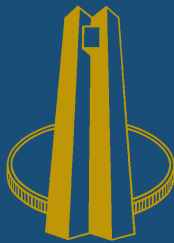


Labour Market Frontiers

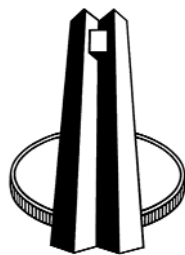
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Labour Market Frontiers

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Editorial overview

In the context of a more robust and relatively more favourable global economic environment, sound macroeconomic management, and more sustained economic momentum, indications of a socio-economic turnaround in South Africa are beginning to emerge. These include a sizeable increase in employment – mainly in the private sector – and an emerging black middle-class that is widely considered to have been one of the main drivers of the healthy demand-led economic growth in the past one-and-a-half years.

The aim of this edition is to underscore the notion that, although the enabling macroeconomic environment is a necessity for higher sustained growth of the economy, it is not sufficient for the reversal of the legacies of the past. The measurement of the success of any nation should focus on those who are at the margins of the economy, namely the poor, the inadequately skilled or unskilled, and the unemployed. In one way or another, this kind of marginalisation stifles economic potential at personal, household and macro levels and can be a threat to social and economic stability going forward.

This edition covers crucial labour market and socio-economic issues, namely the impact of price movements on poorer households, the skills base of the economy and youth unemployment. The first article is an empirical analysis of the differential impact of inflation on the poorest 40 per cent of urban households between 1997 and 2002. This period of relatively high inflation levels offers an important opportunity to gain better insights into the structural dynamics which are associated with price movements. This analysis offers pointers for policy direction. The article establishes an empirical basis for the argument that poorer households are more vulnerable to the impact of inflation. Furthermore, it identifies critical inflation drivers in these households.

The second article provides a snapshot of the skills base of formal non-agricultural activities in the economy in terms of workers' occupational profiles and their educational backgrounds. It goes on to give a broad review of the institutional framework and highlights important areas of consideration from both research and policy perspectives. While debates pertaining to the ability of the formal sector to churn out more job

opportunities continue, the level of required skills among the employed is an equally important issue.

The last contribution is a research note investigating job search patterns among the unemployed youth. It draws attention to the fact that, in addition to the need for more robust labour demand and a better skills match, information flows between job seekers and employers are an essential dimension of South Africa's labour market. This analysis gives prominence to job search patterns as an area that needs further research and policy attention.

Lead editor: M Lehutso-Phooko
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The relative inflation experience of poor urban South African households¹

Haroon Bhorat and Morné Oosthuizen, University of Cape Town

While access to income, or a lack thereof, lies at the heart of characterising inequality and poverty in society, poor households' welfare levels are greatly influenced by fluctuations in the real values of whatever incomes they do have access to. This line of enquiry, namely the impact that relative final price movements have on households across the income distribution, is a new one for post-apartheid South Africa, with its local intellectual origins lying in Kahn². This article's two main objectives are, firstly, to derive inflation rates for urban households grouped according to expenditure deciles and, secondly, to identify some of the key product categories responsible for the largest shares of inflation of the poorest 40 per cent of urban households. At a more generic level, the article is implicitly a representation of how the macroeconomic environment is able to, and indeed does, impact on household welfare.

The period under investigation, from the end of 1997 to mid-2002³, is an interesting one. The rapid depreciation of the rand at the end of 2001 and the beginning of 2002 had a knock-on effect throughout the economy as crucial inputs, for example, oil and many capital goods, are sourced from the international market where prices are dollar-denominated. Thus, 2002 saw an acceleration in the rate of inflation outside the South African Reserve Bank's three-to-six-per-cent target range. Furthermore, some of the most rapid price increases have been found to have occurred in food products. For example, according to a report presented to Cabinet, "staple grain prices had risen by up to 44 per cent, meat by up to 25 per cent and vegetables by 17 per cent"⁴. This occurred in response to the regional drought and higher rand food prices in the food export market, which lured produce away from the domestic food market, thereby placing

upward pressure on local food prices. In the analysis of poverty, this is of particular concern due to the fact that poorer households spend a relatively large proportion of their incomes on food, rendering them more vulnerable to price inflation from this source. The dynamic nature of the inflation process may provide interesting and useful insights into the varying experiences of households across the income distribution.

Consumer price index weights for urban households

The construction of consumer price indices relies on two sets of data. Firstly, detailed price data are required for a given period and, secondly, expenditure weights are calculated from detailed household expenditure data, allowing price movements to be weighted according to their importance in the representative basket of goods and services consumed by households. This study utilises the 1999 simulated update of the 1995 Income and Expenditure Survey⁵, originally conducted by Statistics SA, as well as detailed price data for a wide variety of goods and services consumed by households in historical urban and metropolitan areas, obtained from Statistics SA. As no rural price data are available, this study is confined to urban households.

Changes in consumer price indices (CPIs) are therefore driven by both the mix of price changes and the weights of goods and services within the consumption basket. As a result, the way in which expenditure weights are calculated will impact on CPI inflation. There are two methods for calculating the weights used in the CPI, both with strengths and weaknesses. The first and most widely used method reflects the composition of total consumption expenditure and results in so-called *plutocratic* weights.

1 This article is based on Bhorat, H. and M. Oosthuizen. 2003. *The Relative Inflation Experience of Poor Urban South African Households*. A research report commissioned by the South African Reserve Bank.

2 Kahn, B. 1985. *The effects of inflation on the poor in South Africa*. Economic Learning Resources Series No 5. September. Cape Town: University of Cape Town. Internationally, various studies have investigated group price indices, where groups are defined either demographically or economically. See Idson, T. and C. Miller. 1999. Calculating a price index for families with children: implications for measuring trends in child poverty rates. *Review of Income and Wealth* 45(2): 217-233. Also, Garner, T.I., Johnson, D.S., and M.F. Kokoski. 1996. *An experimental consumer price index for the poor*. *Monthly Labour Review* 119(9). September: 32-42.

3 The period of analysis was determined by the availability of the price data collected by Statistics SA.

4 Boyle, B. 2002. *Government steps in to feed poor*. *News24*. 10 October. Available [online]: http://www.news24.com/contentDisplay/level4Article/0,1113,2-8_1269972,00.html

5 At the time of the study, IES2000 was not yet publicly available. The IES99 is a simulated update of the Income and Expenditure Survey of 1999, which surveyed over 29 500 randomly selected households. The IES99 is therefore based on the most comprehensive coverage of income and expenditure information that existed in South Africa at the time of the study. The data set is simulated in the sense that WEFA Southern Africa, a data company, unofficially updated the 1995 IES on the basis of a number of different criteria, including the following:

- Re-weighting the population to reflect mid-1999 population totals, with the anchor being Statistics SA's 1996 population census
- Benchmarking total income earned by households on the 1999 estimate of total income in the national accounts
- Benchmarking expenditure on Bureau of Market Research estimates of expenditure by product type (from report no 261, "Household Expenditure in South Africa by Province, Population Group and Product", 1999).

