MURDER AND ROBBERY IN SOUTH AFRICA: A TALE OF TWO TRENDS

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ABSTRACT

This chapter seeks to unpick the relationship between murder rates (which have declined substantially over the past 10 years) and robbery rates (which have grown substantially). It does this first be exploring what we know about murder rates in South Africa, by looking at the relationship between murder and a variety of socio-economic data. In relation to murder rates, the chapter shows that, however concerned South Africa's policy makers are about the level of violence against women, the epidemic of lethal violence in South Africa is, to a very large extent, a male problem. Beyond this, however, it shows that present data do not unambiguously support other conclusions, including the notion that murder rates in the Coloured community are significantly higher than the national average; that murder rates in urban communities are significantly higher than those in rural communities; or that per capita murder rates are higher in station areas with low average household incomes. While the data do not provide a sufficiently robust foundation to reject these widely held assumptions about violent crime in South Africa, they also do not lend unequivocal support to them. Having looked at some of the standard socio-economic factors usually thought to be associated with criminality, the chapter looks at another factor which seems to suggest that murder rates at different police stations in South Africa seem to track variations in robbery rates. This analysis suggests that although murder rates have moved in precisely the opposite direction to robbery rates over the past decade, variations in robbery rates seem to account for variations in the murder rate, particularly in stations with large numbers of both murder and robbery. This does not mean that robbery rates explain murder rates, but that where robbery has grown fastest, the decline in murder rates has been reduced.

Key-words: murder, robbery, causes of crime

[1] A draft of this paper was written while the author was working at the Institute for Security Studies.

INTRODUCTION

Since the peak of the crack epidemic in the early 1990s, levels of violent crime in the United States of America (US) have fallen dramatically, with the per capita murder rate, which had reached 9.8 per 100 000 in 1991 (Blumstein 2000), falling by 42% over the following 12 years (FBI 2004). Dramatic as this fall may seem, it conceals an intriguing story: most of the decline in the murder rate is accounted for by a decline in murders committed by and against young, black men in major urban centres and involving the use of a handgun. Other types of murders - of older people, women and White victims; that took place in rural areas; or that involved weapons other than handguns - also fell, but their per capita rates were virtually static in comparison to the precipitous decline in the first type of murder.

The decline in murders generally, therefore, was driven by a huge decline in a very precise category of killing. At the same time, however, the per capita robbery rate (a category that includes both the crimes called "common robbery" and "aggravated robbery") declined by about 50% from a high of about 280 per 100 000. This parallel decline suggests that the fall in murders of young, black men in urban areas was also a decline in robbery-murders: the declining number of young Black men killed, reflected the fact that fewer were being held up at gunpoint. This, in turn, also reflects the maturation and decline of the crack market and the resulting decline in the crime and violence that develops around these markets. (For two complementary accounts of this, see Blumstein 2000 and Wintemute 2000.)

South Africa has also seen a large decline in murder over the past few years. The per capita murder rate has fallen by 36%, from nearly 67 per 100 000 to less than 43 per 100 000 between 1994/5 and 2003/4 (SAPS 2004).[2] In contrast to the US, however, the decline in the murder rate has not been accompanied by a parallel decline in the robbery rate. In fact, the per capita rate of aggravated robbery *rose* by 32% between 1994/5 and 2003/4, from 219 to 288 per 100 000. The common robbery rate rose even faster: by 145% from 84 to 206 per 100 000.

Given the divergent trends, it seems unlikely that the decline in South Africa's murder rate has the same causes as the decline in the murder rate in the US. Unlikely, that is, but not impossible.

[2] It will be shown later that the figures are not entirely uncontroversial.

It might be the case, for instance, that the rise in the robbery rate reflects either or both the increasing reporting rate and/or the more accurate and comprehensive recording of statistics. It is possible, in other words, that the apparent rise in common and aggravated robbery does not reflect a rise in the underlying number of incidents, but only in the number being recorded. If this is so, there might be no reason to expect murders to increase in parallel since their reporting rate would already have been high.

This explanation, however, seems implausible since both the changes have been both too fast and have lasted too long to be readily explained by an improvement in reporting rates. In any event, 17 police stations, all large and urban, accounted for fully 50% of the total increase in the number of aggravated robbery cases recorded by the South African Police Service (SAPS) between 2000/1 and 2003/4.[3] Since these were not previously under-serviced stations in deep rural areas, the increased number of cases cannot be attributed to the widening of the SAPS footprint. It is unclear, moreover, why increased reporting rates should be confined to so tight a geographic area. Finally, there was evidence in the 2003 *National Victims of Crimes Survey* that the reporting rate for robbery actually fell between 1998 and 2003 (Burton *et al.* 2004). It seems unlikely, therefore, that the sustained increase in the robbery rate (common and aggravated) is primarily a reporting phenomenon.

Another reason why the increasing per capita rate of robbery might not lead to a similar increase in the murder rate is that even if robberies were increasing, it is conceivable that changes in the character of robberies might have driven down the average lethality of each incident. If for some reason fewer people are killed or injured during the average robbery today than was the case a decade ago, it might be a possible explanation as to why the murder rate would not be dragged upwards even as the robbery rate rose.

This possibility cannot be dismissed entirely. Nevertheless, it is hard to see how a 32% rise in the aggravated robbery rate that coincides with a 36% fall in the murder rate could be accounted for in this way. It would suggest, after all, that the average aggravated robbery in 2003/4 was about 50% less lethal than the average aggravated robbery in 1994/5.[4] It is submitted that no conceivable change in technique could, by itself, account for so large a drop.

[3]The stations, in order of the increased number of robberies, were Hillbrow, Umlazi, Sunnyside, Durban Central Point, Park Road, Tembisa, Pretoria Central, Mitchells Plain, Rustenburg, Booysens, Empangeni, Mamelodi, Honeydew, Douglasdale, Linden and Pretoria West.

[4]This is a back-of-the-envelop calculation premised on the fact that there were nearly 26 000 murders and nearly 85 000 aggravated robberies in 1994/5, while there were nearly 20 000 murders in 2003/04 despite the nearly 134 000 aggravated robberies.

It is likely, therefore, that the declining trend in the murder rate is a result of factors affecting murders that are not robbery related, and that this trend has overwhelmed whatever may have been happening with respect to the robbery rate and the average lethality of robberies in South Africa. Thus, in South Africa, trends in the murder rate can only be partly explained by trends in the robbery rate. However, what is surprising is that these trends are diametrically opposed. This poses important questions about the profile of South African murders, and the answers might give an explanation for the drop in the murder rate and what might be done to help continue the trend.

This chapter explores some of the current data on murder and robbery in an attempt to develop an answer to the question: "What drives South Africa's murder rate?" In seeking to answer this question, this chapter explores the risk differentials faced by members of different communities, for instance, the differentials between the murder rates of men and women, between provinces and between different geographically defined communities. This is unsurprising, particularly because it has been an axiom of the debate over criminal justice policy in South Africa that the poor and the marginalised confront higher levels of crime than do the rich. However, a closer look at station-level data suggests that there must be more to it since there is little correlation between average household income levels and murder rates. Nor, indeed, is the relationship between urbanisation levels and murder rates as clear cut as might be expected. These findings suggest, in turn, that there is a need for far more data about various socio-economic factors and their relationship to murder rates. These issues will be explored in more detail below, but first it is necessary to ask a more basic question: "How much murder is there?"

HOW MUCH MURDER IS THERE?

SAPS has reported that the murder rate in South Africa has fallen from 66.9 per 100 000 in 1994/5 to 42.7 in 2003/4. These figures are not the only estimate of the level of homicide in the country, however; the Medical Research Council (MRC) has another estimate, one that is significantly higher than the SAPS one.

