

**Ownership, Income and Race:
Further Analysis of the Black Affluent in South Africa¹**

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Sihaam Nieftagodien²
Department of Economics
University of Stellenbosch

ABSTRACT

Recent household level datasets point to the stagnation of consumption in South Africa while the motor and mobile telephone industries have realised a sharply increased demand for their products. Observable patterns of consumption thus present conflicting messages. What these patterns are and where they occur are pressing questions for understanding welfare trends in the current politico-economic climate. A more recent extension to understanding welfare trends is research in material deprivation and material well-being as a measure of poverty and affluence respectively (Gregg, Waldfogel and Washbrook; 2005 and Van der Berg, Nieftagodien and Burger; 2003). This paper intends to expand on research by Van der Berg et al (2003) by investigating ownership patterns of selected goods associated with affluence amongst the black population relative to their white counterparts.

The analysis will use the 2004 All Media and Products Survey (AMPS). Firstly, a brief review of the consumption patterns as presented by Van der Berg et al (2003), which focused on the link between income levels, asset ownership and consumption as well as living standards and consumption for different race groups is conducted. This paper intends to explore patterns of ownership amongst the black population, whilst comparing ownership patterns of the affluent black with that of their white counterparts. While the study by Van der Berg, Nieftagodien and Burger is not directly comparable, observations from two datasets may provide deeper insight into underlying patterns while perhaps also revealing patterns as yet unobserved.

¹ This paper is a work in progress and should not be cited without prior permission of the author.

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Introduction

The emerging black middle class has, of late, become the focus of much research in the private sector. The paper by Van der Berg et al (2003) highlighted expenditure patterns amongst black households. The significance of this paper is in its comparison of these patterns with other race groups, but specifically in the comparison with white households whose expenditure patterns had dominated research before 1994, either because of income disparities or exclusion of the black population in research.

The increased purchasing power of the black population and the emergence of the black middle class and affluent may be attributed to the sanctioned increased employment ratio of these individuals in both the public and private sector. The (Broad-Based) Black Economic Empowerment initiative has also afforded greater opportunities for black entrepreneurs. This is significant for the industries producing goods demanded by the black population and the strategic nature of South Africa's industrial policies, and may have had a positive effect on real GDP (Merrill Lynch 2004). Van der Berg et al (2003) and Burger, Van der Berg and Nieftagodien (2004), however indicated that, while expenditure patterns regarding certain goods were higher amongst the black population, the existence of an asset deficit or material deprivation may explain lower expenditure levels on certain luxury items. This may be attributed to the more recent urbanisation of affluent blacks or that they have not as yet accumulated assets of significant value.

Traditionally Engel curve and expenditure ratio analysis is employed to examine difference in consumption patterns based on population characteristics. Expenditure ratios permit, given specified income categories, examination of disparities in proportional income expenditure on the particular good or basket of goods. Information used in the calculation of expenditure ratios may also be used in Engel curve analysis allows for the estimation of income elasticities³. These estimates allow one to measure the relative importance of the good for the population or population subset.

This paper attempts to extend such research by Van der Berg et al (2003) by focusing on patterns of ownership of selected durable and luxury goods. These goods are selected as defined by Van der Berg et al (2003), Burger et al (2004) and Waldfogel and Washbrook (2005) in the upper 20% income group of the population to ascertain patterns of ownership.

³ Based on the assumption that expenditure is used as a proxy for income where income data is either absent or unreliable.

Particular attention will be placed on the ownership pattern of the black population group relative to their white counterparts. Logit regression analysis will be employed to investigate the influence of respondent characteristics other than affluence.

Data and methodology

A dataset including a number of luxury items synonymous with a certain level of affluence is available in the form of the All Media and Products Survey (AMPS) dataset. Data is collected biannually by the South African Advertising and Research Foundation sampling almost 24500 observations representing the adult population⁴. In addition to media related products the survey includes information on a wide variety of goods such as durable items, financial services as well as holiday, travel and sporting activities. The breadth of the survey permits exploratory research as well as basic econometric analysis.

