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METROPOLITANISATION AND POLITICAL CHANGE IN SOUTH AFRICA

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Prof Robert Cameron and Alicia Alvarez created a data set of 22 South African municipalities as part of the International Metropolitan Observatory Project.

Metropolitanisation and Political Change in South Africa

Abstract

The International Metropolitan Observatory is an international network studying metropolitanisation. Firstly, it aims to develop a data base which will help facilitate systematic cross-national analysis of social, spatial and political shifts in metropolitan areas. Secondly, as the data base is developed, it can be used to explore hypotheses about metropolitan patterns and politics in a rigorous comparative way. A number of hypotheses were tested across the 15 country network in Phase 1 of this project. Hypothesis 1 was that metropolitan areas, consisting of cities and suburban peripheries or interlinked cities, increasingly dominate advanced industrial societies. It was also advanced that metropolitan dynamics are also increasingly present in developing countries. In South Africa this proposition was largely correct, although not to the extent that one might have imagined. Hypothesis 2 was that suburban settlement (relatively low-density 'sprawl') outside the central city or urban centre is increasing as a proportion of metropolitan areas, and absorbing a growing proportion of populations. If suburban settlement can be interpreted as relatively low-density outside the central cities, this hypothesis is largely valid in South Africa in that the low-density areas are increasing as a proportion of metropolitan areas. Hypothesis 3 was that with the increasing expansion beyond central city boundaries, metropolitan areas are increasingly geopolitical. In South Africa, the hypothesis that there is increasing geopolitical fragmentation in metropolitan areas is not applicable. Hypothesis 4 was that along with the above dynamics (geopolitical fragmentation), social and economic polarisation has occurred among places within metropolitan areas, especially between cities and their peripheries. The study has shown that while there is virtually no fragmentation in South African cities, social inequality has actually increased over the last 10 years. Hypothesis 5a was that the rise of middle and upper-middle class areas outside central cities has created new bases of support for conservative parties. Election results in South Africa seem to suggest that conservative parties do have disproportionate support in low-density fringe areas. Hypothesis 5b was that new areas outside central cities demonstrate more independence from established party orientations or greater volatility. There was no available evidence to test this hypothesis in South Africa, but it is unlikely to be valid.

Introduction

The International Metropolitan Observatory (IMO) is a 15 country comparative network studying metropolitanisation. The IMO consists largely of scholars from North America and Western Europe, but also includes scholars from developing regions such as Eastern Europe and South Africa. The IMO has two main objectives. Firstly, it aims to develop a data base which will help facilitate systematic cross-national analysis of social, spatial and political shifts in metropolitan areas. Secondly, as the data base is developed, it can be used to explore hypotheses about metropolitan patterns and politics in a rigorous comparative way (Hoffman-Martinot, 2005 and Sellers, 2005).

Phase 1 of the IMO project was the first stage of developing this data base. Employing a common analytical and methodological framework, various aspects of these metropolitan changes are examined. Five different hypotheses were tested in each national analysis.

These hypotheses were:

Hypothesis No 1. Metropolitan areas, consisting of cities and suburban peripheries or interlinked cities, increasingly dominate advanced industrial societies (metropolitan dynamics are also increasingly present in developing countries).

Hypothesis No 2. Suburban settlement (relatively low-density ('sprawl'), outside the central city or urban centre) is increasing as a proportion of metropolitan areas, and is absorbing growing proportion of populations.

Hypothesis No 3. With the increasing expansion beyond central city boundaries, metropolitan areas are increasingly geopolitically fragmented.

Hypothesis No 4. Along with the above dynamics, social and economic polarisation has proceeded among places within metropolitan areas, especially between cities and their peripheries.

Hypothesis No 5. Political orientations in areas outside central cities follow distinctive patterns that can be taken to have an increasing influence on politics at all levels

> H5a: The rise of middle and upper-middle class areas outside central cities has created new bases of support for conservative parties.
>
> H5b: New areas outside central cities demonstrate more independence from established party orientations or greater volatility.

> H5c: Expanding new areas outside central cities manifest declining levels of political participation and engagement. (Hoffman-Martinot and Sellers, 2005).

This paper is the South African contribution to the IMO Phase 1 project. The first part of the paper sets the context with a discussion of post-apartheid local metropolitan government while the second part tests the hypotheses about metropolitanisation.

The cross-national unit of analysis is for cities with a population of over 200 000. In South Africa this would include the 6 metropolitan municipalities and 16 non-metropolitan local municipalities with a population of over 200 000.

Metropolitan Government: Theoretical Perspectives

One approach used to determine boundaries is the socio-geographic approach. Sharpe (1988:103–104) describes the socio-geographic approach objective as an:

> attempt to bring the boundaries of local authorities more into line with present-day settlement patterns by joining up the continuously built-up areas of cities with their burgeoning suburbs and beyond.

The socio-geographic approach is sometimes called the settlement patterns approach (Mabin, 1997). These spatial behaviour studies attempt to map the areas of influence of urban areas by analysing economic and social activity, thus showing the socio-economic interdependent area for which cities provide marketing and financial facilities. This requires a great deal of knowledge about the spatial patterns of socio-economic activity including commuter patterns, spending patterns, cultural linkages and recreational habits (Smith, 1985:64–66; 1993:18–19).

Bennett (1989:34–35) introduces the notion of ‘truly-bounded’. Here, there is direct correlation between activity spaces and administrative structures. More commonly, administrative structures are ‘under-bounded’, i.e. the activity space crosses over many local government boundaries with resultant ‘spillover’ problems. ‘Over-bounding’ occurs where the activity space is only a small part of an administrative division. Local government reforms in countries such as Britain, Sweden and Eastern Europe have been influenced by the ‘truly-bounded’ concept.