We are therefore fairly confident that the IES99 is a robust representation of household data, albeit an update on the raw data of the 1995 IES.

The second method reflects the average household's expenditure composition and these weights are conventionally known as *democratic* weights.

Box 1 Deriving plutocratic and democratic weights

The standard method of deriving expenditure weights, as employed by Statistics SA and internationally, entails aggregating expenditure on a specific product or service across all households and then calculating the share of this aggregate within total expenditure. These weights are termed plutocratic weights. Mathematically, this is stated as

$$w_i^p = \frac{\sum_{h=1}^H e_i^h}{\sum_{i=1}^n \sum_{h=1}^H e_i^h}$$

where w_i^p is the plutocratic (hence the p superscript) weight of product i for $i = 1, \dots, n$ items, e_i represents the expenditure on product i , and the superscript h denotes the household for $h = 1, \dots, H$. This implies that "the CPI ... can be interpreted as a weighted average of household price indexes ... [the] weight of each household [being] its total expenditure" (Ley, 2002: p.2).

The alternative method of calculating the weights entails a change in the unit of analysis, from the product to the household. Democratic weights are calculated, in essence, by averaging the structure of each household's expenditure. Mathematically, this is represented as

$$w_i^d = \frac{1}{H} \cdot \sum_{h=1}^H \left(\frac{e_i^h}{\sum_{i=1}^n e_i^h} \right)$$

using the same notation as above. The difference between plutocratic and democratic weights lies in how one averages the consumption bundles of a society's households. Plutocratic weights average across expenditures, while democratic weights average across households. "[In] the democratic price index, every household counts equally, while in the 'plutocratic' ... index, every dollar of expenditure counts equally" (Pollak, 1980: 276).

Generally, the official weights for CPIs around the world are plutocratic weights. This is because these weights reflect the composition or structure of consumer expenditure in a given economy. Thus, if 10 per cent of all consumer expenditure in an economy is on clothing, then clothing will constitute 10 per cent

of the weight in the CPI. Plutocratic weights render inflation rates that, therefore, best reflect consumer inflation and are most appropriate for macroeconomic policy-making, deflation of macroeconomic aggregates (such as national accounts data) and monetary policy where the control of economy-wide inflation is an objective. In short, the total amount of rands spent on an item will determine that item's importance in a plutocratically-weighted CPI.

Democratic weights have a different objective: Instead of trying to reflect the structure of total consumer spending, democratic weights aim to reflect the structure of the average household's spending. The difference between democratic weights and plutocratic weights arises as a product of inequality in expenditure levels in society. If the total rands spent on an item determine its plutocratic weight, it is clear that households with higher levels of expenditure will have a greater impact in determining plutocratic weights than poorer households with lower levels of expenditure. As a result, for example, the top 20 per cent of South African households represent more than 70 per cent of the weight in the CPI, compared to the 1,4 per cent of the poorest 20 per cent of households, because those are the proportions of total consumer spending that these groups account for. Basically, democratic weights reflect the average structure of each individual household's consumer spending. So, if the average household spends 10 per cent of its total spending on food, then the democratic weight for food will be 10 per cent.

Sources:

Ley, E. 2002. *Whose Inflation? A Characterization of the CPI Plutocratic Gap*. Available [online]: <http://netec.mcc.ac.uk/WoPEc/data/Papers/wpawuwppe0110001.html>

Pollak, R.A. 1980. Group Cost-of-Living Indexes. *American Economic Review* 70(2).

Since the focus here is on poor households, a democratically-weighted CPI is preferable as it better reflects the average household. The extent to which democratic indices better reflect the average household is demonstrated by calculating correlation coefficients between the various sets of weights. In Table 1.1 the bias of the plutocratic weights towards better-off groups is evident, with the correlation peaking in deciles 8 and 9, and dropping to below 0,6 as expenditure falls. By contrast, correlations with the democratic weights are highest in deciles 4, 5 and 6, but all are above 0,85, except for the most extreme deciles. Only the top three deciles have higher correlations for plutocratic as opposed to democratic weights. South Africa, though, is not unique in this. Ley⁶ refers to two studies on United Kingdom (UK) and United States of America (US) data, which locate the household whose expenditure most closely resembles the plutocratic weights. In the UK, this household is in the 71st percentile, while in the US it is found in the 75th percentile.

6 Ley, E. 2002. *Whose Inflation? A Characterization of the CPI Plutocratic Gap*. Available [online]: <http://netec.mcc.ac.uk/WoPEc/data/Papers/wpawuwppe0110001.html>

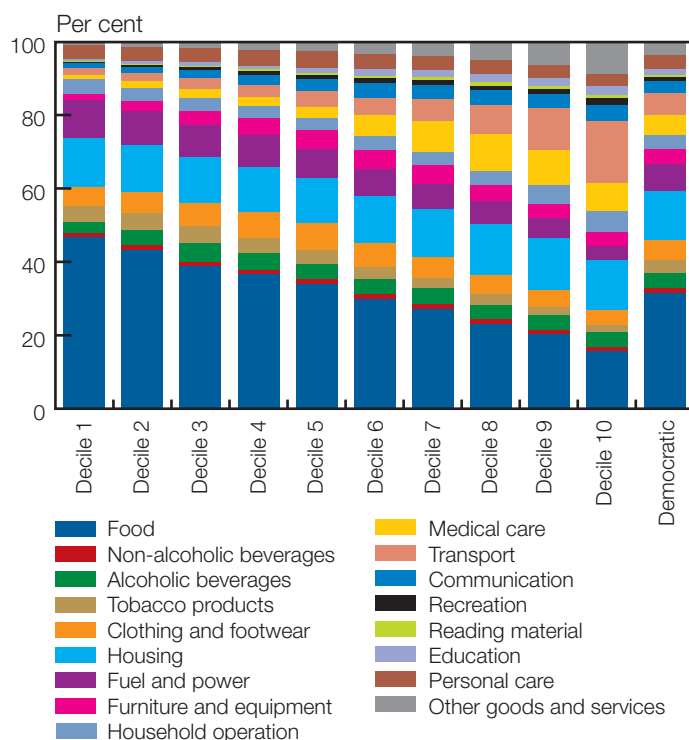
Table 1.1 Correlations between sub-population weights, and democratic and plutocratic weights

Sub-population ⁷	Correlation with plutocratic weights	Correlation with democratic weights	Difference
Decile 1	0,591	0,823	-0,232
Decile 2	0,697	0,907	-0,211
Decile 3	0,741	0,934	-0,193
Decile 4	0,782	0,953	-0,170
Decile 5	0,829	0,969	-0,140
Decile 6	0,913	0,985	-0,072
Decile 7	0,950	0,952	-0,002
Decile 8	0,971	0,908	0,063
Decile 9	0,974	0,864	0,110
Decile 10	0,938	0,749	0,189

Source: Own calculations, Simulated IES99

Based on the 1999 simulated update of the Income and Expenditure Survey data, the average structure of households' expenditures (the democratic weighting) is illustrated for the ten expenditure deciles⁷ and overall in Figure 1.1.