The following chart (see Figure 1) compares the MRC and SAPS estimates for the murder rates in 2000/1 in South Africa's provinces (SAPS 2004; Bradshaw *et al.* 2004). As is obvious, some of the estimates differ considerably: the MRC's estimate for Limpopo is nearly three times the SAPS one, while in Mpumalanga and North West, the MRC's figures exceed the SAPS's by 97% and 62% respectively. The net effect is that the MRC's estimate for South Africa as a whole is nearly 19% higher than the SAPS's.[5]

[5] It should be noted that the precise dates of the two estimates differ. For the MRC it is July 2000 to June 2001. The

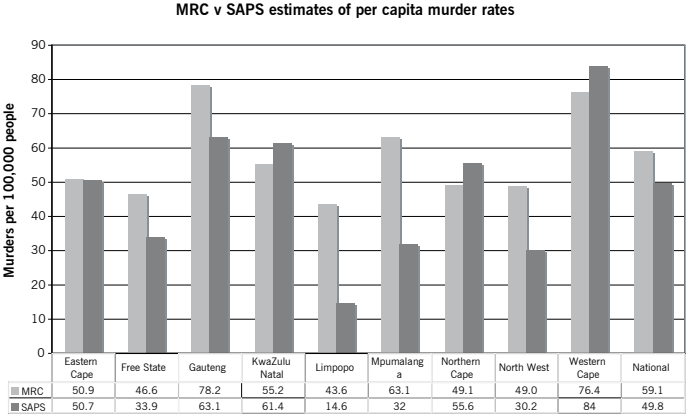


Figure 1: *MRC v SAPS estimates of per capita murder rates.*

Differences of this magnitude demand careful scrutiny and require some assessment as to which is more reliable.

One possibility that can be quickly dismissed is that these differences spring from differences in the denominator, i.e. that the MRC and SAPS use different population figures for the provinces and the country, and that this accounts for the different per capita rates. In fact, the MRC uses higher figures for its population estimates than does SAPS and, in fact, the difference in the absolute number of murders estimated by the MRC and reported by SAPS is larger than the differences between the per capita rates.

Indeed, in absolute terms, the MRC's estimate is that nearly 5 000 murders occurred in South Africa in 2000/01 which were not reflected in the SAPS's figures. These included nearly 1 900 in Gauteng, nearly 1 500 in Limpopo, and nearly 1 000 in Mpumalanga. Only in the Northern Cape and the Eastern Cape are the MRC's estimates and the SAPS's reports reasonably close.

SAPS numbers, on the other hand, are for April 2000 to March 2001. These differences alone, it is submitted, cannot account for the wide divergence in the estimated homicide rates. It seems implausible that the murders included in the MRC's timeframe, but excluded in the SAPS's timeframe (i.e. April, May and June 2001) would be so far in excess of the murders in the SAPS's period, but not in the MRC's (April, May and June 2000) as to account for the divergence. The improbability of this is heightened by the fact that SAPS reported a decline in the murder rate in 2001/2, a period which would have included the months included in the MRC's estimate, but excluded from that of the SAPS.

Table 1: *SAPS v MRC murder and population figures (2000/01)*

	E. Cape	Free State	Gaut.	KZN	Limp.	Mpum.	N. Cape	North West	W. Cape	RSA
Murders: MRC	3,514	1,333	6,858	5,083	2,303	1,927	469	1,838	3,359	**26,684**
Murders: SAPS	3,471	945	4,967	5,515	803	973	485	1,077	3,522	**21,742**
Diff.	43	388	1,891	(432)	1,500	954	(16)	761	(163)	**4,942**
Pop: MRC	6,898	2,862	8,765	9,212	5,277	3,055	955	3,753	4,399	**45,177**
Pop: SAPS	6,846	2,788	7,872	8,982	5,500	3,041	872	3,566	4,193	**43,659**
Per cap: MRC	50.9	46.6	78.2	55.2	43.6	63.1	49.1	49.0	76.4	**59.1**
Per cap: SAPS	50.7	33.9	63.1	61.4	14.6	32	55.6	30.2	84	**49.8**

One explanation of the differences is that SAPS systematically understates the murder rates it undercounts the number of murders. This thesis could be made on a number of different grounds. It might be argued, for instance, that the undercounting of murders is deliberate, a fraud perpetrated on the public in order to delude them into believing themselves to be safer than they truly are. Another approach might be to say that the combination of poor systems, poor infrastructure and poor training means that murders are either not reported to SAPS (because of the difficulty of doing so), or are misrecorded in the docket management system. Consequently, non-natural deaths, the causes of which are unknown at the time of being reported to SAPS, are systematically recorded as something other than murder. This argument also makes the case that when evidence emerges that a particular death was the result of a homicide, the new information is not entered into the system as is supposed to occur. This theory cannot be dismissed as inconceivable, especially after the finding, reported in a separate MRC study into intimate femicide, that:

> In 6.9% of probable homicides identified at mortuaries there was no police case number. This conclusion was drawn after many months of exhaustive searching. There was thus no evidence of a police investigation. Attempts to find these numbers revealed that victims of homicide could not be traced via their names or ID numbers in the SAPS computerised database, even when these are known. Reference?

If any of these infrastructural, training or procedural issues were the key to the problem, it might explain the apparent undercounting of murders in Limpopo. Even so, the extent of the undercount - 23% of the bodies the MRC reported to have been murdered appear to have been missed by SAPS - would be surprising. More puzzling, however, would be the fact that the police in Gauteng - an urbanised province with a relatively accessible infrastructure - appear to undercount murdered bodies, but that no apparent

undercount occurs in the Eastern Cape, where access to policing is undeniably more limited.[6]

It is, of course, impossible to assert that none of these problems exists. Nevertheless, a plausible alternative possibility is that there is a disparity between the MRC's estimates and the SAPS's figures because the former are an overestimate.

There are two potential problems with the MRC's estimation technique. The first relates to its estimate of the number of non-natural deaths and the second relates to their breakdown of those deaths between the various categories that fall within the broader definition of a non-natural death. Both are important since the MRC's method was first to estimate the number of non-natural deaths and then to estimate the number of murders within that category.

Consider first the issue of how the MRC estimated the number of non-natural deaths in South Africa in 2000/01. According to Bradshaw *et al.* (2003), this involved obtaining an estimate of the proportion of all deaths that resulted from non-natural causes in the total number of deaths and then applying this to the number of fatalities that were believed to have occurred. (This latter figure was itself an estimate based on an Actuarial Society of South Africa model.) Thus, if either (or both) the proportion of deaths that were non-natural, or the actual number of fatalities was over-estimated, so too would be the number of non-natural deaths.

While this chapter has nothing whatever to say in relation to the estimate of the total number of deaths, it does appear that the proportion of all deaths attributed to non-natural causes (estimated at 12%) may have been greater than the true figure.[7] There are two reasons for this. First, the estimate was based on a sample of all death certificates reviewed by Statistics South Africa (StatsSA) for the period 1997-2001. Over that period, however, the proportion of deaths attributable to non-natural causes was falling very quickly: having started the period at nearly 16% of the total, it had fallen to under 9% by 2001. In the StatsSA sample for 2000, it accounted for only about 10% of all deaths. The application of the average over the period (i.e. the 12% used by Bradshaw *et al.* 2004), therefore, might have overestimated the number of non-natural deaths by as much as 20%, implying that the nearly 69 000 non-natural deaths predicted in

[6] Pelser (2000) reported, for instance, that a survey conducted in rural areas suggests that nearly two-thirds of all respondents either never saw a police officer or saw one less than once a month.