Meligrana (2004) builds upon this approach by suggesting that ‘over-bounded cities’ are more pro-active in that they can deal more effectively with better planning and control over fringe development.

There are problems in achieving ‘truly-bounded’ administrative spaces. For example, there is no consensus about the level of aggregation of preferences and activity spaces that is required. Another problem is the frequency of journeys and activities – some are frequent, while others are infrequent. There are also different types of activities, such as commuting, recreation and shopping. The functional concept therefore tends to increase administrative size beyond the range of normal activities of the majority of people. As a result, ‘over-bounding’ is a frequent outcome of reforms based on activity spaces (Bennett, 1989; Cameron, 1999:44–45; Sharpe, 1995:22–23).

The Evolution of Metropolitan Government in South Africa

During apartheid, local government, no form of metropolitan government existed in South Africa. There was racial fragmentation of cities. Apartheid policy made provision for different residential areas for whites, blacks, coloureds and Asians. Only whites had democratic local government structures, although a plethora of advisory structures existed for black townships. Whites, for the most part, had an excellent level of service while services in black areas were kept in a deliberate state of neglect. (Bekker and Humphries, 1985; Cameron, 1995; Kane-Berman, 1979; Welsh, 1979).

During the 1990s, a new constitutional system was negotiated in South Africa, which heralded in a democratic era. The 1993 Constitution was a historical compromise between the ruling National Party (NP) and the African National Congress (ANC). It was agreed that a two-phase constitutional process would guide the democratisation process in South Africa. The interim 1993 Constitution contained a number of power-sharing mechanisms to protect minority (largely white) interests in the interim phase. The agreement was that a final Constitution had to be adopted in two years.

At local government level, provision was made for three discrete categories of local government – metropolitan, urban and rural – each with differentiated powers, functions and structures. For the first time in South Africa’s history, provision was made for metropolitan government (Cameron, 1999:92–95; 2000a:156–157).

For the interim phase, metropolitan governments were created in the three urbanised provinces – the Western Cape, Gauteng and KwaZulu-Natal. In the Western Cape, the Cape Metropolitan Council was established. Gauteng had four metropolitan councils, namely greater Johannesburg, greater Pretoria, Khayalami and Lekoa Vaal. Greater Durban Metro was created in KwaZulu-Natal.

The Final System of Local Government

Unlike the interim Constitution, the final Constitution did not make provision for separate categories of metropolitan, urban and rural local government (RSA, 1996). Section 155(1) of the final Constitution makes provision for category A, B and C municipalities. The definitions are:

(a) **Category A** is a municipality that has exclusive municipal executive and legislative authority in its area.

(b) **Category B** is a municipality that shares municipal executive and legislative authority in its area with a Category C municipality within whose area it falls.

(c) **Category C** is a municipality that has municipal executive and legislative authority in an area that includes more than one municipality.

The Creation of Single-Tier Metropolitan Authorities

The ANC had long preferred single-tier authorities as a way of redistributing resources and services. It was of the view that strong lower-tier authorities in the two-tier system were preventing metropolitan government from enforcing metropolitan-wide development and redistribution (Wooldridge, 2002:130–132). Given that the final phase was shorn of power-sharing clauses, it was able to push through the megacity option. The White Paper on Local Government recommended that single-tier authorities be created in metropolitan areas. The goals of the White Paper were embodied in legislation in the form of the Local Government: Municipal Structures Act, which was passed in December 1998 (RSA, 1998a).

The most important change was the replacement of the two-tier metropolitan system with single-tier authorities. Section 2 of the Act stated that areas that

must have single category A municipalities, which are areas that can reasonably be regarded as:

(a) a conurbation featuring:
areas of high population density;
an intensive movement of people, goods, and services;
extensive development; and
multiple business districts and industrial areas;
(b) a centre of economic activity with a complex and diverse economy;
(c) a single area for which integrated development is desirable; and
(d) having strong interdependent social and economic linkages between its constituent units.

This definition is a description of metropolitan areas, which meant that category A municipalities would be introduced in such areas only. It has been argued that this definition with its strong emphasis on interdependency pointed to the city region as the basis of the metropolitan area, which would encompass the economically interdependent suburbs, black townships, rural areas and informal settlements. Metropolitan government was clearly seen as a tool for political transformation of apartheid settlement patterns (Cameron, 2000a).

Non-metropolitan Government

The White Paper on Local Government argued that many boundaries had irrationally divided settlements, and that there was a need to create municipal institutions that recognised the linkages between urban and rural settlements. It suggested that almost all towns are linked functionally to rural areas, relying on their hinterlands for productive economic activity and providing critical centres for the delivery of social services (Provincial Affairs and Constitutional Development, 1998:14–15, 96–98). In particular, concern was raised that the service needs of farm workers and those forcibly removed to bantustans (apartheid-created homelands) were not catered for under the existing system of local government. Rural local government structures were largely political shells without any formal administration, with district councils providing most of the functions on an agency basis.

The Local Government: Municipal Structures Act (RSA, 1998a) embodied the spirit of the White Paper recommendations and made provision for more hierarchical two-tier local government systems in non-metropolitan areas. District councils became *district municipalities* and were now the upper-tier (category C) authority. One fundamental change was in functions, with district

municipalities now assuming many responsibilities. In the past, districts had no jurisdiction in large urban towns. Now, district municipalities assumed the upper-tier responsibilities for local government.

