The changing population-economic-institutional dynamics of South Africa, 2001–2007

by Carel van Aardt*

Abstract

In this article a heuristic population-economic-institutional model is presented and discussed. It appears from the findings of this study that very positive population, economic and institutional dynamics were found in South Africa during the period 2001 to 2007, but that the interfaces between these three variables are still problematic, in that whereas high economic growth was experienced during this period, low levels of job creation were experienced, leading to a situation where such high levels of growth are not sufficiently benefiting the population through employment. Furthermore, although there were high levels of institutional growth, the levels of wealth transfer by such institutions to the broader populace is problematic. On the basis of the findings of this study, some policy measures are being proposed to strengthen population-economic-institutional interactions in South Africa.

1 Introduction

The recent political-economic history of South Africa has been characterised by vigorous debates on economic policy, and specifically on ways to formulate economic policies that will benefit the broad populace. Such policies are urgently needed to address a number of economic and socioeconomic problems, including high levels of poverty and unemployment, the impact of fuel prices and repo rate hikes on the economy, the impact of electricity power outages on the economy as well as the impact of rising food prices and lower levels of economic growth and job creation on the population. Harford (2006) in his well-known book, *The undercover economist* contends that there are fairly straightforward economic policy imperatives to ensuring a growing economy, but a lot of uncertainty when it comes to making sure that the broad population benefits from such growth.

As postulated by Harford (2006), there appears to be continuous interaction between population and economic aspects in society. Razin and Sadka (2001) identified many such interactions in their work *Population economics*. It appears from the ideas presented by them that population and economic aspects impact directly and indirectly upon one another, as well as having an impact on the macro- and microeconomic levels. On the basis of the information supplied in their book, the following types of population-economic interactions appear possible:

* Prof CJ van Aardt is a research Professor at the Bureau of Market Research at the University of South Africa.

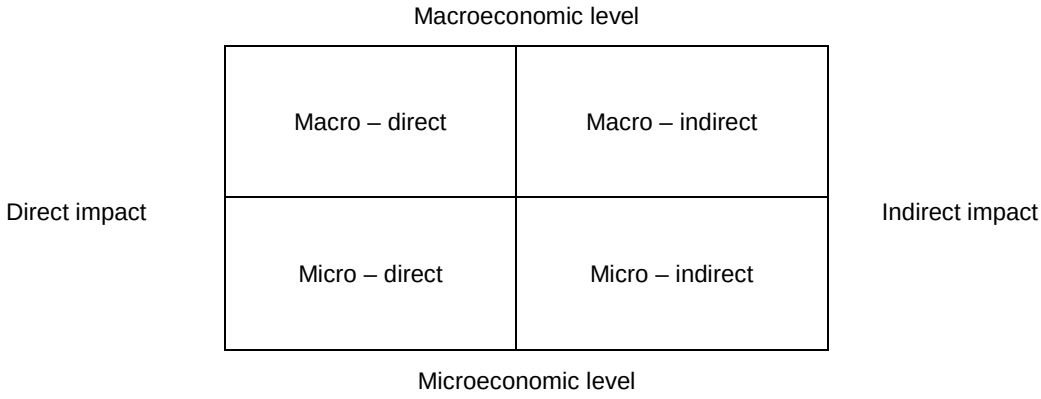

Figure 1
Population-economic interactions

A typical **macro-direct interaction** is when more people (population) become formal sector entrepreneurs who will have a direct impact on the economy, while a **micro-direct impact** would be when more households (population) realise higher incomes because of higher levels of economic growth and job creation. A typical **macro-indirect impact** occurs when the skills levels of people (population) impact negatively on the ability of the macroeconomy to realise higher levels of economic growth, and an example of a **micro-indirect impact** would be when couples (population) have lower fertility preferences because more women decide to be economically active.

The population economics of South Africa, namely the nexus between population and economic trends and dynamics, have been undergoing some radical changes during the past decade. Examples of such changes include the growing number of unemployed, the large number of households living in poverty and the socioeconomic impact of HIV/Aids. A further important population-economic nexus undergoing rapid change is the impact of migration on the economy. At present there are very high levels of emigration of highly skilled people from South Africa and at the same time high levels of migration (both legal and illegal) to South Africa and these also have very definite economic impacts.

Other important population changes that have significant impacts on the South African economy include rapid urbanisation, the changing demographics of the formal sector workforce, the changing size and structure of the South African population, which impact on per capita incomes and economic dependency ratios, changing labour market dynamics (ie changing trends with respect to unemployment), the highly unequal distribution of income, the provision of infrastructure (ie water and housing) to the population, low levels of human development and the emergence of new population problems (ie Aids orphans).

This article aims to focus on the above-mentioned aspects to describe the changing population-economic-institutional dynamics of South Africa with the aid of a heuristic population-economic-institutional model, as shown below. Such a description serves as a background to an evaluation of the level at which there are positive or negative interaction effects to be found in the population-economic-institutional nexus in order to design strategies to optimise this nexus and thereby ensure sustainable economic growth that is conducive to human development.

