Background Paper Series

PROVIDE PROJECT

The Provincial Decision-making Enabling Project

Background Paper 2003: 2

Household expenditure patterns in South Africa – 1995

Elsenburg
September 2003

PROVIDE PROJECT

The Provincial Decision-making Enabling Project

Overview

The Provincial Decision-Making Enabling (PROVIDE) Project aims to facilitate policy design by supplying policymakers with provincial and national level quantitative policy information. The project entails the development of a series of databases (in the format of Social Accounting Matrices) for use in Computable General Equilibrium models.

The National and Provincial Departments of Agriculture are the stakeholders and funders of the PROVIDE Project. The research team is located at Elsenburg in the Western Cape.

PROVIDE Research Team

Project Leader:	Cecilia Punt
Senior Researchers:	Kalie Pauw
	Esther Mohube
Junior Researchers:	Benedict Gilimani
	Lillian Rantho
	Rosemary Leaver
Technical Expert:	Scott McDonald
Associate Researchers:	Lindsay Chant
	Christine Valente

PROVIDE Contact Details

Private Bag X1
Elsenburg, 7607
South Africa

ceciliap@elsenburg.com
+27-21-8085191
+27-21-8085210

For the original project proposal and a more detailed description of the project, please visit www.elsenburg.com/provide

Household expenditure patterns in South Africa – 1995

Abstract

Analyses of data on household expenditure patterns can tell a great deal about characteristics of households or groups of households. In this paper the impact of income levels in determining household expenditure patterns is analysed. The analysis is then extended to see whether households from different racial groups differ in terms of expenditure patterns. In addition to this the paper investigates whether the location of households (rural/urban or region within South Africa) affects household expenditure patterns. A similar analysis is done for female- versus male-headed households. The analysis is performed assuming that, in general, household expenditure patterns are influenced largely by household composition, the household's needs, preferences, and financial means. It is found that the level of household income is often a major determinant of expenditure patterns of households, and hence differences between patterns of expenditure are largely a reflection of differences in income between household groups or individual households. However, income is not the only determinant and various factors, most importantly race and location, also affect preferences and hence expenditure patterns.

Table of contents

List of figures

List of tables

1. Introduction

A household income and expenditure survey is a survey designed to collect information on various sources of income (money or in kind) received by the households, as well as details as to how they dispose of this income (on consumption expenditure, remittances etc.).

The aim of this paper is to understand how expenditure patterns of households differ between households in different income groups (e.g. quintiles), from different racial groups, and urban and rural households. Household expenditure patterns are influenced largely by household composition, the household's needs, preferences, and financial means. In addition to their current income derived from the ownership of factors of production (labour and capital), households may finance their expenditure from a number of sources such as transfers from other institutions (government or other households), insurance payouts, interest on savings, dividends etc. The level of household income is often a major determinant of expenditure patterns of households, and hence differences between patterns of expenditure are largely a reflection of differences in income between household groups or individual households.

Up until recently Statistics South Africa (formerly the Central Statistical Services) conducted an annual October Household Survey (OHS), while the Income and Expenditure Survey (IES) was conducted every five years. The latest IES for which data was available at the time of analysis, was conducted in 1995 (SSA, 1995). This dataset is used for the analysis presented in this paper. For the purposes of this analysis expenditure is thought of as being made up of two broad classes or types of household expenditure, namely (1) expenditure on goods and services and (2) expenditure on selected assets. 'Goods and services' are consumed either immediately or within a relatively short period of time, e.g. food, medication, entertainment, fuel, and bus fares. Goods such as motor vehicles and household appliances are consumed over a longer period and consumption is less frequent. Selected assets may include expenditure on annuities, mortgage payments on selected dwelling (principal component), and home improvements.

For the analysis in this paper ten commodity groups have been identified. These are (1) food, (2) clothes, (3) electricity, water and fuel, (4) housing, (5) transport, (6) services, (7) savings[1], (8) taxes[2], (9) soaps and household products, and (10) other commodities. Table 1 shows the composition of these groups.

[1] Although savings is not usually regarded as expenditure, it does represent the amount that remains after total consumption expenditure is subtracted from income. As such is represent a flow from a household's current account to its capital account, just as consumption expenditure represents a flow from the household's current account to the commodities account within a Social Accounting Matrix (SAM) framework. See *Background Paper* 2003: 4 for more a detailed discussion of social accounting principles.

