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## **ADDRESSING THE EMPLOYMENT-POVERTY NEXUS IN KENYA: COMPARING CASH-TRANSFER AND JOB-CREATION PROGRAMMES**

**Eduardo Zepeda**  
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**International Poverty Centre  
United Nations Development Programme**

International Poverty Centre  
SBS – Ed. BNDES, 10º andar  
70076 900 Brasilia DF  
Brazil

povertycentre@undp-povertycentre.org  
www.undp-povertycentre.org  
Telephone +55 61 2105 5000  
Fax +55 61 2105 5001

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# **ADDRESSING THE EMPLOYMENT-POVERTY NEXUS IN KENYA: COMPARING CASH-TRANSFER AND JOB-CREATION PROGRAMMES\***

Eduardo Zepeda\*\*

## **ABSTRACT**

This Working Paper seeks to provide an overview of the link between employment and poverty in Kenya. Using descriptive statistics and regression techniques, it examines unemployment, underemployment, employment and labour earnings, and the link of all these with poverty. Data are from the unit records of the Labour Force Survey of 1999/99, the latest available data at the time that this paper was written. The paper finds that Kenya faces daunting employment challenges. Unemployment is high and heavily affects urban areas, particularly young workers (15-24 years old) and mature educated workers (55-64 years old). Many of the unemployed are women. In rural areas, the main problem is underemployment, which also disproportionately affects women. Employment is dominated by traditional farming and pastoralists activities in rural areas and by informal activities in urban areas. Productive jobs are limited basically to wage employment, mostly in the modern public and private sectors concentrated in urban areas. Labour earnings are highly differentiated, starting from the high wages of employees in the modern public and private sectors, followed by the earnings of informal-sector workers, and ending with the low incomes of rural traditional farmers. Returns to education are high, very high in the case of tertiary education—suggesting that skills are scarce and highly demanded. The single two most important factors decreasing the probability of being poor are having higher education and having access to a paid job in the modern sectors. The employment landscape corresponds to that of a stagnant economy in which poor workers are in need of short-term social protection and all workers are in need of an effective long-term employment-focused development strategy. Using micro data, the paper simulates two programmes designed to provide income support to poor households: a child-transfer and a job-creation programme. Results suggest that both programmes improve the incomes of the poor and result in significant reductions in the depth of poverty. Simulations indicate that while the child-transfer programme performs better in rural areas, where dependency ratios are higher, the job-creation programme markedly reduces poverty in urban areas, particularly among the extremely poor, and even, surprisingly, among poor female workers.

Keywords: Employment; Poverty; Child grants; Public works.

JEL Classification: C52, J21, J24, O55.

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## 1 INTRODUCTION

Kenya entered the Twenty-First Century facing the challenge of having to accelerate economic growth and rapidly reducing poverty. Faltering growth in the country over the previous decade led, together with rising inequality, to an increase in poverty from its already high level in the early 1990s. Despite private investment in agriculture, manufacturing and services, which has created some jobs with a reasonable level of productivity, wages and working conditions, despite Kenya's important role in some export markets and its receipt of sizeable inflows of visitors for tourism and business purposes, the overall employment situation has deteriorated over the last 15 years. Employment has continued to lag behind a growing population.

The majority of Kenyans continue to live in rural areas and depend on agricultural and pastoralist activities, supplemented by various informally organised activities. The growing urban population depends, to a large extent, on informal labour markets to make a living since jobs in modern sectors are scarce. The past inability to generate productive employment has created formidable challenges for Kenya.

Kenya needs to grow, no doubt. Indeed, the economic recovery since the early 2000s has brought hope. But Kenya needs not just any growth, it needs pro-poor growth: it needs fast average growth and even faster growth of the income of poor households. Kenya has undertaken economic reforms, has increased exports and has been able to control inflation. But it needs to embark on an employment-focused development strategy while, at the same time, acting now to support the incomes of the poor.

This Working Paper seeks to provide a picture of the link between employment and poverty in Kenya. It examines the ability of employment to increase incomes and enable families to escape from poverty, and proposes policies to achieve these ends. It also simulates the potential impact of two targeted programmes to support the incomes of the poor while an employment-based development strategy unfolds and delivers results. For its analysis, this paper uses the unit record data of the Labour Force Survey of 1999/99, the latest available data at the time of its writing.

## 2 UNEMPLOYMENT

Unemployment in Kenya is high. According to estimates compiled by Manda (2004), open unemployment increased significantly from the mid 1980s to the end of the 1990s. Kenya's Central Bureau of Statistics (CBS) estimated that at the end of the 1990s open unemployment in Kenya was 14.6 percent. Defining open unemployment in a country such as Kenya is not a straightforward exercise. The very fact of producing an estimate of unemployment involves a discussion of the peculiarities of a stagnant economy, where traditional forms of production and informality intertwine with modern activities.

The estimate of open unemployment we choose to present here is 1.4 million people, which represents 11.6 per cent of the economically active population 15 to 64 years old (Table 1).<sup>1</sup> Looking only at Kenya's official working-age population clearly ignores the reality of child and elder work, but since our interest is to discuss the core of the working population, we limit our discussion to this group of the population throughout this paper.<sup>2</sup>

TABLE 1  
Open Unemployment

Unemployment #	Male	Female	Total
Rural	237,492.9	168,093.6	405,586.5
Urban	272,341.3	761,143.8	1,033,485.1
Total	509,834.2	929,237.4	1,439,071.6
Unemployment %	Male	Female	Total
Rural	5.9	3.9	4.9
Urban	13.0	37.6	25.1
Total	8.3	14.7	11.6

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

We arrive at an 11.6 per cent unemployment rate by adding three groups of people who have indicated that they were not working. The first group is people seeking a job, that is, people with no work who took specific steps to find a job. This group totals 400,000 people, or three out of every 10 unemployed.

The second group is people who we assume were looking for work though they were not actively seeking a job. These are persons who did not have a job or performed any work during the survey reference period and did not take any specific step to find work; nevertheless, they indicated that they were '*Looking for Work*' in response to the question: '*Main reason for not working or holding a job last week?*' We therefore assume that these are people available for work. This group totals 900,000 people, or six out of every 10 unemployed.

The third group is people with a clear connection to work or a job but temporarily not working, i.e., people temporarily laid-off from work, waiting for a job, and making arrangements to perform some work. We estimate that this group includes one in every 10 unemployed.

Our estimate of about 12 per cent for the national unemployment rate for 1998/99 is an average of widely diverging rates. While the urban rate is 25 per cent, the rural rate is only five per cent (Table 1). The overall rate for females is higher than for males: 15 per cent vis-à-vis eight per cent. Moreover, the female rate is also the average of two extremes, namely, a four per cent rate in rural areas and a 38 per cent rate in urban areas.

The very low unemployment rate for women in rural areas reflects the predominantly traditional context in which labour takes place, characterized by female's low economic participation and limited job-seeking activity. The high female unemployment rate in urban areas is, in turn, explained by a high female participation rate, almost equal to that of males, but a very low success rate in actually finding a job.

