0000	0.0000	0.0000	0.000013	0.0000	0.0000015	0.0000014	0.0000019	1.0000

Social Accounting Matrix of South Africa 2000

- PROVIDE, Dep. of Agriculture
- 20 household types by location, type of residence, race, income (ex. Urban formal African Poor)
- 26 +1 activities.
- 5 + 2 factors (1 capital, 4+2 labor factors by skill and gender)
- Gender decomposition in factor accounts highlights inequalities of employment.

Simulation

- Social Sector consists of ECD/Education and HCBC/ Health
- R 9.3 billion (1% of GDP in 2000)
- High female intensity (60 and 69% respectively)

  → addresses female unemployment in the short run
- *Data source:*
- Friedman, Irwin, Bhengu, L., Mothibe, N., Reynolds, N., and Mafuleka, A., (2007) *Scaling up the EPWP,* Health Systems Trust, November, Volume 1-4. Study commissioned by Development Bank of South Africa and EPWP.
- PROVIDE (Provincial Decision-making Enabling Project) by Department of Agriculture, South Africa.

Input Composition

	Education	Health	EPWP
Capital	9.8	9.3	0.0
Male Skilled	20.8	8.7	1.9
Female Skilled	32.0	16.6	3.2
Male Unskilled	2.1	1.9	0.0
Female Unskilled	2.0	5.4	0.0
EPWP Male Unskilled	0.0	0.0	13.4
EPWP Female Unskilled	0.0	0.0	18.6
Agriculture	0.1	0.2	10.5
Mining	0.1	0.1	0.1
Food	0.1	0.3	31.3
Textile	0.5	1.6	0.4
Paper	0.6	1.3	0.5
Petroleum	0.5	1.4	0.4
Nonmetal	2.7	10.4	2.3
Metal	0.2	0.0	0.2
Machinery	1.0	0.3	0.7
Communication Equipment	1.4	4.8	1.1
Transportation Equipment	4.6	0.6	2.5
Other Manufacturing	0.5	3.0	0.5
Electricity	0.2	0.6	0.1
Water	0.1	0.3	0.1
Building	0.3	0.5	0.5
Construction	0.3	0.1	0.3
Trade, Hotels, and Catering	0.4	2.1	0.4
Transportation and Communication	2.1	4.7	3.0
Financial Service	0.7	1.1	0.5
Business Service	3.8	12.9	2.9
Education	9.7	0.8	0.2
Other Government Service	0.0	3.3	3.8
Health	1.1	0.1	0.1
Social Service	0.5	0.0	0.3
Other Service	0.3	0.5	0.1
Exogenous Accounts	1.5	7.1	0.0
Total	**100.0**	**100.0**	**100.0**

EPWP Job Allocation for experiment

Household Type	Shares of EPWP Jobs
Urban Formal African Poor	3.5%
Urban Formal African Ultrapoor	16.3%
Urban Formal Colored Poor	0.5%
Urban Formal Colored Ultrapoor	1.8%
Urban Informal African Poor	2.5%
Urban Informal African Ultrapoor	6.8%
Rural Commercial African Poor	2.6%
Rural Commercial African Ultrapoor	13.8%
Rural Commercial Colored Poor	0.1%
Rural Commercial Colored Ultrapoor	0.3%
Ex-homeland African Poor	8.5%
Ex-homeland African Ultrapoor	43.3%

Over a half million jobs

EPWP Intervention - Direct job creation (# of annual jobs)

Types of Intervention (9.29 bn)	Male Unskilled	Male Skilled	Female Unskilled	Female Skilled	Total Jobs
Social sector	228,184	9,928	317,007	16,386	571,505
Infrastructure (labor intensive)	366,497	13,061	8,628	86	388,273
Infrastructure (machine intensive)	69,025	25,351	1,625	96	96,098

EPWP Intervention - Indirect job creation (# of annual jobs)

Types of Intervention (9.29 bn)	Male Unskilled	Male Skilled	Female Unskilled	Female Skilled	Total Jobs
Social sector	71,789	33,207	66,149	22,638	193,783
Infrastructure (labor intensive)	57,266	26,949	50,138	17,418	151,772
Infrastructure (machine intensive)	53,253	25199	45,399	16013	139,864

Pro-poor growth out of highly unequal system.

	w/o EPWP	**with EPWP**	**w/o EPWP**	**with EPWP**
	(in million rand)		*(% growth)*	
Nonpoor	10,862	8,496	1.70	1.30
Poor	850	983	2.20	2.60
Ultrapoor	309	2,620	1.90	16.40
GDP	14,897	15,167	1.78	1.81

Source: Author's calculations

Which program is more pro-poor?