[7] The comments made on the possible over-estimation of the proportion of non-natural deaths are based on a conversation with D Bradshaw of the MRC, and one of the authors of both papers referred to here. Her forthrightness about the limitations of the estimation are gratefully appreciated (D Bradshaw, personal communication).

Bradshaw *et al.* (2004) may have been closer to 58 000. That alone may account for the 5 000 additional murders that the MRC estimated over the number reported by SAPS, since the MRC used the National Injury Mortality Surveillance System (NIMSS) assessment of the breakdown of all non-natural deaths as reported in Burrows *et al.* (2001) to determine the breakdown of these deaths (see Bradshaw *et al.* 2004). Since NIMSS found that 45% of all non-natural deaths were homicides, the reduction of non-natural deaths from 69 000 to 58 000 would account for the approximately 5 000 "missing" bodies.

A second reason to question the MRC's estimate, however, is precisely the use of the NIMSS breakdown of non-natural deaths. The NIMSS data, for all the value they offer, are not nationally representative. This is simply because the mortuaries involved in NIMSS tend to be in major urban centres. Using the NIMSS findings to project the make-up of all non-natural deaths in South Africa in any given year amounts, in other words, to using the pattern of non-natural deaths in Johannesburg and Cape Town to predict the pattern in Limpopo. This is partly justified by Bradshaw *et al.* (2004) on the basis that the NIMSS findings are not all that different from those at two rural sites at which demographic data, including the causes of death, are being collected. It is submitted, however, that the use of these sites - one in KwaZulu-Natal and the other on the Mpumalanga/Limpopo border - to validate the deployment of the NIMSS findings does not provide sufficient evidence that the very urban-centric NIMSS findings should be extrapolated to the national picture. It is this approach, however, together with the use of an assumed 12% of all deaths being the result of non-natural causes, that explains why the MRC's estimated number of murders in Limpopo was nearly three times higher than the numbers reported by SAPS.

The upshot of all this is that the MRC's figures cannot be reliably used to refute the numbers presented by SAPS. It is, therefore, on the latter which the rest of this chapter relies.

THE DISTRIBUTION OF MURDER IN SOUTH AFRICA

In relation to those countries for which reliable statistics exist, South Africa has extremely high per capita rates for murder and most other violent crimes.[8] This is so even after the most recent declines. It is not true, however, that everyone is uniformly likely to be murdered. In fact, there are important differences based on demographic and socio-economic factors, as a look at the difference between male and female homicide rates makes clear.

[8] For an account of the gaps and anomalies in the available statistics, see Altbeker (2005).

MALE AND FEMALE HOMICIDE RATES

Consider, for instance, the NIMSS findings for 2001 (Matzopoulos 2002). In the sample of nearly 11 200 homicides arriving at 32 mortuaries participating in the survey in 2001, 87% of victims were male and 13% were female. If it is assumed that a similar breakdown by gender applied to the 21 405 murders reported by SAPS between April 2001 and March 2002, that would imply that about 18 600 men were murdered and 2 805 women. Given that men make up 47.8% of the population, the per capita murder rate for men, at nearly 87 per 100 000, was 7.2 times higher than the 12 per 100 000 for women.[9] Surprisingly, despite the attention paid to violence against women in South Africa, the extent of the divergence between the male homicide rate in South Africa and the homicide rate of men in the rest of the world is, in fact, far bigger than the divergence between the female homicide rate in South Africa and that in the rest of the world.

According to World Health Organization (WHO) estimates, the global homicide rate in 2000 was 8.8 per 100 000 in 2000 (WHO 2002). Disaggregating by gender, it thus appears that the male murder rate was 13.6 per 100 000 and the female, 4 per 100 000. Thus, the implication is that while South Africa's women are about 3 times more likely to be murdered than women around the world, South Africa's men are 6.4 times more likely to be murdered than men around the world. Moreover, this discrepancy between male and female homicide rates in South Africa compared to those in other parts of the world holds whether figures for poor countries (where men are 3.4 times more likely to be murdered than women) or for Africa (2.8 times more likely) are used.

[9] Police statistics come from The South African Police Service Annual Report: 2003/2004 and are available on the SAPS website: www.saps.gov.za. Population figures are official Stats SA results from the 2001 census. Unless otherwise stated, crime and population statistics used in this chapter all relate to 2001. The reason for this is that, given the widely different rates of population growth between police station areas, a difference with its roots in the processes of internal and international migration, station-level per capita analysis cannot be done effectively except in the year in which census data were collected.

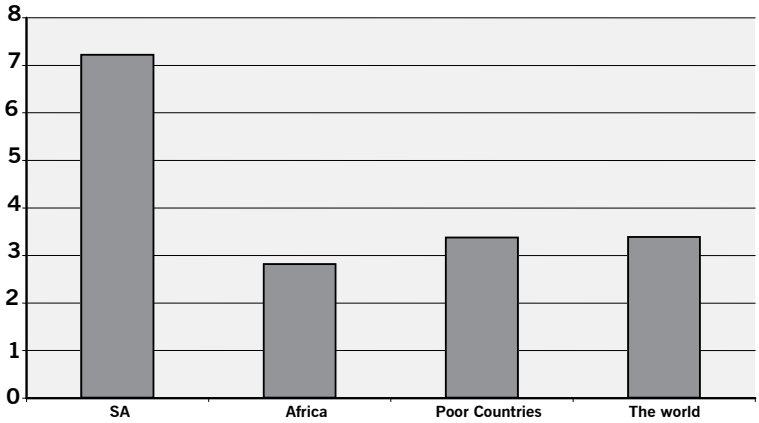


Figure 2: *The ratio of male/female murders in South Africa and elsewhere*

These data, then, are unambiguous: even more decisively than is the case in the rest of the world, gender makes a difference to the level of risk an individual faces in South Africa. Surprisingly, perhaps, the impact of race on homicide rates is far less clear.

RACE AND MURDER

Race in South Africa, for all the efforts at social transformation, remains a key determinant of an individual's life chances. It is, for instance, strongly correlated with income and poverty, unemployment, educational achievement and a host of other socio-economic variables. Does race count in determining an individual's chances of being murdered?

In this regard, the evidence currently available is (surprisingly, perhaps) far from conclusive. There are three sources of information on race and homicide: NIMSS, a police docket analysis of murders (SAPS 2004), and a study by the Gender and Health Unit of the MRC into female homicide in South Africa (Mathews *et al.* 2005). In addition, two analyses based primarily on the NIMSS data have also appeared (Leggett 2004; Thomson 2004). The results of these studies are displayed in Figure 3.

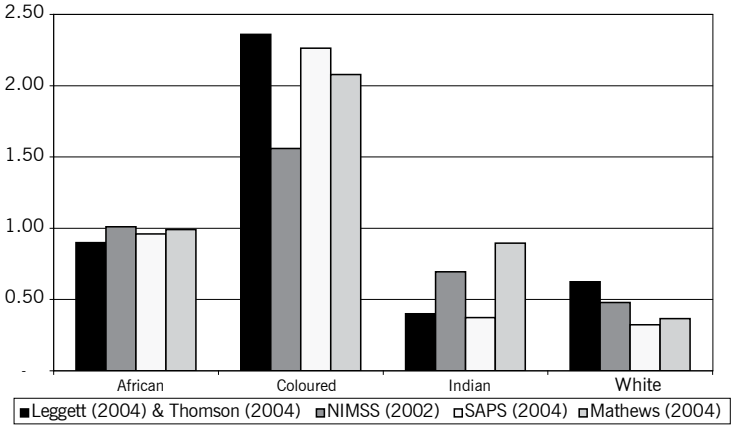


Figure 3: *Race and murder (% of murders v share of population: 1 = parity)*

The four studies appear to agree on a few points, namely that the proportion of African victims is more or less in line with their share of the population (something that is mathematically unsurprising given that Africans make up nearly 80% of the population); that Coloured victims are over-represented, possibly dramatically so; and that Indian and White victims constitute a smaller proportion of homicide victims than their shares of the population.