## 2.1 AGE AND EDUCATION

Age is an important factor in explaining unemployment in Kenya. Breaking down unemployment for different age cohorts enables us to identify the strong role that age plays in conditioning unemployment. Examining ten-year age cohorts, we see that, first, unemployment rates generally decrease with age and that, second, the rate of decrease is very rapid from the first to the second age cohort (from 15-24 to 25-34 years). Unemployment rates for youth are extremely high; rates drop sharply for people aged 25-54 years, remain low for 35-54 years old but increase for the older cohort aged 55-64 years.

TABLE 2

**Unemployment Rates by Age and Education**

Education	Age cohorts					Total
	15-24	25-34	35-44	45-54	55-64	
Primary incomplete	20.4	16.9	5.3	5.0	6.5	8.5
Primary	19.4	10.0	5.9	4.2	4.1	11.0
Secondary	31.6	10.5	5.9	7.1	14.5	14.2
Higher	19.4	13.4	10.4	7.2	17.8	12.2
Total	23.1	10.8	5.9	5.1	6.4	11.6

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

Typically, the rate of unemployment increases with education, reflecting the fact that the length of unemployment tends to be longer for more educated people. They need to spend more time searching for a job that matches their higher skill level; also, since they tend to earn higher incomes, they can afford to remain without a job for longer periods of time.<sup>3</sup>

But the structure of unemployment in Kenya only partially follows this logic. While in rural areas unemployment rates do tend to be higher among the educated, in urban areas, where the bulk of modern sectors is located, the dynamics of the labour market result in declining, not rising, unemployment rates as educational level increases.<sup>4</sup>

If we look at unemployment rates by age and education, we can see that unemployment rates among the youth are all similar except for those with secondary education, who have a distinctively high rate, presumably because of a lack of demand for such skills. As we move to the next age group, 25 to 34 years, the rate of unemployment is now lower for all education groups, but the highest unemployment rate is found among the uneducated.

Unemployment rates for the age cohorts 35 to 44 years are low among those with up to secondary education; but for those with tertiary education, unemployment rates are higher. Unemployment rates for the cohorts 45-54 years and 55 to 64 years who have secondary and tertiary education are distinctively higher (Table 2). All these trends suggest that, with some exceptions, there is a weak correlation between unemployment rates and level of education and that higher unemployment among the highly educated is limited to ages 35 years and older. The weakness of the correlation suggests a severe scarcity of educated people and a complex interaction with their experience and the relevance of their skills.

In sum, although the national unemployment rate is about 12 per cent, it is significantly higher for young people everywhere. The unemployment rate is also higher for the age group 55 to 64 years, especially if they have secondary or tertiary education. At the same time, the typical finding that unemployment rates are generally higher for the more educated does not entirely apply to Kenya: the demand for educated people plus their acute scarcity sometimes counteract this tendency.

### 3 EMPLOYMENT

In 1998/99, the employed in Kenya included 11 million people. More than two thirds of them lived in rural areas. While males dominated employment in urban areas, females took precedence in rural settings.

Employment can be divided into three distinct categories: 1) paid employment, which includes employees in the private and public sectors, as well as employees on farms; 2) informal employment, which includes own-account workers, owners of small unregistered businesses, and their employees; and 3) work in traditional farm and pastoralist activities, under which we also subsume the out-of-work seasonal workers. The largest employment category is farmers and pastoralists, accounting for about 42 per cent of the total. Informal activities account for almost one third, and the smallest category is paid employees, comprising 26 per cent (Table 3).<sup>5</sup>

TABLE 3

**Employment in Formal, Informal, Traditional and other Activities**

%		Rural		Urban		Total		
		Male	Female	Male	Female	Male	Female	Total
Formal paid employees	Modern public sector	32.3	36.8	37.2	38.5	34.9	37.9	35.7
	Modern private sector	40.8	30.0	59.5	46.6	50.8	40.4	47.9
	Other sectors	4.0	8.1	2.7	13.1	3.3	11.2	5.5
	Small farms	22.9	25.1	0.6	1.9	11.0	10.5	10.8
	<i>Formal #</i>	<i>950,343</i>	<i>297,922</i>	<i>1,092,882</i>	<i>508,704</i>	<i>2,043,224</i>	<i>806,626</i>	<i>2,849,850</i>
	<i>Subtotal as % of Total</i>	<i>25.1</i>	<i>7.3</i>	<i>59.9</i>	<i>40.2</i>	<i>36.5</i>	<i>15.0</i>	<i>26.0</i>
Informal	Paid employees	19.9	6.9	38.1	14.5	26.4	9.9	18.6
	Working employers	15.2	17.5	30.3	33.7	20.6	23.9	22.1
	Own account	57.5	61.7	21.7	30.3	44.8	49.3	46.9
	Unpaid family and other	7.4	13.9	9.9	21.5	8.3	16.9	12.3
	<i>Informal #</i>	<i>1,214,151</i>	<i>1,010,721</i>	<i>670,103</i>	<i>661,317</i>	<i>1,884,254</i>	<i>1,672,038</i>	<i>3,556,292</i>
	<i>Subtotal as % of Total</i>	<i>32.1</i>	<i>24.6</i>	<i>36.7</i>	<i>52.3</i>	<i>33.6</i>	<i>31.1</i>	<i>32.4</i>
Traditional	Farm / Pastoralist	92.1	89.2	96.0	81.2	92.2	88.9	90.1
	Out-of-work seasonal	7.9	10.8	4.0	18.8	7.8	11.1	9.9
	<i>Traditional #</i>	<i>1,615,845</i>	<i>2,798,708</i>	<i>60,981</i>	<i>94,754</i>	<i>1,676,827</i>	<i>2,893,462</i>	<i>4,570,289</i>
	<i>Subtotal as % of Total</i>	<i>42.7</i>	<i>68.1</i>	<i>3.3</i>	<i>7.5</i>	<i>29.9</i>	<i>53.9</i>	<i>41.6</i>
Total	All employed #	<i>3,780,339</i>	<i>4,107,351</i>	<i>1,823,966</i>	<i>1,264,775</i>	<i>5,604,305</i>	<i>5,372,126</i>	<i>10,976,431</i>
	<i>Total %</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

The employment landscape of Kenya does not cut evenly across rural and urban areas, nor across sex. Employment in small farms is, of course, predominantly rural and female dominated; employment in informal activities is also mostly rural but, in contrast to farming, there are slightly more men than women. Paid employment is more urban than rural, and clearly dominated by men, who hold 72 per cent of all such jobs (see Table A.2 in the Appendix).

In order to gain further insights into Kenya's employment structure, we subdivide each of the above three categories. We first break down formal paid employees into three sub-groups: those in modern private and public sectors, those in small farm/pastoralist units, and those in other sectors. Two thirds of formal workers are paid employees in the modern public and private sectors. Although the private sector is the largest among the two, the public sector is

not small since it employs 36 per cent of all formal paid employees. Leaving aside paid employment in the farm sector, 62 per cent of formal paid jobs are urban.