Figure 1.1 Average composition of urban household expenditure by decile, 1999

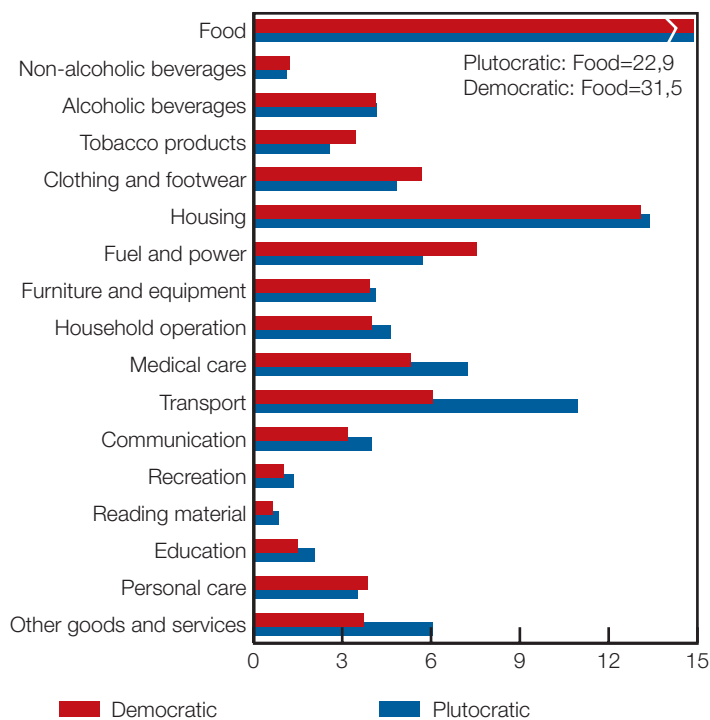


Source: Own calculations, Simulated IES99

The differing expenditure patterns according to income, as proxied by expenditure decile, are clear. Poor households spend significantly greater proportions of their budgets on food and fuel and power than better-off households. By contrast, better-off households spend greater proportions of their budgets on transport and medical care. Food, housing, and household fuel and power are the three largest expenditure categories for decile 1 households, representing over 70 per cent of total expenditure, while transport, food and housing are the most important categories for decile 10 households, accounting for less than 46 per cent of total expenditure. Consequently, poor households appear to be significantly more vulnerable to price shocks in their major expenditure categories than non-poor households, since the former group's expenditure is more concentrated in fewer categories.

In practice, the difference between plutocratic and democratic weights can be significant, although this is not always the case (see Figure 1.2). For example, the democratic weight of food is 31,5 per cent, which is almost nine percentage points higher than the plutocratic weight. By contrast, the democratic weight for transport is around five percentage points lower than the plutocratic weight.

Figure 1.2 Comparison of plutocratic and democratic weights, urban households, 1999



Source: Own calculations, Simulated IES99

⁷ Decile 1 represents the ten per cent of households with the lowest expenditure, and decile 10 represents the ten per cent of households with the highest expenditure.

In the case of alcoholic beverages, and furniture and equipment, the plutocratic and democratic weights are almost identical. Clearly, the rankings of the various categories may differ depending on the type of weights used, and this is linked to the level of inequality in spending on each category. Where the democratic weight exceeds the plutocratic weight, poorer households spend proportionately more on that item than better-off households, and vice versa.

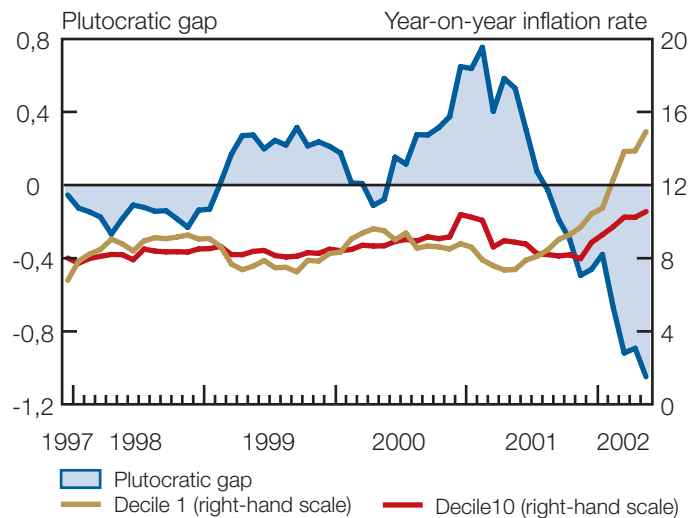
Consumer price inflation⁸ for urban households

Employing the democratically-weighted inflation rate in tandem with the plutocratic inflation rate provides another method of discerning which income group is experiencing higher rates of inflation at any given moment. This is done by means of the plutocratic gap or plutocratic bias⁹, which is the plutocratically-weighted inflation rate *minus* the democratically-weighted inflation rate. As has been discussed, democratic weights are more closely matched to households at the middle and lower end of the distribution, while plutocratic weights match most closely to households in the upper end of the distribution. Therefore, where better-off households experience higher rates of inflation than poorer households, the plutocratically-weighted inflation rate will be greater than the democratically-weighted inflation rate and the plutocratic gap will be positive, and vice versa.

Figure 1.3 presents the plutocratic gap for South Africa between December 1997 and May 2002 and reveals some important points. The first part of the period saw a negative plutocratic gap, indicating that poorer households were experiencing higher rates of inflation than better-off households. However, for almost half the period (between March 1999 and July 2001), inflation was higher for better-off households. The figure also presents CPIX inflation for deciles 1 and 10, respectively the poorest and wealthiest deciles. The match between the movements of these two groups' rates of inflation and the sign of the plutocratic gap is striking: Periods during which the plutocratic gap is positive are also periods where decile 10 inflation is higher than decile 1 inflation, and vice versa.

During the first part of the period up to November 2000, the various deciles' inflation rates ranged between seven and nine per cent year on year, with the dispersion in rates gradually widening from 1,4 percentage points on

Figure 1.3 CPIX plutocratic gap (per cent), December 1997 to May 2002



Source: Own calculations, Simulated IES99

average in 1998 up to 2,7 percentage points in 2000. However, in early 2001, the poorest households saw a rapid acceleration in their rate of inflation relative to that of other households, resulting in even greater dispersion¹⁰. The steep decline in the plutocratic gap is indicative of the extent to which the fortunes of poor households deteriorated from an inflation perspective.

The data confirm Kahn's assertion that there is "no reason to expect that lower income groups will necessarily be faced with a higher inflation rate than any other group"¹¹. Over the 66-month period, non-poor households experienced higher inflation rates than poor households for 27 months, concentrated in the middle of this period. The adverse impact of the rapid depreciation of the rand in the latter part of the period, combined with the effects of the regional drought, while negatively impacting on inflation across the income distribution, was particularly harshly felt among the poorest deciles.

