Inequality, social comparisons and minimum income aspirations: Evidence from South Africa

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Abstract

We investigate the formation of minimum income aspirations in South Africa, a country with high rates of poverty together with very high and rising rates of inequality. A number of empirical studies in both developed and developing countries have shown that income aspirations increase with the individual's own income and with the income of others in their community, relationships which are explained by processes of adaptation through habituation and social comparison. However, the relationship between income aspirations and inequality has received far less empirical attention. We analyse the minimum income question (MIQ) asked in nationally representative household survey from 2008/2009 to test for evidence of aspirations failure among the poor in South Africa, and to investigate whether high levels of local inequality dampen or stimulate minimum income aspirations, and particularly among those living in poverty.

Keywords: inequality, income aspirations, poverty

JEL: D63, I32, O12

1. Introduction

A range of empirical studies have shown that people's minimum income aspirations increase with their own income (Appadurai, 2004; Danziger et al., 1984; de Vos & Garner, 1991; Stutzer, 2004) and with the income of others in their community (Barr & Clark, 2010; Bogliacino & Ortoleva, 2015; Burchardt, 2005; Knight & Gunatilaka, 2012). These changes have been explained by processes of adaptation through habituation and social comparison (Knight & Gunatilaka, 2012; Sen, 1990; Teschl & Comim, 2005). However, the relationship between aspirations and inequality has received far less empirical attention.

There are two competing hypotheses on how inequality shapes individual aspirations. Some studies suggest that high levels of inequality are likely to dampen the aspirations of the relatively poor (Corneo & Jeanne, 2001; Halleröd, 2006; Ray, 2006) because the living standards of the better off may 'appear as more or less unattainable for people in more straitened economic circumstances' (Halleröd, 2006: 388). This is described as a failure of the capacity to aspire (Appadurai, 2004). Other studies, however, argue that high and rising levels of inequality may stimulate the aspirations of the relatively poor, if the upward mobility of some is taken as a sign that others may benefit in the future (Macours & Vakis, 2014; Ray, 2010; Stark, 2006).

In this paper, we investigate the formation of income aspirations in South Africa, a country with one of the world's highest levels of inequality. During the decades of apartheid, sharp racial cleavages in access to resources and opportunities meant that high levels of aggregate inequality reflected large racial divisions in income. Over the post-apartheid period, inequality has increased further. However, this increase has been driven by a rise in within-race inequality, and particularly by a widening of inequality among Africans[1] who comprise the majority population of South Africa (Leibbrandt et al., 2010). Poverty rates, which have fallen only modestly since the democratic transition, remain high and Africans remain considerably over-represented among the poor (Leibbrandt et al., 2010; Posel et al., 2016). However, there has also been significant racial transformation at the upper end of the income distribution over the post-apartheid period (Southall, 2016; Visagie, 2015a).

We explore the formation of income aspirations in the context of these high levels of both poverty and inequality by analysing responses to the classic minimum income question (MIQ) (see Goedhard et al., 1977) collected in a nationally representative household survey conducted in 2008/2009. Respondents were asked to identify the minimum monthly income needed for their household to make ends meet, a measure viewed as the lower threshold of their income aspirations (Barr & Clark, 2010; Herrera et al., 2006; Knight & Gunatilaka, 2012; Stutzer, 2004). We investigate whether and how the aspirations gap, or the difference between actual income and reported minimum income needs, differs between households that are below and above the national poverty line. We then estimate the correlates of income aspirations in both poor and non-poor households and consider in particular, how aspirations differ according to the average income and inequality levels in the household's residential district.

The remainder of the paper is structured as follows. In the next section we provide a brief review of the literature on aspirations, adaptation and inequality, and of the South African context. In Section 3 we discuss the data that we analyse and outline our empirical strategy.

[1] Statistics South Africa uses the categories Black African, Indian/Asian, Coloured and White to represent the four main population groups in all household surveys and in the Census. We follow this approach and, in our analysis, 'Africans' refers to the group 'Black Africans'.

Section 4 describes the characteristics of South African households and the incidence and size of aspiration gaps. In section 5 we present a series of MIQ regressions and in section 6 we conclude with a discussion of the main findings and their implications for our understanding of aspiration formation.

2. Review

The minimum income question (MIQ) was first included in household surveys in several northern European countries. Often associated with researchers from the Leyden School in the Netherlands (cf. Danziger et al., 1984; Goedhard et al., 1977; Van Praag et al., 1980), the question was originally designed as a complement to money-metric poverty measures. Using what is now called the MIQ regression, researchers estimated the relationship between minimum income and current (or actual) income and then derived subjective poverty lines from the intersection of the two income measures. Studies that estimated the MIQ regression were therefore among the first to demonstrate that income aspirations are influenced by the current income of an individual's household (Colasanto et al., 1984; Goedhard et al., 1977; Pradhan & Ravallion, 2000; Van Praag & Frijters, 1999; Van Praag & Kapteyn, 1973). The estimated coefficient for current income, which is perhaps without exception positive, captures 'preference drift', or the degree to which aspiration levels increase as income increases (Herrera et al., 2006).

This positive relationship between aspirations and current income is an example of adaptation, or the process through which an individual becomes accustomed to her or his standard of living (or another domain such as health)[2]. Issues of adaptation have been recognised across a range of disciplines, including sociology, psychology, philosophy, economics, and development studies (Hagerty, 2000). From a development perspective, the concern with adaptation is that individuals adjust to low levels of income such that, as Sen (1984: 309) writes, the 'underdog learns to bear the burden so well that he or she overlooks the burden itself'. If individuals adapt or habituate to their circumstances, those who experience chronic or long spells of poverty may revise their aspirations downwards (Halleröd, 2006). In a study of households in Switzerland, for example, Crettaz (2012: 436) found that 'the income deemed necessary to make ends meet decrease(d) by about 7 percent after one year in poverty … and by about 30 percent after five years'.