Table 1: Ten commodity groups and their composition

Group No.	Name	Code	Description/Elements
1	Food	gfood	1. Agricultural products 2. Meat products 3. Fish products 4. Fruit and vegetables 5. Oils and fats 6. Dairy products 7. Grain mill products 8. Animal feed 9. Bakery products 10. Sugar products 11. Confectionary products 12. Other food products
2	Clothes	gcloth	Wearing apparel and footwear
3	Electricity, water and fuel	gfuel	Coal, petrol, electricity, gas, steam and hot water supply, collection, purification and distribution of water.
4	Housing	ghouse	All real estate activities
5	Transport	gtransp	Motor vehicles (including their engines), and transport to go to work, school, travel and holiday
6	Services	gserv	Post, courier activities and telecommunications, financial intermediation, education fees, human health activities, veterinary activities, activities of membership organisation, recreational, cultural and sporting activities, sanitary services, removal of refuse, hair dressing, beauty care and other personal care services
7	Savings	gsavings	Balance between income and total expenditure
8	Taxes	ginctax	Direct income taxes
9	Soaps and household products	gsoap	Household products expenditures include spending on soap, detergents, cleaning, polishing, perfume and toilet preparations
10	Other	gother	Spending on distilling, rectifying and blending of spirits, wine, beer and other malt liquors and malt, soft drinks, production of mineral water and tobacco products, furniture

Expenditure patterns are affected to a large extent by financial means of households. Engel's Law[3] is especially relevant in this regard. Engel distinguished between two types of goods, namely necessities and luxuries. Commodities with an income elasticity of less than unity are classified as necessities, while commodities with an income elasticity of more than one are regarded as luxuries.[4] Due to inequalities in income, households often have a different perception about whether goods are luxuries or necessities. Thus, According to Engel's Law, household expenditure patterns will differ due to inequality in income. Some households will see a certain type of commodity as a necessity, while other households will regard it as a luxury. For instance, clothing expenditure is a luxury commodity for low-income groups

[2] This only includes direct income taxes. Indirect taxes such as VAT are included in the price consumers' pay for commodities.

[3] Engel's Law states that the proportion of household income spent on food will decrease as household incomes increase. However, the Law also has many other implications and interpretations (Nicholson, 1998).

[4] The income elasticity is defined as the percentage change in quantity demanded in response to a one percent change in household income (Pindyck and Rubinfield, 2001).

whereas it is a necessity for high-income groups. Thus, one of the important aims of this paper is to test whether Engel's Law holds for South African households.

2. Expenditure patterns by income groups

In order to analyse the relative expenditure patterns between households of different income groups, households were divided into quintiles. These quintiles are created by ranking households according to their total household income. The households are divided into five groups of equal size, such that the first groups contains the 20% poorest households, the second group the next 20% etc. The 20% richest households are included in the fifth quintile (Malan, 1998).

Engel's Law states that as a given household becomes better off it spends a smaller proportion of its budget on necessities such as food and a larger proportion on luxuries such as recreational goods (Blow, 2001). Thus, if we regard each quintile as a representative household (i.e. it represents one fifth of other households in the survey sample or population), we expect to see that high-income households spend a smaller proportion on food (or other necessities) than low-income households. The food category (see Table 1) is used as an example of how Engel's Law works in practice. Consider Table 2, which shows the relative expenditure shares (cents spent per R1.00 total expenditure) of each household group or quintile on different types of food.

Table 2: Expenditure share on different food products by income quintiles

	Lowest Quintile	**Second Quintile**	**Third Quintile**	**Fourth Quintile**	**Highest Quintile**
Agric. products	8.7	6.8	5.0	3.4	1.9
Meat products	9.1	9.3	8.5	7.0	4.6
Fish products	1.0	1.2	1.0	0.9	0.6
Fruit and veg. products	0.8	1.0	1.0	1.0	0.7
Oil and fat products	1.6	1.5	1.2	0.9	0.5
Dairy products	3.1	3.0	2.5	2.1	1.5
Grain mill products	13.4	9.9	6.4	3.6	1.4
Bakery products	3.7	3.4	3.0	2.1	1.1
Sugar products	4.9	3.5	2.2	1.2	0.5
Confectionary products	0.1	0.2	0.2	0.2	0.2
Other food products	4.8	4.5	3.7	2.9	1.7
TOTAL	**51.2**	**44.3**	**34.7**	**25.4**	**14.8**

Source: Own calculations from IES 1995 data

The difference in total relative food expenditure between household groups confirms Engel's Law. It is, however, interesting to see that low-income households regard some food items as luxuries. For example, low-income households on average spend relatively little on

confectionary products, but as one moves to the high-income groups, expenditure increases Low-income households spend the greatest proportion of their income on grain mill products (13.4%). The proportion spent on grain mill production decreases as income increases. In the fifth quintile only 1.4% of income is spent on grain mill producs. High-income households spend the largest proportion of their income on meat (4.6%), although this proportion is even lower than the proportion spent by low-income group (9.1%). This clearly proves that as income increases expenditure on food decreases.

Large differences in income tax and savings rates between household income groups can also be observed in the South African economy. As income increases, households tend to save more since a smaller proportion of income is spent on consumption goods. Due to the progressive tax system high-income households also spend relatively more than low-income households on income tax (see Table 3).