2 Heuristic model linking population, economic and institutional growth and dynamics

For the purposes of this article it is postulated that not only are there continuous population-economic interactions as shown in figure 1, but that population and economic aspects continuously interact with institutional dynamics in any society. This postulate agrees with the findings of Fukuyama (2004 and 2005), which were derived from decades of country analyses worldwide. This population-economic-institutional perspective yields many examples of the nature of such interactions. These include the decision by institutions (ie private and public sector organisations) to employ more people and the services to the population provided by local government institutions, which also stimulate regional economic growth. Fukuyama (2004) demonstrates that the quality of management of such institutions will be a strong predictor of the abilities of such institutions to serve the broad populace.

A graphic representation of the said population-economic-institutional system is provided in figure 2. It appears from this graphic representation that interactions between the various components are occurring on a continuous basis, and accordingly overlap in some areas. The meaning of the areas where there is an overlap is explained in the legend.

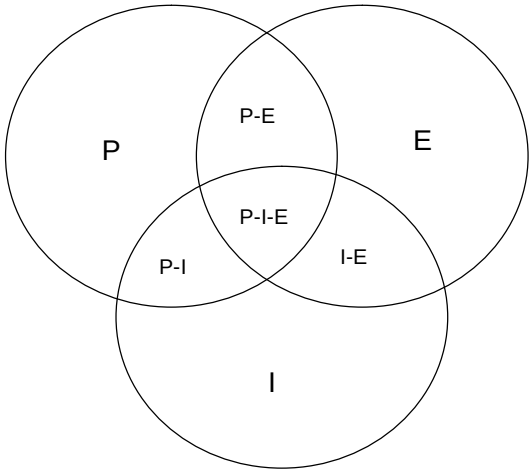

Figure 2
Heuristic model linking population, economic and institutional dynamics

Legend:

P **Population aspects** (including population size, population growth, population processes and population structure)

E **Economic aspects** (including economic growth, economic structure, economic processes, size of the economy and global and regional economic dynamics impacting on the South African economy)

I **Institutional aspects** (including number of institutions, institutional growth, institutional policies and programmes and institutional processes)

P-I **Population-institutional interactions** (including institutional service provision to the populace, skills development, infrastructural development and population policies and programmes)

I-E **Economic-institutional interactions** (including economic policies, entrepreneurship, economic output generation and fixed capital formation)

P-E **Population-economic interactions** (including the size of the economically active population and the level at which it benefits from economic growth)

P-I-E **Population-institutional-economic interactions** (including income distribution, poverty, employment and welfare)

The population-economic (P-E) overlap depicted in figure 2 is the result of population-economic interactions, that is the number of economically active people determined by the size of the population and the level at which people want to participate in the economy by making themselves available for employment or entrepreneurship. Furthermore, the level at which the economy is showing sustainable growth will impact on the welfare of the population.

The economic-institutional (E-I) overlap shown in figure 2 pertains to the interplay between institutions and the economy, that is institutions such as government determine economic policy that has a direct bearing on the economy. Furthermore, institutions such as companies and municipalities are the drivers of economic growth and development.

The population-institutional (P-I) overlap pertains to the level at which institutions interact with the population, that is municipalities provide services to the population while companies create jobs for the population. When economic output increases, employers are encouraged to appoint more workers. But this relationship is not fully elastic and is determined by the level at which employers decide to make use of labour versus capital, which in turn is influenced by the local, regional and global competitive environments.

The population-economic-institutional (P-I-E) overlap depicted in figure 2 is the result of interactions between the population, the economy and institutions, that is the level of equality of income distribution is determined by various population, economic and institutional variables, such as the size of the population and its level of education (population variables), the structure of the economy and the level of demand for labour (economic variables), the level at which production is labour or capital intensive, government labour and economic policies (institutional variables) and the extent to which institutions succeed in acting as wealth creation and wealth transfer agencies in society. In the field of economics the Lorenz curve is used to indicate the level of equality of income distribution. This curve can be used to determine the level of optimal integration between population, economic and institutional dynamics with regard to income distribution (Bannock, Baxter & Davis 2003). For example, when organisations in developing countries almost exclusively employ skilled to highly skilled labour, this results in an unequal distribution of income because most of the labour supply in such countries is unskilled to semi-skilled. Workers who lack skills are then excluded from formal sector employment, with the result that their share of economic wealth is limited despite the fact that they make up a fairly large percentage of the population as a whole. It should be kept in kind in this regard that the availability of cheap labour in markets such as China and India means that the local unskilled labour force will not be able to be absorbed competitively into South African companies. This encourages

South African employers to switch to capital investments instead of unskilled labour to remain competitive in local and international markets.

Having shown and briefly discussed the heuristic population-economic-institutional model used in this article as a theoretical tool to analyse the population-economic-institutional dynamics of South Africa, information about each of the aspects shown in the heuristic model will be provided and discussed below in order to arrive at an understanding of the nature of the changing population-economic-institutional dynamics of South Africa.