Adaptation to poverty may constrain the ability to foresee a better future and thereby dampen aspirations. A lack of capacity to aspire (Appadurai, 2004) has been described through the 'sour grapes' effect, where preferences and aspirations decrease to reflect the set of 'feasible possibilities' based on current resources (Crettaz, 2012; Elster, 1982; Halleröd, 2006; Teschl & Comim, 2005). Low aspirations in turn may constrain the willingness to take risks or to forgo current resources for future investments (Dalton et al., 2017; Haushofer & Fehr, 2014), and adversely affect individual levels of effort (see findings in Bernard et al., 2011; Thompson et al., 2015). Through this process of preference adaptation (Sen, 2002), those with low income may become stuck in an 'aspirational trap' (Besley, 2016; Dalton et al., 2015), contributing to a poverty 'feedback loop' (Haushofer & Fehr, 2014). Constraints to individual development, therefore, may not only be exogenous (e.g. because of missing markets or asymmetric information) but they can also be endogenous, in the form of 'internal behavioral constraints' (Besley, 2016; Dalton et al., 2015).

[2] For a more detailed overview see Clark (2011).

Aspirations can adjust not only to one's own situation but also to the situation of others or, in other words, through social comparisons (Hagenaars & Van Praag, 1985). Subjective relative deprivation is now a well-established concept and suggests that individuals consider the well-being of others when assessing their own well-being (Halleröd, 2006). Empirical studies often capture social comparisons through the income of others in a geographically proximate area, but comparisons can also be drawn according to other characteristics such as race, gender or education. That aspirations increase with the individual's income and with the income of others helps to explain why subjective wellbeing, or happiness levels, do not increase with income over time (Easterlin, 1974, 1995, 2001) and underpins the idea of a hedonic treadmill.

In recent years, and coinciding with a renewed interest in inequality as both an outcome and determinant of economic growth, a small literature has emerged which explores how inequality influences the formation of aspirations. Two hypotheses have been identified in this literature. The first hypothesis draws from work on aspirational poverty traps and predicts that high levels of inequality would stifle the formation of aspirations, particularly when the circumstances of wealthier individuals seem to be unattainable. Ray (2006: 5), for example, argues that in highly unequal societies, or societies where there are deep divisions (e.g. by race, caste or religion), 'the poor do not include the rich in their cognitive window'. As a result, their aspirations gap, or the difference between aspirations and current circumstances, 'will be low, and so will individual investments for the future' (Ray, 2006:5).

Inequality is also argued to constrain aspirations by reducing the incentives to increase social status (Corneo & Jeanne, 2001). This might arise in cases where large 'economic cleavages or segregation' (Halleröd, 2006: 388) mean that the living standards and social status of those at the top of the distribution are perceived to be unattainable for those at the bottom. What is important in the link between inequality and dampened aspirations is not simply the existence of a gap between rich and poor, but also whether this gap is seen to be assailable through the presence of clear and logical steps (e.g. access to quality education) which can be used to move up in the income distribution. It is the absence of these 'local steps' which limits the aspirations windows of the poor (Ray, 2006).

The alternative hypothesis suggests that inequality has the potential to stimulate individual aspirations (Ray, 2010; Stark, 2006). Perhaps best described by Hirschman and Rothschild's (1973) well-known parable involving traffic stuck in a two-lane tunnel, the logic behind this hypothesis is that the success of one group of individuals (those in the lane where traffic starts to move) will encourage the hopes of the other group (those who remain stuck in the other lane). In other words, increasing inequality can stimulate aspirations if the upward mobility of some is taken as a sign that others may benefit in the future (Ray, 2010). However, if these expectations are not fulfilled, then they may change to 'disenchantment' or unrealised aspirations (Hirschman & Rothschild, 1973: 552).

A key assumption in the second hypothesis is Duesenberry's (1949) observation that when forming their aspirations, people look upward and not downward (see also Stutzer, 2004; Thompson et al., 2015). As a result, Stark (2006: 174, 176) suggests that 'inequality induces a greater effort to reduce the associated social status deprivation' and he predicts that 'a higher Gini coefficient is associated with a stronger inclination to exert effort in order to accumulate wealth for the population as a whole'.

The empirical work which tests these hypotheses on inequality and aspirations, however, is still very thin. An older study (Hagenaars & Van Praag, 1985) used the income evaluation question (IEQ)[3] from cross-country European data and found that country-level inequality was positively associated with a higher level of income perceived to be 'sufficient'. In contrast, Milanovic and Jovanovic (1999) used data collected from the minimum income question in Russia, and found that minimum income aspirations declined sharply at the same time that levels of poverty and inequality increased during the transition period (early 1990s). However, while they do include local levels of inequality in their MIQ estimations, the coefficients are not significant. Overall, they explain their results by suggesting that inequality may actually have risen too quickly to impact on perceptions of minimum income[4] requirements in a society which had been fairly egalitarian in the recent past.

The objective of our study is to add to this small empirical literature, by exploring the relationship between inequality and minimum income aspirations in South Africa, one of the most unequal countries in the world. The main features of income inequality in post-apartheid South Africa are, by now, well documented. The country's very high gini coefficient[5] reflects sharp racial divisions in access to resources. Over the past two decades, inequality is estimated to have increased, although between-race inequality has slowly declined (but remains high). The rise in inequality has therefore been driven by an increase in within-race inequality, and particularly, by a widening of the income distribution among Africans (Leibbrandt et al., 2010; Leibbrandt et al., 2008).