Table 3: Percentage of total expenditure on income tax and savings by households in different income groups

	Lowest Quintile	Second Quintile	Third Quintile	Fourth Quintile	Highest Quintile
Income tax	0.5	3.5	8.8	12.8	17.3
Savings	0.8	1.5	2.8	5.3	11.2

Source: Own calculations from IES 1995 data

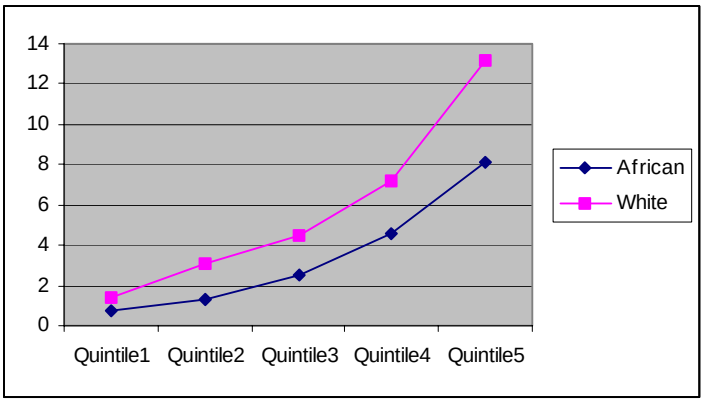
3. Expenditure patterns by race

This section extends the analysis and looks at differences in expenditure between race groups and income groups. Note that there are two possible approaches to forming household groups defined along income and racial lines. Income groups can either be formed at a national level, and thereafter each income group is divided into the respective racial groups. Alternatively, the population can be divided into racial groups first, and thereafter income groups can be created within each race group. The first approach is used here in an attempt to isolate the impact that racial classification may have on consumer preferences. This approach has its drawbacks with regard to obtaining representative samples. Consider the first income quintile. As can be expected the majority of the first quintile is made up of African households (88.6%), while the White households only make up (1.4%), i.e. only 1.6% of all White households in the IES 1995 sample fall in quintile one. This is arguably not a representative sample of low-income White households, and hence comparisons should be made with care.

Plassmann (2000) found that different racial and ethnic population groups have distinct patterns of expenditures due to differences in socio-economic and cultural characteristics. Figure 1 compares African and White households that fall within each of the quintiles with

regard to their savings as a percentage of total expenditure. On average White households tend to save a greater percentage of their income than African households, even within income groups. The difference between the respective savings rate increases as one moves to higher income groups. This is partly explained by the fact that White households' average income is higher than their African counterparts even within household groups, i.e. if one ranks households within income groups according to their income, White households will tend to be at the top-end of the scale. These differences in income become more pronounced when one moves to higher income groups. The income differential, defined here as the percentage by which White household income exceeds African household income, is 7%, 6%, 5%, 10% and 50% in quintiles one through to five. Clearly the large difference in quintile five accounts for a great deal in the difference in the savings proportion.

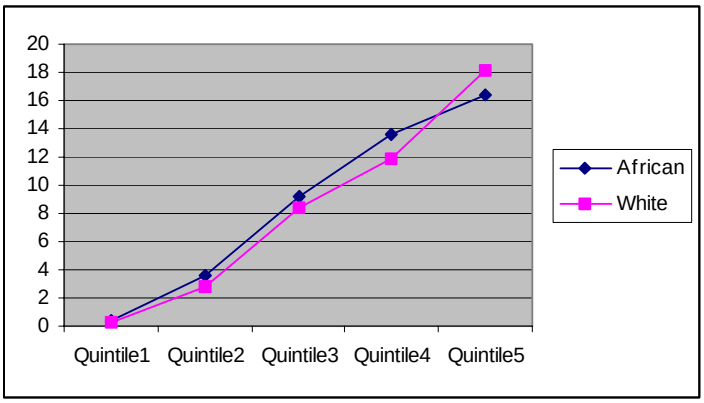
Figure 1: Savings as a percentage of total expenditure by quintiles within two racial groups



Source: OHS/IES 1995

Figure 2 compares African and White households that fall within each of the quintiles with regard to income tax paid as a percentage of total expenditure. Surprisingly though, White households in all but the top income quintile tend to pay less income tax than African households, despite earning a larger average income. One possible explanation for this strange result is that White households earn income from a greater variety of sources, e.g. from dividends or self-employment, and hence benefit from tax breaks and rebates. Furthermore, the tax authorities can only pay out tax rebates if a taxpayer is registered with them. Further investigation into the matter may reveal that fewer African individuals are registered for tax purposes and simply pay the tax that is deducted from their salary without claiming rebates.