Despite the broad agreement between the studies, however, there are some serious doubts about these figures. For example, the NIMSS sample is based on an analysis of bodies received by about 35 mortuaries. Although these mortuaries are spread across the country, the resulting sample is not nationally representative because the mortuaries themselves are largely in urban areas, thus creating an important bias. This is because, for historical reasons, Coloured, Indian and White communities tend to be more urbanised than African ones. This means that these three population groups are likely to be over-represented in the NIMSS sample. In relation to White and Coloured victims, this over-representation is increased by the fact that 23% of the NIMSS sample come from Cape Town and Kimberley despite the fact that, according to the SAPS statistics, the entire Western and Northern Cape provinces account for only 18% of all murders. Since the combined population of Cape Town and Kimberly is 47% Coloured and 18% White, this would tend to bias the NIMSS sample towards over-representing Coloureds and Whites since each group makes up less than 10% of the national population. White over-representation is also reinforced by the fact that 40% of the victims in the NIMSS sample come from cities in Gauteng where Whites are significantly over-represented relative to their share of the national population.

Thus, the fact that the NIMSS data suggest that Coloureds have a significantly higher per capita murder rate than other South Africans needs to be treated cautiously. In addition, it seems likely that Whites, though apparently under-represented in the population of victims, may actually be over-represented in the NIMSS survey. This conclusion must be qualified, however: given the incidence of farm attacks, it is possible that rural Whites are murdered at a higher per capita rate than are their urban compatriots. The over-representation of Coloureds, on the other hand, cannot be qualified in this manner, and it seems to have misled Thomson (2004), who relied exclusively on the NIMSS data for post-1990 murder rates, into overstating the per capita murder rate in the Coloured community. Leggett (2004), who followed Thomson's (2004) conclusions, was also misled in this manner.

The second study that is relevant to this question is a docket analysis done by members of the SAPS Crime Information Analysis Centre (CIAC) in 2004 which looked at 2 645 of the 23 289 murder dockets that were closed in 2001. It found that 75.5% of murder victims were African, 20.1% were Coloured, 3.1% were White and 0.9% were Indian. African murder victims are marginally under-represented given their share of the national population, while Coloured victims are dramatically over-represented. In addition, Whites and Indians are significantly under-represented.

Unfortunately, the methodology used in this study means that its results also cannot be taken as representative of all murders. This is because cases that are closed are not necessarily an unbiased sample of all cases that are opened. The reason for this is straightforward: murder cases in which evidence about the perpetrator's identity is deficient are kept open far longer than are other cases. (This may also explain why only 12.4% of murders of which the causes could be identified were committed in the course of other crimes, most of which were aggravated robberies.) The effect of the bias in this sampling methodology is that the sample over-represents cases in which the identity of the offender is unknown. All that can be safely said based on these results, therefore, is that Coloured victims appear to be over-represented in samples of murder dockets in which offenders are known to SAPS. It does not follow that people in the Coloured community are more likely to be murdered.[10]

The study with the least problematic sampling technique is that of the MRC's Gender and Health Research Group which sought to estimate

[10] It also appears that there may be some over-representation of Western Cape and Northern Cape in the CIAC analysis. Although Western Cape, which accounted for more than 16% of murders in 2001/02 contributed less than 11% of cases in the sample, the over-representation of Northern Cape more than makes up the difference. This province accounts for about 2% of murders, but contributed nearly 10% of cases to the sample.

the level of female homicide in the country and then to determine what proportion of those deaths were caused by intimates (Mathews *et al.* 2005). It concluded that the rate at which women and girls older than 14 were killed by "intimate partners" was 8.8 per 100 000 for the country as a whole, but varied between 2.8 per 100 000 for White women and 18.3 per 100 000 for Coloured women. African women were killed by intimates at the rate of 8.9 per 100 000, while Indian women were murdered at the rate of 7.5 per 100 000. All of these figures were for 1999.

These figures were derived on the basis of a sample of 25 mortuaries which was then extrapolated to the national picture on the basis of data on bodies arriving at all mortuaries. This resulted in an estimated 3 798 female homicides in 1999 (of which 1 349 were intimate femicides), which would imply that something like 16% of all murders recorded by SAPS were of female victims.[11] This figure is not too dissimilar from the 13% recorded by NIMSS in 2001.

There is a much greater rigour associated with extrapolating the sample to the national population in this study than is the case of the docket analysis or the two articles that relied on the raw NIMSS data. Thus, it is far harder to reject the idea that the murder rate in the Coloured community is substantially higher than it is in other communities. Nevertheless, the fact that the report deals only with intimate femicide means that it would not be appropriate to extrapolate these results to all murders in general, especially since, as was shown earlier, women constitute only a minority of murder victims. Indeed, it could be argued that these figures simply reinforce the only conclusion that can be reached on the basis of the SAPS docket analysis: that for some reason murders committed by people who are known to their victims are more common in the Coloured community than in others. Even here, though, there is room for caution: since the Mathews *et al.* study (2005) relied on an examination of dockets and/or interviews with investigators to assess the likely perpetrator in female homicides, it is possible that the fact that the Coloured community is concentrated in Western Cape and Northern Cape may explain some of the disparity. If, for instance, police in Western Cape are for some reason more likely to solve cases than are their colleagues elsewhere in the country, it may account for a higher proportion of cases involving Coloured victims being identified as intimate homicides than is the case for other race groups.

[11] It is impossible to be more precise than this. The Mathews *et al.* (2005) data related to the calendar year 1999 while SAPS reported figures over its financial year. The recorded 22 600 murders between April 1999 and March 2000 were about 10% lower than the figures for the preceding financial year which would have included January, February and March 1999.

This does appear to be the case, as evidenced by the data presented by Redpath (2002) who found that the crude conviction rate for murder in 2000 was 18%, Northern Cape and Western Cape had the highest rates at 46% and 27% respectively. That being the case, the reason why Coloured women appear to be much more likely to be murdered by an intimate partner than women of other races, could be that they happen to live in the two provinces where cases are most likely to be solved. It is possible, in other words, that the police in Western Cape and Northern Cape are better able to solve all cases (but especially those that involve perpetrators who are known to the victim) and, as a result, it may be that the victims in those provinces (who will come disproportionately from the Coloured community relative to the share Coloureds make up of the national population) will *appear* to have higher rates of intimate homicide.[12]

All of this leaves a somewhat confusing picture from which only a broad set of conclusions can be drawn. It appears that African communities' murder rates are close to the national average: Africans make up 80% of the population, so murder rates in African communities will play a very large role in determining the national murder rate. It also appears that White and Indian communities suffer lower per capita murder rates than the national average and that the Coloured community suffers a somewhat higher one. Unfortunately, none of the studies currently in the public domain can definitively answer how great the disparity in risk is for people of different races in South Africa.

GEOGRAPHY AND MURDER

Race and gender are naturally not the only variables governing the distribution of risk. Murder rates, for instance, vary widely by geographic area. Thus, while the national average murder rate was 47.8 per 100 000 in 2001/2, this varied dramatically between the provinces. In 2001/2 per capita murder rates per 100 000 ranged between 16.1 (Limpopo) and 76.2 (Western Cape). This divergence was also reflected in the rate of change of murder which fell by 36% between 1994/5 and 2003/4 across the country, but by as much as 46% in Gauteng and by as little as 14% and 16% in Mpumalanga and Western Cape, respectively. Indeed, if the period considered were 1994/5 to 2002/3 (as opposed to 2003/4), Western Cape's murder rate would actually have increased by 11% despite a national decline of 29% over the same period.