We divide informal employment into four sub-groups: paid employees in informal businesses, working employers in informal businesses, own-account workers in informal activities, and a miscellaneous category of unpaid family workers and others.<sup>6</sup> Half of those informally employed are own-account workers; another quarter are working employers; and slightly more than one fifth are paid employees. This breakdown suggests that on average working employers hire 0.8 paid employees and perhaps up to 0.6 unpaid workers.

Lastly, we split the active farmers and pastoralists category into own-account workers, unpaid family workers (the most numerous group) and other unclassified workers, but we exclude paid employees in farms and pastoralists activities. These workers are, of course, primarily located in rural areas, yet about three per cent of them are urban residents. The out-of-work seasonal workers group is discussed below under the heading of underemployment.

Paid employment in modern sectors is more frequently found in urban areas: about 63 per cent of the employees in modern public and private sectors live in urban areas. Informal work tends to favour rural locations since almost two thirds of such workers are rural residents.<sup>7</sup> To properly interpret the rural/urban distribution for the different employment categories, one must take into account that most of the employed live in rural areas (71 per cent).

So for our analysis, we use the *concentration* index, which we obtain by dividing the proportion of workers in a particular category in rural or urban areas over the corresponding proportion in total employment. This ratio gives a measure of the urban and rural concentration for each employment category.

Thus, the 63 per cent proportion of paid employees in modern sectors living in urban areas is equivalent to about two times the urban share of the total number of such workers. Hence, the result is a 2.1 urban concentration index, which underscores the dominance of urban residents in these occupations.<sup>8</sup> Similarly, most informal occupation categories concentrate in urban areas: their concentration indices range between 1.6 and 1.8. The exception is own account workers, who, according to our estimates, tend to concentrate in rural areas; however, one should note that there is likely to be a qualitative difference between an own-account worker in urban areas and an own-account worker in rural settings, who might be also described as a worker engaged in farm and pastoralists activities within a traditional family context.

### 3.1 UNDEREMPLOYMENT

As in many developing countries, underemployment in Kenya raises difficult challenges to income generation and development. For practical purposes we define underemployment as labour that extends to only a few hours per week and/or a few months per year.<sup>9</sup> We examine three forms: limited hours of work, part-time paid employment and seasonal work.

On average, the working week of Kenyans is 40 hours. But this average should not mislead readers to think that the majority of Kenyans work 'full time': only 55 per cent of the employed work, an average, 38 or more hours per week. At one extreme we have own-account workers and small farmers in rural areas working an average of 30 hours per week. At the other extreme, we have private-sector employees, formal and informal, and the self-employed working on average more than 48 hours per week. The public sector in both urban and rural areas is the one place where work follows a 'regular' pattern, i.e., an average working week of 40 hours.



The large size of Kenya's rural workforce employed in traditional farm activities suggests, by itself, that seasonal work might be a widespread phenomenon. But what are its main characteristics? The LFS data provide useful but, unfortunately, incomplete information about seasonal patterns of work. The data tell us whether seasonality was the reason why a person did not work; but, except for paid employees, the survey does not provide information on whether or not people actually working were doing so in a seasonal type of arrangement.

According to data, four per cent of all workers, 450,000, were out-of-work seasonal workers, most of them females and many living in rural areas. Without specific information on the season in which the questions were asked, it is difficult to know whether this is a high or low proportion. However, it remains important to know that in several regions these workers can account for up to 20 per cent of the labour force, a figure that by any standard should be considered as high. Seasonality of work also affects some categories of paid employees. The proportion of workers with seasonal jobs among paid employees in informal activities and in small traditional farms is about 15 per cent; but the proportion is less than two per cent among those employed in modern sectors.<sup>10</sup>

In summary, more than two thirds of employed workers in Kenya at the end of the past decade worked on traditional farms or in informal activities, only 33 per cent of the employed were earning wages and only 23 per cent were in modern sectors. While farmers and pastoralists were concentrated in rural areas, informal workers and paid employees in modern sectors tended to concentrate in urban areas. Close to one million workers worked only a few hours per week and another half a million were identified as seasonal workers out of work, confirming that there is a serious problem of underemployment in Kenya.

## **4 LABOUR INCOME**

Differences in income across Kenyan households originate partially from disparities in access to work. In reality, such income differences refer more directly to disparities in labour earnings. Chronically low household income reflects the pervasiveness of low-productivity informal and traditional farm/pastoralists activities. Only a small proportion of the working population, namely, paid employees in modern sectors, derive adequate earnings from labour activities. In this section we will select some employment categories for examination so that we can assess the wages of individuals working as paid employees and then turn our attention to income derived by households from farming and informal activities.<sup>11</sup>

### **4.1 WAGES**

A first look at mean gross wages of paid employees suggests already that there is a hierarchy of jobs: male urban workers stand at the top of a pyramid whose base is constituted by female workers in rural areas. Data from Table 4 suggest that male wages are on average 43 per cent higher than female wages, while urban wages are more than double those of rural areas.

The hierarchy also has a clear sectoral dimension. Wages in the modern public sector are the highest, followed by those in the modern private sector.<sup>12</sup> The disparity between the wages of these two modern sectors and the rest of the economy is large. Wages in these two are two times those in the informal sector and four times those in the small-farm sector.<sup>13</sup> Between-sector differences in workers' characteristics help explain wage disparities: since modern

sectors are concentrated in urban areas and hire more educated workers, their wages tend to be higher. But even after taking into account education, sex and type of area, the fact remains that modern sectors pay higher wages.<sup>14</sup>

TABLE 4  
Mean Gross Wages of Paid Employees (Kenyan Shillings)

	Rural		Urban		Total		
	Male	Female	Male	Female	Male	Female	Total
Modern public	8,730	7,842	13,776	9,042	22,505	16,883	10,708
Modern private	4,614	3,048	12,671	8,253	17,285	11,300	8,887
Informal	3,354	1,671	5,360	3,872	8,714	5,543	4,026
Small farm/pastoralist	1,804	1,546	1,869	1,792	3,673	3,337	1,742
Other	3,831	1,066	3,777	1,496	7,608	2,562	2,430
Total	4,918	3,805	11,338	6,983	16,256	10,788	7,592

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

In order to simultaneously take into account the various factors that could help explain wage differences, we run a standard earnings regression with the log of gross hourly wages as the dependent variable and independent dummy variables for sex, rural or urban area, education (primary complete, secondary and university), sector (modern private, modern public, informal, and small farm/pastoralist), age in years and age in years squared. Our reference population group is, thus, female workers with up to incomplete primary education, living in rural areas, and working as paid employees in the 'other sector'. The equation we use is the following:

$$\ln Y_t = \beta_0 + \beta_1 x_1 + \dots + \beta_{12} x_{12} + u_t \quad (1)$$

Where:  $\ln Y_t$  is the natural log of income per capita,  $\beta_0$  is the constant term, and  $\beta_i$  are the coefficients of 10  $x_i$  independent dummy variables, namely,  $x_1$  is sex;  $x_2$  is type of area;  $x_3$  through  $x_5$  are dummies for primary, secondary and tertiary education;  $x_6$  is age in years (a non-dummy);  $x_7$  through  $x_{10}$  are dummies for modern public sector, modern private sector, informal sector and farm/pastoralist sector, respectively; and  $u_t$  is the error term.