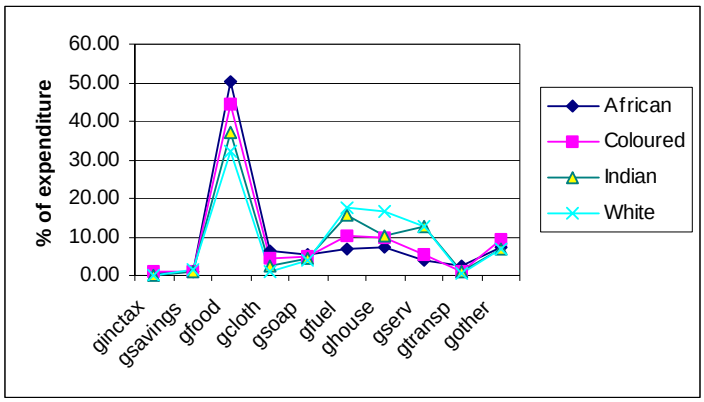
Figure 2: Income tax share of total expenditure by quintiles (African and White households)



Source: OHS/IES 1995

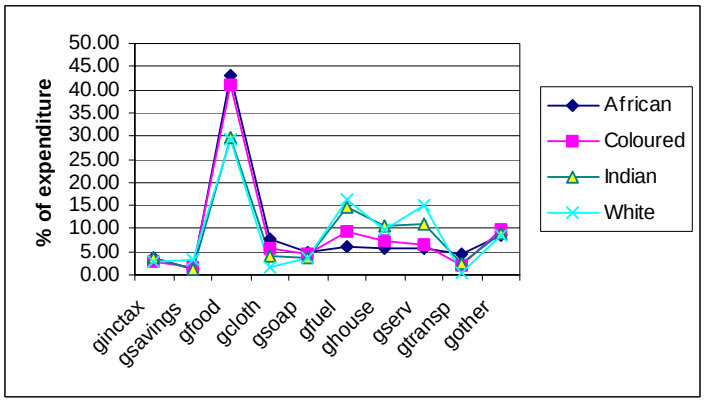
Next, consider the household expenditure patterns of households from different racial groups that fall in the same income category or quintile (Figure 3 to Figure 7). The description of the expenditure categories in Figure 3 through to Figure 7 is given in Table 1. The discussion that follows keeps in mind that all racial groups are not necessarily adequately represented in each quintile. This is especially true for White and Asian households in quintile 1. Quintile 1 represents the poorest 20% of all South African households. Households of all race groups in quintile 1 spend the greatest proportion of their income on food. This is also the case for quintiles 2 through to 4. However, in quintile 5 the pattern is broken. Expenditure on income tax is the most important component of African (16.4%) and White (18.2%) household expenditure. On the other hand, Asian households spend the greatest proportion of their income on services (16.5%), while Coloured households spend the highest proportion of their income on food (16.3%). The graphs suggest that, generally speaking, expenditure patterns follow roughly similar patterns irrespective of the racial group. This suggests that income is a fairly important determinant of consumer preferences. This trend is broken in the top income quintile, but this is probably due to the fact that the variance of income is much higher in this quintile, both within the quintile as a whole as well as between racial groups.

Figure 3: Quintile 1 Household expenditure patterns (by race)



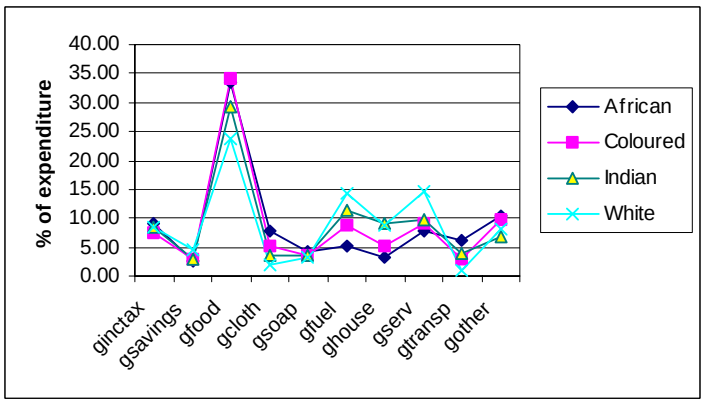
Source: OHS/IES 1995

Figure 4: Quintile 2 Household expenditure patterns (by race)



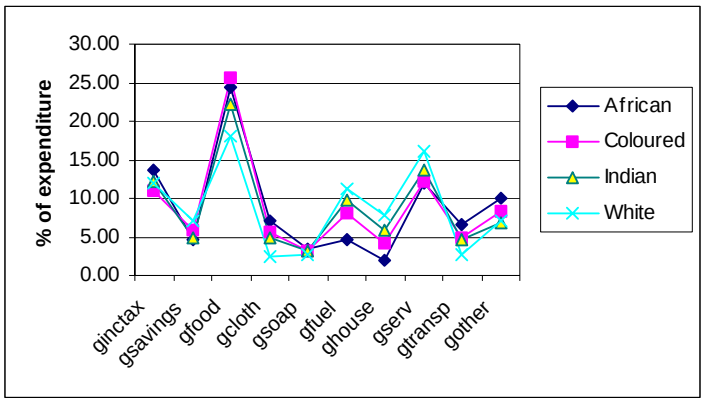
Source: OHS/IES 1995

Figure 5: Quintile 3 Household expenditure patterns (by race)