To anchor the discussion quantitatively, seven quantitative growth measures will be employed to determine progress with respect to the various population-economic-institutional aspects of the model, namely:

- Population aspects: Population growth
- Economic aspects: Economic growth
- Institutional aspects: Institutional growth
- Population-institutional interactions: Skills growth and employment growth
- Economic-institutional interactions: Gross fixed capital growth
- Population-economic interactions: Income equality growth
- Population-institutional-economic interactions: Income/expenditure and living standards growth

During the discussion of the results provided in this examination of population-institutional-economic interactions, the relationships between the various population-institutional-economic measures over the period 2001 to 2007 (up to 2006 in the case of institutions) will be shown and discussed.

3 The changing population dynamics of South Africa

The South African population has shown rapid growth over the period 1900 to 2007, increasing from about 4.76 million in 1900 to an estimated 47.72 million in 2007 (Van Aardt 2004, 2007). While data for the period 1900 to 1996 indicate that during this period an average annual population growth rate of nearly 2.3% was realised, annual population growth rates after 1996 were substantially lower than before that date.

According to the 1996 census, South Africa's total population was 40 583 573 in October 1996 (StatsSA 1998). The 2001 census showed that by October 2001 there were 44 819 778 people in South Africa (StatsSA 2003), which represents a total population growth of 10.44% during the period 1996 to 2001. This means that the average annual population growth rate was less than 2% per annum over this period. After 2001 the average annual population growth rate declined even faster, reaching an average of about 1% for the period 2001 to 2007. This rapid decline was largely driven by rapidly declining fertility rates as well as the demographic impact of HIV/Aids.

It is projected that, because of the effect of HIV/Aids and the rapidly decreasing fertility rates on population growth in South Africa, the South African population will grow to only about 51 million by 2021 instead of to about 70 to 80 million as previously estimated. Other expected population trends that will have an impact on the size and structure of the population are emigration (and here especially among the White population), rapid population ageing, the impact of urbanisation on fertility and the number of immigrants to South Africa (especially among the Black population).

HIV/Aids will affect population trends and dynamics such as population size, growth and age structure. Life expectancy at birth will decline significantly as a result of HIV/Aids. Available information indicates that the average life expectancy at birth in South Africa has already declined from 63 years in 1996 to less than 50 years in 2007. It is expected to decline to just over 40 years by 2010 (Van Aardt 2004). In 1990 about 48 818 South Africans were estimated to be HIV-positive (Dorrington, Bradshaw & Budlender 2002). This figure is expected to increase to 7.25 million by 2010. Whereas during 2001 an estimated 15% of South Africans aged 20 to 64 years were HIV-positive, by 2006 about 22% were HIV-positive, and by 2010 this figure could be between 24% and 27%.

Not only are HIV-positive cases expected to increase dramatically during the period 2001 to 2010, full-blown Aids is expected to become equally widespread. By 1990 there were only about 394 full-blown Aids cases in South Africa. This figure increased to about 334 000 in 2001. The number of Aids cases in South Africa increased from about 334 000 in 2001 to about 1.1 million by 2007 and will increase to about 1.4 million by 2010 (Dorrington et al 2002). The resultant number of Aids-related deaths increased from about 206 000 in 2001 to about 520 000 in 2007 and is expected to increase to about 545 000 to 635 000 by 2010. Although it is generally accepted that this high number of Aids cases are among the poor and unemployed, there is mounting empirical evidence to show that the affluent and employed are being increasingly severely affected by HIV/Aids (Van Aardt 2004; Harris & Van Aardt 2006).

4 The changing economic dynamics of South Africa

According to ABSA (2006), the economic growth achieved during the past decade has increased consistently. An economic growth rate of 5.1% was realised for 2007, which is far higher than the 1990 growth rate of -0.3% (SARB 2008). While economic growth rates were improving consistently, the levels of household consumption expenditure rose as well. The household consumption expenditure growth rate for 2007 (at constant prices) was 7%, which was far higher than the comparable rate of 4.1% realised in 2000 or the 2.9% realised in 1990 (SARB 2008).

It appears from the annual StatsSA Economic Activity Surveys (StatsSA 2004) that during the period 2001 to 2003 turnover per industry at current prices grew rapidly in the manufacturing and trade sectors. Since these two sectors are the mainstays of national income generation in South Africa, this bodes well for the economy as a whole.

The high increases in turnover in the manufacturing sector over this period were largely the result of increased activity in the manufacturing of basic metals, fabricated metal products, machinery and equipment, accounting and computing machinery, refined petroleum products and transport equipment. The high increases in turnover in the trade sector were mainly due to food, beverage and tobacco retail activities.