Regression results suggest a wage gap of 19 per cent in favour of males and a 32 per cent gap in favour of urban areas.<sup>15</sup> Education premiums appear to be very significant. To begin with, the wages of those finishing primary school are 33 per cent higher than those with no education. But premiums also increase rapidly with level of education: the wages of workers who have completed secondary school are twice those of the uneducated, while wages of workers with university education are 740 per cent higher than those of the uneducated.

These results contradict the finding that marginal returns decrease as the education level increases, as reported by, for example, Psacharopoulos and Patrinos (2002). But our findings are consistent with other estimates for sub-Saharan African countries (e.g. Schultz 2003). Kenya's rising marginal returns to education suggest, again, an acute scarcity of educated workers at all levels, including with tertiary education. This is a feature that should not be overlooked while designing development policies for Kenya.

Regressions suggest that age also plays a significant role in determining income. For each additional year of age, workers derive on average an 8-12 per cent increase in wages.

This suggests significant returns to human capital in the form of experience. However, in addition to possibly reflecting increased productivity based on experience, this high return on age might reflect specific Kenyan institutional factors. If promotion in modern sectors follows seniority procedures, for example, then high returns to experience might not necessarily be due to higher productivity.

Even after taking into account education, sex, area of residence and other factors, one can see that paid employees in the informal and farm/pastoralist sectors have wages significantly lower than those in modern sectors. A paid employee in the 'other sector' who leaves his job to work as a paid employee in a small farm can obtain a wage that is 20 per cent higher. Also, if the new job is within an informal business, its wage would be 40 per cent higher. But the important point is that if the new job is in the modern sector, the worker would have doubled his hourly wage.

Since modern sectors are concentrated in urban areas and traditional farm/pastoralists activities are concentrated in rural areas, we would expect to see marked differences in wages by area. Separate regressions for urban and rural areas confirm that the gender wage gap is higher in urban areas (19 per cent) than in rural areas (14 per cent). Education premiums are also higher in urban areas, but the difference is largest in the case of university education, reflecting the fact that more educated people tend to occupy top positions in the public sector and tend to be hired by high-paying private firms, both of which are primarily located in urban areas.

This quick review of wages and labour earnings suggests that there might be a severe shortage of skills and that labour-market segmentation might be a significant problem in Kenya. It is beyond the scope of this paper to analyse the role that institutional factors and a stagnant economy might play in creating and enlarging labour-market segmentation. But it is clear, in any case, that addressing specific labour shortages and increasing the demand for labour should be a major part of any development strategy.

#### 4.2 HOUSEHOLD INCOME AND LABOUR

Based on the 1998/99 LFS, household monetary income per capita in 1998/99 was 2,440 Kenyan Shillings (KS)<sup>16</sup>. Since labour is the main source of household income, the flow of money to households might be thought of as depending on: a) how much work a household can obtain and; b) how high the earnings of its working members are. How much work an entire household can obtain depends, in turn, on the number of its working members.

The number of working members can be linked to the age structure of the household, how many of its working-age members are economically active, and how many of them actually work. Thus, the earnings of working members can be explained by the specific socio-demographic composition of the household and the labour insertion of its working members. Earnings are determined by their work location (rural or urban), their gender composition, their educational levels, as well as their employment status and sector of work (such as in the modern public sector, urban informal activities or farms).

Household income is significantly higher in urban areas. While households in these areas have a mean income of KS 3,978, rural households generate only KS 1,098 on average (Table 5). The high urban income, relative to rural income, is explained by the higher employment to population rate and, more importantly, by working household members' higher capacity to generate income. The employment to population rate is 40 per cent in urban areas, while

the corresponding rural rate is 34 per cent; in turn, income per worker reaches 10,000 KS in urban areas while it rests at only 3,000 KS in rural areas.

Income inequality is similarly high in rural and urban areas, but its pattern in each area is different. While at the bottom of the distribution rural income is fairly similar to the urban level, the urban level quickly surpasses the rural level after the 25<sup>th</sup> percentile. The employment to population ratio and income per worker follow this same pattern of change, suggesting the need to improve employment ratios in low-income households of both urban and rural areas as well as the need to enhance the capacity for income generation among even mid-income rural households.

TABLE 5

**Income and Employment in Households**

	Rural	Urban	Total
	<b>Employment and Activity</b>		
Members (number)	4.72	3.28	4.24
Employment to population (%)*	34.0	40.0	35.6
Unemployment rate <i>proxy</i> (%)**	10.9	23.3	14.9
Participation rate (%)	74.8	84.3	77.6
Working age to total population rate (%)	51.0	61.8	53.8
	<b>Kenyan Shillings</b>		
Income per capita	1,098	3,978	1,844
Income per worker	3,229	9,943	5,187
Modern public sector	4,617	9,638	7,585
Modern private sector	3,082	8,523	6,620
Informal businesses	2,669	7,293	4,235
Other sources, including farming	2,991	35,298	4,054

Notes \* The working population excludes out-of-work seasonal workers.

\*\* The unemployment rate proxy is equal to one minus the working population over the working population plus the unemployed plus the underemployed.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

Decomposing the employment to population ratio into the employment, participation and availability (working-age population to the total population) ratios enables us to gain further insights into factors determining levels of labour income.<sup>17</sup> The fact that the mean employment to population ratio is higher in urban areas is explained by a higher mean participation rate and a higher mean availability rate. These two rates more than compensate for higher unemployment rates in urban areas (or lower mean employment to economically active population rates). How do these rates compare at the extremes? It turns out that rural households at the bottom of the distribution are at an even larger disadvantage than the average rural resident is vis-à-vis his urban counterpart. Indeed, the availability rates of households at the bottom of the rural distribution are very low.

This suggests that the extremely poor in urban areas are in a better demographic position to take advantage of job opportunities. This implies that reducing poverty among the extremely poor in rural areas requires much more than simply making more jobs available to them. A comparison of rural and urban participation rates along the distribution also indicates that the urban rate at the bottom of the distribution is significantly larger than the corresponding rural rate. Thus, increasing participation rates might be an important means to improve income generation among the very poor of rural areas.

If demography appears to be more favourable to urban areas, the contrary is the case for unemployment rates. Urban unemployment rates are consistently less favourable than rural rates and, moreover, the urban disadvantage is even larger at the low end of the distribution. This suggests that unemployment might be a more relevant factor in explaining extremely poor workers' more limited ability to generate income in urban areas compared to the ability of extremely poor workers in rural areas.

The higher urban capacity to generate income is due to the fact that these areas have the most productive occupation categories, e.g., paid employment and informal labour, but also because these same categories carry a higher capacity to generate income when located in these areas. It is interesting to note that poor rural households appear generally to have the same capacity to generate income regardless of whether the source is paid jobs in modern sectors, informal activities or farming. It is only over the upper half of the distribution in rural areas that paid jobs in the modern sector produce a significantly higher labour income per worker. In urban areas this differentiation occurs right after the bottom 20 per cent of the distribution.