These results point to two important implications for policy. Firstly, that the data very powerfully illustrate the nexus between the macroeconomic environment and its welfare outcomes. Clearly, price movements in the economy impact differentially at different points in the income distribution. Secondly, policy formulation designed to ameliorate the consequences of price shocks for the poor needs to be mindful of the fact that

⁸ This is the consumer price index minus mortgage costs (CPIX).

⁹ *Op cit.*, p.7. Also Crawford, I. and Z. Smith. 2002. *Distributional Aspects of Inflation*. The Institute of Fiscal Studies, Commentary 90. London.

¹⁰ Greater dispersion in the rates of inflation across households when inflation rates are higher has also been found to exist in the UK by Crawford and Smith 2002. *Op cit.*, p.31.

¹¹ Kahn, B. 1985. *Op cit.*, p.22.

poor households do not always experience above-average rates of inflation, relative to other income groups. This is, however, not a negation of the fact that non-poor households are far more capable of adjusting their expenditure patterns to cushion themselves from price movements, compared to poor households.

Inflation drivers for poor urban households

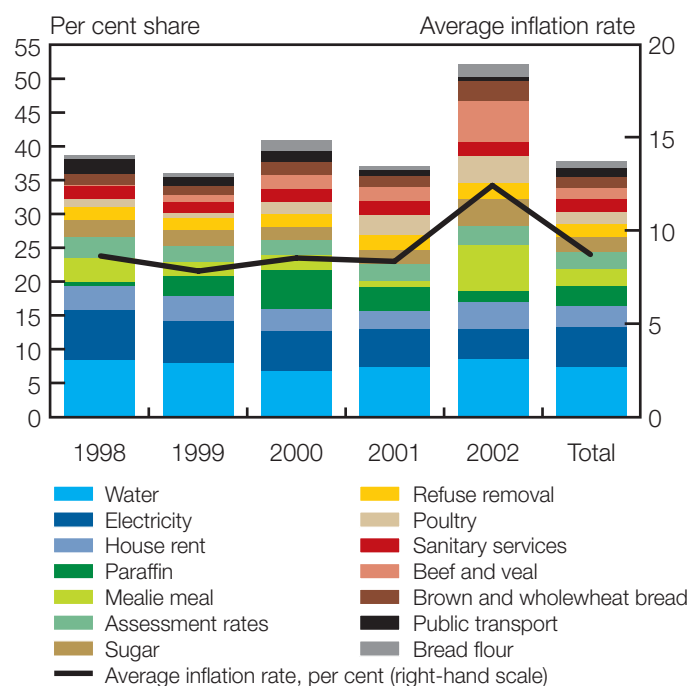
A further objective of this article is to shed some light on which goods and services are primarily responsible for inflation among the poorest 40 per cent of households (i.e. deciles 1 to 4). This was achieved by selecting all categories of expenditure that accounted for two per cent or more of total expenditure in at least one of the four poorest deciles. One of the prerequisites for a category to be described as a driver of inflation is that it should represent a relatively greater proportion of expenditure.

The study explores the inflation history of various expenditure categories over the period and how these impacted on the overall inflation experience of households at various points across the income distribution, providing two important insights. Firstly, there are clear differences in the impact of price increases in these categories on households across the income distribution due to the variation in weights across deciles. Secondly, various products had made large contributions to total inflation at different times during the period, with very few goods or services consistently accounting for large proportions of total inflation.

This section briefly identifies some of the key inflation drivers for the poorest households. From the four expenditure categories analysed, fourteen goods and services have been selected in order to explain as large a proportion of inflation as possible among the poorest 40 per cent of households. These products and their percentage share contributions to overall inflation over the period are presented in Figure 1.4.

Somewhat surprisingly, two basic services, water and electricity, top the list in contributing the most to inflation over the period as a whole. Water contributed an average of 7,0 per cent of total inflation for households in the first four deciles of the period, while electricity contributed a further 5,9 per cent of total inflation. Within each period, the proportion of total inflation for the poorest 40 per cent of households attributable to these two expenditures fluctuated between 12,5 per cent and 16 per cent. House rent was the third largest contributor to inflation over the period, representing 3,2 per cent of

Figure 1.4 Contribution of products to total inflation experienced by poorest 40 per cent of urban households



Source: Own calculations, Simulated IES99

Note: The averages for 1998 include the figures for December 1997, while the averages for 2002 are for the first five months of that year.

These are not necessarily the top 14 inflation drivers for these households. However, since only three products with weights of more than two per cent in any of these four deciles are not considered here, it can be said with a high degree of certainty that the goods and services listed above are a reasonably accurate reflection of the most important inflation drivers for these deciles.

overall inflation among the poor. Other municipal expenditures that feature in this list include assessment rates, refuse removal and sanitary services, while public transport is also an important contributor to inflation.

The vulnerability of poor households to changes in the price of paraffin is clearly illustrated by the fact that paraffin alone contributed almost three per cent of total inflation over the period, while in 2000 it contributed 5,8 per cent to total inflation. This product moved from twelfth position in 1998 to fourth in 1999 and was third in 2000 and 2001, making it the fourth most important inflation driver for the period as a whole.

The vulnerability of low-income households to food inflation and the marked shift towards food-driven inflation during the latter part of the period are evident from the rise in the relative importance of the various food products. In 1998 and 1999, individual food products

were generally of lesser importance in driving inflation than the individual non-food items, with food items occupying four of the bottom five places. However, from 2000 onwards, food items began to emerge as major inflation drivers. This was the case particularly for poultry during 2001, and mealie meal and beef and veal in 2000 and 2002. Mealie meal was the second most important inflation driver in 2002, and the only product to displace electricity from that position. Sugar remained relatively important during the entire period, and is ranked seventh for the period.

The most important observation is that the prices of water, electricity, rates, public transport, sanitary services, refuse removal and paraffin are all, to varying extents, determined by state-owned enterprises, or local, provincial or national government. With the exception of 2002, at least three of these goods and services were listed as one of the top five most important inflation drivers, while the top spot was consistently held by water¹².

Conclusion

Consumer price indices, as with any aggregate, hide a wealth of information, irrespective of which method is used to calculate the weights. Plutocratic indices, as they reflect the structure of consumer spending, are best suited to macroeconomic analysis and as indicators of economy-wide inflation. In any analysis of economic welfare, particularly where the poor are the focus – for example, changes in real incomes and adjustments of state transfers – democratically-weighted indices are very useful¹³. Statistics SA's monthly publication of separate price indices for a number of expenditure groups is similarly helpful.

Through direct measurement of decile inflation rates and the estimation of the plutocratic gap, it is confirmed that poor households do not consistently experience higher rates of inflation than higher income groups. The answer to the question of who is experiencing the highest rate of inflation at a given time will depend on the structure of inflation at that time. For example, in 2002 when food inflation was high and paraffin prices rose rapidly, poorer deciles experienced higher rates of inflation. Nevertheless, poor households remain more vulnerable to inflation in their main expenditure categories due to the relatively high concentration of their spending in these categories.