Income changes by household type

	NON POOR	POOR	ULTRA POOR	GDP
Social sector	1.3%	2.6%	16.4%	1.8%
Infrastructure (labor intensive)	1.3%	2.1%	12.9%	1.7%
Infrastructure (machine intensive)	1.2%	1.3%	4.5%	1.4%

1/3 of spending is covered by multiplier effects

Tax Revenue from Multiplier effects (Billion Rand)

Types of Intervention (9.29 bn)	Sales Tax	Indirect Tax	Direct Tax	Tax total
Social sector	1.48	0.28	1.55	3.31
Infrastructure (labor intensive)	1.67	0.23	1.51	3.41
Infrastructure (machine intensive)	1.67	0.22	1.43	3.32

Changes in Tax Revenue

Types of Intervention (9.29 bn)	Sales Tax	Indirect Tax	Direct Tax	Tax total
Social sector	1.8%	1.5%	1.3%	1.5%
Infrastructure (labor intensive)	2.0%	1.2%	1.2%	1.5%
Infrastructure (machine intensive)	2.0%	1.2%	1.2%	1.5%

A lot more needs to be done for poverty reduction

Poverty Reduction (% reduction: headcount)

Household type \ Poverty line	R1,843	R4,000	Population
Urban Formal African Poor		1.39	3,307,672
Urban Formal African Ultra Poor	10.10	0.03	1,962,791
Urban Formal Colored Poor		1.19	575,270
Urban Formal Colored Ultra Poor	11.27	0.01	225,668
Urban Informal African Poor		1.98	1,237,050
Urban Informal African Ultra Poor	10.18	0.05	802,492
Rural Commercial African Poor		1.49	1,412,758
Rural Commercial African Ultra Poor	8.09	0.03	1,872,321
Rural Commercial Colored Poor		1.43	190,545
Rural Commercial Colored Ultra Poor	11.75	0.00	47,821
Ex-homeland African Poor		1.32	3,952,298
Ex-homeland African Ultra Poor	8.11	0.04	5,749,471

Source: Author's calculation

Pros of the methodology

- Bird view of the economy.
- Conceptual understanding.
- A handy tool for policy impact analysis.
- Flexibility

Cons of the methodology

- Data intensive nature.
- Short term Static Analysis.
- Potential price effects are not accounted for.
- Potential asymmetric behavioral response is not accounted for. (fixed coefficients)

Future work

- Data initiative. (national, regional, village level SAM)
- Time Use Survey to assess redistribution of unpaid work and general well-being.
- Ex post analysis – individual level (all household members including children), over time (panel data)

  (Job creation for us, at least)

Targeting

Household Type	Number of HHs	Depth of Poverty[1]	Unemployment (expanded)
Urban Formal African Poor	636,365	-480	60%
Urban Formal African Ultrapoor	303,893	-10,952	77%
Urban Formal Colored Poor	101,738	-429	57%
Urban Formal Colored Ultrapoor	39,931	-8,861	67%
Urban Informal African Poor	308,500	-860	52%
Urban Informal African Ultrapoor	160,865	-8,496	65%
Rural Commercial African Poor	304,773	-1051	39%
Rural Commercial African Ultrapoor	282,574	-10,794	59%
Rural Commercial Colored Poor	41,620	-203	22%
Rural Commercial Colored Ultrapoor	8,783	-8,100	42%
Ex-homeland African Poor	835,859	-1,333	42%
Ex-homeland African Ultrapoor	924,313	-10,354	57%

Source: Author's calculations based on PROVIDE (2007)

$W_i = A \cdot H_i \cdot U_i^{\alpha} \cdot P_i^{1-\alpha}$, for i=1,...12 (for all poor and ultrapoor households types)

where, A: constant to normalize, A= $1 \Big/ \sum_{i=1}^{12} W_i$

H_i: ratio of number of households of type i to total number of households;