At lower-tier level, there were category B structures. Provision was made for only one form of category B local government structure, namely *local municipalities*. The Municipal Structures Act did not distinguish between urban and rural local government. This legislation both strengthened the role of districts and proposed one integrated form of non-metropolitan local government (Cameron, 2001).

The Municipal Demaraction Board (MDB)

The MDB was given responsibility for the determination of local government boundaries for the 2000 elections. It has been pointed out that one of the most important approaches used when demarcating local government boundaries is the socio-geographic or settlement patterns approach, which attempts to correlate local government boundaries with their respective interdependent socio-economic areas (Cameron, 1999). The MDB framework for the demarcation of local government boundaries was largely based on this approach, albeit implicitly (Cameron, 2000b).

There were two distinct components to this approach to demarcating metropolitan areas. Firstly, based on international and local experience, commuting, and to a lesser extent shopping, from other cities and fringe areas gave an indication where people belong in terms of boundary demarcation. The MDB felt that the best means of determining the interdependence of people, communities and economies was through commuting patterns. This was because such commuting is probably the best single measure of the relationship between human settlements on the one hand, and employment, spending and amenity-usage patterns on the other. Secondly, the application of the Group Areas Act and 'homelands' development strategies resulted in an attenuated settlement pattern in and around metropolitan areas, most notably the relocation of poor communities to the fringes of the metropolitan areas. Commuting patterns were regarded as a good indicator of the spatial dislocations caused by apartheid. In South Africa, there had been an artificially enforced separation between places of work and shopping on the one hand, and places of residence for poorer people on the other. Apartheid had forced communities into spatially separate communities and black areas were often located some distance from commercial and industrial areas. However, the Board did say that these two factors have to be balanced by other criteria such as administrative capacity and financial viability (MDB, 1999:7).

Influenced by this socio-geographic demarcation model, the MDB attempted to draw coterminous political and economic boundaries. Its aim was to promote integrated development of all its citizens and promote fiscal equivalence, that is, the people who use services should be the same people who pay for them. It was of the view that a metropolitan or local council should encompass at least 50% of all people who live, work and shop within that area. The MDB tested whether its boundaries encompass interdependent communities by analysing data from Household Surveys for 1995 and 1996. These surveys were conducted by Statistics South Africa and were probably the best national and annual record of social trends. The result was that the MDB was able to analyse where people lived and where they worked.

The statistics for metropolitan areas indicated that the boundaries encompass areas in which peoples, communities and economy are interdependent. For example:

- In Cape Town, 95% of the citizens who work in the area reside in the metropolitan area of jurisdiction.
- In Durban, 86% of the citizens who work in the area reside in the metropolitan area of jurisdiction.
- In the East Rand, 87% of the citizens who work in the area reside in the metropolitan area of jurisdiction.
- In Pretoria, 84% of the citizens who work in the area reside in the metropolitan area of jurisdiction.
- In Johannesburg, 64% of the citizens who work in the area reside in the metropolitan area of jurisdiction (MDB: 2000b).

Hypothesis 1

Hypothesis 1 was that metropolitan areas, consisting of cities and suburban peripheries or interlinked cities, increasingly dominate advanced industrial societies. It also posited that metropolitan dynamics are also increasingly present in developing countries.

The populations of each metropolitan area for the 1996 and 2001 census were divided into the provincial population for each respective year. The resulting figures were then subtracted from each other, resulting in an indication of growth in the context of provinces. The same formula was then completed for the total population of South Africa. It needs to be noted that while there were local government boundary demarcations in 2000, both the 1996 and 2001 statistics below are based on the post 2000 boundary demarcations. The results are shown in Tables 1a and 1b.

Table 1a. Growth of Metropolitan Population as a Proportion of Provincial Population 1996–2001.

	Metro pop. 1996	*Metro pop. 2001*	*Prov. pop. 1996*	*Prov. pop. 2001*	*Metro/Prov. pop. 1996*	*Metro/Prov. pop. 2001*	*Growth*
Cape Town	2,563,612	2,893,246	3,956,874	4,524,335	64.79%	63.95%	-0.84%
Ethekwini	2,751,193	3,090,121	8,417,021	9,426,017	32.69%	32.78%	0.09%
Johannesburg	2,639,110	3,225,812	7,348,423	8,837,178	35.91%	36.50%	0.59%
Ekurhuleni	2,026,807	2,480,277	7,348,423	8,837,178	27.58%	28.07%	0.49%
Tshwane	1,682,701	1,983,983	7,348,423	8,837,178	22.90%	22.45%	-0.45%
Nelson Mandela	969,771	1,005, 778	6,302,526	6,436,763	15.39%	15.63%	0.24%
Buffalo City	682, 287	701,980	6,302,526	6,436,763	10.83%	10.91%	0.08%
Emfuleni	597,948	658,421	7,348,423	8,837,178	8.14%	7.45%	-0.69%
Manguang	603,704	654,441	2,633,504	2,706,775	22.92%	24.18%	1.26%
Polokwane	424,976	508,277	4,929,368	5,273,642	8.62%	9.64%	1.02%
Msunduzi	521,805	553,223	8,417,021	9,426,017	6.20%	5.87%	-0.33%
Matjhabeng	476, 927	408,170	2,633,504	2,706,775	18.11%	15.08%	-3.03%
Mbombela	425, 663	474,806	2,800,712	3,122,990	15.20%	15.20%	0.00%
King Sabata Dalindyebo	395, 945	415,229	6,302,526	6,436,763	6.28%	6.45%	0.17%
Klerksdorp	335,237	359,202	3,354,825	3,669,349	9.99%	9.79%	-0.20%
uMhlatuze	196,183	289,190	8, 417,021	9,426,017	2.33%	3.07%	0.74%
Rustenburg	311,326	395,540	3,354, 825	3,669,349	9.28%	10.78%	1.50%
Newcastle	287,260	332,981	8,417,021	9,426,017	3.41%	3.53%	0.12%
Emalahleni	236,680	276,413	2,800,712	3,122,990	8.45%	8.85%	0.40%
Mafikeng	242,193	259,478	3,354,825	3,669,349	7.22%	7.07%	-0.15%
Mogale City	223,657	289,724	7,348,423	8,837,178	3.04%	3.28%	0.24%
Sol Plaatjie	204,263	201,464	840,321	822,727	24.31%	24.49%	0.18%