Finally, in terms of inflation drivers, the analysis has revealed that government, in some form or another, is able to affect the prices of seven of the top 14 items driving inflation for poor households over the period. Water and electricity were consistently ranked first and second over the period (with electricity falling to third in 2002) as the largest contributors to poor households' inflation. Similarly, government is able to influence the prices of paraffin, assessment rates, refuse removal, sanitary services and public transport to varying degrees. This finding suggests significant scope for the state to shield poor households from excessive inflation, both directly through its pricing decisions and indirectly through the demonstration effect. Granted, government is not omnipotent in this regard, particularly where the vagaries of international commodity and currency markets have knock-on price effects in the domestic economy, although as the case of the mealie meal subsidy in 2002 demonstrates, there is scope for government to act in aid of the poor in certain instances. However, in more recent years, government has made significant progress in containing administered price movements, bringing them in line with the inflation target range.

¹² The provision of free water since late 2000 will have reduced the weight of this component within the overall expenditure bundle of households, lowering water's contribution to inflation, thereby affecting its 2001 and 2002 rankings.

¹³ Schultze, C. and C. Mackie (eds). 2002. *At What Price? Conceptualising and Measuring Cost-of-Living and Price Indexes*. Panel on Conceptual, Measurement, and Other Statistical Issues in Developing Cost-of-Living Indexes. Committee on National Statistics. Washington, D.C.: National Research Council. Available [online]: <http://search.nap.edu/books/0309074428/html/>

An overview of skills and formal employment dynamics in 2003

Thami Hlekiso, Research Department

The macroeconomic impact of skilled workers manifests on both the supply and demand sides of the economy. Research reveals that since the 1970s the demand for higher skills levels has increased steadily. The opening of the South African economy during the early 1990s facilitated this trend. International employment and occupational structures across the world are being reshaped by, *inter alia*, the changing dynamics of international trade and information and communication technologies (ICT)¹. South Africa has not escaped this international trend, with new occupations being created while others experience a reorganisation of work such as outsourcing. The increase in skilled employment, especially with the high penetration of ICT occupations in the developed world, has resulted in improved efficiency, rising productivity and higher levels of output and growth, alongside low inflation and low unemployment in the 1990s².

A strong move towards a knowledge-based economy has transformed the demand for human resources. This transformation has influenced certain occupations and industrial sectors positively. In this regard, there has arisen a need for South Africa to follow a comprehensive skills development strategy that is appropriate for its production and industrial systems. Such a strategy should also increase medium and high-level skills and provide support to unskilled and elementary job creation initiatives.

What follows is an analysis of formal non-agricultural employment by occupation. The occupational dynamics in South Africa are analysed with the aim of stimulating more rigorous debate on factors that have an impact on skills development. The following sections give an overview of occupational and educational profiles of non-agricultural formal sector employment using the September 2003 *Labour Force Survey* (LFS). This is followed by an overview of different institutions designed to facilitate skills development. The article concludes by highlighting challenges for human capital development in South Africa.

Box 2 Definitional issues and data sources

The LFS classifies workers according to qualifications, specifically by level of education and field of study*. Most analyses of trends in employment combine one or more classifications, for example qualification and occupation, to identify the skills needed for different types of jobs. However, such approaches are not totally harmonised across countries and efforts continue to refine categorisation of workers. For the purpose of this article highest level of education is classified as follows:

- No schooling – none
- Some primary – Grade 0/Std 1 to Grade 7/Std 5
- Some secondary – Grade 8/Std 6 to Grade 11/Std 9
- High school or matric – Grade 12/Std 10
- Vocational – NTCl to NTClII; diploma/certificate with Grade 11/Std 9 or lower
- Some tertiary – Diploma/certificate with Grade 12/Std 10; degree and higher

The LFS classifies occupational categories in line with International Standard Classification of Occupations (ISCO) and South African Standard Classification of Occupations (SASCO) systems. SASCO defines an occupation as a set of jobs with similar sets of tasks. Occupations refer to the following major groups: (1) Legislators, senior officials and managers – “managers”; (2) Professionals; (3) Technicians and associate professionals – “technicians”; (4) Clerks, service workers and shop and market sales workers – “service workers”; (5) Skilled agricultural and fisheries workers; (6) Craft and related trades workers – “craft workers”; (7) Plant and machinery operators and assemblers – “operators”; and (8) Elementary occupations.

At present the definition of the subcategory *Legislators, senior officials and managers* includes workers who may lack tertiary-level education, which raises some methodological challenges.

For the purpose of this article, the following categories are excluded: Skilled agricultural and fisheries workers, domestic workers and other workers in “informal” activities**.

* This is LFS question 16a used to determine highest education level and 16b to gauge responses from workers by field of study. These questions are the major sources of information on the supply of workers by education level.

** The LFS for September 2003 determines occupations from responses to questions 4.1a and 4.1b.

1 Hlekiso, T. 2002. *The information economy: Prospects for deriving greater benefits for economic growth and development*. Labour Market Frontiers. October. Pretoria: South African Reserve Bank.

2 International Labour Organisation. 2001. *Life at work in the information economy*. World Employment Report. Geneva.

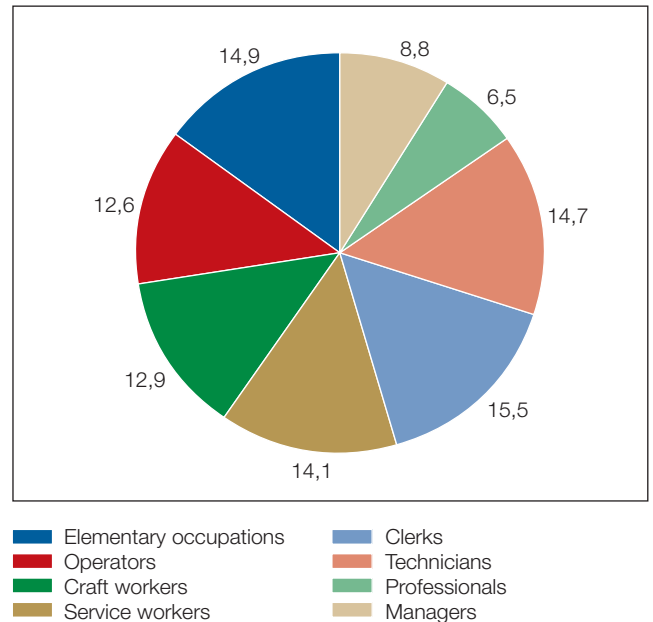
Formal non-agricultural employment by occupation

In most Organization for Economic Co-operation and Development (OECD) countries, professionals and technicians represent between 20 and 35 per cent of total employment³. According to the September 2003 LFS, professionals and technicians represent 21,2 per cent as a share of formal non-agricultural employment in South Africa.