The data is however not without its shortcomings. The majority of variables are coded as dummy variables. A number of categorical variables thus had to be constructed. A number of dummy variables of the categorical variables also had to be created for use in the econometric analysis. Expenditure data is not available in this dataset and household income data is only available in dummy variable format. In total, 32 income categories are recorded. A household identification number has not been recorded, nor household size or relationship to household head. A study at household level was thus not possible nor is per capita income or household expenditure estimation. Given these data constraints, an attempt is made to create a proxy for income for use in the econometric analysis. The proxy variable, *incmid*, is coded with the midpoint value of the relevant income category. Since no expenditure data is available, ownership of certain household goods are used to identify which products are most likely to be purchased or consumed by the various income groups. General information on items most likely to be purchased by higher income households and rudimentary two-way tables were generated to select products for the analysis.

The focus being patterns of ownership amongst the upper deciles, the dataset was initially divided into quintiles. The poorest 40% of the population are considered poor and the top 20% the affluent. The poorest quintile has been disaggregated into C1 and C2, C1 being the poorest 20% and C2 the next 20% of the population. The remaining population (40%) is coded C3.

⁴ Adults are defined as persons 16 years of age or older.

Table 1

Income quintile distribution by race

	Black	Coloured	Indian	White	Total
Category 1 (C1)	29.8%	10.9%	4.3%	1.6%	23.7%
Category 2 (C2)	20.1%	11.8%	4.6%	2.0%	16.5%
Category 3 (C3)	39.6%	43.2%	35.5%	19.3%	37.1%
Category 4 (AF2)	7.5%	21.9%	31.6%	27.9%	12.2%
Category 5 (AF1)	3.0%	12.2%	23.9%	49.2%	10.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: AMPS 2004

Patterns amongst the black affluent are examined by further disaggregating the affluent into Affluent 1 (AF1 – the richest 10%) and Affluent 2 (AF2). Approximately 10% of the black population are found to be affluent compared to 77% of the white population. However, within the affluence categories, the black population dominates AF2 with 47% compared to 31% white. AF1 remains dominated by the white population – almost 63%, while the black population are the second population group in this category. Exact disaggregation was not possible due to the overlap of observations of from different income categories.

These income categories are used to observe patterns of ownership of selected durable goods within the black race group, whilst comparing the upper deciles with their white counterparts. In doing so, one is able to ascertain whether ownership between the top quintile of the two race groups is similar. Logit regressions will then be conducted on selected durable goods to ascertain whether an ‘ownership’ relationship, i.e. whether certain respondent characteristics, including the income proxy and affluence influence ownership of the product, is present.

The link between poverty incidence, material deprivation and asset deficits

The study by Van der Berg et al (2003) used expenditure ratio and Engel curve analysis to determine income elasticities. A number of goods, both durable and non-durable, were used to identify luxury items.

Expenditure patterns amongst the black affluent were found to be consistent with that of the white middle class. Black expenditure for the selected items was also found to be inconsistent

with Indian and coloured expenditure patterns for the same levels of income. The only category where the black expenditure ratio was higher than all the other race groups was for clothing. The trend did however decline with movement upwards along the income quintiles.

The Engel curve analysis found clothing, car fuel, cereal and telephone calls to be luxury goods for the entire population. These goods' estimated income elasticities were higher for the black population. Housing proved trickier to interpret with a negative household size coefficient. This was however explained by the possible economies of scale in consumption of certain goods. Expenditure on housing need thus not increase in the same proportion as income.

Van der Berg et al (2003) attributed the heterogeneity in expenditure patterns between black and white households in the same income categories to the presence of an asset deficit in black households. Given that black households were in the process of establishing an asset base, similar income proportions were not necessarily spent on similar commodities. In addition to the smaller proportion of black households relative to white households in the affluent income quintiles, established racial or cultural preference differences have not yet been observed.

The authors also presented the possibility that expenditure patterns between the top two expenditure deciles of the black population may be explained not only by personal preferences and culture, but by the extent to which they build their asset base.

A study by Gregg, Waldfogel and Washbrook (2005) on the changes in expenditure patterns and ownership in low-income households between 1998 and 2004 in the United Kingdom indicated a positive relationship between increased income (or decreased poverty incidence) and the ownership of certain durable goods. The study centred the reduction of child poverty and therefore examines durable household goods most likely to be used in households with children. The authors found that low income households were materially deprived of certain durable goods. However, as income in the poor households rose, convergence of patterns of ownership for selected goods towards that of affluent households was observed. There were also goods for which ownership remained lower in the lower income groups.