Source: Statistics South Africa (2004).
Notes:
Metro = metropolitan
Prov = provincial
Pop. = population

Tables 1a and 1b reveal that, in general, metropolitan areas are increasingly dominating South African society. With reference to Table 1a with the cities as percentage of provincial population, we can see that growth ranges from 0.08% in Buffalo City, Eastern Cape, which is the smallest increase, to 1.5% in Rustenburg, North West, the largest expansion. Table 1b, looking at the population of South Africa as a whole, shows growth ranging from 0.03% in Emalahleni, Mpumalanga to 0.69% in Johannesburg, Gauteng. This is consistent with the increasing metropolitanisation experienced throughout the world, and fits with the growth rate of South Africa's cities of 4.4% between 1991 and 2001 (South African Cities Network, 2004:8).

However, what is interesting is that in some cases South Africa's cities are experiencing depopulation. Table 1a shows that provincially, 5 of the 22 cities have experienced an absolute decline in population growth, with Mafikeng, North West having the slightest decline at 0.15% and Matjhabeng, Free State

undergoing a depopulation of 3.03%. This translates to 68 757 people in just 5 years (South African Cities Network, 2004). Table 1b reveals this pattern to a larger extent, with 9 of the 22 cities showing negative growth. The outline is consistent with the provincial figures, with Mafikeng showing the least decline at –0.02% and Matjhabeng exhibiting the largest at –0.26%.

Table 1b. Growth of Metropolitan Population as Proportion of Total South African Population 1996–2001

	Metro pop. 1996	*Metro pop. 2001*	*Total pop. 1996*	*Total pop. 2001*	*Metro/Total pop. 1996*	*Metro/Total pop. 2001*	*Growth*
Cape Town	2,563,612	2,893,246	40,583,574	44,819,776	6.32%	6.46%	0.14%
Ethekwini	2,751,193	3,090,121	40,583,574	44,819,776	6.78%	6.89%	0.12%
Johannesburg	2,639,110	3,225,812	40,583,574	44,819,776	6.50%	7.20%	0.69%
Ekurhuleni	2,026,807	2,480,277	40,583,574	44,819,776	4.99%	5.53%	0.54%
Tshwane	1,682,701	1,983,983	40,583,574	44,819,776	4.15%	4.43%	0.28%
Nelson Mandela	969,771	1,005,778	40,583,574	44,819,776	2.39%	2.24%	-0.15%
Buffalo City	682,287	701,980	40,583,574	44,819,776	1.68%	1.57%	-0.11%
Emfuleni	597,948	658,421	40,583,574	44,819,776	1.47%	1.47%	0.00%
Manguang	603, 704	654, 441	40,583,574	44,819,776	1.49%	1.46%	-0.03%
Polokwane	424,976	508,277	40,583,574	44,819,776	1.05%	1.13%	0.09%
Msunduzi	521,805	553,223	40,583,574	44,819,776	1.29%	1.23%	-0.05%
Matjhabeng	476,927	408,170	40,583,574	44,819,776	1.18%	0.91%	-0.26%
Mbombela	425,663	474,806	40,583,574	44,819,776	1.05%	1.06%	0.01%
King Sabata Dalindyebo	395,945	415,229	40,583,574	44,819,776	0.98%	0.93%	-0.05%
Klerksdorp	335,237	359,202	40,583,574	44,819,776	0.83%	0.80%	-0.02%
uMhlathuze	196,183	289,190	40,583,574	44,819,776	0.48%	0.65%	0.16%
Rustenburg	311,326	395,540	40,583,574	44,819,776	0.77%	0.88%	0.12%
Newcastle	287,260	332,981	40,583,574	44,819,776	0.71%	0.74%	0.04%
Emalahleni	236,680	276,413	40,583,574	44,819,776	0.58%	0.62%	0.03%
Mafikeng	242,193	259,478	40,583,574	44,819,776	0.60%	0.58%	-0.02%
Mogale City	223,657	289,724	40,583,574	44,819,776	0.55%	0.65%	0.10%
Sol Plaatjie	204,263	201,464	40,583,574	44,819,776	0.50%	0.45%	-0.05%

Source: MDB (2004).

Thus, while metropolitan areas do dominate South African industrial areas, there has not been the population increase between 1996 and 2001 that one might have expected. The reasons for this lie with the ending of apartheid and enforced separate living. When influx control was abolished in 1986, there was a large upsurge in metropolitan growth, the highest for decades. However, this has slowed down considerably in the 1996 to 2001 period, revealing a pattern of growth similar to the 1970s and 1980s in South Africa. The reasons for this slowing of growth are firstly, permanent migration to cities has slowed and, secondly, migration has been balanced by a permanent return to rural areas.

Temporary migration continues, where members of a family move around different urban centres engaging in temporary work, but maintaining strong family ties to the rural areas to which they generally return. City-to-city migration is also on the increase, thus keeping the pattern of growth slow (*ibid*, 2004:9).