Access to education, access to a paid job in modern sectors, and more favourable demographics tend to be associated with one another. Regression analysis is a convenient way to synthesise the nuanced interplay of some of these factors jointly determining income. We thus run an OLS with the log of household income per capita as the dependent variable against a host of factors potentially influencing it: household size; the age of the household head; the disposition for economic activity and actual employment of household members; the level and composition of members' educational achievements; the access to various occupations by household workers; and hours worked by working members. To take into account differences between rural and urban areas, we include a dummy for each type of area, but also run separate regressions for each area. The regression equation we run is the following:

$$\ln Y_t = \beta_0 + \beta_1 x_1 + \dots + \beta_{12} x_{12} + u_t \quad (2)$$

Where:  $\ln Y_t$  is the natural log of income per capita,  $\beta_0$  is the constant term, and  $\beta_i$  are the coefficients of 12  $x_i$  independent variables, namely,  $x_1$  is a dummy for type of area (urban = 1);  $x_2$  is household size;  $x_3$  through  $x_5$  are the ratios of the working household members to economically active household members, economically active members to working-age members, and working-age members to all household members;  $x_6$  through  $x_8$  refer to the number of household members with primary, secondary and tertiary education, respectively, over all members;  $x_9$  through  $x_{11}$  refer to the number of paid employees in modern sectors, working informal employers and farm workers, respectively, over the number of working household members;  $x_{12}$  is total hours worked over the number of working members in the household; and  $u_t$  is the error term.

Regression results are reasonably good, but one major limitation of this exercise is the low  $R^2$  coefficient obtained (14 per cent).<sup>18</sup> However, such a low coefficient is to be expected: while income per capita might vary widely from one household to another, the various demographic and employment ratios used as independent variables vary only within a limited number of values. Thus, our results should be taken only as a broad indication of the way that these factors determine household income.

In addition to confirming the partial correlations suggested by the tabular exploration mentioned in previous paragraphs, regression results suggest that the single most powerful factor increasing household income is access to university education. The size of the regression coefficient confirms the already noted very high return to university education among wage employees. To a lesser degree but still important, access to secondary education, access to a paid job in modern sectors and the availability rate also improve household income.

These results suggest that, once all factors are taken into account, such variables as secondary education, type of job, and the age structure of families all play an important role in determining household income. Finally, the participation rate, the unemployment rate and access to a farm job do not appear to have a discernible effect on household income since their respective coefficients are statistically insignificant.

The separate rural and urban regressions provide interesting insights. Results for rural areas are similar to those for the overall regression, but those for urban areas differ significantly. The rural regression produces an  $R^2$  coefficient of 13 per cent (similar to that for the overall regression), and exhibits statistical significance for most coefficients. Interestingly, the coefficient for tertiary education is not statistically significant in these areas.

In comparison, the urban regression performs poorly: first, the  $R^2$  coefficient drops to only seven per cent; second, all demographic variables as well as the variable for primary education are not statistically significant. This confirms that demographics are not as important in urban areas and suggests that urban labour markets demand workers with education above primary level. Thus, the major factors determining household income in urban areas appear to be the sectoral and occupational location of working household members.

## 5 POVERTY

The incidence of poverty is high in Kenya. An estimate using data collected in 1997, the most recent direct estimate, found that the poor outnumbered the non-poor.<sup>19</sup> In addition to this, poverty has been increasing. Data for 1994 and 1997 clearly indicate this trend, while projections suggest that poverty continued to increase at least until the year 2000 (Kimalu et al 2002). Although the LFS does not provide the most appropriate data for poverty estimation, we use it to calculate poverty indices in order to try to shed some light on the link between employment and poverty.

Relying on the same real poverty lines used for the 1997 estimates, we estimated a 52 per cent incidence of poverty nation-wide in 1998/99, with a 62 per cent incidence in rural areas and a 25 per cent incidence in urban areas.<sup>20</sup> Our national figure is quite close to that given by the CBS for 1997, but LFS-based estimates give a higher incidence for rural areas and a significantly lower incidence for urban areas. Readers should judge the ensuing results accordingly.

The condition of employment is an important factor in determining poverty. In order to be consistent with our previous discussion, we restrict the reference population to those 15 to 64 years of age; that is, the figures for the proportion of people in poverty are limited to individuals of working age. Estimates indicate that poverty is highest for the inactive and lowest for the unemployed, suggesting that low participation in the labour force affects the poverty status of people and that being unemployed is not a characteristic condition among

poor people. But poverty is high among the underemployed. The incidence of poverty among, for example, out-of-work seasonal workers is 68 per cent.

In Table 6 we present poverty estimates by sector of employment, type of occupation and area of residence. The incidence is lowest among paid employees in the modern public and private sectors, but highest for the informal self-employed and for small traditional farmers and pastoralists. In the more diversified employment structure of urban areas, the incidence of poverty is high among the self-employed (29 per cent) and lowest among modern public-sector employees (eight per cent).<sup>21</sup>

TABLE 6

**Proportion of Poor Workers by Employment Sector and Status**

		Rural	Urban	Total
Modern sectors	Public paid employee	16.6	8.2	11.6
	Private paid employee	30.0	15.7	20.7
Informal	Paid employee	41.1	18.0	28.9
	Working owner	44.2	16.9	29.5
	Self-employed	61.2	29.1	54.6
Traditional small units	Paid employee	48.3	55.4	48.7
	Farmers, pastoralists	64.5	59.1	64.3

Note: Poverty is estimated based on the food poverty line adjusted by an adult equivalence scale.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

### THE PROBABILITY OF BEING IN POVERTY

To explore further the relationship between poverty and employment, we run a logistic regression exploring how employment, geography and household demographics determine the probability of being in poverty. The exercise is similar to the above regressions on household income, but not identical. More specifically, we run the dichotomous poverty status of a family (after taking into account equivalence scales) against the same variables included in Equation 2, that is

$$\ln P = \beta_0 + \beta_1 x_1 + \dots + \beta_{12} x_{12} + u \quad (3)$$

Where:  $\ln P$  is the natural log of the probability of being in poverty,  $\beta_0$  is the constant term, and  $\beta_i$  are the coefficients of 12  $x_i$  independent variables, namely,  $x_1$  is the dummy for type of area (urban =1);  $x_2$  is household size;  $x_3$  through  $x_5$  refer to the ratios of working household members to economically active household members, economically active members to working age members, and working-age members to all household members;  $x_6$  through  $x_8$  refer to the ratio of household members with primary, secondary and tertiary education, respectively, to all members;  $x_9$  through  $x_{11}$  refer to the ratio of paid employees in modern sectors, working informal employers and farm workers, respectively, to total working household members;  $x_{12}$  is total hours worked divided by the number of working members in the household; and  $u_i$  is the error term.

Results suggest that the probability of being in poverty depends weakly on the size of the household, while the age of the head, the unemployment rate and the age composition of the household are not statistically significant. In contrast, the participation rate of household members appears to be a strong factor. Among education variables, primary schooling is not

statistically significant while both secondary education and tertiary education are relevant factors; however, one should note that the strength of tertiary education is not as large as in the income regressions.