[12] Having said that, it must be acknowledged that it is impossible to dismiss the possibility that causality runs the other way. It may be that the reason why murder cases are solved more frequently in Western Cape and Northern Cape is precisely because many are committed by intimates.

Table 2: *Murder per 100 000*[13]

	1994/5	1995/6	1996/7	1997/8	1998/9	1999/0	2000/1	2001/2	2002/3	2003/4
E. Cape	76.8	73.4	70.4	61.5	59.6	56.2	50.7	55.2	52.1	52.5
F. State	50.6	54	50.7	46.1	43.3	38.6	33.9	34.2	35.2	33
Gauteng	83.1	81.3	76.6	78.2	77.5	64.6	63.1	54.1	53.3	44.8
KZN	95	92.5	76.4	72.9	75.1	67.7	61.4	57	56.5	53.3
Mpum.	37.5	43.6	50	42.8	39.7	35.6	32	29.6	33.1	32.2
N. West	37.6	44.5	46.7	38.9	40.9	31.6	30.2	30.2	30.7	28.9
N. Cape	69.5	83.9	70.3	64.7	70.4	58.4	55.6	54.8	52.7	50
Limpopo	22.2	19.8	19	19.3	18.4	15.3	14.6	16.1	13.2	13.1
W. Cape	71.5	83.9	79.4	80.6	86.9	77	84	76.2	79.5	59.9
RSA	**66.9**	**67.9**	**62.8**	**59.5**	**59.8**	**52.5**	**49.8**	**47.8**	**47.4**	**42.7**

It is probably worth pointing out that the fact of rapid urbanisation means that some of these trends might well be over- or under-stated. The SAPS figures presented in Table 2 are based on implicit population figures which must be adjusted every year. Since a population census is taken only every five years, and, in the interim, migration patterns affect the number of people living in each province differently, it is necessary to estimate underlying population trends. Those estimates must then be corrected when new census data are available. As Table 2 shows, this can lead to quite dramatic adjustments, as is apparent for 2001/2. In that year, the SAPS's implicit population estimate for Gauteng went up by 12.2% relative to that of the year before, while population estimates for four provinces were reduced. The effect of this is that estimates for crime rates between census years must be deemed more problematic than those for census years themselves. This, in turn, means that estimates of the murder rate for 2003/4 might under- or over-state the true per capita incidence of murder if estimates of population growth in different provinces are inaccurate.

Table 3: *Implicit population growth rates in SAPS data*

	1995/6	1996/7	1997/8	1998/9	1999/0	2000/1	2001/2	2002/3	2003/4
E. Cape	2.2%	2.9%	1.6%	2.3%	1.6%	2.9%	**-6.0%**	0.3%	0.5%
F. State	1.6%	2.1%	1.2%	1.5%	0.2%	2.8%	**-2.9%**	0.4%	0.8%
Gauteng	2.0%	2.3%	1.4%	1.9%	2.9%	0.8%	**12.2%**	2.6%	3.8%
KZN	1.7%	2.3%	1.2%	1.8%	2.9%	0.7%	**4.9%**	1.5%	2.0%
Mpum.	2.2%	2.8%	1.7%	2.3%	3.1%	1.3%	**2.6%**	1.7%	2.1%
N. West	1.7%	2.1%	1.1%	1.8%	3.0%	0.3%	**2.9%**	1.5%	1.8%
N. Cape	1.0%	1.3%	0.6%	1.1%	2.3%	-0.3%	**-5.7%**	-0.2%	-0.4%
Limpopo	2.7%	4.0%	2.4%	2.8%	3.0%	3.0%	**-4.3%**	1.7%	1.5%
W. Cape	1.6%	2.0%	1.1%	1.5%	2.6%	0.6%	7.9%	1.9%	2.8%
RSA	**2.0%**	**2.5%**	**1.5%**	**2.1%**	**2.5%**	**1.5%**	**2.5%**	**1.5%**	**2.1%**

[13]Figures taken from SAPS (2005).

DISPARITIES IN STATION-LEVEL MURDER RATES

Differences in per capita murder rates are not, however, confined to differences between provinces. This fact is amply demonstrated if the way in which the population and number of murders accumulate is compared to the number of murders committed in every police station area. When this is done, it is found that fewer than 120 police station areas, which are home to 32% of the population, account for fully 50% of all murders, while as few as 33 stations account for 25% of all murders, but only 12% of the country's population.

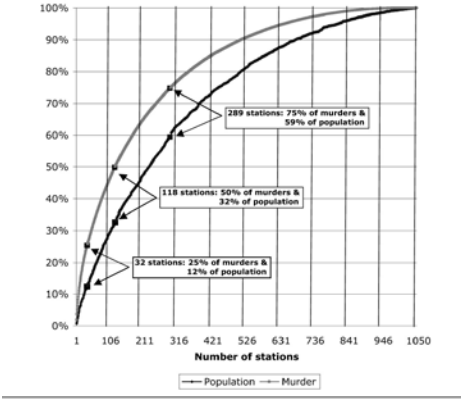


Figure 4: *Murder and population (cumulative cases and population figures)*

Similarly, the 20 stations with the most murders in absolute terms are home to 8.4% of the country's population, but account for 18% of all murders. These stations (from most recorded murders to fewest) are Khayelitsha, Nyanga, KwaMashu, Inanda, Hillbrow, Umlazi, Katlehong, Plessislaer, Tembisa, Moroka, Kuilsrivier, Gugulethu, Alexandra, Umtata, Mitchells Plain, Kraaifontein, KwaZekele, Ivory Park, Johannesburg Central and Empangeni. They are, in other words, a mixture of inner city and township stations with most also being in and around Johannesburg, Cape Town and Durban.

The list of stations with the highest per capita rates of murder, however, looks quite different. In some station areas, murder rates in 2001/2 were estimated to have been greater than 300 per 100 000, while in 67 stations, no murders at all were reported throughout 2001/2. Indeed, as the following graph reflects (see Figure 5), in the 10% of stations with the highest murder rates, the average was nearly 140 per 100 000. In the 10% of stations with the fewest murders, that ratio was below 5 per 100 000.[14]

[14] The data used for compiling station level crime rates are drawn from SAPS station-level crime statistics available on www.saps.gov.za and census data reconfigured by station boundary by the HSRC. Because the census data are the country's "master set", there is no way to double check the validity of station population figures. It must be said that some of the figures appear to the lay person to be somewhat surprising (Hillbrow, for instance, emerges from the census

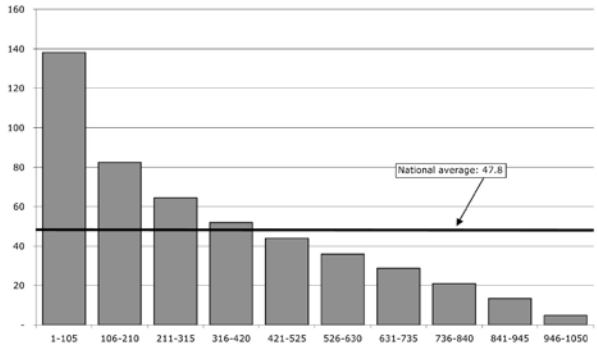


Figure 5. *Murder rates for police stations (deciles of highest to lowest murder per capita)*

EXPLAINING THE DISPARITIES: IS IT THE LEVEL OF URBANISATION?