As household income rose, the household was more likely to possess durable goods such as a motor vehicle, computer, telephone, washing machine, freezer, microwave, video cassette

recorder and CD player. While possession of these items indirectly contributed to the child's development and well-being, it also reduced parental stress and isolation as well as contributing towards improved access to employment and leisure activities. In essence, these goods improved the standard of living in these households. There was however no convergence in ownership with regard to tumble dryers or computers. The latter good proved concerning for the authors given the pace at which computer literacy and use has progressed in the United Kingdom (Gregg, Waldfogel and Washbrook 2005).

Observed patterns of ownership

The absence of expenditure data limits the analysis considerably. Data is however available for the presence of certain products and leisure activities enjoyed by the population. Items were selected based on evidence from previous studies (and found within the middle to upper income categories via exploratory research of the dataset).

The presence and type of electronic equipment, by definition, implies a higher level of income. The VCR is considered a mature product and the presence of this product is not necessarily indicative of economic status. The presence of a DVD player and purchases of DVDs however are found at the upper income categories of the black population and more so in AF1, though less than the white population. Personal computers are found in the majority of affluent (AF1 and AF2) households, but are not observed in black households to the same extent as for other groups. The presence of a music centre in the households of the black population is similar to that of whites.

A number of durable household appliances were selected. Again, a certain level of income is implied by most of these appliances. In the case of washing machines, the large majority of affluent white households possess this appliance compared to only 44% of affluent black households. It should be noted that the presence of this appliance in AF1 black households is almost twice that of AF2 black households. The presence of a tumble dryer is lower in both race groups, but a similar pattern emerges with ownership amongst 54% of white respondents and 7% of black respondents. A surprisingly low proportion of blacks report ownership of a microwave or vacuum relative to whites with only half of affluent blacks owning such goods compared to their white counterparts.

It is surprising to find less than half of AF2 blacks indicating household vehicle ownership. The presence of a vehicle increases significantly for the AF1 category but is still less than that

of the white affluent. When disaggregating vehicle ownership by number of vehicles, the majority of black affluent report single vehicles ownership whereas the majority of white affluent own two vehicles.

Approximately half of the richest white respondents have been on a holiday in SA in the last year compared to only 26% of blacks. The same ratio is observed in the AF2 category. It is interesting to note that, while the larger proportion of whites take weekend trips, the same percentage of black and white in AF1 made 3 or more of these trips in the last year. This may be indicative of convergence between the race group consumption of this good. Air travel between the race groups follows the patterns observed in most other categories. While disparities in air travel in the last 3 years (domestic and international flights) is still large, the examining air travel in the last year indicates a reduction in the disparity. Air travel for business purposes is marginal when comparing black and white.

Table 2

Selected ownership statistics for blacks and affluent whites, %

	Black					White	
	C1	C2	C3	AF2	AF1	AF2	AF1
DVDs ¹	0%	0%	1%	6%	14%	8%	17%
Jewellery >R500 ¹	0%	0%	1%	3%	7%	5%	11%
Watch >R500 ¹	0%	0%	1%	2%	5%	3%	6%
Eat out at restaurant ¹	7%	11%	18%	39%	61%	52%	73%
Washing machine ²	2%	2%	9%	37%	61%	94%	100%
Dishwasher ²	0%	0%	0%	1%	6%	9%	28%
Microwave ²	3%	5%	18%	53%	73%	89%	96%
Electric stove ²	16%	21%	46%	82%	89%	97%	98%
Deep freezer ²	7%	7%	10%	18%	35%	54%	67%
HiFi Music centre ²	28%	41%	62%	84%	87%	84%	93%
DVD player ²	0%	0%	3%	13%	35%	19%	44%
VCR ²	4%	7%	20%	60%	74%	77%	88%
PC (home use) ²	0%	0%	2%	8%	36%	36%	67%
Tumble dryer ²	0%	0%	1%	4%	15%	41%	61%
Vac machine or floor polisher ²	0%	1%	3%	18%	40%	81%	90%
Vehicle in Hhold ²	3%	6%	15%	48%	77%	89%	98%
1 Vehicle ²	2%	5%	13%	39%	42%	54%	29%
2 Vehicles ²	0%	1%	2%	6%	26%	30%	50%