With regard to the role of sector of occupation, a paid job in modern sectors reduces the probability of being in poverty while farm work increases it. Finally, urban residency decreases the probability of being in poverty and household size increases it. In general results are consistent with the above regression exercise attempting to explain household income, except that fewer factors appear now to be statistically relevant.<sup>22</sup>

Separate regressions for urban and rural areas suggest that all demographic and all employment factors as well as secondary education are relevant explanatory factors in rural areas. In urban areas on the contrary, demographic factors are not statistically significant. Thus, the probability of being in poverty in urban locations appears to depend on fewer factors: namely, the risk of poverty decreases based on greater access to a paid job in modern sectors or the informal sector or access to running an informal business. It also decreases with the access to secondary and, definitively, with the access to tertiary education.

## 6 EMPLOYMENT AND POVERTY

The Kenyan picture of employment and poverty portrays a stagnant economy still dominated by traditional activities. The weak dynamism of Kenya's labour markets clearly contributes to poverty.

Access to a paid job in the private and public modern sectors by a household member significantly reduces the probability of a household being in poverty. But paid jobs in the modern private sector are neither abundant nor easy to generate. Furthermore, even if resources were available, it might not be advisable to base much needed job expansion on the creation of public-sector jobs. Increasing the educational level of household members reduces poverty, but the strength of its impact varies widely with the degree of education. It is unlikely that more education by itself would result in better jobs for the rural and urban poor.

Growth has rightly been identified as a necessary condition for a sustained reduction of poverty. But the analysis presented so far suggests that growth by itself is unlikely to reduce poverty. Moreover, the limited spread of the private and public modern sectors, the acute scarcity of educated people and deeply rooted labour segmentations all suggest that a strategy based on mimicking flexible labour markets in developed countries would fail to deliver increased employment. In addition, simply removing bureaucratic obstacles to investment, as necessary as this might be, would not significantly increase investment and employment. Kenya is in need of a major investment-led, employment-intensive growth strategy if poverty is to be significantly reduced.

The Government's Economic Recovery Strategy (ERS), which seeks to create 500,000 new jobs each year, is designed to play a key role in promoting employment-intensive growth. Focusing policy on growth, employment and poverty reduction makes good economic sense. Evidence suggests that rapid and sustained reductions in poverty have been historically associated with strong job creation (Islam 2003, Khan 2001). Similarly, Lundstrom and Ronnas (2005) and Pollin et al. (2007) have called for boosting 'decent employment' in Kenya as a central component of a development strategy.



As the Kenyan economy increases its rate of growth, there is a greater urgency in addressing issues shaping the economic development strategy of the country, the design of its policies and their implementation and evaluation. Even if the economy successfully created half a million new jobs each year, Kenya's employment landscape would still change only slowly since these new jobs would be simply employing a number equivalent to each year's new entrants into the labour force. Moreover, a critical issue is the quality of the jobs created.

A sustained reduction in poverty requires generating jobs of sufficiently high productivity to generate labour earnings that can help households escape from poverty. Accordingly, the aim of the Economic Recovery Strategy of creating 500,000 new jobs must include efforts to increase productivity in order to support a sizeable increase in labour income. That would require bold policies and scaled-up investments to develop skills, technology and infrastructure.

To get a sense of the magnitude of changes that the Kenyan economy must undertake, let us assume that the type of jobs that Kenya needs is similar to those in modern sectors. Since it is only fair to assume that the new jobs should be created outside the public administration, meeting the 500,000 job target implies that the number of productive jobs in the private modern sector would have to triple over a six-year period. Hence, if we further assume a 0.7 employment elasticity of GDP, the economy would have to sustain a growth rate of 6.8 per cent per year. This is, indeed, a real challenge to the Kenyan economy.

A development strategy based on employment creation and productivity enhancement is clearly necessary; however, it will take time to deliver its benefits. Therefore, short-term policies and programmes aiming to support the current incomes of the poor are in order. Such policies should seek, where possible, to increase employment and improve labour earnings as a means to tackle poverty. Let us assume that the government implements a programme, such as public works, which could achieve full employment among poor workers. What would be an adequate wage to be paid by such a programme?

There are several useful reference points on the basis of which such a question could be addressed. First, we have the actual earnings that workers in poor households make, either from paid jobs, farming or informal labour activities. These earnings change, of course, along the distribution. They are very low for the extremely poor and improve somewhat for the moderately poor. As we saw above, in rural areas the mean wages of the poor are similar to overall mean earnings, but in urban areas wages increase rapidly as we move up the distribution, even among the poor, while earnings from informal labour activities increase slowly.

A useful first reference point for defining a desirable wage is the actual earnings of workers close to the poverty threshold. This criterion would render a wage equal to 2,500 KS in rural areas and 4,000 KS in urban areas. Another, more institutional, approach would be to pay the minimum wage of, for example, a general labourer. Such a wage might be around 1,500 KS for rural areas and 2,800 KS for urban areas, if we take as a reference the minimum wage stipulated for regions with a low cost-of-living and for the Nairobi and other high-cost regions, respectively.

A minimalist approach, finally, would be to simply define the programme wage as equal to the poverty-line income in the corresponding area, which would render a wage of around 1,000 KS and 1,350 KS in rural and urban areas, respectively.

The actual earnings derived by households based on the poverty threshold might appear to be unreasonably high, as guaranteeing such a wage to the entire poor working population would be equivalent to the immediate eradication of poverty—an achievement that is beyond

the reach of a short-term programme. The minimum wage approach provides a lower, more realistic reference. A major shortcoming, however, is that it appears to suffer from an urban bias: it is 50 per cent higher than the poverty line in rural areas but twice as high in urban areas.

The third, minimalist, approach is indeed a minimum. Even if all the economically active members in a poor household were to have such a job, it would be unlikely for that household to escape poverty, since other household members would have to be supported from those limited earnings. But such a wage might allow a public works programme to offer a large number of jobs that could benefit a substantial number of poor households.

An interesting exercise is to address the question: what is the level of labour earnings that would allow a poor household to just get out of poverty? Clearly, this level would vary across families, as household socio-demographic compositions and access to employment would vary. Estimating minimal earnings for each five per cent of the income distribution indicates that the required earnings are much lower when one assumes full employment among the poor.

Taking the mean earnings of rural and urban poor households, the required full-employment earnings are 1,300 KS and 1,900 KS, respectively. These levels should be compared with earnings of 2,600 KS and 3,600 KS, respectively, corresponding to actual employment and unemployment conditions.

Kenya faces daunting employment challenges. An employment-focused development strategy tackling long-term issues of productivity and economic integration must be at the centre of policy making. But such long-term changes will not be enough. Kenya also needs immediate action to alleviate poverty. Short-term policies and programmes aiming to strengthen employment and provide income support to poor households are also needed. In the following section we simulate two such programmes designed to provide income support to the poor.

## **7 SOCIAL PROTECTION AND EMPLOYMENT**

In this section we simulate the impact of two different programmes that could support the incomes of poor households while the economy and employment achieve a higher level of growth. The programmes use demographic and employment characteristics to target poor households. Specifically, using the unit record data of the 1998/99 LFS, we simulate 1) the impact of a programme transferring cash to poor households based on the number of school-age children and 2) the impact of a job-creation programme that allocates jobs to poor households based on the unemployment status and the level of labour earnings of their members.