One other major potential reason for lack of growth is the impact of HIV/AIDS. However, accurate information on HIV/AIDS is difficult to obtain. There is no doubt, however, that metropolitan areas will be highly affected by the epidemic (South African Cities Network, 2004:9–10).

Hypothesis 2

Hypothesis 2 was that suburban settlement (relatively low-density sprawl) outside the central city or urban centre is increasing as a proportion of metropolitan areas, and absorbing growing proportion of populations.

This hypothesis was extremely difficult to test. Data in South Africa are only available in terms of urban/rural categories. There is no definition of or statistics for central cities or suburbs in South Africa. Commuting figures are a major indicator of suburban areas, but national figures are unavailable. Only a couple of cities appear to have reliable commuting data. Thus, a discussion document produced by Statistics South Africa (2004) was used as a basis from which to extract indicators for urban and rural categories. Since there is no South African statistical definition of suburbs, the IMO guidelines for suburban settlement were used, that is, relatively 'low-density sprawl' outside the central city.

The study therefore equated a population density of over or equal to 1000 persons per square kilometre as a central city; and a population density of below or equal to 1000 persons per square kilometre as a suburb or low-density area (Statistics South Africa, 2004). Examples of these density calculations are:

Polokwane, Limpopo
Ward 8 – 13 489 / 478.8629 = 28.1688 – low-density area
Ward 23 – 13500 / 6.837 = 1974.5502 – high-density area.
Cape Town, Western Cape
Ward 69 – 29 984 / 173.2088 = 173.109 – low-density area
Ward 79 – 35 215 / 2.7205 = 12944.3117 – high-density area.

Using the definition of low-density areas as a foundation, the methodology involved disaggregating each metropolitan city into ward levels. The population density for each ward was calculated using population demographics from the

MDB website (2004), which based its findings on the 2001 Census. This was then applied to a map of each area, which gave a visual indication of the wards and revealed that most low-density areas were situated around the edges. This filled the requirements of the low-density 'sprawl' associated with many USA suburbs and indicated in the IMO outline. Population demographics of suburbs were calculated as part of total metropolitan population for 1996 and 2001, revealing that majority of metropolitan low-density areas had experienced growth.

Table 2 reveals that low-density areas are increasing as a proportion of metropolitan areas in South Africa. Most cities experienced growth of low-density areas ranging from 0.1% in King Sabata Dalindyebo, Eastern Cape to 6.98% in Mogale City, Gauteng. However, 5 of the 22 cities experienced a reduction in low-density population, from –0.53% in Buffalo City, Eastern Cape to –6.14% in Msunduzi, KwaZulu-Natal.

Table 2. Growth of Suburban Population as Proportion of Metropolitan Population 1996–2001

	Metro pop. 1996	*Metro pop. 2001*	*Suburb pop. 1996*	*Suburb pop. 2001*	*Suburb/Metro pop. 1996*	*Suburb/Metro pop. 2001*	*Growth*
Cape Town	2,563,612	2,893,246	468,298	529,959	18.27%	18.32%	0.05%
Ethekwini	2,751,193	3,090,121	560,031	659,274	20.36%	21.33%	0.98%
Johannesburg	2,639,110	3,225,812	295,967	498,053	11.21%	15.44%	4.22%
Ekurhuleni	2,026,807	2,480,277	496,592	678,591	24.50%	27.36%	2.86%
Tshwane	1,682,701	1,983,983	336,908	462,391	20.02%	23.31%	3.28%
Nelson Mandela	969,771	1,005,778	146,348	172,650	15.09%	17.17%	2.07%
Buffalo City	682,287	701,980	329,153	334,963	48.24%	47.72%	-0.53%
Emfuleni	597,948	658,421	115,211	143,770	19.27%	21.84%	2.57%
Manguang	603,704	654,441	246,170	279,807	40.78%	42.76%	1.98%
Polokwane	424,976	508,277	349,250	406,983	82.18%	80.07%	-2.11%
Msunduzi	521,805	553,223	235,886	216,134	45.21%	39.07%	-6.14%
Matjhabeng	476,927	408,170	206,401	181,117	43.28%	44.37%	1.10%
Mbombela	425,663	474,806	237,574	272,799	55.81%	57.45%	1.64%
King Sabata Dalindyebo	395,945	415,229	340,934	357,571	86.11%	86.11%	0.01%
Klerksdorp	335,237	359,202	160,301	169,276	47.82%	47.13%	-0.69%
uMhlathuze	196,183	289,190	122,330	180,609	62.36%	62.45%	0.10%
Rustenburg	311,326	395,540	218,536	287,271	70.20%	72.63%	2.43%
Newcastle	287,260	332,981	69,242	92,077	24.10%	27.65%	3.55%
Emalahleni	236,680	276,413	101,687	133,217	42.96%	48.19%	5.23%
Mafikeng	242,193	259,478	132,713	133,890	54.80%	51.60%	-3.20%
Mogale City	223,657	289,724	74,334	116,523	33.24%	40.22%	6.98%
Sol Plaatjie	204,263	201,464	52,931	54,271	25.91%	26.94%	1.03%

Source: MDB (2004).

Overall, however, South Africa is following the global trend of growing low-density areas at the fringes of cities. If suburban settlement can be interpreted as relatively low-density outside the central cities, the population is increasing as a proportion of metropolitan areas.

Hypothesis 3

Hypothesis 3 was that with the increasing expansion beyond central city boundaries, metropolitan areas are increasingly geopolitically fragmented.

As pointed out earlier, the MDB was influenced by this socio-geographic demarcation when it attempted to draw coterminous political and economic boundaries. Each municipality comprises of only 1 local general-purpose government. Thus, for each city only 1 local government was used as an indicator. Arguably, some of the boundaries are, if anything, 'over-bounded'.