The increase in inequality among Africans has been associated with the removal of oppressive race-based legislation, the implementation of policies of affirmative action, and an improvement in access to education and the labour market. Indeed much has been written about an emerging black middle class in South Africa and the rise of 'black diamonds'[6] (Southall, 2016; Visagie, 2015a, 2015b; Visagie & Posel, 2013). However, with persistent differences in the quality of education, a very high skills premium and stubbornly high unemployment rates (Wittenberg, 2014), the benefits of transformation have been very unevenly distributed. Although poverty rates decreased particularly during the second post-apartheid decade (cf. Posel & Rogan, 2012; van der Berg et al., 2008; Yu, 2010), this derived mostly from a considerable expansion in the social security system to provide support to the elderly and to caregivers of children (Posel & Rogan, 2012). Moreover, a large section of the population remains mired in poverty, the overwhelming majority of whom are African. The post-apartheid

[3] The question (see Hagenaars & Van Praag, 1985: 145), also from the Leyden School, is phrased as follows:
'Please try to indicate what you consider to be an appropriate amount of money for each of the following cases? Under my (our) conditions I would call an after-tax income per week/month/year of:
about £. ..... very bad
about £. ..... bad
about £. ..... insufficient
about £. ..... sufficient
about £. ..... good
about £. ..... very good'

[4] This particular version of the MIQ was also somewhat abstract since it was phrased in order to ask about how much 'an adult' would need to get by. It is possible that the answers are different from those elicited by the version of the question which asks the respondent how much she or he would need to get by.

[5] One of the most widely cited estimates comes from a press release from Statistics South Africa (http://www.statssa.gov.za/?p=2591) which suggests a gini coefficient of 0.65 based on data from the 2010/11 Income and Expenditure Survey).

[6] It is not clear from where this term originated but it generally refers to an affluent and emerging class of black South Africans. Arguably, however, its use has evolved somewhat and is sometimes considered a pejorative term.

development trajectory, therefore, has been characterised by the success of some alongside the continued deprivation, poverty and unemployment of many.

To the best of our knowledge, there have been no studies which have explored the relationship between very high levels of inequality and aspirations in South Africa. There has been some research which has investigated adaptive preferences among the poor, and which finds only weak, or no, evidence, of adaptation to poverty (Clark & Qizilbash, 2008; Wright & Noble, 2013). For example, in a small survey of three rural communities which sought to investigate the 'essentials of life', Clark and Qizilbash (2008) found only inconclusive evidence of adaptation in domains such as housing and education. Based on his fieldwork in South Africa, Clark (2009: 33) writes that the poor are 'still capable of imagining, articulating and demanding a substantially better or 'good' form of life'.

Noble and Wright (2013) used a 'socially perceived necessities' approach (see also Copestake & Camfield, 2010) to examine whether poverty and deprivation are associated with identifying some household items as non-essential. They found that low income is not significantly associated with lowered expectations (in relation to which material items are viewed as essential) and that, across different groups, there is a high level of agreement on which items are viewed as 'necessities'. They also point to widespread protests against poor service delivery to suggest further that poor South Africans are optimistic and maintain high expectations (Wright & Noble, 2013).

In an approach more similar to the one which we employ in this paper, Barr and Clark (2010) investigated adaptation in minimum income aspirations, health and education in South Africa. Based on the same survey described in Clark and Qizilbash (2008), they analysed the answers to questions on these three domains. In line with the results from studies of minimum income in other countries, they found that responses to the MIQ increase with levels of own income and the average incomes of their local area. However, their study was based on a small sample that is not reflective of the wide socio-economic divisions in South Africa, and they did not explore how inequality influences the formation of aspirations. The analysis that we present in the following sections is therefore perhaps the first to explore the relationship between inequality and aspirations in a society that is highly unequal (and divided) and that also features widespread poverty and deprivation.

3. Data and methods

We analyse data collected in the Living Conditions Survey (LCS) conducted by the official statistical agency in South Africa (Statistics South Africa). The LCS surveyed a nationally representative sample of 25 075 households from September 2008 to August 2009. Unless otherwise specified, all estimates presented in the subsequent sections have been weighted to represent population measures, using the weights supplied by Statistics South Africa.

In contrast to many other national household surveys in South Africa, the LCS includes more detailed modules on income and expenditure. Income information is collected for all household members, and includes regular income received over the year (for example, as earnings, royalties, rental income or interest), as well as other sources of income (such as gratuities or gifts) and in-kind payments and subsidies. For our analysis, we convert total annualised household income into monthly income. Of the total sample of households, 1.6 percent (or 405

households) reported zero income although they reported positive expenditure, and we assigned these households an income value equal to their total monthly expenditure.[7]

The LCS is also distinctive because it asks a suite of questions on subjective economic welfare. This includes a version of the classic minimum income question (MIQ) (Question 24.5 of the survey), which we analyse as a measure of minimum income aspirations: 'Which net household income per month in Rand would be the absolute minimum for your household?' The response to the MIQ is provided only by the principal respondent for the household, and it is therefore not possible to investigate different assessments within the same household. However, when we estimate the correlates of minimum income aspirations, we control for the characteristics of the respondent to address the concern that other people within the household may have provided different responses (Crettaz, 2012).[8]

In the next section, we describe South African households, highlighting the co-existence of high poverty rates with high levels of income inequality in the household's local area of residence. South Africa's nine provinces are divided into 52 administrative districts, and we measure local area characteristics at the level of the household's district. We then compare responses to the MIQ with the household's reported income, and measure the size of the aspirations gap, calculated as the ratio of minimum income aspirations to current income. In the absence of aspirations failure among the poor, we would expect aspirations gaps to be both more evident, and larger, in poor compared to non-poor households since, by definition, the poor do not have sufficient income to satisfy all their basic needs. We therefore investigate differences in the existence and size of the aspirations gap according to the poverty status of the respondent's household. To identify poverty, we use the national poverty threshold of R779 per capita (in 2011 prices), proposed as the upper bound poverty line by Statistics South Africa (Statistics South Africa, 2015: 14). Using a CPI[9] adjustment, this translates into a per capita poverty line for 2008 of R668. In order to test the robustness of our findings to an alternate specification of the poverty threshold[10] we also re-estimate our main sets of results using the official lower bound poverty threshold of R430 per capita monthly income in 2008 prices.