What accounts for the disparity in murder rates? Why are the 105 most murderous stations nearly 30 times more murderous than the 105 with the lowest per capita rates? These are difficult questions, and require a degree of care in their answering.

It is not, for instance, simple to characterise the stations with the highest per capita murder rates. They are not all large stations and there are very big differences between the list of the 105 stations with the most recorded murders (in absolute terms) and the list of the 105 stations with the highest per capita murder rates. Indeed, while the stations with the most recorded murders tend to be large and urban, there are many small and rural stations in the list of stations with the highest per capita murder rates. Thus, although stations like Johannesburg Central, Hillbrow, Langa, Nyanga, Kwamashu and Empangeni appear on both lists, smaller settlements and rural areas like Calvinia, Stanford, Rhodes and Maclear, pepper the list of South Africa's most murderous locales (on a per capita basis, at any rate). It does not appear to be the case, in other words, that high per capita murder rates are the exclusive preserve of South Africa's cities. Given the attention that urbanisation receives in accounting for high levels of violent crime, this is a surprise (UNODC 2005). At the same time, however, it must be said that of the 105 stations with the lowest per capita murder rates, the majority were small rural centres. Even here, though, there were exceptions: Giyani, Mokhado, Phuthaditjaba, Thohoyandou and other large centres, particularly in Limpopo, also had very low per capita murder rates.

With the available data, then, it is extremely difficult to test whether

as having fewer than 120 000 people, while Thoyando has over 430 000). For that reason, some caution needs to exercised in interpreting the results presented here. Nevertheless, these are the best data available with which to work.

urbanisation by itself accounts for the per capita murder rate. One very crude way of testing this, however, is to establish what proportion of households in a police station area live in what the census defines as "traditional dwellings" and then to set a level above which the area is, by definition, rural and below which the area is urban. Even setting this level at 5% of households living in traditional structures, however, yields only 561 stations that may be classed as rural. This must be an under-count. Nevertheless, there does appear to be a significant difference between these 561 rural stations, which are home to 19.1 million people and which have a murder rate of about 41.8 per 100 000, and the remaining 489 stations which are home to 22.1 million people and which have a murder rate of 56.7 per 100 000.

It appears, in other words, that while rural areas have high levels of lethal violence, per capita murder rates are about 24% lower than those of urban stations. But it would be a mistake to make too quick a judgement.

The measure of "ruralness" used here - the proportion of houses that are "traditional" - is very crude. Many stations which qualify as rural will have both rural and urban or peri-urban areas. It may well be that lethal violence is concentrated in the more densely populated areas even within rural police stations. In addition, these results are not robust; they would change if the definition of a rural station were limited to include only those stations in which more than 30% of households live in traditional dwellings. If this is done, 219 stations qualify as rural. They have a murder rate of 43.2 per 100 000 compared to 48.7 per 100 000. The disparity in safety levels between urban and rural stations, in other words, actually shrinks by half (to a little more than 11%) when a more restrictive definition of rural stations is used. This suggests that the level of urbanisation may not actually play a decisive role in determining the per capita murder rate in South Africa.

The lack of robustness is also evident in the following graph (see Figure 6), which charts murder rates in stations based on their level of urbanisation. As is evident, despite the very large differences in the level of urbanisation, the murder rate does not vary a great deal and, what variation does exist, does not appear to be systematic.

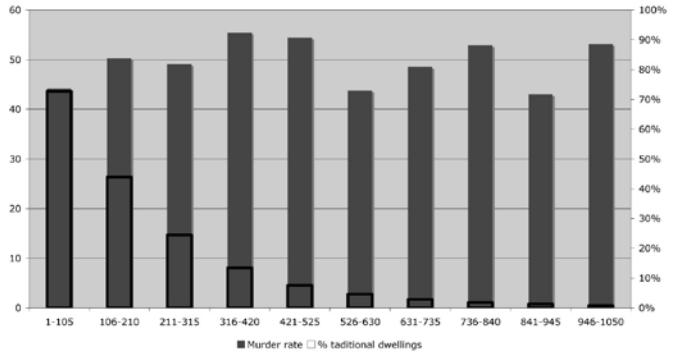


Figure 6: *Murder rate and urbanisation (deciles from least to most urbanised)*

EXPLAINING THE DISPARITIES: IS IT THE LEVEL OF AVERAGE HOUSEHOLD INCOME?

If urbanisation does not explain the variation in murder rates adequately, another possibility might be that the difference is explained by differences in average household income. It might be supposed, for instance, that people who live in poor areas might be more likely to be murdered than people who live in richer areas. This, so the argument may run, would be because people in poor areas live among those who are most affected by poverty and unemployment, the socio-economic factors thought to be most responsible for South Africa's high crime levels, particularly its high levels of inter-personal violence. In addition, being poor, these people probably lack the resources to secure themselves and their homes. Also, they may well spend proportionately more time commuting to work or shops along poorly lit roads, during the course of which they would be more vulnerable to the depredations of muggers. Add to that the fact that anecdotal evidence suggests that poor areas have fewer police resources than rich ones, and it would be expected that per capita murder rates would be higher among the poor than the rich. This, after all, is also suggested by the fact, reported earlier, that the murder rate for Whites, who are on average richer than other South Africans, appears to be a good deal lower than the national average.

Perhaps the most surprising finding of an analysis of the data, however, suggests that this is not the case: there appears to be no relationship between the average household income in a station area and its per capita murder rate. This is reflected by the near-perfect flatness of the slope of the trend-line in the following graph (see Figure 7) and the fact that the r^2 is very close to zero.

Having said that, the graph does reflect that although poorer station areas

can have a very wide range of per capita murder rates, this variation falls with average household incomes above about R150 000. These areas also tend to have murder rates below the national average.

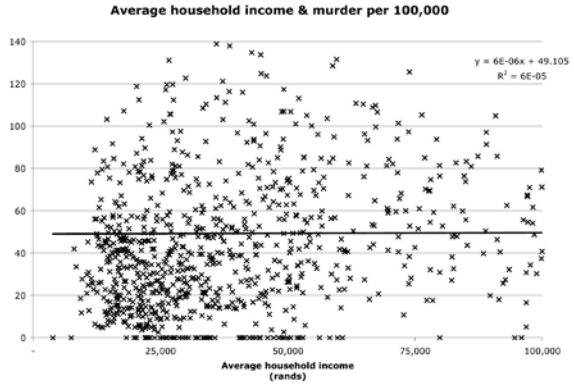


Figure 7: *Average household income and murder per 100, 000*

The absence of a clear relationship between average household income and per capita murder rates results from, and is made apparent by, the variability of the murder rate among station areas in which households earn less than R100 000 a year, as is reflected in Figure 8.