In view of the high and sustained levels of household consumption and economic growth experienced during the past decade, resulting high levels of employment growth might have been expected. However, it appears from table 1 that economic growth in the South African context does not necessarily give rise to employment growth. During the period 1948 to 1960 there was still a very strong positive correlation between economic growth and employment growth, but this correlation weakened during the period 1960 to 1990 and turned into a negative figure during the period 1994 to 2001, after which it became positive again. This phenomenon of “jobless growth” during the nineties had dire consequences for employment in South Africa, as is evident from the high unemployment rate of 31% at the end of the nineties (SARB 2007).

Table 1
Economic and formal sector employment growth: *1948 – 2007*

	Average 1948-1960 (%)	Average 1960-1970 (%)	Average 1970- 1981 (%)	Average 1981-1990 (%)	Average 1994-1997 (%)	Average 1997-2001 (%)	Average 2003-2007 (%)
Economic growth	4.2	5.6	3.5	1.0	2.8	3.6	4.5
Formal sector employment growth	2.2	2.6	1.6	0.4	-0.06	-2.45	1.15
Production elasticity of formal employment	0.52	0.46	0.46	0.4	-0.02	-0.68	0.26

Source: Van Aardt (1994), Barker (1999), SARB (2005), SARB (2007) and SARB (2008)

Although the production elasticity of employment in South Africa was still relatively low during the period 2003 to 2007 (see table 1), indicating that low employment growth is experienced for every 1% GDP growth, employment in South Africa appears to be on the increase, as was evident from the 2007 results of the Quarterly Employment Survey, which show that during the period March 2006 to March 2007 232 000 new jobs were added to the economy (StatsSA 2007). The other good news regarding the economy was that during the period 2001 to 2006 strong positive growth with respect to a number of economic variables was recorded (SARB 2007). The following gains were recorded:

- Secondary sector (manufacturing, electricity, gas, water and construction sector) output (at constant 2000 prices) grew by 24% during the period 2001 to 2006.
- Gross value added (at constant 2000 prices) grew by 24% during the period 2001 to 2006.
- Final household consumption expenditure (at constant 2000 prices) grew by 30% over the period 2001 to 2006.
- Gross fixed capital formation (at constant 2000 prices) grew by 52.2% over the period 2001 to 2006.

When all the economic data shown above, read together with the strengthening production elasticity of employment, are taken into consideration, it is evident that the South African economy is showing growth levels not seen during the eighties or nineties and is expected to maintain such growth over the medium term, provided that the Eskom problems are addressed, repo rate hikes do not become the norm, that sound economic and fiscal management remain and that the current large-scale capital infrastructure investments give rise to a sustainable higher economic growth path. It must be emphasised, however, that the increasingly competitive international economy will have an increasing impact on the South African economy, enticing businesses to do things differently in order to remain competitive, including cutting down on permanent staff, making greater use of part-time labour and replacing labour with capital.

5 The changing institutional dynamics of South Africa

Having focused on population and economic dynamics, this section will focus on the third circle shown in the population-economic-institutional model in figure 2, namely institutional dynamics. It appears from the BMR institutional estimates that in 2006

there were just over one million institutions (ie companies, municipalities and government departments) in South Africa, of which 4.4% operate in the primary sector, 20.0% in the secondary sector and 75.6% in the tertiary sector of the economy. Gauteng has by far the most institutions in South Africa, namely about 44.8% of the national total.

The number and distribution of institutions in the three more affluent provinces, namely Gauteng, KwaZulu-Natal and the Western Cape, are shown in table 2. It appears from this table that about 78.6% of all South African institutions are located in these three provinces, indicating a higher level of institutional service delivery in these provinces as well as higher levels of economic activity, all of which benefit the populations of these provinces.

Table 2
Distribution of institutions in the three more affluent provinces, by sector, 2006

Sector	Gauteng	KZN	Western Cape	Total
Agriculture, fishing and forestry	6 160	5 673	11 409	23 242
Mining	4 849	583	1 191	6 623
Manufacturing	66 068	25 719	31 173	122 960
Electricity, gas and water	1 323	396	405	2 124
Construction	20 304	8 954	12 072	41 330
Wholesale and retail	76 842	29 968	40 638	147 448
Transport, storage and communication	17 439	7 282	5 801	33 222
Financial, insurance, real estate and business services	136 511	27 580	44 779	208 870
Community, social and personal services	137 121	35 948	58 855	231 924
Total	466 617	142 103	209 023	817 743

The distribution of institutions by sector in the three moderately affluent provinces is shown in table 3. The number of institutions in these provinces comprises about 16.5% of the national total, and whereas the institutions in the three more affluent provinces are clustered in the service sector, there are, percentage-wise, more institutions in the secondary sectors of these provinces.