Although these are different programmes, we craft our simulation exercise in a way that gives some basis for comparison. Both simulations use the poverty status of a household as the primary factor determining the allocation of funds. And both use the poverty line as a basis for defining the amount paid, either for a cash transfer or a wage.

### **7.1 A CHILD-TRANSFER PROGRAMME**

Cash transfers are becoming an increasingly popular mechanism to support the income of poor households. Recently implemented cash-transfer programmes in developing countries have frequently stipulated conditions for the transfer, such as the school attendance,

vaccination of children or family visits to a health clinic. The intention is to help improve the health and education of children and thereby improve their long-term human development.

While coverage varies from the entire poor population (as in Brazil and Mexico) to only some poor groups (as in Chile and Turkey), the amount of the transfer is small in most cases. The average amount is so small that even in programmes with large coverage, the total cost does not exceed a couple of percentage points of GDP. The modest size of the transfer implies that the reduction in the number of the poor attributable to the programme is not large; however, these programmes often significantly benefit the extremely poor.

Not surprisingly, these programmes are often identified as instruments to increase human capital or reduce child labour rather than poverty-reduction programmes. Cash transfers to poor households that are based on the number of school-age children in a household provide a valuable and well calibrated income supplement. Households receiving the transfer are likely to increase the human capital of their members simply through the income effect. But some proponents have insisted on attaching conditions to the receipt of the transfer in order to ensure that education and/or health conditions in poor households improve. We will not deal here with such conditions or with any of the effects on human capital that can be expected from such a programme.

Our exercise simply simulates the effect on poverty of a programme transferring cash to poor households on the basis of the number of children in the age group relevant for primary school, i.e., the number of children aged 5-14 years in poor households. The programme transfers a given amount of money to households for each child within the defined age range. Although some programmes set a ceiling on the number of children for which transfers can be increased in order to avoid undesirable side effects, such as increases in fertility, we do not introduce such a cap, primarily for the sake of simplicity.

Some programmes also feature a larger transfer for girls than for boys based on the desirability of boosting female school attendance. Kenya's enrolment and completion rates in primary education appear to be similar for girls and boys; for this reason as well as for simplicity, we set the transfer at the same level irrespective of gender. We also assume that the same nominal amount of money is given to children in both urban and rural areas. But this assumption implies that the real purchasing power of the transfer is higher in rural than in urban areas because of differences in the cost of living.

We simulate a transfer of 350 KS per child aged 5-14 years in the household. The reference parameter is the Kenyan poverty line, i.e., the transfer is approximately equal to one quarter of the national poverty line.<sup>23</sup> This amount also turns out to be about half the average wage of working children. It also corresponds to the average wage of children working as paid employees in the informal sector. It is worth noting that this simulated transfer is in line with the relative amounts provided by some major ongoing programmes, such as Brazil's *Bolsa Familia* and Mexico's *Oportunidades*.

A large-scale transfer programme such as the one we simulate here might be appropriate for Kenya. Since household size is still large and dependency ratios high for poor households, as reflected in our earlier discussion, a programme transferring income to households based on the number of school-age children might help in supporting the income of households while growth and job creation increase enough to deliver their benefits. Since demography in rural areas plays an even more important role in determining poverty than in urban areas, such a programme might be particularly helpful in rural areas.

Following the above criteria, the simulation produces 4.4 million transfers, equivalent to 2.8 per cent of total household income, which reach a total of 1.9 million out of 3.7 million poor households in Kenya.<sup>24</sup> The simulated average transfer per household is 1,729 KS. Ultimately, the scale of coverage and the size of transfers of such a programme depend on policy priorities and the government budget.

If the transfer is judged to be too large, the programme could be restricted, for example, to rural areas or to the extremely poor in urban and rural areas. If the amount of the transfer is judged to be too small, it could be increased to make it equivalent, for example, to the full cost of food for each poor child aged 5-14, or the coverage of the programme could be expanded to include children in the age group relevant for secondary education.

The impact of the programme on poverty conforms to expectations. The reduction in the proportion of poor people in the population is modest: from 52 per cent to 48 per cent, or four percentage points (Table 7). The programme increases income in similar amounts across the income distribution of the poor, except perhaps for the very low end of the distribution, where the average increase appears to be smaller.

To visualise this, we plot the income per capita before and after the programme for the low end of the rural (Graph 1) and urban (Graph 2) distributions. Since the size of the transfer is the same whether a household is poor or extremely poor, the proportional impact on the latter is greater. Thus, indices measuring the depth and severity of poverty decrease by more, i.e., about six percentage points.

The programme also reduces inequality. The degree of the reduction depends on whether the inequality measure is sensitive to changes at the bottom of the distribution. The Gini coefficient is reduced from 0.64 to only 0.61, but the mean log deviation is decreased from 0.76 to 0.67. The Gini is not 'bottom-sensitive' while the mean log deviation is.<sup>25</sup>

As anticipated, the programme effectively reaches rural households but does less well in reaching urban households. Since dependency ratios are relatively low in urban areas, the number of school-age children in urban households is also likely to be low.

The child-transfer programme benefits 60 per cent of rural poor households but only 45 per cent of urban poor households. Accordingly, while the incidence of poverty decreases by five percentage points in rural areas, it decreases by less than three in urban areas. Moreover, as per our discussion above, since a number of extremely poor urban households are one-person households and urban dependency rates are lower than those in rural areas, even among the extremely poor, the urban reduction in the depth and severity of poverty are only two percentage points in both cases, compared with about seven percentage point reductions in rural areas.

The design of cash-transfer programmes often accords with the geography of poverty. Our cash transfer simulation increases household income per capita more than proportionally in low-income districts. For example, the increase in income per capita of the poorest rural district was high, around 20 per cent, while the percentage increase in income for the two highest-income districts was negligible.

Similarly, in urban districts the highest increases are those for the lowest-income districts, while richer districts, i.e., those with incomes above 4,000 KS, experienced very small increases. There are, however, deviations from this pattern. That is, rural districts with similar income levels before the programme do experience differing income increases, by up to five percentage points. Moreover, in urban districts with incomes between 1,000 KS and 3,000 KS,

changes in income can vary between one and five percentage points.<sup>26</sup> Such variations in the income impact of the programme might be wrongly perceived by district authorities to be attributable to a loose implementation of the programme's rules. A detailed discussion of the assessed impact might then be needed, leading possibly to complementary actions to correct unfair variations.