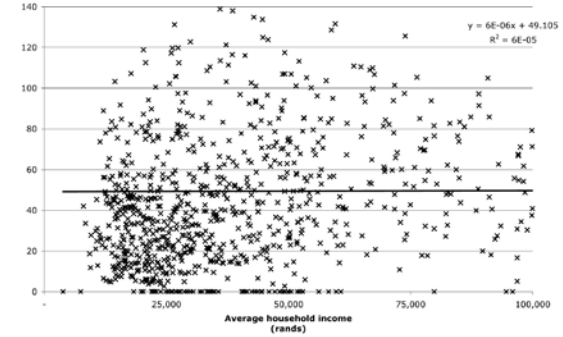


Figure 8: *Average household income and murder per 100, 000*

As is apparent from this scatter-plot, a relatively large number of poor station areas had very low per capita murder rates. Indeed, about 60 stations in this sub-population recorded no murders at all in 2001/2. At the same time, there were also a large number of poor station areas with per capita murder

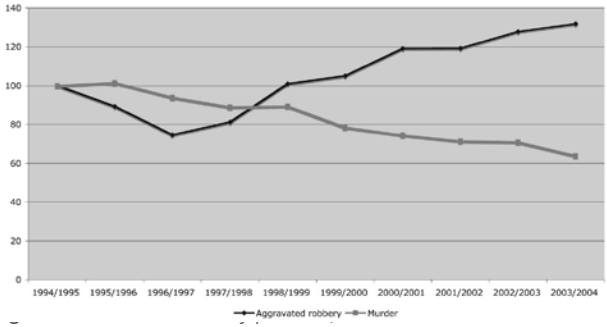
rates more than twice that of the country as a whole. Station areas with low average household incomes, in other words, may have had either very low or very high murder rates, and the effect of average household income appears to be negligible. This does not mean, however, that rich and poor have the same chance of being murdered in South Africa: there are, after all, poor people in every rich neighbourhood and richer people in even the most poverty-stricken district. To work out precisely how rich and poor differ in the risk they confront, far more fine-grained demographic and socio-economic data about victims than are currently available would be needed. Nevertheless, this result is intriguing given the consensus among scholars, practitioners and politicians that crime rates in South Africa's townships are higher than crime rates in the country's suburbs.

The crucial question, then, is: "What can explain the very wide variation in murder rates in stations in which household income is in the range of R50 000 to R100 000 per year?" Perhaps one answer, which is really a way of begging the question, is that stations with high levels of murder, also appear to have high levels of other types of violent crime.

MURDER AND ROBBERY

I began this chapter by noting that in the US, murder trends are strongly correlated with robbery trends. This is not the case in South Africa where the aggravated robbery rate increased at about the same rate that the murder rate declined. This final section looks at the relationship between murder and robbery in South Africa.

Apart from the empirical relationship between murder and robbery in the US reported earlier, there are sound theoretical grounds on which a link could be supposed. Not the least important of these is that some portion of all murders are robbery related and, just as importantly, there may be socio-economic factors which drive both robbery and murder independently. It is, therefore, surprising to find that in the 10 years from 1994/95, the robbery rate has increased by 32%, while the murder rate has fallen by 36%. Is there, then, no relationship between robbery and murder in South Africa? The answer to this question is far from unambiguous.



Recall that Figure 4 reflected the disparity between the cumulative proportion of murders in station areas with the most incidents and the cumulative proportion of the population who live in those station areas. The same graph is reproduced here, but a second line reflecting the accumulation of aggravated robberies has been added. This makes it appear as if the number of aggravated robberies in a station area is a far better predictor of the number of murders in that station area than is the number of people living there.

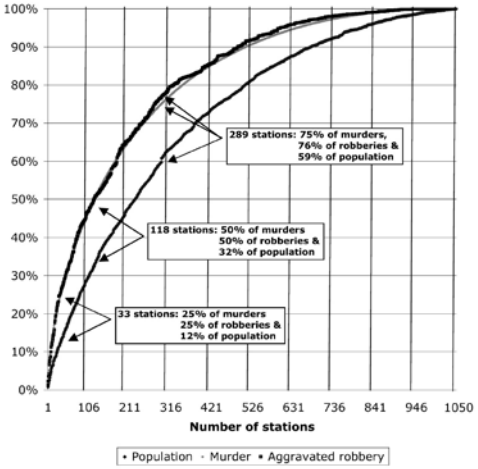


Figure 10: *Murder, aggravated robbery and population (cumulative cases and population figures)*

The most striking thing about the graph in Figure 10 is that the 33 station areas that account for 25% of murders account also for 25% of all aggravated robberies; that the 118 station areas that account for 50%

of murders, also account for 50% of aggravated robberies; and that the 289 station areas that account for 75% of murders, account for 76% of aggravated robberies. This would suggest a very strong relationship between the proportion of murders that a station area contributes to the national total, and the proportion of aggravated robberies that that station area contributes to the national total of that crime.

This is, however, something of a misrepresentation, because the aggregation of large groups of station areas serves to disguise differences. Thus, although same 33 station areas that account for 50% of murders also account for 50% of aggravated robberies, it does not follow that if a station area accounts for 1.5% of the country's robberies, it will also account for 1.5% of the country's murders. This is revealed by the fact that, of the 118 station areas in which most murders occur, and in which none contributes less than 0.22% of all murders, there are a large number of station areas in which the number of recorded robberies falls well below one third of that proportion. Indeed, if Hillbrow (which accounts for a little less than 1% of all murders, but nearly 2.5% of all robberies) is compared to Umlazi (which also accounts for around 1% of all murders, but less than 0.8% of all robberies) it is possible to see that the variation between a station area's murder rate and its robbery rate can be extremely large. Similarly, a large number of station areas each contribute between 0.22 and 0.28% of the country's murders. These same station areas can account for anything between 0.03% (Mossel Bay) and 1.1% (Booysens) of all robberies. In effect, Booysens has a disproportionately large share of the country's robberies relative to its number of murders, while Mossel Bay has a disproportionately large number of murders given its share of robberies.

It is this kind of variation that accounts for the wide dispersion of data points around the diagonal line along which a station area's contribution to the country's total number of murders would equal its contribution to the total number of robberies in Figure 11.

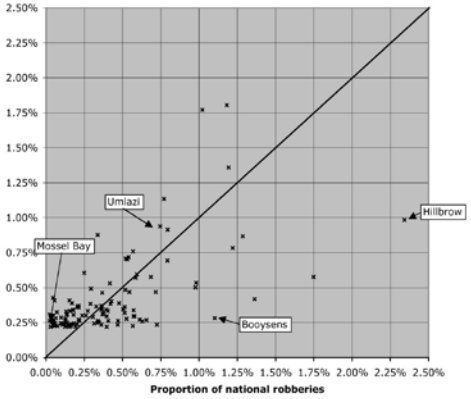


Figure 11: *Murder v robbery (118 stations with most murders, 2001/2)*

The implication here is that although a station area's robbery rate may appear at first glance to be a good predictor of its murder rate, this is not the case. It can be said that, as a group, the station areas with the most murders also have the most robberies, but within that group, there is a great deal of variation in the ratio of robberies committed to murders committed. Thus, within the group of 33 station areas in which 25% of all murders were committed in South Africa in 2001/2, the number of robberies per murder ranged from nearly 18 in Durban Central to less than 1 in Lusikisiki and Tugela Ferry. The national average for the year was 5.5.

Interestingly, the station areas with the highest ratio of robberies to murders tended to be suburban (though not exclusively), as the following graph of the 30 station areas with the highest ratios shows (see Figure 12). These station areas accounted for 10% of all aggravated robberies recorded, but only 1.4% of all murders. This implies that some areas, despite high robbery rates, do not have equally high murder rates. Conversely, 83 of the 132 station areas recorded no aggravated robberies in 2001/2, recorded at least one murder. These station areas accounted for 1.3% of all murders, but for none of the aggravated robberies in the country.