Table 3
Distribution of institutions in the three moderately affluent provinces, by sector, 2006

Sector	Mpumalanga	Eastern Cape	Free state	Total
Agriculture, fishing and forestry	4 112	2 359	2 578	9 049
Mining	1 759	171	496	2 426
Manufacturing	8 165	5 745	5 042	21 943
Electricity, gas and water	288	196	144	628
Construction	4 288	3 376	1 952	9 616
Wholesale and retail	14 297	12 955	9 435	36 687
Transport, storage and communication	2 757	2 021	1 164	5 942
Financial, insurance, real estate and business services	12 192	12 377	8 697	33 266
Community, social and personal services	18 229	21 820	12 421	52 470
Total	66 187	64 020	41 927	172 034

It appears from table 4, which shows the distribution of institutions by sector in the three less affluent provinces, that only 4.9% of institutions in South Africa are found in these three provinces. Furthermore, percentage-wise, there is a higher representation of primary sector institutions in these provinces than in the wealthier six provinces.

Table 4
Distribution of institutions in the three less affluent provinces, by sector, 2006

Sector	Limpopo	North West	Northern Cape	Total
Agriculture, fishing and forestry	1 040	850	1 356	3 246
Mining	105	621	474	1 200
Manufacturing	2 447	2 279	1 813	6 539
Electricity, gas and water	53	67	93	213
Construction	935	1 067	650	2 652
Wholesale and retail	3 243	4 802	3 032	11 077
Transport, storage and communication	325	876	45	1 643
Financial, insurance, real estate and business services	3 514	3 900	2 093	957
Community, social and personal services	4 574	5 666	4 666	14 906
Total	16 436	20 128	14 592	51 156

There appears to be a positive correlation between the number of institutions within a province and the economic output realised within that province, namely the larger the number of institutions, the higher the output level. The insights of Fukuyama (2004) are also relevant here, namely it can be expected that the quality of management in private and public sector institutions, together with the number of such institutions per province as shown above, will be strong predictors of economic output per province.

Furthermore, the World Bank (2008) has shown in this regard that strong institutions (as measured by the Bank's CPIA governance indicator scale) give rise to not only higher levels of output growth but also a more equal distribution of income. It was found that strong institutions in countries are able to ensure the production of property rights, thereby enhancing entrepreneurial activity and ensuring fair competition between businesses, thus creating growth and investment-friendly business environments.

6 The changing population-institutional interface

The population-institutional interface in South Africa is facing a number of challenges, including the following:

- Although there are more than a million formal sector institutions in South Africa that employ people, the unemployment rate is still very high (SAIRR, 2007).
- Many municipalities in South Africa are having serious difficulty in delivering affordable high quality services to their constituents.
- Public sector hospitals are struggling to cope with the high burden of disease in South Africa brought about by HIV/Aids.
- Police, criminal justice and security institutions are not succeeding in ensuring a safe society, as is evidenced by the rising crime rates.
- Eskom is having great difficulty in supplying sufficient power to the people. This can partly be explained by the fact that the amount of electricity available for distribution to South Africans grew by 1% during the period 2007-2008 (StatsSA 2008), while the economy grew by 5.1% (SARB 2008) and the number of households by 1.8%

during the same period. A food crisis is looming as a result of increasing food prices, driven by the fact that the growth in food demand is currently outstripping the growth in food supply and agricultural production costs are rising rapidly.

Sachs (2005) a number of reasons for institutions in the African context failing to provide services for the benefit of the population as a whole, namely:

- Many organisations are cash-strapped and do not have sufficient physical, organisational or human resource infrastructures to ensure population development.
- The quality of governance in many institutions is low, and is being exacerbated by corruption and crime. According to Sachs (2005), governance in Africa is poor because Africa is poor. This implies that in a more affluent African country such as South Africa organisations might have been expected to be more successful in service provision.
- Labour market rigidities, labour market segmentation policies, HIV/Aids and the relatively small pool of highly skilled labour are all factors that discourage business owners and managers from employing more people. This leads to higher levels of unemployment in society.

An in-depth analysis of existing unemployment data shows that there is an interesting relationship between skills levels and unemployment. The data in table 5 derived from the September 2007 Labour Force Survey show that while about 97% of the economically active population with degrees and higher qualifications are being absorbed into employment, the comparative figure for the economically active population with grade 12 as their highest qualification is 76% and that for grade 7 only 74%. It therefore appears that only a small percentage of the unemployed come from the higher skills categories. It can therefore be concluded that persons with lower qualifications are less sought after by institutions.

Table 5
Highest qualifications of workers and the unemployed, September 2007

Highest qualification	Workers	Unemployed	EAP	Absorption rate (%)
No schooling	680000	106000	787000	86
Grade 0 to 3	442000	100000	542000	82
Grade 4	311000	95000	406000	77
Grade 5	371000	107000	478000	78
Grade 6	621000	164000	786000	79
Grade 7	801000	285000	1086000	74
Grade 8	940000	300000	1240000	76
Grade 9	862000	379000	1240000	70
Grade 10	1105000	481000	1586000	70
Grade 11	1206000	599000	1805000	67
Grade 12	3404000	1098000	4502000	76
NTC 1 to 3	100000	20000	120000	83
Diploma/certificate with less than grade 12	185000	25000	210000	88
Diploma/certificate with grade 12	1287000	151000	1438000	89
Degree/higher degree	833000	27000	860000	97
Total	13148000	3937	17085000	77

Source: Statistics South Africa (2008)

With regard to problems experienced by municipalities in providing services to the communities they are responsible for, factors such as the skills levels of service providers, service backlogs that need to be addressed and management efficacy are the main causes.