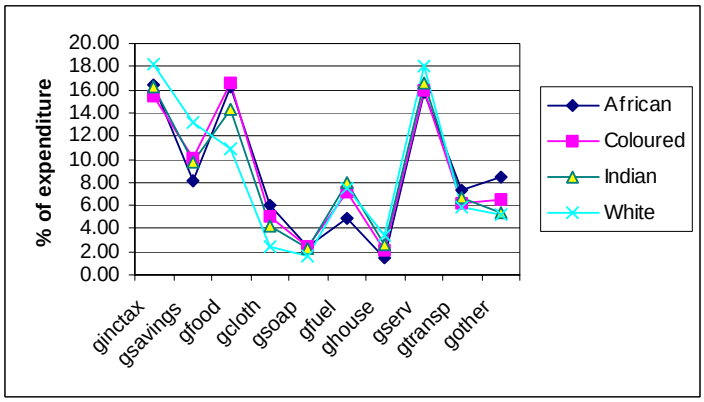
Source: OHS/IES 1995

Figure 6: Quintile 4 Household expenditure patterns (by race)



Source: OHS/IES 1995

Figure 7: Quintile 5 Household expenditure patterns (by race)



Source: OHS/IES 1995

4. Expenditure patterns and the location of households

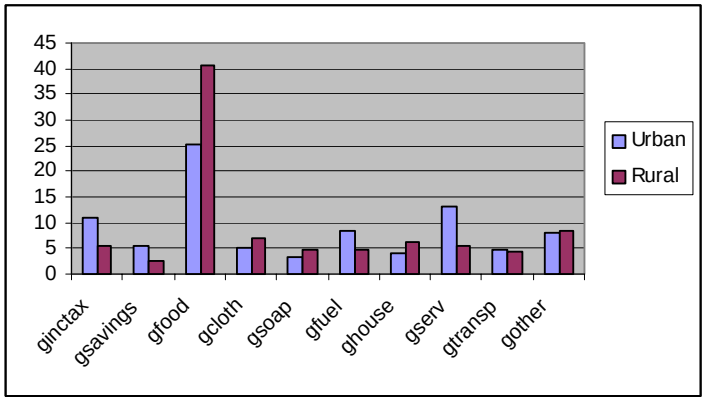
Expenditure patterns are affected by the location in which a household lives. The fact that urban households, on average, are more affluent than rural households (with the exception of White households), accounts for some of the differences. However, it can be argued that differences in urban and rural lifestyles may also contribute to this. In 1995, the total expenditure of an average South African household was R38267. Rural households spent an average of R25502, while urban households had an average expenditure of R48103. This section of the paper provides an overview of the differences and similarities in the spending patterns of urban and rural households.

4.1. Income tax and savings

Urban households pay on average 11.0% tax on income earned. As expected, this is more than that of rural households, who pay on average 5.3% tax on income earned (see Figure 8). Due to the progressive tax system in this country this result is not surprising as the average urban household earns almost double that of its rural counterpart. Furthermore, it is fair to assume that urban workers are more likely to be employed in the formal employment sector and hence pay a higher average tax rate.

Given the large difference between rural and urban household income it is also not surprising to note that urban households have a higher savings rate. In fact, urban households have an average savings rate of 5.7% compared to 2.7% for rural households. While income differences explain part of this, it may also be argued that cultural differences play a role. More than 86% of rural households are African, and as shown in Figure 1 there seems to be some proof that savings rates vary by race, also for those that fall within the same income groups.

Figure 8: Expenditure patterns by settlement



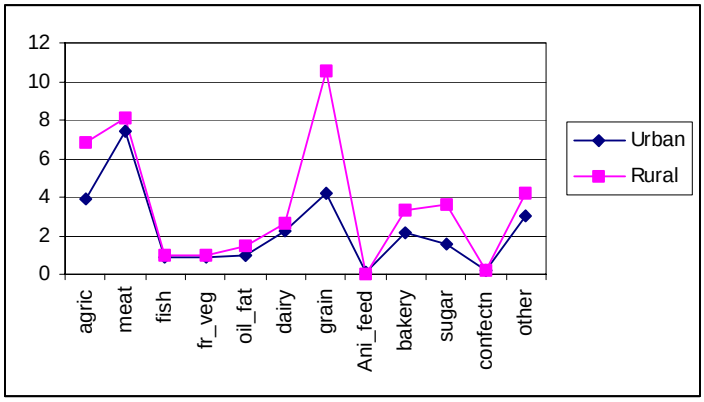
Source: OHS/IES 1995

4.2. Food expenditure

Figure 8 also shows that urban households spend about one quarter (25.4%) of their total budget on food. This is significantly less than rural households, who spend about two fifths (40.7%) of their income on food. Since household incomes are lower in rural areas this result is expected. However, the difference can also be attributed to the fact that rural households are larger on average, with 4.9 persons per household compared 4.1 persons in urban areas. Moreover, food prices are generally higher in remote rural areas because of higher food transportation costs. These factors increase the rural household's food budget.