The prescription of the Zeigler and Brunn geopolitical fragmentation index was followed. The index was calculated by dividing the number of local governments per 100 000 population into the percentage of the metropolitan population residing in the central cities (Zeigler and Brunn, 1980).

Geopolitical fragmentation can be described as the division of metropolitan areas into a number of separate municipalities. Can this index be applied to South Africa, having as it does one government per metropolitan area? South Africa is an extreme example of local government reorganisation where there is very little fragmentation (Cameron, 2004). Razin and Hazan (2004:2) call South Africa's demarcation 'an example of extreme preference given to equality and integration'.

Thus, in the case of South Africa, the hypothesis that there is increasing geopolitical fragmentation in metropolitan areas is not applicable. During apartheid, South Africa was fragmented along racial lines that approximated wealth divisions. With the demarcation of new boundaries, the government had the rare opportunity to overcome this apartheid legacy by combining statistical metropolitan boundaries with local government political boundaries, as discussed earlier in this paper. As a result of this particular attribute of South African metropolitan areas, it can be seen that according to the standards of

other metropolitan cities and the Zeigler and Brunn index, there is limited geopolitical fragmentation in South Africa[1].

Table 3. The Geopolitical Fragmentation of the 22 South African Metropolitan Areas over 200 000

	No of local govts	*No of govts/ 100 000 inhabitants*	*Central city pop. 2001*	*Central city/ Metro pop*	*Zeigler and Brunn Index*
Cape Town	1	0	2,363,287	82%	0
Ethekwini	1	0	2,430,847	79%	0
Johannesburg	1	0	2,727,759	85%	0
Ekurhuleni	1	0	1,801,686	73%	0
Tshwane	1	0	1,521,592	77%	0
Nelson Mandela	1	0	833,128	83%	0
Buffalo City	1	0	367,017	52%	0
Emfuleni	1	0	514,651	78%	0
Manguang	1	0	374,634	57%	0
Polokwane	1	0	101,294	20%	0
Msunduzi	1	0	337,089	61%	0
Matjhabeng	1	0	227,053	56%	0
Mbombela	1	0	202,007	43%	0
King Sabata Dalindyebo	1	0	57,658	14%	0
Klerksdorp	1	0	189,926	53%	0
uMhlathuze	1	0	108,581	38%	0
Rustenburg	1	0	108,269	27%	0
Newcastle	1	0	240,904	72%	0
Emalahleni	1	0	143,196	52%	0
Mafikeng	1	0	125,588	48%	0
Mogale City	1	0	173,201	60%	0
Sol Plaatjie	1	0	147,193	73%	0

Source: MDB (2004); Zeigler and Brunn (1980).

The mean population size of local authority in South Africa is 188 318. This was calculated by dividing the total population (44 819 776) by the total number of primary municipalities (238). Primary municipalities comprise metropolitan and local municipalities.

This mean population size of 188 318 is larger than the mean population size of all 31 selected local authorities in a comparative survey. Only two other countries, the United Kingdom (140 372) and Ghana (174 200), had a mean size

[1] There is an argument which posits that Johannesburg, Ekurhuleni and Tshwane metropolitan municipalities are not purely 'bounded' and are part of a 'polycentric urban region' (South African Cities Network, 2004:24). There may be some validity to this argument but if one uses an urban region approach to local government boundary demarcation, one would land up with massive authorities akin to the size of provincial governments.

of over 100 000 per local authority (Razin and Hassan, 2004:11). This is a further indication of the lack of fragmentation in South African cities.

Hypothesis 4

Hypothesis 4 was that along with the above dynamics (geopolitical fragmentation), social and economic polarisation has occurred among places within metropolitan areas, especially between cities and their peripheries.

In order to measure polarisation, the Nathan and Adams index was used. For each measure, a percentage is found out of the total metropolitan population. This ratio was then used as a base to formulate the index. The highest ratio was given an index of 100 while the lowest was given 0. Each city's ratio was then entered into the formula. We can then use the 'scores' on the index to compare cities (Nathan and Adams, 1976).

The formula for the index is (Nathan and Adams, 1976; 1989; Hoffmann-Martinot, 2004):

$$X = \frac{(Y - Ymin)}{(Ymax - Ymin)} * 100$$

Unemployment index

This index was calculated by using a percentage of the unemployed as a proportion of the total workforce per metropolitan area and substituting the numbers into the Nathan and Adams formula.

Dependency index

This was calculated by adding the amounts of dependents under the age of 14 and over 65 and calculating this percentage as part of the total metro population. The numbers were then used in the Nathan and Adams index.

Education index

All the people who had not received a Grade 12 pass were counted as a proportion of the greater population. The categories used were:

- no education
- some primary school
- complete primary school
- secondary school.

The resulting percentages were substituted into the formula for the Nathan and Adams index.

Income index

The information on *per capita* income was unavailable, so a median level of income was created. For each income category, the median was found. For example, for category 2, the calculation was (400-1)/2. The result was then multiplied by the total amount of people that corresponded with the categories. These were then added together and divided by the total population to devise a ratio. This was then substituted into the Nathan/Adams index. This gave us an indication of average income.

The categories used in Census 2001 for individual income per month were as follows:

1. none
2. R1–400
3. R401–800
4. R801–1 600
5. R1 601–3 200
6. R3 201–6 400
7. R6 401–12 800
8. R12 801–25 600
9. R25 601–51 200
10. R51 201–102 400
11. R102 401–204 800
12. Over R204 801

Poverty index

The Human Sciences Research Council (HSRC) defines the poverty line as less than R800 a month for households, or R9 600 a year (Statistics South Africa, 2002:103). Thus, all those households who received income below that amount every year were added up and divided into the total metropolitan population. These percentages were then substituted into the Nathan and Adams index.