In Section 5, we estimate MIQ regressions to see how minimum income aspirations vary according to the economic status both of the household and of other households in the same residential district. In particular, we use Ordinary Least Squares to estimate:

$$\ln(MI_i) = \alpha + \beta_1 \ln(Y_i) + \beta_2 S_i + \beta_3 \ln(YD_i) + \beta_4 GD_i + \beta_5 X_i + \varepsilon_i$$

where the dependent variable represents the log of the minimum monthly household income assessment. The economic status of the household is measured both "objectively" as the log of monthly household income (Y_i) and subjectively, according to the respondent's ranking of the household on a nine-step ladder representing South Africa's income distribution (S_i). The economic status of others is captured by the log of average per capita household income in the

[7] Compared to households which reported non-zero income, households with zero income have higher average monthly expenditure (R5615.39 compared to R4884.89), although the average difference is not statistically significant.

[8] Of the 25 075 households in the LCS sample, 616 households were missing information on the MIQ and 127 households were missing information on the identity of the principal respondent, and they have been dropped from the analysis.

[9] http://www.statssa.gov.za/publications/P0141/CPIHistory.pdf

[10] The lower bound poverty line (also in 2011 prices) is R501 monthly per capita household income. Using the same CPI adjustment as above, this results in a lower bound poverty line of R430 monthly per capita income in 2008 prices.

household's district (YD_i) and by the gini coefficient of this income (GD_i). The model also includes a vector of other covariates (X_i) and the error term (ε_i).

For the full sample of households, we first estimate the MIQ regression including only other household characteristics in X before also including the individual characteristics of the respondent who answered the MIQ. We also estimate the MIQ regressions for the sub-samples of poor and non-poor households to test whether aggregate relationships mask significant differences in the formation of aspirations by economic status. In a final set of estimations, we restrict the sample of households to Africans only[11]. In these regressions, we distinguish the income of other Africans in the district from the income of non-Africans to assess whether local comparisons within and between race groups are differentially related to income aspirations.

4. Descriptive statistics

4.1 Households in South Africa

Table 1 describes the characteristics of all households in South Africa, and of households according to their poverty status. Households are identified as poor if average per capita household income lies below the poverty line of R668 (2008 prices). According to this definition, approximately 40 percent of all households in the country were poor in 2008/2009[12]. Africans comprise the majority population of South Africa, and given the legacy of apartheid, they remain considerably over-represented among the poor. Approximately 77 percent of all households were African in 2008/2009, while 93 percent of all poor households were African.

Since the transition to democracy in South Africa, restrictions on the urbanisation of Africans have been lifted, and urbanisation levels have increased (Kok & Collinson, 2006; SACN, 2016). At the time of the LCS survey, most households were located in urban areas. Nonetheless, over 30 percent of households remained in rural areas, and particularly in the so-called tribal areas which contain the former homelands, where the overwhelming majority of households are African. Poor households are significantly more likely to be located in rural areas, and particularly tribal areas, and in urban informal areas (comprising informal settlements or squatter camps).

Approximately 18 percent of all households engaged in some form of home production (growing food, raising livestock, fishing or hunting) over the year, and almost 68 percent of these households were located in tribal areas. It is not unexpected that poor households are far more likely than non-poor households to rely on home production. However, it may seem surprising that poor households are also substantially more likely than non-poor households to report owning their dwelling. This is explained partly by increased access to state-subsidised formal housing (known as "RDP houses") among low-income households (Posel & Rogan, 2016), and also by relatively high reported ownership of shacks in informal settlements and of traditional houses (made mostly of mud) in tribal areas. Poor households are therefore significantly less likely than non-poor households to be accommodated in a house that has brick or concrete walls.

[11] Household survey data suggest that racial mixing within South African households is still very rare, and we identify a household as 'African' if the head of household is a black African.

[12] The individual poverty rate was far higher, at 51.5 percent, reflecting the strong positive association between household size and poverty.

Although poverty rates in South Africa have fallen, and particularly during the second post-apartheid decade, this improvement has been far less dramatic than the increase in households with access to basic services. For example, at the start of the transition to democracy in 1993, 52 percent of households reported using electricity for lighting (Seekings, 2007). By 2008/2009, this had increased to 83 percent of households. Significant differences remain between poor and non-poor households, although even in poor households, access to electricity (73 percent) is substantially higher than overall access in 1993. To assist poor households in meeting their basic energy requirements, the government also introduced a "Free Basic Electricity" policy in 2003, and poor households are significantly more likely than non-poor households to report receiving free electricity. The majority of poor households (57 percent) also report owning a television, although ownership is considerably lower than in non-poor households (77 percent).

Despite high poverty rates, average per capita household income in 2008/2009 is more than four-fold above the poverty line, illustrating the highly unequal distribution of income across the country. The average gini coefficient in the household's district is 0.631, although there is also considerable variation between districts, with the gini coefficient ranging from 0.489 to 0.701 across the 52 districts (data not shown). Poor households tend to live in slightly less unequal districts than non-poor households, but the average district gini coefficient (0.629) is still very high.