3 or more Vehicles ²	0%	0%	0%	2%	9%	5%	19%
Holiday in SA ¹	7%	9%	8%	17%	26%	38%	50%
Holiday in SA 1	3%	4%	4%	8%	14%	26%	31%
Holiday in SA 2	2%	3%	3%	6%	9%	6%	12%
Holiday in SA 3 or more	2%	2%	1%	3%	4%	5%	7%
Weekend trip ¹	0%	1%	1%	6%	17%	11%	23%
1 Weekend trip ¹	0%	0%	1%	4%	7%	6%	11%
2 Weekend trips ¹	0%	0%	0%	2%	6%	3%	7%
3 or more Weekend trips ¹	0%	0%	0%	1%	4%	2%	4%
Domestic air travel in last year	0%	0%	0%	2%	12%	8%	19%
Domestic air travel in 3 years	1%	1%	2%	9%	29%	46%	62%
International air travel in last year	0%	0%	0%	1%	5%	4%	8%
International air travel in last 3 years	0%	0%	1%	3%	16%	26%	40%
Domestic business air travel	0%	0%	0%	1%	7%	2%	8%

¹ Purchased in last 12 months

² Present in household

Source data: AMPS (2004), own calculations

An econometric analysis of ownership

The relationship to ownership results for the entire population is listed in Table 3 below. Logit regression analyses are conducted to ascertain whether specific respondent characteristics are positively related to the ownership of the goods as listed in Table 2. The *incmid* variable, the income proxy determined as the midpoint of the relevant income category, and a squared term of the variable is included. The squared of income proxy is inserted to allow for non-linearity. In addition to this, the top two deciles are included to analyse the relationship between levels of affluence and ownership. The white urban male is the regression reference group. The remaining race group dummies, a female dummy and a rural dummy are thus included in the analysis.

The tables presented below indicate only a positive or negative coefficient sign. The purpose of this paper is to examine the relationship between ownership and respondent characteristics. The sign of the coefficients rather than the coefficients is thus supplied.

Table 3

Logit regressions for selected products, total adult population

	Dependent Variable										
	DVDs	Jewellery >R500	Watch >R500	Eat out at restaurant	Washing machine	Dishwasher	Microwave	Electric stove	Deep freezer	HiFi Music centre	DVD player
Incmid	+	+	+	+	+	+	+	+	+	+	+
Incmid ²	-	-	-	-	-	-	-	-	-	-	-
AF1	+	+	+	-	-	+	-	-	-	-	+
AF2	+	+	+	-	-	+	-	-	+	-	+
Black	-	-	-	-	-	-	-	-	-	-	-
Coloured	+	+	+	-	-	-	-	-	-	-	-
Indian	+	+	+	+	-	-	-	+	+	+	+
Rural	-	-	-	-	-	-	-	-	+	-	-
Female	-	-	-	-	+	+	+	+	+	-	-
Pseudo R ²	0.2406	0.1537	0.1103	0.1947	0.5528	0.3847	0.4772	0.3727	0.2130	0.1691	0.3217
N (weighted)	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589

Significant at the 0.05 level.

Source data: AMPS (2004), own calculations

Table 3 continued

Logit regressions for selected products, total adult population

	Dependent Variable										
	VCR	PC (home use)	Tumble dryer	Vacuum machine or floor polisher	Vehicle in Hhold	1 Vehicle	2 Vehicles	3 or more Vehicles	Holiday in SA	Holiday in SA 1	Holiday in SA 2
Incmid	+	+	+	+	+	+	+	+	+	+	+
Incmid ²	-	-	-	-	-	-	-	-	-	-	-
AF1	-	+	+	-	-	-	+	+	+	+	+
AF2	-	+	+	+	-	+	+	+	+	+	+
Black	-	-	-	-	-	-	-	-	-	-	-
Coloured	-	-	-	-	-	-	-	-	-	-	-
Indian	+	-	-	-	-	+	-	-	-	-	+
Rural	-	-	-	-	-	-	-	+	-	-	-
Female	-	-	+	+	-	-	+	-	+	+	-
Pseudo R ²	0.3614	0.4521	0.4675	0.5513	0.4411	0.1653	0.3509	0.3002	0.1339	0.1284	0.0605
N (weighted)	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589

Significant at the 0.05 level.