Inter city composite index

Finally, the averages of all the above indexes were figured for each metropolitan area to create an inter city composite index (ICCI).

Scores vary between the extreme values, that is, between 13 for the most prosperous cities, Cape Town and Tshwane and 61 for Matjhabeng, Free State.

Table 4. Intercity Composite Indexes

	Unemployment Index	*Dependency Index*	*Education Index*	*Income Index*	*Poverty Index*	*Intercity Composite Index*
Cape Town	0	25	38	3	0	13
Ethekwini	50	26	38	0	45	32
Joburg	29	0	42	7	45	25
Ekurhuleni	40	7	57	3	57	33
Tshwane	10	11	4	10	29	13
Nelson Mandela	62	24	60	10	46	40
Buffalo City	86	30	61	13	85	55
Emfuleni	64	16	70	13	70	47
Manguang	39	32	55	13	80	44
Polokwane	44	72	0	17	88	44
Msunduzi	68	37	43	17	45	42
Matjhabeng	62	26	96	20	100	61
Mbombela	31	60	27	17	68	41
King Sabata Dalindyebo	100	100	8	10	76	59
Klerksdorp	39	20	87	27	77	50
uMhlathuze	41	46	10	50	52	40
Rustenburg	11	11	100	30	50	40
Newcastle	89	57	20	17	58	48
Emalahleni	33	23	60	47	47	42
Mafikeng	72	51	37	30	82	54
Mogale City	18	5	74	53	48	40
Sol Plaatjie	44	38	61	100	35	55

Source: MDB (2004).

In terms of the ICCI, Cape Town, Western Cape seems to be the most prosperous city with the lowest poverty ratio, one of the lowest ratios of unemployment and a high-income index of 91. Matjhabeng has the highest ICCI. This can perhaps partly explain why, as discussed earlier, large amounts of people have left this metropolitan area in the last five years. This metropolitan area has the highest of ratio of people living under the poverty line, the second

highest amount of under-educated citizens and one of the highest unemployment figures.

There is no census category for suburbs and it was not possible to define a suburb in South Africa. It was accordingly decided not to attempt to develop an Inter Suburb Composite Index.

Hypothesis 4 was that along with the above dynamics (geopolitical fragmentation), social and economic polarisation has occurred among places within metropolitan areas, especially between cities and their peripheries. Social and economic polarisation is primarily due to the racial fragmentation that existed before 1994. There is now virtually no fragmentation in cities, yet according to one survey of the largest 9 cities in the country, social inequality has actually increased over the last 10 years (South African Cities Network, 2004:12).

While South Africa may be a 'special case' due to its apartheid history, the evidence here suggests that there is no casual connection between social and economic polarisation and fragmentation.

Hypothesis 5

Hypothesis 5 was that political orientation in areas outside central cities follows distinctive patterns that can be taken to have an increasing influence on politics at all levels.

The local government electoral system in South Africa makes provision for metropolitan councils and local municipalities with wards consisting of 50% ward councillors and 50% proportional representation councillors (on party lists nominated by political parties or groupings of civics/independents) (Cameron, 2003a).

The political control of wards after the nation-wide 2000 local government elections is shown in Table 5a[2].

Hypothesis 5a was that the rise of middle and upper-middle class areas outside central cities has created new bases of support for conservative parties. In order to test this hypothesis, one has to calculate the amount of low-density wards

[2] Crossing the floor legislation in 2002 has led to some councillors changing parties and some municipalities most notably Cape Town changing political control. This factor does not however affect this hypothesis which is based on voting patterns.

controlled by political parties (listed in Table 5b) and compare this with the party-political control of all wards (listed in Table 5a).

Table 5a. Political Party Control by Wards – 2000

	No. of Wards	*ANC*	*DA*	*IFP*	*UDM*	*MF*	*PAC*	*Ind*	*UCDP*
Cape Town	100	34	67						
Ethekwini	100	62	29	7		2			
Johannesburg	109	70	37	2					
Ekurhuleni	88	62	25				1		
Tshwane	76	48	27					1	
Nelson Mandela	54	34	20						
Buffalo City	45	41	4						
Emfuleni	43	35	8						
Manguang	43	33	10						
Polokwane	35	31	3					1	
Msunduzi	37	23	9	5					
Matjhabeng	36	30	6						
Mbombela	36	33	3						
King Sabata Dalindyebo	32	15			17				
Klerksdorp	30	22	7					1	
uMhlathuze	30	10	4	16					
Rustenburg	35	30	5						
Newcastle	31	5	4	22					
Emalahleni	32	25	7						
Mafikeng	28	19							9
Mogale City	32	23	9						
Sol Plaatjie	27	19	8						
Total	1079	704	292	52	17	2	1	3	9
Total %	100%	65%	27%	5%	2%	0%	0%	0%	1%

Source: IEC (2004).

Notes:
ANC = African National Congress
DA= Democratic Alliance
IFP= Inkatha Freedom Party
UDM=United Democratic Movement
MF=Minority Front
PAC= Pan Africanist Congress of Azania
Ind = Independent
UCDP= United Christian Democratic Party

The two big parties are the ANC and Democratic Alliance (DA). The ANC, the ruling party nationally in South Africa, is in many ways a modern social democratic party. Its supporters come primarily from the black majority. The DA was an amalgamation of previously white conservative and liberal parties the New National Party (NNP) and Democratic Party (DP) respectively.