People living in poor households typically provide lower assessments[13] of their relative economic status than people living in non-poor households. When asked to report where they think their household ranked on a ladder from step one (the poorest households in South Africa) to step nine (the richest households), the average response for poor households was more than a step lower than that for non-poor households. Minimum (monthly household) income aspirations are also substantially smaller (more than three-fold smaller on average) in poor households than in non-poor households. However, minimum income aspirations are considerably larger than average reported income in poor households, while there is no significant average difference between these two measures in non-poor households. We explore this further in the next sub-section.

[13] Overall, most respondents are the head of the household and have employment, but differences in the employment status of respondents are very marked across poor and non-poor households. In addition to being far less likely to be employed, respondents in poor households also have significantly lower levels of completed education, highlighting the links between education, employment and access to resources in South Africa.

Table 1. Household and district characteristics

	All	Poor	Non-poor
Proportion:			
African	0.765	0.928	0.657
	(0.004)	(0.003)	(0.006)
Coloured	0.085	0.052	0.106
	(0.002)	(0.002)	(0.003)
Indian	0.024	0.007	0.036
	(0.002)	(0.001)	(0.003)
White	0.126	0.013	0.202
	(0.003)	(0.002)	(0.005)
Urban formal	0.586	0.358	0.738
	(0.004)	(0.006)	(0.005)
Urban informal	0.090	0.112	0.075
	(0.002)	(0.004)	(0.003)
Rural formal	0.046	0.051	0.043
	(0.002)	(0.003)	(0.002)
Rural tribal	0.278	0.479	0.144
	(0.003)	(0.006)	(0.003)
House is owned	0.645	0.840	0.515
	(0.004)	(0.005)	(0.006)
House is rent-free	0.064	0.063	0.065
	(0.002)	(0.003)	(0.003)
House has brick or concrete walls	0.737	0.615	0.818
	(0.003)	(0.006)	(0.004)
Access to electricity for lighting	0.831	0.733	0.897
	(0.003)	(0.005)	(0.003)
Access to free electricity	0.197	0.211	0.188
	(0.003)	(0.004)	(0.004)
Household has a television	0.691	0.567	0.774
	(0.004)	(0.006)	(0.005)
Household engages in home production	0.177	0.287	0.102
	(0.003)	(0.005)	(0.003)
Poor (Z= R668)	0.401	1	0
	(0.004)		
Average:			
Number of adults (18 years and older)	2.364	2.572	2.226
	(0.011)	(0.018)	(0.014)
Number of children	1.468	2.259	0.937
	(0.013)	(0.021)	(0.014)
Household monthly income	7932.636	1503.735	12241.650
	(159.178)	(13.572)	(247.657)
Per capita (p.c.) household monthly income	2819.065	326.720	4489.576
	(56.241)	(2.043)	(87.220)
Perceived average step (from 1 to 9)	3.359	2.696	3.803
	(0.014)	(0.017)	(0.019)
District gini (p.c. household monthly income)	0.631	0.629	0.632
	(0.000)	(0.000)	(0.000)
Average district p.c. household monthly income	1728.658	1377.608	1963.952
	(7.227)	(9.676)	(9.387)

Minimum household monthly income aspirations	7724.167	3300.933	10688.87
	(776.685)	(109.909)	(1293.562)
Min. p.c. household monthly income aspirations	3332.884	915.478	4953.153
	(761.722)	(36.353)	(1271.67)
Unweighted sample (n)	22 990	10 424	12 566

Source: LCS 2008/2009.
Notes: The data are weighted. Standard errors are in parentheses.

4.2 Aspirations gaps

We describe the relationship between minimum income aspirations and current income by measuring aspiration gaps within households. Households are identified with a positive aspirations gap if minimum (monthly household) income aspirations exceed current (monthly household) income, while the relative size of this gap is measured as the ratio of minimum income aspirations to current income. Table 2 shows that in half of all households in South Africa, perceived minimum income is higher than current income. However, an aspirations gap in income is almost twice as likely to occur in households below the poverty line compared to non-poor households. The overall ratio of perceived minimum income to reported income is 5.5, but it almost doubles to 10.5 when the sample of households is restricted to those reporting a positive aspirations gap. The relative size of the gap is also substantially larger among poor households. Conditional on a positive aspirations gap, perceived minimum income is 17 times greater, on average, than the value of current income in poor households, but less than three times greater in non-poor households.

Table 2. Aspirations gaps

Minimum household income aspirations > current household income	Proportion of households
All households	0.505
	(0.004)
Poor households	0.680
	(0.005)
Non-poor households	0.385
	(0.005)
Minimum household income aspirations /current household income	Average ratio
Unconditional	
All households	5.546
	(1.206)
Poor households	11.759
	(2.974)
Non-poor households	1.326
	(0.091)
Conditional on a positive gap	
All households	10.476
	(2.388)
Poor households	16.999
	(4.367)
Non-poor households	2.645
	(0.234)

Source: LCS 2008/2009. Notes: The data are weighted. Standard errors are in parentheses.

Although the majority of poor households in South Africa report a positive aspirations gap, almost a third do not. This could indicate that income needs in these households are indeed lower or that respondents have under-estimated minimum income needs because of a lack of knowledge about household expenditure. However, it is also possible that minimum income aspirations in these households have adjusted to the experience of poverty, suggesting downwards adaptation or aspirations failure. We further investigate the absence of an aspirations gap among the poor by comparing how these households differ from other poor households for whom an aspirations gap is identified. Table 3 includes only those characteristics that differ significantly among these two groups of poor households.