As was shown in Table 2, food can be further breakdown into (1) agricultural goods, (2) meat, (3) fish, (4) fruit and vegetables, (5) fats and oils, (6) dairy, (7) grain, (8) animal feeds, (9) bakery, (10) sugar, (11) confectionary and (12) other food stuffs Figure 9 shows that rural households spend a greater proportion of their income on each food type except animal feeds, presumably because urban households are more likely to own pets that need to be fed. It is interesting to note the relative importance of expenditure on grain mill products in rural areas.

Figure 9: Food expenditure patterns by settlement



Source: OHS/IES 1995

4.3. Other consumer goods

A comparison of expenditure on clothing reveals that urban households spend a smaller proportion of their income on clothes (5.0% compared to 7.0%). This is in line with expectations formed on the basis of Engel's Law, assuming that clothing is a necessity item rather than a luxury good. Also, as was argued for food consumption (section 4.2), clothes in rural areas may be more expensive than in urban areas as result of higher transportation costs.

Soaps and detergents are fairly expensive, but remain necessities. It is therefore understandable that rural households, being poorer, spend a greater proportion of their income on soaps than do urban households. The same cannot be said for the commodity group fuel, which includes expenditure on petrol, electricity and so forth. Urban households spend a greater proportion on these services, possibly because rural households often collect energy sources for cooking and lighting (e.g. firewood) for free.

Urban households spend an average of 4.0% on housing[5], compared to the 6.2% of rural households. This in an interesting observation, as one may expect urban housing to be more expensive than rural housing. A large proportion of urban dwellers live in cheaper forms of housing such as sectional title properties or even informal settlements. This, coupled with the fact that urban incomes are typically higher, explains the result.

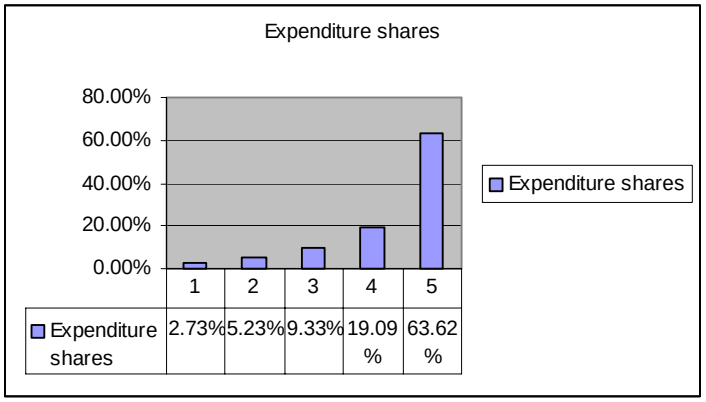
[5] This includes rent, boarding, or the interest component of bond repayments.

Urban households are much more reliant and make more use of general services, and hence spend a greater proportion of their income on this expenditure type. Since many urban households either make use of extensive public transport networks in urban areas, or they own vehicles, it is also not surprising to see that urban households spend a greater proportion of their income on transport. However, the difference is not very big, probably due to the fact that rural households often need to travel further, although perhaps not as frequently, as their urban counterparts.

5. Expenditure and inequality

One way of expressing the degree of inequality in South Africa is by examining the expenditure of each household quintile as a share of total expenditure by all households quintiles (see Figure 10). The expenditure share for the households who are in the first quintile (bottom 20%) is very small (2.7%) compared to the expenditure share of the top 20% (quintile 5), which is 63.6%. This proves the extent of the inequality in expenditure levels in South Africa.

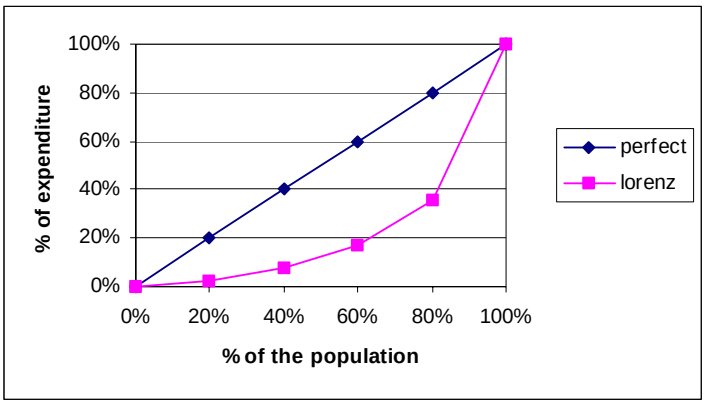
Figure 10: Expenditure shares by quintiles



Source: OHS/IES 1995

The cumulative effect of the results of Figure 10 can be conveyed using a Lorenz Curve. In Figure 11 a crude estimate of a Lorenz Curve is drawn based on expenditure levels by quintiles. The Lorenz curve shows the great degree of inequality in South Africa in terms of expenditures (and therefore income). The greater the deviation of the Lorenz curve from the "perfect" line, the greater the inequality in an economy. The results indicate that the poorest 80% of households contribute less than 40% to total household consumption.