Labour market analysis⁴ in South Africa has shown that the change in the structure of the economy has impacted on the composition of employment creation by reducing the demand for lower-end occupational categories such as elementary occupations, clerks and operators. Furthermore, Bhorat et al.⁵ argue that the professional occupational category experienced skills mismatches and a high concentration of tertiary educated workers in non-science and technical fields. In September 2003, clerical, elementary, and technician occupations were the largest components of formal non-agricultural employment (see Figure 2.1). Clerks were marginally higher with 15,5 per cent (approximately 1,15 million workers), followed by elementary occupations with 14,9 per cent (approximately 1,10 million workers) and technicians at 14,7 per cent (approximately 1,09 million workers). Professionals and managers constituted the smallest percentages, 6,5 per cent and 8,8 per cent, respectively.

Current research shows a complex relationship between employment and occupational demand in South Africa. Unlike in most OECD countries where upskilling focuses on science and technical skills, South Africa is faced with the need to upskill in a broader range of occupational categories⁶. In other words, the fact that skills shortages also occur in intermediate-skilled occupations such as craft workers means the country is faced with the need to raise skills levels across all occupations. For example, according to the Business Confidence Index of the Bureau for Economic Research and Rand Merchant Bank, 89 per cent of the building contractors that were surveyed indicated a shortage of labour in technician and craftworker-type jobs such as artisans. Another study⁷ estimated the skills shortage to be about 20 000 across a range of industrial sectors of artisans such as electricians, welders, plumbers, and fitters and turners.

Figure 2.1 Formal employment by occupation as percentage of total, 2003



Source: Own calculations, *Labour Force Survey*, September 2003

Educational and occupational dimensions

South Africa's integration into the global economy has increasingly prioritised science and technology education. The move from labour-intensive to capital-intensive and knowledge-based production methods depends on technologically sophisticated systems and procedures. It is therefore essential for South Africa to develop its human capital to reduce unemployment and poverty. A key aspect in this regard is to identify and implement the type of education system that will meet the demand for specific skills.

The international approach in upskilling is more prominent in the supply of science and technology graduates and shows a bias towards women⁸. As a result, OECD countries have an average of 28,4 per cent employed workers with a tertiary level qualification⁹. In 2002 Canada had the highest percentage of employment of tertiary-level graduates with 42,6 per

3 OECD. 2004. *Science Innovation*. Science and Technology Statistical Compendium. Paris.

4 Fedderke, J.W. and M. Mariotti. 2002. *The changing market conditions in S.A.: A sectoral analysis of the period 1970 – 1997*. South African Journal of Economics, Vol. 70, No. 5, pp 831-865.

Bhorat, H., Lundall, P. and S.Rospabe. 2002. *The South African labour market in a globalizing world: Economic and legislative considerations*. Geneva: International Labour Organisation.

5 Bhorat, H. et al. 2005. *Labour Market challenges in the Post-Apartheid South Africa*. DPRU Working Paper 05/93.

6 Fryer D. and D.Vencatachellum. 2005. *Coordination Failure and Employment in South Africa*. DPRU Working Paper 04/86.

Woolard, I. Kneebone, P. and D. Lee. 2003. *Forecasting the demand for scarce skills, 2001 – 2006*. Human Resources Development Review 2003: Education, Employment, and Skills in South Africa. Cape Town: Human Sciences Research Council and East Lansing: Michigan State University Press. Authors use both February and September 2001 LFS data for their forecasts.

7 Kraak, A. 2003. *HRD and the skills crisis*. Human Resources Development Review 2003: Education, Employment, and Skills in South Africa. Cape Town: Human Sciences Research Council and East Lansing: Michigan State University Press. This SASOL study confirmed an earlier HSRC survey by Kraak et al. undertaken in 2000 that showed that the greatest shortage of skills and difficulty in recruiting were among technicians and craftworker-type jobs.

8 Cervantes, M. 1999. Background report: An analysis of S&T labour markets in OECD countries. OECD: Paris.

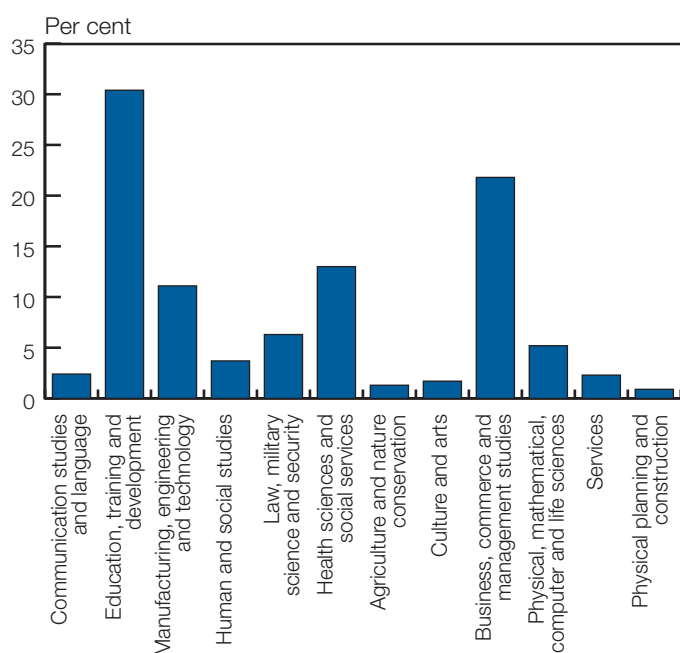
9 Organization of Economic Cooperation and Development. 2004. *Human Resources in Science and Technology*. Paris.

cent and Mexico the lowest with 7,9 per cent. According to the LFS, 21,8 per cent of workers in formal non-agricultural employment had some tertiary education in September 2003¹⁰.

The LFS also shows that workers with science and technical training remain scarce in formal non-agricultural employment. The percentage of tertiary workers trained in fields such as manufacturing, engineering and technology was 2,5 per cent (approximately 186 000 workers) while for physical, mathematical, computer and life sciences the percentage was 1,2 per cent (approximately 87 000 workers).

Formal employment is biased towards workers with non-science education (see Figure 2.2). Employees in the field of education and training comprise the largest share of those with some tertiary qualification at 30,4 per cent, followed by business, commerce and management studies with 21,8 per cent, and health sciences and social services at 13,0 per cent.

Figure 2.2 Formal non-agricultural employment by selected fields of study

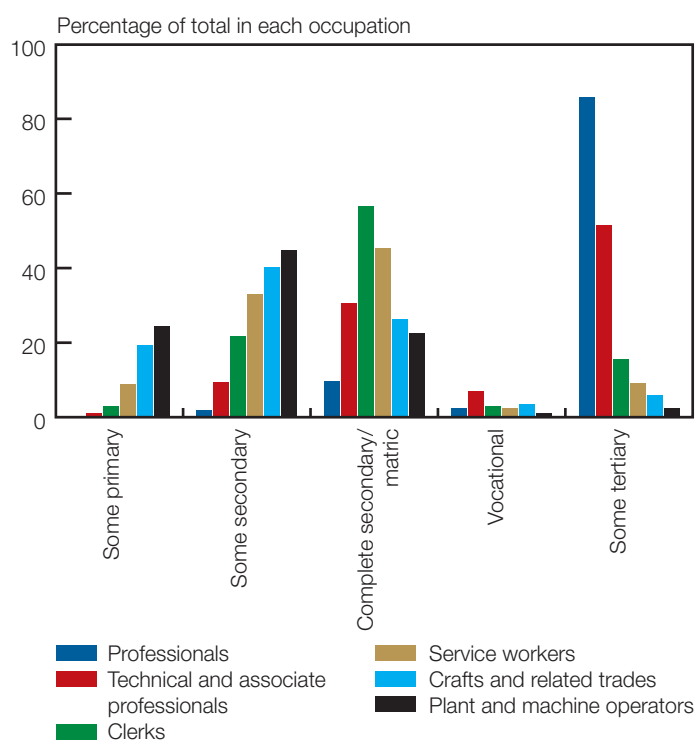


Source: Own calculations, *Labour Force Survey*, September 2003

Data from the LFS further show that qualification levels among clerks, service workers, craft workers and