Table 3. Significant differences among the poor[14], by presence of an aspirations gap

	No aspirations gap	**Aspirations gap**
Number of adults	2.789	2.467
	(0.031)	(0.021)
Number of children	2.594	2.099
	(0.037)	(0.026)
Household monthly income	1967.664	1283.054
	(25.1331)	(15.183)
Per capita household income	380.273	300.673
	(3.233)	(2.515)
Minimum household income aspirations	1130.261	4327.581
	(18.346)	(162.413)
Minimum per capita income aspirations	224.870	1244.154
	(2.828)	(52.917)
Urban formal	0.318	0.377
	(0.010)	(0.007)
Rural tribal	0.531	0.454
	(0.010)	(0.007)
House is owned	0.869	0.826
	(0.007)	(0.006)
House is rent-free	0.050	0.069
	(0.004)	(0.004)
House has brick walls	0.641	0.603
	(0.010)	(0.007)
House has electricity	0.751	0.724
	(0.009)	(0.007)
Household engages in home production	0.333	0.266
	(0.009)	(0.006)
Average district income	1310.472	1409.499
	(17.442)	(11.636)
District gini coefficient	0.620	0.634
	(0.001)	(0.001)
Unweighted sample (n)	3385	7010

Source: LCS 2008/2009. Notes: The data are weighted. Standard errors are in parentheses.

[14] When poverty is specified at the lower bound threshold (z=R430) the results from Table 3 do not change appreciably. As we would expect, the share of both poor and non-poor households in which an aspirations gap is reported increases, but the poor remain far more likely than the non-poor to report an aspirations gap and the size of this gap remains substantially larger in poor households.

There is some suggestion that minimum income requirements may be lower in poor households in which an aspirations gap is not reported. Dwelling places are more likely to be owned and households are more likely to engage in home production. Compared to poor households where an aspirations gap is identified, household monthly income is also considerably higher, perhaps indicating that minimum income needs are more likely to have been under-reported in these households. However, minimum (per capita) income aspirations are roughly six times lower in poor households with no aspirations gap and there is also far less variation in responses to the MIQ. Moreover, average income in the household's district is significantly lower, suggesting that adaptation may also play a role. Nonetheless, poor households that do not report an aspirations gap live in districts with significantly lower, and not higher, levels of inequality.

5. MIQ regressions

In this final section, we further explore factors influencing the formation of minimum income aspirations by estimating MIQ regressions for the pooled sample of households (shown in regressions I and II in Table 4), and then separately for the sub-samples of poor and non-poor households (regressions III and IV, respectively). For all households, we first report the correlates of minimum income aspirations controlling only for household and district characteristics (regression I), before also including the characteristics of the respondent who provided the income assessment (regression II).

The MIQ regressions suggest that minimum income aspirations vary significantly according to the costs of living in the household. Among all households, average aspirations increase as household size increases, but the increase is larger when the household includes an additional adult compared to an additional child. Moreover, minimum income aspirations are significantly lower on average if the house is owned or occupied rent-free, and if there is access to free electricity, characteristics which would reduce the household's required monthly expenditure.

Across the pooled sample, minimum income aspirations are significantly lower in households that are not located in urban formal areas. This is likely also explained, at least in part, by the higher living costs associated with living in formal urban areas, which are not individually controlled for in the estimations (including the costs of all services and insurance, and the costs of children's schooling). However, it is also possible that part of the relationship reflects the adaption of aspirations to current living circumstances in the household's geography of residence.

Consistent with findings across a range of countries, the MIQ regressions for South Africa provide evidence of preference drift[15] in aspirations. Minimum income assessments increase significantly with the current income of the household, and according to the subjective ranking of the household in the national income distribution. Aspirations also appear to adjust to the income of others in the household's district. Among households with similar socio-economic characteristics, minimum income aspirations are significantly higher when households live in richer districts. They are also significantly higher among households located in districts where income is more unequally distributed.

[15] The 'preference drift', or the coefficient for actual household income when only controls for actual income and household size (both in log form) are included, estimated from the LCS, is 0.46 (based on monthly household income). This places South Africa within the typical range of preference drift estimates (using this specification) of 0.4-0.7 reported in the international literature (Milanovic & Jovanovic, 1999).

These relationships with own economic status, and with the economic status of others in the household's district, remain robust to controls for the respondent's characteristics and for the sub-samples of poor and non-poor households (III and IV, respectively). Respondents who are more educated and who have employment report significantly higher income aspirations than other respondents, and because these individual characteristics are correlated with the household's economic status, their inclusion in the MIQ regression lowers the estimated coefficients for household income and perceived economic ranking, although they remain highly significant.

Among poor households, per capita household income cannot exceed the poverty threshold by definition. Nonetheless, minimum income aspirations still increase significantly with household income, although the increase is smaller than among non-poor households. Aspirations are also significantly higher if poor (and non-poor) households are located in districts with higher average income and higher levels of inequality. These findings do not suggest that the poor's capacity to aspire is dampened by the large divisions between rich and poor in South Africa, but rather, that aspirations are stimulated by social comparisons with those who are relatively better off.

The other predictors of minimum income aspirations are also mostly consistent across poor and non-poor households, with a few exceptions. Home production is not a significant correlate of income aspirations for the pooled sample of households because the relationship differs by poverty status. Among poor households, income aspirations are significantly lower when households engage in home production, suggesting that these activities are associated with subsistence production that reduces the household's income requirements. Among non-poor households, in contrast, the relationship between income aspirations and home production is positive (and significant). Compared to poor households, non-poor households that report some form of home production are considerably more likely to be located in an urban area (approximately 41 percent, compared to 18 percent of poor households). This suggests that in non-poor households, home production (that also includes fishing and hunting) is likely to be more of a luxury than a subsistence activity.