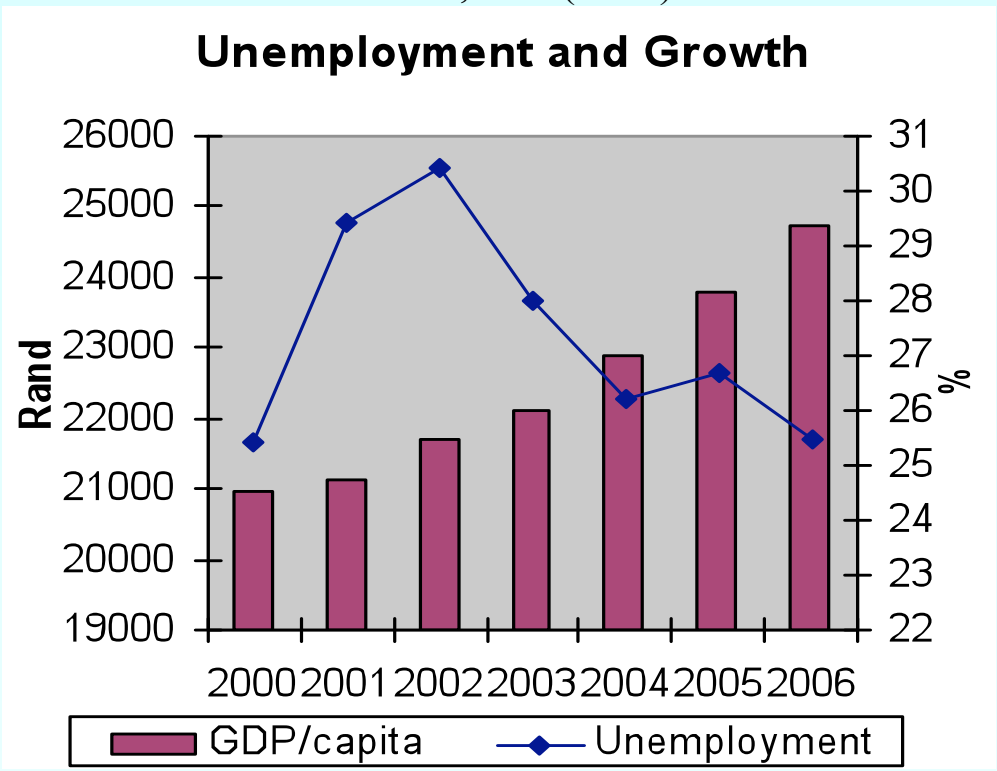
U_i : unemployment rate of type i;

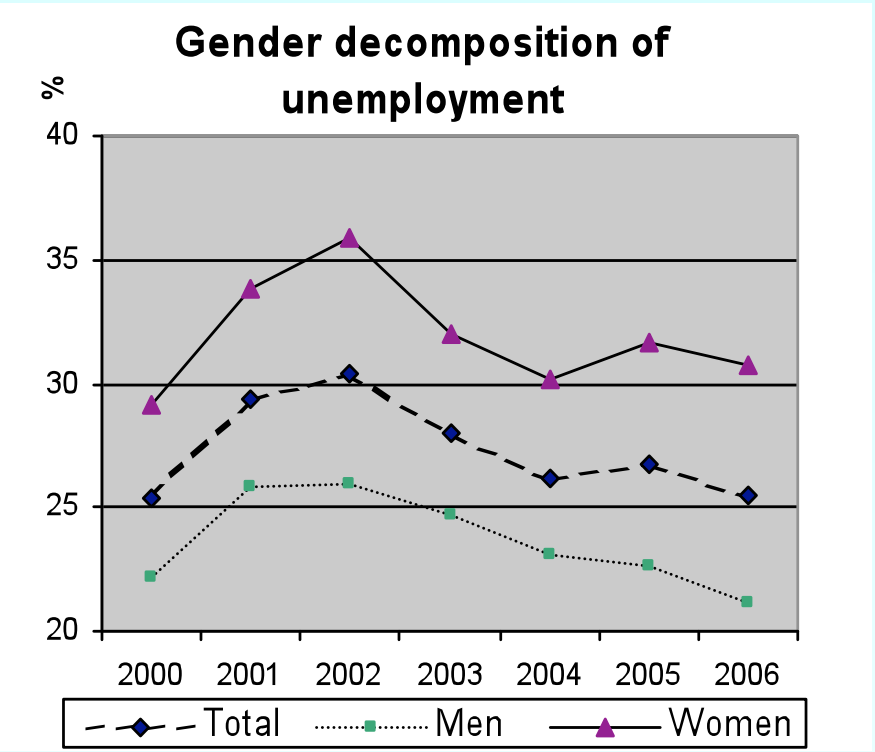
P_i : depth of povert of type i; and

α: choice parameter, $0<\alpha<1$.