The National Treasury (2004 and 2008) also emphasises the pivotal role that municipalities play in ensuring the social and economic development of the communities they are responsible for. Municipalities face a variety of challenges in delivering public services and providing infrastructure for communities. Data provided by the National Treasury (2004) show that backlogs in access to sanitation grew by 193% over the period 1996 to 2001, backlogs in access to refuse removal by 23% but that backlogs in providing access to water and electricity were reduced.

The National Treasury (2004) also indicated that the capacity of municipalities to deliver services largely depends on their ability to collect revenue from their own sources. The Treasury noted that the poor capacity in many municipalities has caused them financial problems. By 2005 the total outstanding consumer debt to municipalities was about R28 billion. Such a high consumer debt makes it impossible for many municipalities to play their rightful part in population and economic development.

7 The changing population-economic interface in South Africa

The population-economic interfaces have been studied in a number of countries and the following trends that are of interest for the purposes of this article have been observed:

- Population growth and economic growth enhance and depress each other, that is in times of high sustained economic growth, population growth rates first increase as life expectancies increase and thereafter decline as fertility rates drop (Dahan & Tsiddan 1998).
- Economic and population development go hand in hand, namely better skilled people ensure a human capital base for economic growth and development, while economic growth and development release the required capital and institutional resources to bring about population development (Todaro 1994; World Bank 2008).

One of the main issues regarding the population-economic interface in South Africa is income inequalities. Measured by the Gini coefficient, inequality in South Africa is ranked the fifth highest in the world. It might have been expected that a democratic dispensation would give rise to higher levels of income equality in South Africa, but this did not happen. Incomes are currently more unequally distributed than was the case in 1994., The Gini coefficient (as an indicator of income equality) increased from 0.59 (which is indicative of a grossly unequal distribution of income) in 1994 to about 0.67 in 2008.

To explore income inequality dynamics further with respect to South Africa, an equality index developed by the Bureau of Market Research (BMR) was used to determine the level of income equality/inequality among various subnational entities (ie population groups and provinces in South Africa). This equality index is similar to the Gini coefficient but it can be used when the data available are more limited.

It appears from the results of such analyses that the highest level of inequality within the different population groups was found among the black group, where many people are obtaining highly paid employment and becoming successful entrepreneurs, while

many other black people remain impoverished. This significant gap between the percentage of blacks earning high salaries and the percentage living in poverty gives rise to the high level of income inequality among blacks.

It further appears from such analyses that the most significant income gaps within different sized communities were found in small/rural communities. It appears that in many rural/small communities there are small groups of fairly affluent people while the rest of the community lives in poverty. Higher levels of income equality were found in larger communities.

Finally, the levels of income inequalities in the different provinces were investigated. It appears from the results obtained that the highest levels of income inequalities were found in Limpopo and the Eastern Cape, where there are large urban and rural communities. The rural communities have significantly lower levels of per capita income than urban communities in these provinces, leading to high levels of income inequality This finding only takes cash income into account and it must be remembered that rural communities are more likely to receive incomes in kind than urban communities, so that rural income distribution may be more equal than is reflected by the Gini coefficient.

A further important population-economic issue that has been debated vigorously for some time is whether high levels of population growth enhance or depress economic growth and development. According to Sachs (2005), high levels of population growth, especially in poor countries, give rise to a situation where poor families that have many children cannot afford to invest in the education, health and nutrition of each child, leading to low levels of human capital formation and consequently more unskilled, poor people. High levels of population growth also impose pressure on environmental resources and economic development, thereby exacerbating poverty. The net result of low levels of human capital formation and poverty is low levels of economic growth and development.

8 The changing institutional-economic interface in South Africa

In a recent report Tustin and Hamann (2006) explored institutional-economic interfaces in South Africa and found that there are very high levels of expectation among consumers that companies (as economic agents) should demonstrate high levels of social responsibility. Consumers expect companies to donate money to developmental agencies in society, to provide community education, to become involved in health promotion programmes and to be involved in poverty reduction programmes. Aron (2000) goes one step further than Tustin and Hamann (2006) and emphasises the importance of the creation of high-quality institutions (public and private sectors) to ensure that economic growth and development are being realised even while wealth is being transferred (via job creation and corporate social responsibility programmes). It further appears that where institutional weaknesses and constraints are present, economic growth, economic development and population development suffer.

Whereas soft indicators such as social responsibility and institutional wealth transfer were mentioned above as examples of institutional-economic interface factors, gross fixed capital formation is a good example of an institutional-economic interface factor that is measurable. This factor equates to the economic investment of institutions in production infrastructure. It appears from available SARB (2008) figures that during the period 2001 to 2007 gross fixed capital formation (at constant 2000 prices) increased by 75.0%. Over this period the biggest increases in gross fixed capital formation were

by private business enterprises (76.9% increase) and public corporations (140.1% increase). Such increases provide a clear indication of a strengthening institutional-economic interface where institutions are increasingly making large-scale investments in order to create infrastructure.