Source data: AMPS (2004), own calculations

Table 3 continued

Logit regressions for selected products, total adult population

	Dependent Variable									
	Holiday in SA 3 or more	Weekend trip	1 Weekend trip	2 Weekend trips	3 or more Weekend trips	Domestic air travel in last year	Domestic air travel in last 3 years	International air travel in last year	International air travel in last 3 years	Domestic business air travel
Incmid	+	+	+	+	+	+	+	+	+	+
Incmid ²	+	-	-	-	-	-	-	-	-	-
AF1	+	+	-	+	+	+	+	+	+	+
AF2	+	+	+	+	+	+	+	+	+	+
Black	-	-	-	-	-	-	-	-	-	-
Coloured	-	-	-	-	-	-	-	-	-	-
Indian	-	+	+	+	-	-	-	-	-	+
Rural	-	-	-	-	-	-	-	-	-	-
Female	-	-	-	-	-	-	-	-	-	-
Pseudo R ²	0.0483	0.2158	0.1488	0.2229	0.1538	0.2810	0.3881	0.2524	0.3587	0.3135
N (weighted)	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589	30310589

Significant at the 0.05 level.

Source data: AMPS (2004), own calculations

All of the above regressions on durable goods indicate a positive relationship between income and good ownership, but as income increases the relationship weakens as can be seen in the negative sign from the squared income proxy variable. Stated differently, while income does have a positive influence on the ownership of the good, this influence decreases as income increases. Affluence is significant and positive for the majority of goods examined. Belonging to affluence group AF1 reduces the probability of owning a washing machine, microwave, electric stove, music centre, VCR. This may be due ownership of these goods earlier in the income categories. There is however a positive relationship observed for the deep freezer and vacuum machine ownership when examining the sign of the AF2 dummy.

The black race dummy is consistently negative across all regressions. Although there are cases where the proportion of black and white affluent ownerships is relatively similar, the race dummy highlights the continued disparity between white and black consumption and ownership.

The Indian and coloured dummy variables are positive in certain instances. Surprisingly, these race groups have a higher probability of purchasing DVDs than the other race groups. The higher incidence of DVD purchases amongst Indians may be explained by the cheaper imported titles from the Indian subcontinent. A positive relationship for the Indians and coloured dummies are observed for purchases of jewellery or watches of over R500. This may be attributed to religious or cultural effects.

The majority of regressions indicate a negative ownership relationship for the rural population. It is however puzzling to find a positive sign for the rural dummy for deep freezers and the presence of 3 or more vehicles in the household. The latter may however include farm machinery or smaller vehicles used on the farm as a house vehicle. The female dummy has a positive sign for selected goods, indicating that the presence of a female in the household increases the probability of ownership of these goods.

Turning attention to travel and leisure activities, we find that the affluent and females are more likely to take holidays in which they stay at hotels. When examining weekend trips, the affluent again have a higher probability of partaking in such leisure activity, but the female dummy now carries a negative sign.

Both domestic and international air travel is biased towards the affluent urban white male. While there has been an increase in air travel activity amongst blacks, the higher proportion of whites travelling by air is evident in the above regression. Air travel for business purposes does however show a higher probability for Indians.

Conclusion

Disparities in selected durable good ownership and leisure activities are apparent between the black and white race groups. While this may be explained by the relative income differences between the race groups, other influences may also be present examining differences in ownership and leisure activities within the same income categories. It is apparent that the lack of certain durable goods may indicate a level of poverty while increases in income improve the probability of ownership of these goods.

In the case of blacks, the relative pace at which more blacks are entering the affluent income categories may account for the lack of ownership in the middle income categories and reduced ownership in the affluent categories when compared to whites. This may be due to the prioritisation of the acquisition of other assets due to the asset deficit.

Further research will be conducted using datasets with both durable good and expenditure data. While the finding of the initial research will not be directly comparable to findings from other datasets, consistency in observed patterns across datasets would provide valuable information regarding the pace and priority of ownership of goods amongst the black population.

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