operators were mainly in two categories, i.e. incomplete secondary education and completed secondary school or matric (see Figure 2.3). For example, 78,4 per cent of clerks had some secondary education or had completed their secondary schooling. There are also low levels of vocational training among employees, i.e. most occupations had between 1,0 per cent and 7,0 per cent of employees with vocational training in September 2003.

Figure 2.3 Education level of those engaged in selected occupations



Source: Own calculations, *Labour Force Survey*, September 2003

Despite the fact that there may be long periods associated with training and educating people in science and technology, Woolard et al.¹¹ indicate that South Africa is not necessarily different from other countries with forecasts showing that additional demand for highly-skilled workers (professionals, technicians and managers) will remain low until 2006, mainly because of capacity constraints in the economy. Furthermore, Kraak¹² argues that the shortage of highly skilled professionals in South Africa does not constitute a crisis. The greater labour

¹⁰ It should be noted that this comparison has limitations as it excludes those in informal activities and is lower when taken as a ratio of total employment.

¹¹ Woolard, I. Kneebone, P. and D. Lee. 2003. *Forecasting the demand for scarce skills, 2001 – 2006*. Human Resources Development Review 2003: Education, Employment, and Skills in South Africa. Cape Town: Human Sciences Research Council and East Lansing: Michigan State University Press. Authors use both February and September 2001 LFS data for their forecasts.

¹² Kraak, A. 2003. *HRD and the skills crisis*. Human Resources Development Review 2003: Education, Employment, and Skills in South Africa. Cape Town: Human Sciences Research Council and East Lansing: Michigan State University Press.

market challenge according to Kraak¹³ is the supply of middle-level skills, especially competent technicians, craft workers and operators.

South Africa needs an integrated approach to skills development where all stakeholders – primarily government, business and labour organisations – are major participants. The following section reviews the institutional framework for skills development in South Africa.

Institutions and development of human capital

Skills development and the movement towards the more productive and better paying occupations in South Africa's labour market depend on several institutional factors. Skills development institutions that can bring about such changes are business and trade unions, and the Sector Education and Training Authorities (SETA) system. In contrast to short-term solutions such as skills importation, a multi-dimensional approach to skills development that simultaneously includes the co-ordination of policies is recommended¹⁴.

Since 1994, the institutional framework for skills development and labour market policy in general have changed in South Africa. An example of a labour market policy change is the enactment of the Skills Development Act of 1998 (SDA). Among other priorities, the SDA attempts to strengthen the link between workplace education and training, economic growth and the creation of employment opportunities. The SDA has established a centralised funding mechanism, and sectoral level institutions known as SETAs are tasked to drive the development of occupational skills.

At the centre of the skills development strategy is the Skills Development Levies Act of 1998, which provides an enabling environment for higher levels of resource allocation by business towards skills development. This strategy encourages businesses to provide more opportunities for employees to acquire new skills, while it is simultaneously designed to have a positive impact on occupational mobility in the medium to long term. The SDA incorporates the National Skills Authority to advise the Minister of Labour on the formulation and implementation of a skills development policy and strategy. The Department of Labour is presently engaged in a process of restructuring SETAs in order to improve efficiency. Each SETA consists of relevant statutory and non-statutory organisations such as trade unions, business (including small and medium enterprises), relevant government departments, professional bodies and bargaining councils.

Bhorat et al.¹⁵ argue that while the SDA will work effectively for the occupational mobility of those already in employment, it could be difficult to apply the Act in addressing unskilled workers and reaching the unemployed. In other words, while enhancing the occupational and educational profile of those in employment does tend to impact positively on economic growth, occupational mobility in itself does not necessarily create sufficient job opportunities, thereby assisting the unemployed. A range of special employment programmes such as the Expanded Public Works Programme and industrial policy measures are being implemented to facilitate a co-ordinated policy framework to support economic growth, skills development and employment creation.

Skills development suggests transforming elementary occupations to artisan/clerical type occupations and highly skilled professional occupational categories. On the demand side, a desired trend is the increase in the number of jobs created at professional, technical, operator and clerical levels without a drastic decrease in jobs created in elementary occupations. Other measures include an increase in high school leavers trained in science and mathematics and an expansion of tertiary level graduates with not only science and technical degrees but the flexibility to participate in a knowledge-based economy. The challenge with unskilled elementary occupations could take time to remedy even with improved public and private worker-education partnerships. A strong case can be made for a "hybrid" system¹⁶ that generates demand across all sectors without disadvantaging semi-skilled and unskilled occupational categories. A "hybrid" system is best facilitated by a multifaceted institutional and policy environment where there is upskilling of the existing workforce and sectoral labour absorption at all occupational categories, including public-sector support to create jobs for those in the elementary occupations, all within a sustainable economic growth environment.

Conclusion

Consistent with other analyses, the LFS 2003 demonstrates that workers with some tertiary qualifications in formal employment are concentrated in the non-science and non-technical fields such as education, business, commerce and management studies. A large component of those in formal employment have either a high school or an incomplete secondary education, rather than vocational or industry-related job training, indicating persistence of historical supply-side problems. It is important for further research to focus on skills development institutions and policies and their linkages with skills supply, wages and economic growth.

¹³ *Ibid.*

¹⁴ Fryer, D. and D. Vencatachellum. 2004. *Coordination Failure and Employment in South Africa*. DPRU Working Paper 04/86.

¹⁵ Bhorat, H., Lundall, P. and S. Rospabe. 2002. *The South African labour market in a globalizing world: Economic and legislative considerations*. Geneva: International Labour Organisation.

¹⁶ Kraak, A. 2003. *HRD and the skills crisis*. Human Resources Development Review 2003: Education, Employment, and Skills in South Africa. Cape Town: Human Sciences Research Council and East Lansing: Michigan State University Press.

Youth joblessness and patterns of job searching

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Many of the current labour market debates ascribe unemployment in South Africa to either a deficient supply of skills, or to subdued demand resulting from inadequate macroeconomic performance and the impact of globalisation. Other less-explored dimensions of unemployment include job-seeking patterns among the unemployed. Although there is a lack of data that can be used to assess the extent to which these patterns might contribute to unemployment, this brief article attempts to contribute by shedding some light on job-seeking dynamics in South Africa.