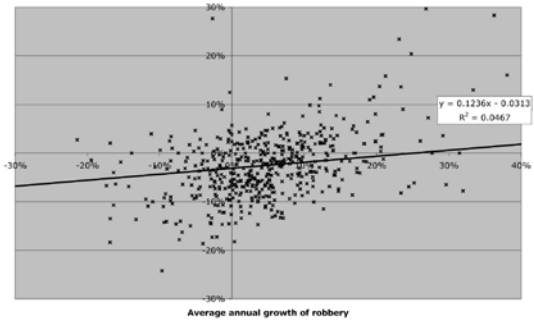


Figure 12: *Stations with the highest ratio of robberies per murder (2001/2)*

A final indication that the number of robberies is not a reliable predictor of the number of murders in a station area is that there appears to be no relationship between the annual average growth in the robbery rate between 1994/5 and 2003/4 and the growth in the murder rate over the same period. This is reflected in the following graph (see Figure 13), which shows the results of regressing the increase in the rate of murders in 500 station areas against the increase in the rate of robberies. Although the coefficient is of the right sign and is significant ($F = 24.38$ with 498 degrees of freedom), the value of r^2 suggests that the increase in the rate of robberies explains only about 5% of the observed variation in the increase in the rate of murders. In other words, other factors account for a great deal of the observed variation in the increase (or decrease) in the murder rate over the period 1994/5 to 2003/4. In addition, the value of the independent variable's coefficient, though it has the expected sign, is quite small. Thus, although murder rates were falling throughout the country and robbery rates were rising, there was still a (small) positive correlation between the rate of increase in robbery and the speed at which murder rates fell: the faster robbery rates grew, the slower that murder rates fell.

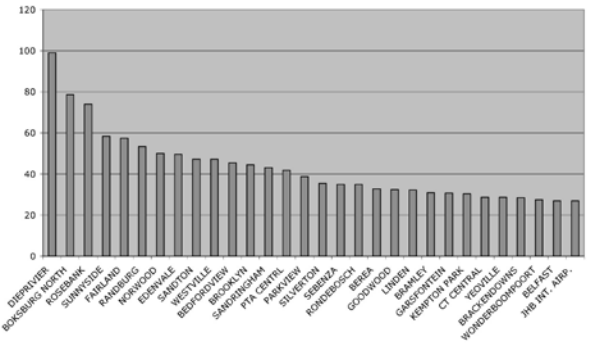


Figure 13: *Rate of change of murder v rate of change of agg. robbery (top 500 stations by number of murders, 1994/5 to 2003/4)*

The graph in Figure 13 uses only the top 500 station areas (ranked by the number of murders recorded in 2001/2) because the lower the station area on that list, the smaller the number of murders (and, usually, robberies) and the more erratic the percentage change to murders (and robberies). It is instructive, therefore to look at smaller samples of station areas (with higher numbers of murders and robberies, and, therefore, less variability in percentage growth rates) to determine whether a stronger relationship between the rate of change of robbery and murder exists in these station areas. This is done in the following graph (see Figure 14), which reports the relationship between the rate of change of robbery and the rate of change of murder for the 118 station areas which accounted for 50% of all murders in 2001/2.

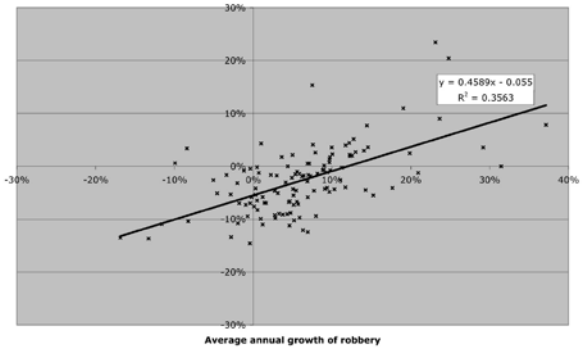


Figure 14: *Rate of change of murder v rate of change of agg. robbery (top 118 stations by number of murders, 1994/5 to 2003/4) place title below figure*

This regression, which is also statistically significant (F = 64.21 with 116 degrees of freedom) suggests a much stronger relationship between the rate of change of robbery and the rate of change of murder in station areas with a relatively large number of murders than is the case for all stations. Thus, although the number of murders was generally falling in these station areas and the number of robberies was growing (hence the preponderance of data points in the south-east quadrant), it tended to fall further and faster the slower the rate of change of robbery. Indeed, for very high rates of change of robbery, the number of murders actually rose (i.e. stations in the north-east quadrant). Still, with an r^2 of only 0.36, the rate of increase in robbery is not as overwhelmingly strong a predictor of the increase in the rate of murder as might be expected. This is partly confirmed by the fact that the relationship is not especially robust, and that if the population of stations used is either the 289 station areas that accounted for 75% of all murders in 2001/2 or the 33 station areas that accounted for 25% of all murders, weaker relationships with lower r^2s are found.

The upshot of all of this is that murder rates are predicted by robbery rates, but that the relationship is quite weak and there is a great deal of variability between station areas both in relation to the ratio of robberies to murders and in relation to how the growth rates of the two crimes have moved. It does appear that there is something of a relationship between an area station's level of aggravated robbery and its murder rate, suggesting that murder rates reflect underlying levels of violence, but the fact that the murder rate has come down 32% over 10 years while the robbery rate has increased by 32%, implies that this is not a simple relationship.

CONCLUSION

Despite South Africa's high crime rate, there are a great many important questions about serious crime to which there are few definitive answers. This is obvious in relation to murder, where, although it is known unequivocally that South Africa's murder rate is high and that men are much more at risk than women, it is not known with any great certainty whether per capita murder rates differ greatly by race and income. It does appear as if White and Indian communities experience fewer murders than do African and Coloured communities, and this suggests that there are differences in the murder rate based on race and, possibly, income (which is closely correlated to race). Testing whether average household income in a station area is correlated with murder rates, on the other hand, presents us with data that suggest that there is no relationship between the two.

It also appears that Limpopo, North West, Mpumalanga and Free State

are less violent than the national average, but it is not clear whether the difference is a straightforward matter of urbanisation: large settlements in these provinces have low per capita murder rates, while small rural areas in some provinces seem to have extraordinarily high murder rates.

It is also unclear precisely how the murder rate relates to the robbery rate, and, given the opposite trends of the two types of crime, it must be concluded that the decline in murder has had more to do with the declining rate of non-robbery murders than with the level of robbery. This may well mean that crimes in which victims know their killers may be declining in South Africa. If that is the case, it is well to ask why it might be so. In this regard, I would suggest two factors which may account for it: the increased spending on social services, especially welfare; and the fact that political violence is no longer a feature of South African life. How may these two factors have reduced murder rates, particularly murders committed by people who know their victims?

The rapid increase in the number of welfare recipients in South Africa, while far from sufficient to eliminate poverty, does represent a massive injection of income into the households of the poorest South Africans. While this would not have been sufficient to reduce predatory crime, it is possible that, by taking the edge off extreme need, it has helped stabilise some households that might otherwise have been wracked with potentially violent conflict. The increased income, then, while not enough to make the poor rich, might have been enough to eliminate some of the causes of some of the conflict that might otherwise have pushed up murder rates.

This might also have been reinforced by the fact that political violence has not been a feature of national life in South Africa over the past 10 years. While it is unlikely that the decline in murders from over 26 000 a year in the mid-1990s to under 20 000 a year today can be accounted for simply by the decline in politically-motivated killings, it is possible that cycles of violence are being dampened as distance from the direct experience of violence grows. It is also possible that the habits of moderation, self-regulation, compromise and self-control - the habits that come from living in a less volatile society - have begun to take hold, and that these are reducing the levels of lethal inter-personal violence.

All of this suggests that a great deal more needs to be known about lethal violence in South Africa if before it can be understood how to reduce it. It seems plain that the strategies needed to reduce stranger violence, including but not limited to the violence that results from robberies, will be quite

different from the strategies needed to reduce violence committed between people who know each other. Knowledge of which strategies are needed and where, demands a great deal more knowledge about which forms of lethal violence are most prevalent and how these patterns change over time. These data are not currently available, so any attempts to formulate strategies to reduce lethal violence are, as a result, flying blind.

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