Figure 11: Lorenz curve (expenditure) of South Africa



Source: OHS/IES 1995

6. Expenditure patterns by gender

One can ask what are the reasons for focusing attention to gender related patterns of expenditure? The respective situations of male and female headed households are largely determined by the roles each gender has. Male- and female-headed households do not have the same roles, not only in agriculture and natural resource management, but also in further economic life, in the household and in community activities. Consequently they do not have the same resources, the same needs and the same interests. They do not participate equally in decision-making. The value given to male and female headed households work is also not the same. These gender differences arise from social differences between men and women. Gender relations are culturally based. It is learned behaviour. However, gender relations change over time and over generations. They differ from culture to culture and from subculture to subculture. In order to be adequate, effective, and just, policies and plans have to take these gender differences into account.

While both men and women have joint interests of households and family well being, they also have separate interests. In terms of expenditure patterns men and women may have different opinions and priorities. Their production and consumption needs may differ. For example, an innovation resulting in increased income of one gender may demand increased labour inputs from another gender. Or, labour-saving technology may decrease the workload of one gender, but at the same time affect the income or expenditure possibilities of the other. As such the interests of men and women may be conflicting. This has implication for the family well-being. Research findings show that increased incomes of female tend to contribute more to the family well being than increased incomes of male (Maitra and Ray, 2000).

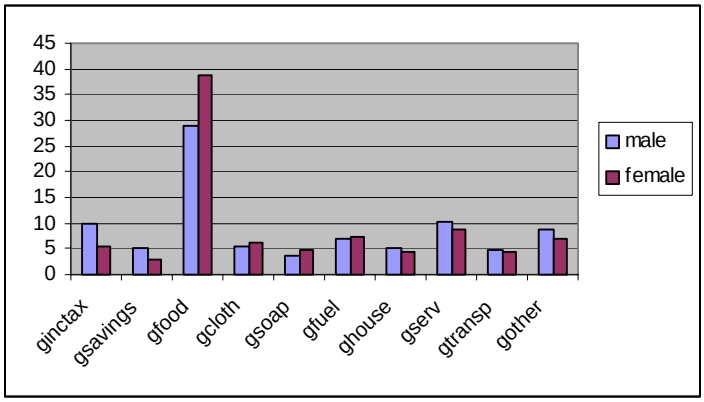
Therefore, it is appropriate to look at the expenditure patterns of the male and female-headed households. Expenditure patterns of the male and female-headed households may not only be influenced by income but also by other factors mentioned above. The average income of female-headed households in 1995 was R21 539. This is significantly lower than that for male-headed households (R47 623). Figure 12 shows that food expenditure patterns differ between male- and female-headed households.

According to the Engel's Law the poor spend a higher proportion of their income on food. Therefore it might be one of the reasons why female headed households spend higher proportion of their income on food, but the literature suggests that this is not the only reason. The other reason could be that of the different interests. For example male headed households might prefer to eat basic (or inexpensive) kinds of foods, while women might prefer more expensive (or more nutritious) food. Further analysis falls beyond the scope of this paper.

According to Maitra and Ray (2000) earnings are often endogenous with respect to the household's allocation decisions. Differential effects on husband's and wife's earnings on consumption patterns are consistent with the common preference framework, because households with different ratios of husband's earnings to wife's earnings are likely to face different prices and have different preferences, even with total households income held constant.

The sample of South Africa in male and female headed households show that the female headed households spend a relatively greater share of their budget on food, clothing, and fuel than the male headed households. The male-headed households spend a greater share of their budget share on income tax, savings, housing, services, transport and other items including beverages.