Persistent High Unemployment

Source: LABORSTA, ILO (2008)





	Wage Income Distribution (% share of total)				Unemployment (%)	
	Male Unskilled	Male Skilled	Female Unskilled	Female Skilled	Male	Female
Urban Formal African Nonpoor	30.1	27.0	29.2	33.4	23.0	34.0
Urban Formal African Poor	2.9	0.3	5.4	0.5	60.8	58.7
Urban Formal African Ultrapoor	0.4	0.0	1.3	0.0	81.1	74.2
Urban Formal Colored Nonpoor	14.4	13.9	16.1	14.6	16.9	24.7
Urban Formal Colored Poor	0.6	0.0	1.0	0.1	54.2	58.7
Urban Formal Colored Ultrapoor	0.1	0.0	0.1	0.0	62.3	71.5
Urban Formal White	9.8	48.9	9.9	39.8	5.8	11.4
Urban Informal African Nonpoor	10.0	1.4	7.6	1.1	20.0	44.0
Urban Informal African Poor	1.8	0.1	2.4	0.1	48.0	55.4
Urban Informal African Ultrapoor	0.3	0.0	0.8	0.0	69.0	75.1
Rural Commercial African Nonpoor	13.6	1.5	5.9	2.0	12.8	31.1
Rural Commercial African Poor	1.7	0.1	1.9	0.1	32.9	44.7
Rural Commercial African Ultrapoor	0.6	0.0	1.0	0.0	56.2	60.7
Rural Commercial Colored Nonpoor	2.0	0.2	1.7	0.2	12.2	18.3
Rural Commercial Colored Poor	0.4	0.0	0.4	0.0	14.9	30.1
Rural Commercial Colored Ultrapoor	0.1	0.0	0.0	0.0	24.8	58.9
Rural Commercial White	1.4	3.7	0.4	1.9	4.1	10.1
Ex-homeland African Nonpoor	6.8	2.8	8.3	5.7	23.8	28.9
Ex-homeland African Poor	2.4	0.2	4.0	0.3	42.3	41.0
Ex-homeland African Ultrapoor	0.8	0.0	2.5	0.1	59.5	54.3

Source: Social Accounting Matrix of South Africa (2000) by Provincial decision-Making Enabling Project (PROVIDE); based on SSA (2000)

Average Expenditure Matrix

				FACTORS			HOUSEHOLDS			ACTIVITIES			X
				1	2	3	4	5	6	7	8	9	10
				1	2	3	1	2	3	1	2	3	1
				FGOS	UL	SL	HIGH	POOR	ENT	PRIM	MANUF	SERV	
F	1	1	FGOS	0	0	0	0	0	0	0.14	0.09	0.20	0.02
A	2	2	UL	0	0	0	0	0	0	0.05	0.04	0.08	0.00
C	3	3	SL	0	0	0	0	0	0	0.05	0.05	0.22	0.00
H	4	1	HIGH	0.22	0.85	0.98	0.02	0.00	0.33	0	0	0	0.02
O	5	2	POOR	0.02	0.14	0.01	0.01	0.00	0.01	0	0	0	0.02
U	6	3	ENT	0.37	0.00	0.00	0.00	0.00	0.42	0	0	0	0.07
A	7	1	PRIM	0	0	0	0.34	0.72	0.00	0.31	0.19	0.09	0.27
C	8	2	MANUF	0	0	0	0.11	0.07	0.00	0.04	0.22	0.08	0.25
T	9	3	SERV	0	0	0	0.37	0.19	0.00	0.26	0.17	0.26	0.30
				0.39	0.01	0.01	0.15	0.02	0.25	0.15	0.25	0.07	0.05
			TOTAL	1	1	1	1	1	1	1	1	1	1

Multiplier Matrix

				FACTORS			HOUSEHOLDS			ACTIVITIES			X
				1	2	3	4	5	6	7	8	9	10
				1	2	3	1	2	3	1	2	3	1
				FGOS	UL	SL	HIGH	POOR	ENT	PRIM	MANUF	SERV	
F	1	1	FGOS	1.240	0.533	0.523	0.528	0.598	0.305	0.607	0.490	0.674	
A	2	2	UL	0.090	1.200	0.196	0.198	0.222	0.114	0.223	0.189	0.256	
C	3	3	SL	0.191	0.422	1.419	0.423	0.444	0.244	0.421	0.362	0.610	
H	4	1	HIGH	0.808	1.684	1.812	1.838	0.894	1.041	0.876	0.737	1.122	
O	5	2	POOR	0.054	0.214	0.079	0.071	1.065	0.057	0.062	0.052	0.074	
U	6	3	ENT	0.778	0.334	0.328	0.331	0.375	1.908	0.381	0.308	0.423	
A	7	1	PRIM	0.601	1.372	1.297	1.304	1.862	0.759	2.218	0.978	1.061	
C	8	2	MANUF	0.216	0.471	0.474	0.479	0.457	0.275	0.367	1.550	0.456	
T	9	3	SERV	0.680	1.488	1.492	1.507	1.476	0.866	1.312	1.083	2.410	