Table 4. MIQ regressions, all households and by the poverty status[16] of households

Dependent variable = log (minimum income aspirations)	**All households**		**Poor households**	**Non-poor households**
	I	**II**	**III**	**IV**
Household Characteristics				
log (Household monthly income)	0.310***	0.259***	0.091***	0.410***
	(0.012)	(0.012)	(0.017)	(0.017)
Perceived average step (from 1 to 9)	0.064***	0.052***	0.050***	0.036***
	(0.006)	(0.006)	(0.008)	(0.007)
Number of adults (≥18 years)	0.049***	0.048***	0.067***	0.019*
	(0.006)	(0.007)	(0.008)	(0.011)
Number of children	0.014***	0.021***	0.041***	0.012
	(0.005)	(0.005)	(0.007)	(0.010)
African	-0.527***	-0.491***	-1.310***	-0.315***
	(0.039)	(0.039)	(0.185)	(0.040)
Coloured	-0.436***	-0.359***	-1.138***	-0.230***
	(0.039)	(0.038)	(0.181)	(0.039)
Indian	-0.167**	-0.112	-0.788***	-0.012
	(0.070)	(0.070)	(0.258)	(0.074)
Urban informal	-0.071**	-0.064**	-0.020	-0.030
	(0.030)	(0.030)	(0.045)	(0.040)
Rural formal	-0.125***	-0.092**	0.016	-0.080
	(0.040)	(0.040)	(0.060)	(0.053)
Rural tribal	-0.109***	-0.075***	-0.024	-0.113***
	(0.026)	(0.025)	(0.034)	(0.033)
House is owned	-0.150***	-0.109***	-0.039	-0.075***
	(0.022)	(0.022)	(0.047)	(0.024)
House is rent-free	-0.122***	-0.108***	-0.051	-0.060
	(0.037)	(0.037)	(0.064)	(0.048)
House has brick or concrete walls	0.126***	0.103***	0.056**	0.130***
	(0.019)	(0.019)	(0.026)	(0.028)
Access to electricity for lighting	0.008	0.006	-0.005	0.037
	(0.024)	(0.024)	(0.030)	(0.039)
Access to free electricity	-0.056***	-0.031*	0.036	-0.054**
	(0.018)	(0.018)	(0.028)	(0.024)
Household has a television	0.154***	0.129***	0.145***	0.091***
	(0.019)	(0.020)	(0.025)	(0.030)
Home production	-0.026	-0.027	-0.085***	0.065**
	(0.021)	(0.020)	(0.025)	(0.030)
log (District per capita income)	0.152***	0.163***	0.174***	0.167***
	(0.032)	(0.033)	(0.050)	(0.042)
District gini coefficient (per capita)	3.072***	3.021***	3.107***	2.710***
	(0.223)	(0.223)	(0.310)	(0.330)
Respondent Characteristics				
Female		-0.066***	-0.022	-0.063***
		(0.018)	(0.026)	(0.023)
Head of household		-0.099***	-0.135***	-0.059**
		(0.021)	(0.028)	(0.028)
Age		0.015***	0.003	0.018***
		(0.002)	(0.003)	(0.003)

[16] When specifications III and IV are rerun at the lower bound poverty threshold, the results are consistent. There are no changes in the direction or level of significance of almost all the coefficients in the table. The only difference, albeit a minor one, is that the coefficient for home production is no longer significant among the non-poor at the lower bound poverty line. The association, however, remains small and positive.

Age^2		-0.000***	0.000	-0.000***
		(0.000)	(0.000)	(0.000)
No schooling		-0.025	-0.023	-0.054
		(0.024)	(0.028)	(0.043)
Grade 12 (matric)		0.131***	0.090**	0.095***
		(0.024)	(0.041)	(0.029)
Post-secondary education		0.378***	0.301***	0.268***
		(0.030)	(0.108)	(0.032)
Employed		0.075***	0.060**	0.054**
		(0.020)	(0.027)	(0.027)
Has a disability		-0.080**	-0.022	-0.088*
		(0.033)	(0.047)	(0.046)
Owns a cellular telephone		0.080***	0.076***	0.094***
		(0.020)	(0.027)	(0.029)
R^2	0.421	0.436	0.195	0.443
Sample (unweighted)	22990	22546	10215	12331

Source: LCS 2008/2009.
Notes: The data are weighted. Standard errors are in parentheses. The regressions also control for the province in which the household is located.

In a society with historically large racial divisions, we might expect that aspirations are differentially affected by the relative success of others in the same, or in a different, race group. For example, given a long history of racial oppression and the economic marginalisation of Africans, the aspirations of this group may be stimulated particularly by the success of other Africans, and not by the upward mobility of Whites, Indians or Coloureds. We test this possibility by re-estimating the MIQ regressions only for the sample of Africans,[17] and by distinguishing between the average income of Africans and other groups in the household's district. Africans live in districts where average income among non-Africans is more than four-fold higher than the average income of Africans.[18] The estimated coefficients for the control variables in these regressions largely conform to those for the full sample of households, and in Table 5, we report only the coefficients for household income, district income and district inequality.

As in the full sample of households, minimum income aspirations among Africans increase with current household income in both poor and non-poor households, although the increase is again smaller in poor households. Minimum income aspirations also remain positively and significantly correlated with the extent of inequality in the district in all three regressions. However, whereas the average income of other Africans in the district is a positive (and significant) predictor of minimum income aspirations, the income of non-Africans is a negative (and significant) predictor. These findings support the expectation that the aspirations of Africans are lifted by the success of other Africans, but dampened by the success of non-Africans.