This analysis briefly explores off-the-job search dynamics among the youth (formally classified as members of the population aged 15 – 34 years)¹ that are actively searching for work. It starts with a broad overview of youth unemployment and thereafter describes search patterns among the youth and how job-seeking behaviour differs according to education, field of study, gender and race. The article then concludes by highlighting issues for further research and policy development.

Overview of youth joblessness

According to the *Labour Force Survey* (LFS), there were approximately 3,3 million unemployed South African youth in September 2003. This represents 20 per cent of the total economically active population, or 70 per cent of the officially unemployed population. The September 2003 LFS reveals that South Africa's youth unemployment has important racial and gender dimensions (see Table 3.1). Females were in the majority (53 per cent) and nearly nine in ten unemployed youth were Black. Approximately 35 per cent of the unemployed youth had matric or had completed secondary schooling. Unemployment rose with education up to secondary levels, peaked among those who had not fully completed their secondary-level education, and thereafter dropped drastically to about one per cent at vocational level. Notably, the likelihood of unemployment climbed to 5 per cent among those with tertiary education.

The single most prevalent field of specialisation among the jobless youth with certificates/diplomas or degrees in 2003 was business and commercial studies, at 32 per cent. The second largest group (31 per cent) was trained in a variety of fields such as education and training, human and social studies and communication studies².

Table 3.1 Youth unemployment and search methods, 2003*

Variables/ categories	Percentage of total unemployed youth	Job search methods (per cent)			
		Registered at agencies	Enquired at workplaces	Placed or answered advertise- ments	Sought assistance from relatives or friends
Gender					
Male	47,1	15,7	60,4	13,8	10,1
Female	52,9	13,2	57,7	17,6	11,5
Population group					
Black/African	87,3	14,9	58,5	15,3	11,4
Coloured	8,7	7,9	73,9	12,2	6,1
Indian/Asian	2,1	19,4	34,7	37,4	8,6
White	1,9	13,1	37,8	35,8	13,4
Highest education level					
No schooling	1,3	17	69,8	1,5	11,7
Some primary	15,7	18,6	63,7	3,1	14,6
Some secondary	42,1	14,1	65,5	9,1	11,3
Completed secondary/ matric	34,5	13,2	52,9	24,1	9,8
Vocational	1,4	9,4	43,4	39,2	8
Some tertiary	5,1	12,4	31,6	51,9	4
Area of study**					
Manufacturing, engineering and technology	16,4	13,6	39,6	44,3	2,5
Health sciences and social services	6,1	17,4	31	51,7	0
Business, commerce and management	31,9	5,9	36,1	53,1	4,8
Physical, mathematical, computer and life sciences	14,2	7	31,6	58,7	2,7
Other	31,3	19,9	25,1	49,2	5,8

* Totals may not equal 100 due to rounding errors

** Percentage of unemployed youth with certificate, diploma or degree qualifications

Source: Own calculations, *Labour Force Survey*, September 2003

¹ Although the International Labour Organisation defines the youth as those aged 15 – 24 years, this article follows South Africa's official classification of 15 – 34 years. See online: www.ilo.org/public/english/employment/strat/kilm09.htm

² Classified together as "Other" in Table 3.1.

Youth qualified in manufacturing, engineering and technology constituted the third largest share (16 per cent). The table further shows that about one in five of these youths were trained in physical, mathematical, computer and life sciences.

Another feature of South Africa's labour market is long periods spent in out-of-the job seeking among the youth. The duration of unemployment among the youth was found to be markedly skewed towards long-term unemployment. On the basis of the International Labour Organisation's one-year or longer³ criterion for long-term unemployment, the data reveal an estimated prevalence rate of 61 per cent among the youth.

The *Labour Force Survey* also enquired whether the job seekers had received offers in the preceding six months and if they were aware of available jobs (for which they qualify) but which they were not prepared to take. Data suggest that the jobless youth hardly received any job offers. Only about three per cent of the three million plus unemployed youth had received job offers. Less than half a per cent of the youth⁴ indicated they were aware of available jobs for which they qualified but were not willing to take.

Dimensions of job searching among unemployed youth

This section describes linkages between youth job-seeking patterns and gender, population group/race, educational background and field of study. The September 2003 LFS results confirm findings elsewhere⁵ in which the method of direct enquiries at work places was the most utilised off-the-job search method (59 per cent) among the youth. This is followed by responses to advertisements (16 per cent) and registration at employment agencies or trade unions (14 per cent). Only one in ten unemployed youth were likely to rely on social networks including relatives and friends.

Table 3.1 demonstrates the incidence of each search method within each category per variable. The incidence of direct enquiries was generally as high among males (60 per cent) as it was among females (58 per cent). The rate of dependency on friends and relatives was marginally higher among females (12 per cent) than among males.

The data reveal notable search method propensities by educational background. Table 3.1 shows that below tertiary level, most youths in each of the categories tended to search by making direct enquiries. It further shows an

inverse relationship between educational attainment and the incidence of this method – from nearly 70 per cent among those without any schooling down to 32 per cent at tertiary level. In other words, the higher the level of education, the less the youth were likely to enquire directly at work places.

The method of placing or responding to advertisements was more common among those with completed secondary education and higher compared to lower levels of education. The percentage responding to advertisements increased with the level of education from about 2 per cent among those with no education to 24 per cent for those with completed secondary education and 52 per cent at tertiary level.

The data further show that, contrary to the general pattern where direct enquiries at work places were most popular among the youth, the majority (51 per cent) of those that possessed some form of specialisation in a field of study, rather relied on vacancy advertisements.

Racial differences in job search patterns are also evident. Direct enquiries at places of employment were most utilised by Coloureds (74 per cent), Blacks (59 per cent) and, to a much lesser extent, by Whites (38 per cent). Whites were much more likely to also depend on relatives and friends (13 per cent) compared to other races.

Some reflections

The findings indicate that direct enquiries at work places are the main means of job seeking among the youth. The groups that are most likely to use this method – females, Blacks and the youth with incomplete secondary education – tend to experience lower labour market success rates. Table 3.1 shows that these groups have a relatively higher incidence of unemployment. Those with secondary education have a higher risk of joblessness; females display a higher incidence of unemployment than males; and Africans tend to experience higher rates of joblessness than other races and they tend to be more reliant on the direct enquiry method.

The role of search patterns in joblessness is pertinent. In broad terms, research is required to shed more light on the role of job-search methods in youth labour market success *vis-à-vis* other demand and supply factors. Furthermore, job search methods such as networks may be an important challenge for historically disadvantaged groups and merits attention from key players in the labour market.

³ See online: www.ilo.org/public/english/employment/strat/kilm10.htm

⁴ These findings should only be viewed as indicative, as the number of applicable cases to these particular questions is not large enough.

⁵ Duff, P. and D. Fryer. 2004. "The Dynamics of Job Search and the Microfoundations of Unemployment: Evidence from Duncan Village". Paper presented at the Labour Market Forum Conference, Somerset West, South Africa.