Although, the NNP has subsequently broken away from it, the DA is increasingly perceived to be representing white conservative interests.

The ANC won 65% of all wards nationally while the DA won 27% of the wards. However, if one looks at the low-density wards, the ANC won 57% of the wards and the DA 32%. This seems to suggest that conservative parties do have disproportionate support in low-density fringe areas which are often largely white high-income or peri-urban areas.

Table 5b. Low-density Wards controlled by Political Parties

	ANC	*DA*	*IFP*	*Ind.*	*UDM*	*UCDP*	*Total low-density wards*
Cape Town	1	17					18
Ethekwini	17	4	1				22
Johannesburg	4	9					13
Ekurhuleni	7	14					21
Tshwane	7	10					17
Nelson Mandela	3	6					9
Buffalo City	19	2					21
Emfuleni	3	5					8
Manguang	11	6					17
Polokwane	24	2		1			27
Msunduzi	8	3	3				14
Matjhabeng	10	6					16
Mbombela	18	2					20
King Sabata Dalindyebo	11				16		27
Klerksdorp	7	6					13
uMhlathuze	2	3	12				17
Rustenburg	20	2					22
Newcastle	1	3	4				8
Emalahleni	8	5					13
Mafikeng	13					1	14
Mogale City	7	5					12
Sol Plaatjie	3	4					7
Total	204	114	20	1	16	1	356
Per cent of total	57%	32%	6%	0%	4%	0%	100%

Source: IEC (2004).

Hypothesis 5B was that new areas outside central cities demonstrate more independence from established party orientations or greater volatility. There was no available evidence to test this hypothesis. However, it is unlikely to be valid. A study has showed that both major political parties, the ANC and DA, operate in a centralised manner at local government level. Political parties control local government through the closed system proportional representation system. Mayors are indirectly elected via party lists (Cameron, 2003b).

Table 5c. Turnout of Low-density Areas Compared to Municipal Average for Local Elections 2000

	Average turnout	*Mean of low-density turnout*
Cape Town	56.50%	61.41%
Ethekwini	41.84%	45.81%
Johannesburg	39.34%	42.34%
Ekurhuleni	45%	49.27%
Tshwane	45.60%	50.48%
Nelson Mandela	61.69%	59.64%
Buffalo City	58%	61.41%
Emfuleni	44.81%	47.35%
Manguang	50.67%	49.64%
Polokwane	38.62%	40.04%
Msunduzi	48.06%	52.74%
Matjhabeng	45.12%	42.38%
Mbombela	45.78%	47.06%
King Sabata Dalindyebo	45.59%	46.04%
Klerksdorp	49.75%	48.19%
uMhlathuze	37.38%	40.76%
Rustenburg	29.26%	29.10%
Newcastle	41.11%	45.55%
Emalahleni	40.38%	39.54%
Mafikeng	42.22%	45.96%
Mogale City	46.04%	47.13%
Sol Plaatjie	58.63%	54.60%

Source: IEC (2004).

Hypothesis 5c was that expanding new areas outside central cities manifest declining levels of political participation and engagement.

It can be seen in Table 5c that the low-density ward turnout was higher than the average turnout in 15 of the 22 cities. This seems to suggest that hypothesis 5c, namely that expanding new areas outside central cities manifest declining levels of political participation and engagement, is not valid.

Conclusion

Hypothesis 1 was that metropolitan areas, consisting of cities and suburban peripheries or interlinked cities, increasingly dominate advanced industrial societies. It was also advanced that metropolitan dynamics are also increasingly present in developing countries. The evidence here suggests that this proposition is largely correct, although not to the extent that one might have imagined.

Hypothesis 2 was that suburban settlement (relatively low-density 'sprawl') outside the central city or urban centre is increasing as a proportion of metropolitan areas, and absorbing growing proportion of populations. If suburban settlement can be interpreted as relatively low-density outside the central cities, this hypothesis is largely valid in that the population is increasing as a proportion of metropolitan areas.

Hypothesis 3 was that with the increasing expansion beyond central city boundaries, metropolitan areas are increasingly geopolitical. In South Africa, the hypothesis that there is increasing geopolitical fragmentation in metropolitan areas is not applicable.

Hypothesis 4 was that along with the above dynamics (geopolitical fragmentation), social and economic polarisation has occurred among places within metropolitan areas, especially between cities and their peripheries. The study has shown that while there is virtually no fragmentation in cities, social inequality has actually increased over the last 10 years.

Hypothesis 5a was that the rise of middle and upper-middle class areas outside central cities has created new bases of support for conservative parties. Election results seem to suggest that conservative parties do have disproportionate support in low-density fringe areas.

Hypothesis 5b was that new areas outside central cities demonstrate more independence from established party orientations or greater volatility. There was no available evidence to test this hypothesis, but it is unlikely to be valid.

Hypothesis 5c was that expanding new areas outside central cities manifest declining levels of political participation and engagement. This hypothesis does not appear to be valid in that in most cases there was a higher turnout in low-density areas.

Finally, does South Africa conform to the United States of America (USA) model? It does in many aspects. South Africa is the most industrialised country in Africa and as pointed out, metropolitan areas are increasingly becoming dominant in the country. South Africa is similar to the USA in that low density areas outside the central city or urban centre are increasing as a proportion of metropolitan areas, and absorbing growing proportion of populations. However there are some major divergences from the USA model. The need to dismantle apartheid settlement patterns necessitated an extreme form of local boundary reorganisation which has led to little geographical fragmentation. If anything, local governments are 'over-bounded'. This is also untypical in the African context where local government tends to be weak and fragmented.

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