[17] Because of small sample sizes, we cannot estimate the MIQ regressions with district characteristics for each of the other individual race groups. However, when running the regressions for all 'non-African' groups or for Indians and Whites only, we find that local inequality remains a significant positive predictor of minimum income aspirations, but whereas African local income is a positive and significant predictor, non-African local income is negative and insignificant (not shown in the table). We do not attach much weight to these results, however, as Whites, Indians and Coloureds are not likely to self-identify as one group.
[18] On average, Africans live in districts where average per capita household income in non-African households is 5076.43 (with a standard error of 23.496) and 1140.421 (3.834) in African households.

Table 5. MIQ regressions, African households only

	All households	Poor households	Non-poor households
log (Household monthly income)	0.288***	0.141***	0.424***
	(0.011)	(0.017)	(0.021)
log (District per capita income: Africans)	0.278***	0.298***	0.272*
	(0.051)	(0.071)	(0.078)
log (District per capita income: non-Africans)	-0.241***	-0.221***	-0.255
	(0.021)	(0.024)	(0.039)
District gini coefficient (per capita)	5.596***	5.395***	5.560***
	(0.266)	(0.317)	(0.489)
R^2	0.329	0.189	0.343
Sample (unweighted)	18075	9317	8758

Source: LCS 2008/2009.

Notes: The data are weighted. Standard errors are in parentheses. The regressions also include all the other control variables[19] shown in Table 4.

6. Discussion

In this study, we investigated the formation of minimum income aspirations in South Africa, a society with very high and rising rates of inequality. Early in the post-apartheid period, the then deputy president (Thabo Mbeki) described South Africa as comprising two nations, one white and relatively prosperous, and the other, black and poor (cited in Nattrass & Seekings, 2001: 45). Although South African society continues to be characterised by large racial differences in access to resources, the rise in overall income inequality over the past two decades has been driven by growing inequality within the majority race group of Africans. Africans remain under-represented in the upper deciles of the income distribution, but their share has increased markedly, and the post-apartheid period has witnessed the slow but steady growth of an African middle class that has benefited from improved access to education and to the labour market. At the same time, however, the country's development trajectory still features stubbornly high levels of poverty and unemployment, which underscores the uneven nature of progress over recent decades.

With these high and persistent rates of inequality and (often chronic) poverty, there is the possibility that the poor in South Africa have adapted to low incomes and become stuck in what has been termed an aspirational trap (Besley, 2016; Dalton et al., 2015). In our analysis of the South African Living Conditions Survey data, we find that the poor report substantially lower responses to the MIQ than the non-poor, and that minimum income aspirations increase significantly with household income. Consistent with findings from a range of countries, therefore, our results indicate that that aspirations adapt to the household's economic circumstances. However, we also find that the poor are far more likely to report minimum income aspirations that exceed actual income (demonstrating an aspirations gap), and that the relative size of this gap is many-fold larger in poor, than non-poor, households. We find further that minimum income aspirations increase sharply and significantly with local levels of inequality, a relationship that is robust among both the poor and the non-poor.

[19] When the specification controls for within-group inequality among Africans (e.g. by controlling for local level gini coefficients among the African sub-sample only), local inequality is still positively and significantly associated (3.100) with minimum income aspirations. At the same time, while the income of non-Africans in the district remains negatively associated with minimum income, the size of the coefficient (-.063) is much smaller than in the first specification in Table 5 (-0.241).

These findings do not suggest that the poor in South Africa lack the capacity to aspire, and they do not support the hypothesis that high levels of inequality constrain the aspirations of the poor. Rather, our analysis suggests that aspirations may be stimulated by the relative success of others, supporting Duesenberry's (1949) proposition that when forming their aspirations, people tend to look upward and not downward (see also Stutzer, 2004; Thompson et al., 2015). Our results resonate with those from a randomised control trial of a cash transfer programme in Nicaragua, where it was found that 'witnessing local success stories of upward mobility can be important to change households' investment behaviour' (Macours & Vakis, 2014: 631).

However, our estimations show further that the reference group for comparisons matters. Among Africans living in districts with the same level of inequality, minimum income aspirations are positively correlated with the average income of other Africans in the local district, whereas they are negatively correlated with the local income of non-Africans. In their study which models the interaction between aspirations and inequality, Genicot and Ray (2017: 506) argue that 'individuals can have aspirations "windows" that ignore or put little weight on some parts of the (income) distribution'. Our findings suggest that the weight that is attached to parts of the distribution, or to a group's income, may differ depending on the characteristics of the group. In the South African context, the upward mobility of Africans may be taken as a sign that other Africans will benefit in the future, while the upward mobility of non-Africans may signal that opportunities for African advancement remain limited.

We conclude with a cautionary note. While our findings are broadly supportive of other work (Clark & Qizilbash, 2008; Wright & Noble, 2013) which suggests that the poor in South Africa continue to maintain high expectations despite the persistence of poverty and deprivation, there is also a literature on the danger of unrealised expectations (see Genicot & Ray, 2017; Hirschman & Rothschild, 1973). A key question for the South African context, therefore, is whether the large aspirations gap among the poor and the higher levels of aspirations amidst higher levels of local inequality are creating 'unrealistic expectations' or whether they are helping households escape an aspirations trap. Overall, our findings suggest that there is not strong evidence of aspirations failure in post-apartheid South Africa and that, the (growing) levels of inequality among South Africans may be taken as a sign that upward mobility of Africans, in particular, is possible. The high and growing levels of civil protests over the post-apartheid decades (Mottiar & Bond, 2012), however, serve as a reminder that aspirations and expectations for a better life cannot be deferred indefinitely.

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