Figure 12: Expenditure patterns by gender



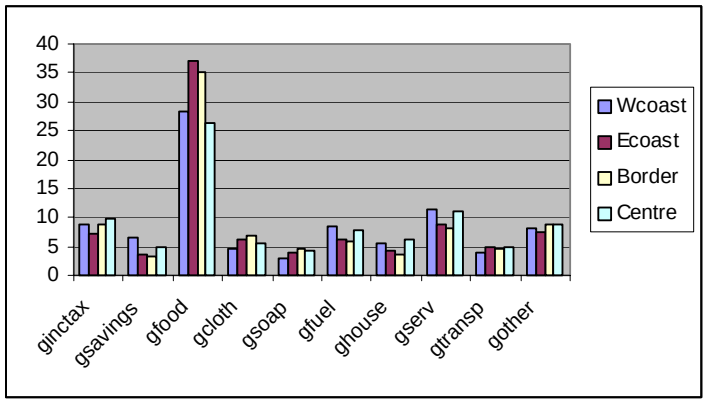
Source: OHS/IES 1995

7. Expenditure patterns by region

Households across the country make decisions everyday on how to allocate their earnings, be it for life's necessities such as food and housing or for pleasure pursuits such as reading and entertainment. These spending patterns may be specific to a region of the country. Or more, simply, do households in the West Coast region (Northern Cape and Western Cape) make different choices about how to spend their income than do those in the East Coast region (Eastern Cape and KwaZulu-Natal), Border region (Mpumalanga, Limpopo and Free State) or Centre region (Gauteng and North West).

Expenditures vary among regions because of many factors: Prices, income, population characteristics, climate, consumer tastes, family size, and so on. For example, in 1995, households in the West Coast and Centre regions had average incomes of R46 690 and R44 959 respectively, compared to the Border and East Coast region with R34 341 and R33 387 respectively. It is quite interesting to note that households in the Centre region spend a greater share of their budget on income tax than in the West coast, despite the latter being the wealthiest region. The East Coast, being the poorest region, spends a fairly large proportion of its income on food, followed by Border. Again, households in the Centre region spend less on food than in the West Coast region, even though households in the West Coast region are more affluent. Households in the West Coast also save more than their Centre region counterparts.

Figure 13: Expenditure patterns by region



Source: OHS/IES 1995

8. Concluding remarks

This paper has shown that income remains an important determinant of expenditure patterns, a result that comes as little surprise given Engel's Law and our expectations about the relationship between expenditure patterns and household income levels. However, income is certainly not the only determinant of expenditure patterns. Consumer preferences also play a very large role. In an attempt to find some of the factors that influence preferences, the paper has explored similarities and dissimilarities in expenditure patterns between racial groups and between urban and rural households. Often it is interesting to look at expenditure shares rather than absolute levels of expenditure. As Plassmann (2000) points out, determinants of consumer share allocations on different goods are of greater interest than dependants of absolute dollar amounts spent on goods, because expenditure share allocations show the spending on one good relative to total expenditures, as well as relative to other goods. By comparing these shares between racial groups or households from different locations, one can also develop an idea of the extent of inequality in expenditure.

Although expenditure patterns do not always differ dramatically, especially when controlling for income, the paper has shown that there are differences in expenditure patterns between households from different income groups and racial groups. The gender of the head of the household, the location of the household (urban or rural) and region or province of the household can also have an effect. This supports the idea that many factors influence preferences on the one hand, and income levels on the other, both of which affect expenditure patterns.

The research done for this paper provides important background knowledge about those factors that influence households' consumption activities. As such the information can be applied in various ways, but most importantly in the determination of what is termed representative household groups. These are groups of households that are expected to act in similar ways when reacting to economic shocks, especially regarding their expenditure patterns. Together with *Background Paper 2003: 1* the results from this paper will feed into future research on the formation of representative household groups.

9. References

Blow, L., (2001). Household Consumption Patterns. www.ifs.org.uk/leverhulme/prj2patterns.shtml

Maitra, P. & Ray, R., (2000). Intra Household Resource Allocation and Their Impact on Expenditure Patterns: Comparative Evidence from South Africa and Pakistan. www.utas.edu.au/economics/library/discussion_papers/papers_00/2000-09.pdf

Malan, A., (1998). Income Distribution in South Africa: a Social Accounting Matrix Approach. www.statssa.gov.za/products/publications/measuringpoverty/poverty%20report/chapter%205.pdf

Nicholson, W., (1998). Microeconomic Theory: Basic Principles and Extensions, 7th Edition, Dryden: London.

Pindyck, R. & Rubinfield, D. (2001). Micro Economics. 5th edition. Prentice Hall International , London.

Plassmann, V.S., (2000). Introduction. www.scholar.lib.vt.edu/theses/available/etd-10082000-500038/unrestricted/1chapter_1.pdf

SSA (1997). *Household Income and Expenditure Survey,1995*. Pretoria: Statistics South Africa.

Background Papers in this Series

Number	Title	Date
BP2003: 1	Multivariate Statistical Techniques	September 2003
BP2003: 2	Household Expenditure Patterns in South Africa – 1995	September 2003
BP2003: 3	Demographics of South African Households – 1995	September 2003
BP2003: 4	Social Accounting Matrices	September 2003
BP2003: 5	Functional forms used in CGE models: Modelling production and commodity flows	September 2003

Other PROVIDE Publications

Technical Paper Series
Working Papers
Research Reports