9 Bringing it all together: The changing population-economic-institutional dynamics of South Africa

It is evident from the preceding discussion of the population, economic and institutional dynamics of South Africa that there is good news and bad news in each of these areas. With respect to population dynamics, it was evident that the population growth rate is slowing down, and that high levels of population development are being experienced at the same time, while HIV/Aids and low-quality education are threats to the population and population development. With regard to the South African economy, the good news is that far higher economic growth rates were realised during the past decade, while the bad news is evident in very low levels of job creation as well as very high levels of income inequality and the looming impact of Eskom load shedding and increasing fuel prices. Finally, as regards institutions in South Africa, it appears that the institutional dynamics of South Africa reflect a rapidly developing country with respect to the number and sectoral distribution of institutions, while the high formal sector failure rate of institutions and serious efficacy problems in provincial and local government institutions cast a dark shadow over the ability of institutions to contribute more to population and economic development in South Africa.

A prime example of the inability of institutions to ensure that the benefits of higher levels of economic growth reach the population at large is poverty in South Africa. Depending on which poverty line is used, researchers put the percentage of South Africans living in poverty at anywhere between 45% and 55%. Of particular concern is the fact that the number of South Africans living in relative poverty increased during the period 2001 to 2007, namely from an estimated 21.7 million in 2001 to about 22.5 million in 2005 (SAIRR 2007) to about 22.7 million by 2007 (BMR estimate).

A further example of the inability of institutions to ensure the wider distribution of the benefits of economic growth is provided by the human development dynamics of South Africa. The Human Development Index (HDI) is an indicator of the well-being of a society. The Western Cape and Gauteng, and the white and Asian population groups, fall within the HDI range equivalent to “high human development”, while the Northern Province has an HDI equivalent to “low human development”. The other provinces, together with the Coloured and black population groups and the HDI for South Africa as a whole, fall within the “medium human development” range.

10 Concluding remarks

It is evident from this article that South Africa has been experiencing rapid changes in its population-economic-institutional nexus during the period 2001 to 2007. It appears that the population-economic-institutional nexus is associated with some strong positives as well as negatives. The primary positive and negative aspects are shown in table 6.

Table 6
The primary positive and negative aspects with regard to the population-economic-institutional nexus in South Africa

Aspect	Positives	Negatives
Population	Low levels of population growth	Primary reason for lower population growth is HIV/Aids
Economic	Higher levels of economic growth realised	The benefits of higher economic growth do not filter through to the population
Institutions	Large number of private and public sector institutions	Efficacy of institutions to effect population and economic development can be questioned
Population-economic interface	A large part of the population is benefiting from higher economic growth levels	High levels of income inequalities are experienced
Population-institutional interface	Institutions are employing many people and providing services to many people	Job creation and service delivery by institutions are insufficient to cater for the population and economic development needs of the population
Institutional-economic interface		
Population-institutional-economic interface	An increasing number of educated people and more people in higher workforce groups	High poverty levels and lower levels of human development

In order to address the negatives reflected in table 6, it is necessary to assess the level at which current government, parastatal and private sector policies are facilitative towards the establishment of multipliers from national wealth generation to the living standards of the population. Typical issues that need to be focused on in this regard are the following:

- programmes to address HIV/Aids;
- programmes to ensure population development;
- programmes to address the indirect consequences of poverty (ie xenophobia);
- wealth transfer systems to ensure that the population at large benefits from economic growth;
- the creation of economic multipliers directed to the population at large (ie public works programmes);
- the liberalisation of the labour market and tax incentives to encourage more labour-intensive production;
- the creation of a more extensive social grant and social wage system to ensure the alleviation of desperate poverty;
- programmes to address institutional capacity in South Africa, especially that of the large state corporations (eg Eskom), provincial governments and municipalities;
- programmes to ensure that highly skilled people are retained in South Africa; and
- programmes to ensure free education for all because of the fact that the human capital gains from free education far outweigh increased costs for the educational sector. However, before such programmes are implemented their sustainability needs to be investigated and cost-benefit analyses undertaken to determine the

desirability of such programmes at a specific time, given their identified benefits and taking budget constraints into account.

List of references

ABSA. 2006. *Econotrends, 23 March 2006*. www.absa.co.za.

Abt Associates. 2001. *Impending catastrophe revisited: an update on the HIV/AIDS epidemic in South Africa*. Parklands: Henry J. Kaiser Family Foundation.

Arndt, C & Lewis, JD. 2000. *The macro implications of HIV/AIDS in South Africa: a preliminary assessment*. New York: World Bank.

Aron, J. 2000. Growth and institutions: a review of the evidence*. The World Bank Observer* 15(1):99-135.

Bannock, G, Baxter, RE & Davis, E. 2003. *Dictionary of Economics.* London: Penguin Books.

Barker, FS. 1999. *The South African labour market: critical issues for renaissance.* Pretoria: Van Schaik.

Bollinger, L & Stover, J. 1999. *The economic impact of AIDS in South Africa*. Glastonbury: The Futures Group International.

Dahan, M & Tsiddan, D. 1998. Demographic transition, income distribution and economic growth. *Journal of Economic Growth 3*:29-52.

Dorrington, R, Bradshaw, D & Budlender, D. 2002. *HIV/AIDS profile in the provinces of South Africa*. Cape Town: Centre for Actuarial Research, University of Cape Town.

Fukuyama, F. 2004. *State building: governance and world order in the twenty-first century.* London: Profile.

Fukuyama, F. 2005. Building democracy after conflict: "stateness" first. *Journal of Democracy* 16(1)*:*84-88.

Harford, T. 2006. *The undercover economist.* London: Abacus.

Harris, M & van Aardt, CJ. 2006. Creating a revolutionary tool for South African employers by fusing HIV/AIDS risk segmentation and demographic modelling. Papers and presentations at the 27th Annual SAMRA Convention, 14-18 March 2006. Johannesburg: SAMRA.

ING Barings. 2000. *Economic impact of AIDS in South Africa: a dark cloud on the horizon*. Johannesburg: ING Barings.

International Labour Organization. 1999. *World employment report, 1998-1999.* Geneva: ILO.

Minford, P & Mahambare, V. 2005. *South Africa's labour market towards 2015.* Sandton: CHAMSA.

National Manpower Commissioner. 1992. *Annual Report 1991.* Pretoria: Government Printer.

National Treasury. 2004. *Trends in intergovernmental finances: 2000/01–2006/7.* Pretoria: National Treasury.

National Treasury. 2008. Budget speech, 2008. Pretoria: National Treasury.

Ntsika. 2001. *State of small business in South Africa*. Pretoria: Ntsika Enterprise Promotion Agency.

Physicalgeography.net. 2000. Fundamentals of physical geography http://www.physicalgeography.net/fundamentals/4a.html.

Razin, A. and Sadka, E. 2001. *Population economics*. Boston: The MIT Press.

Sachs, J. 2005. *The end of poverty: How we can make it happen in our lifetime*. London: Penguin Books.

SARB, see South African Reserve Bank.

SARB. 2005. *Quarterly bulletin, September 2005*. Pretoria: South African Reserve Bank.

SARB. 2007. *Quarterly bulletin, June 2007*. Pretoria: South African Reserve Bank.

SARB. 2008. *Quarterly bulletin, March 2008*. Pretoria: South African Reserve Bank.

South Africa. Statistics South Africa. 1998. *The people of South Africa: Population census, 1996*. Pretoria: Statistics South Africa.

South Africa. Statistics South Africa. 2000a. *Tourism and migration, July 1999***.** Pretoria. (Statistical release P0351).

South Africa. Statistics South Africa. 2000b. *Tourism and migration, April 2000.* Pretoria. (Statistical release P0351).

South Africa. Statistics South Africa. 2003. *Census 2001: census in brief*. Pretoria. Statistics South Africa.

South Africa. Statistics South Africa. 2004. *Economic activity survey, 2001, 2002 and 2003.* Pretoria: Statistics South Africa.

South Africa. Statistics South Africa. 2005. *Labour force survey, September 2004.* Pretoria: Statistics South Africa.

South Africa. Statistics South Africa. 2007. *Quarterly employment survey, March 2007.* Pretoria: Statistics South Africa.

South Africa. Statistics South Africa. 2008. *Labour force survey, September 2007.* Pretoria: Statistics South Africa.

South African Institute of Race Relations. 2001. *South Africa survey, 2001/2001.* Johannesburg.

South African Institute of Race Relations. 2007. *South Africa survey online: business and employment.* Johannesburg: SAIRR.

StatsSA, see South Africa. Statistics South Africa.

Todaro, MP. 1994. *Economic development.* New York: Longman.

Tustin, DH & Hamann, R. 2006. *South African metropolitan consumers' perceptions of corporate citizenship and ethical consumer behaviour.* Pretoria: Bureau of Market Research.

United Nations Development Programme. 2004. *Human development report 2004*. New York: United Nations.

Van Aardt, CJ. 1994. *The future South Africa*. Pretoria: Van Schaik.

Van Aardt, CJ. 2001. *The demographic impact of HIV/AIDS on provinces and living standards measure (LSM) groups in South Africa, 1996 to 2011.* Pretoria: Bureau of Market Research.

Van Aardt, CJ. 2004. *A projection of the South African population, 2001 to 2021*. Pretoria: Bureau of Market Research.

Van Aardt, CJ. 2007. *Population and household projections for South Africa by province and population group, 2001 – 2011.* Pretoria: Bureau of Market Research.