TABLE 7

**Simulating the Impact of Child-Transfer and Job-Creation Programmes**

		Before	After programme	
			Child	Jobs
Poverty <sup>1</sup>	Incidence	52.1	47.8	46.7
	Depth	28.2	22.3	21.7
	Severity	19.5	13.7	13.4
Inequality	Gini	0.640	0.610	0.605
	MLD <sup>2</sup>	0.756	0.672	0.672
Beneficiary Households <sup>3</sup>	Thousands	3,258,686	1,922,596	1,449,814
	Proportion %	100	59	44
Income benefit (per capita)		1,760	1,809	1,828
<i>Rural</i>				
		Before	After programme	
			Child	Jobs
Poverty <sup>1</sup>	Incidence	61.5	56.5	55.9
	Depth	33.1	25.8	26.8
	Severity	22.5	15.4	16.8
Beneficiary Households <sup>3</sup>	Thousands	2,833,005	1,705,052	1,112,599
	Proportion %	100	60	39
Income benefit (per capita)		1,062	1,121	1,122
<i>Urban</i>				
		Before	After programme	
			Child	Jobs
Poverty <sup>1</sup>	Incidence	25.4	22.8	20.1
	Depth	14.3	12.3	7.2
	Severity	10.9	8.9	3.6
Beneficiary Households <sup>3</sup>	Thousands	478,511	217,545	337,214
	Proportion %	100	45	70
Income benefit (per capita)		3,755	3,778	3,848

Notes: Child: Cash transfer to children aged 5 to 14 years in poor households.

Jobs: Employment generation programme for the poor unemployed and low-earnings workers at wages equal to the food poverty line.

1. Poverty is measured by the FGT(0,1,2) indices: incidence, depth and severity.

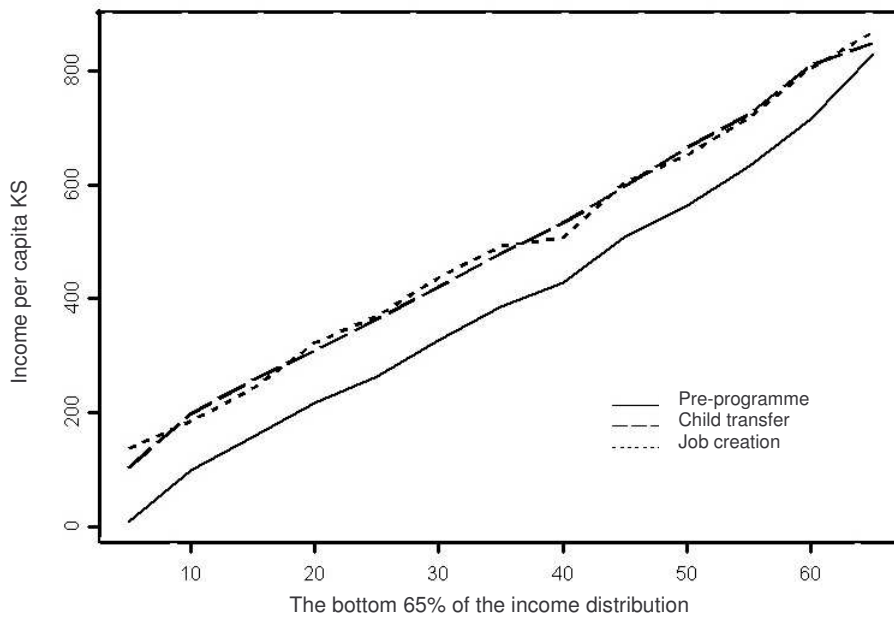
2. Mean Log Deviation.

3. The before-programme number of beneficiaries is the total of poor households.

Source: Own calculations based on simulations run on the unit record data of the LFS 1998/99.

GRAPH 1

**Child and Job Programme Impact on Income Per Capita: Rural Areas**

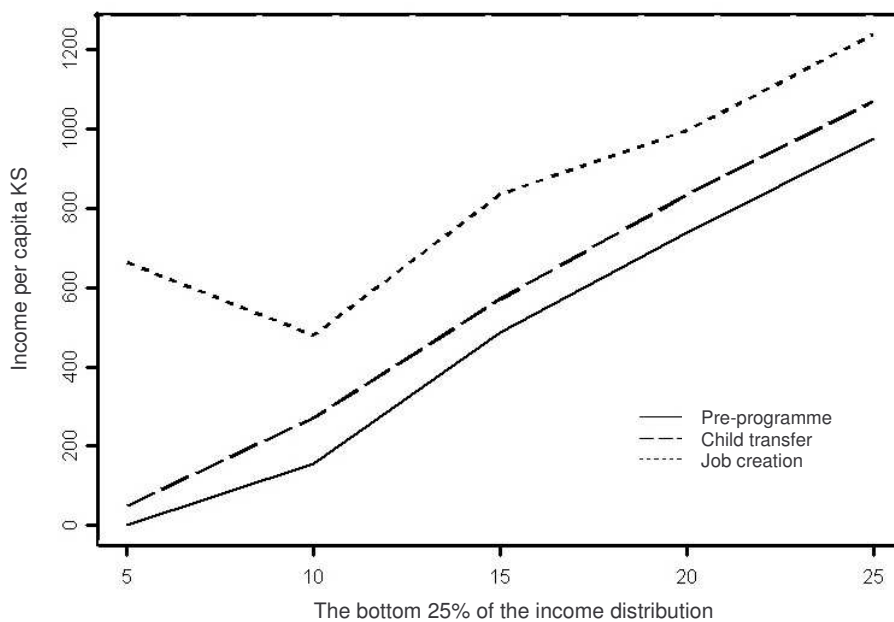


Notes: 'Pre-programme' refers to the actual household income per capita; 'child transfer' refers to household income per capita after the simulated child transfer; 'job creation' refers to household income per capita after the simulated payment of job programme wages.

Source: Based on own estimates from LFS 1998/99.

GRAPH 2

**Child and Job Programme Impact on Income Per Capita: Urban Areas**



Notes: 'Pre-programme' refers to the actual household income per capita; 'child transfer' refers to household income per capita after the simulated child transfer; 'job creation' refers to household income per capita after the simulated payment of job programme wages.

Source: Based on own estimates.

## 7.2 A JOB-CREATION PROGRAMME

Simulating the impact of adding jobs to the Kenyan economy is a more involved exercise than that for a child-transfer programme. According to our discussion above of unemployment, underemployment and employment, defining a target population for a job programme, for instance, is not as simple as identifying school-age children in households.

The unemployed is the group of people that first comes to mind when considering a job-creation programme. But relying only on unemployment indicators to design such a programme is not an advisable approach. Our earlier discussion of the incidence of poverty and our estimates of the probability of being poor indicate that the probability of having an income per capita below the poverty line decreases little when the number of the unemployed in households is reduced.

But that does not imply that we should simply discard the unemployment indicator. Although calculations of the risks of being in poverty are, of course, averages, providing employment at average earnings to an unemployed member of a poor household could significantly increase household income. We propose, therefore, to keep the criterion that allocates jobs according to the distribution of the unemployed.

Under the conditions prevalent in many developing countries and certainly under those in Kenya, a job-creation programme should also address the underemployment of poor workers. Since poverty is high among the underemployed, as we saw above, targeting the underemployed is key to the ability of the programme to reach the poor. Thus, our simulated job programme does include the 450,000 out-of-work seasonal workers as a target population.

Since most job programmes add to local infrastructure and promote local economic activities, the design of such programmes should include, from the start, some geographic referencing. But the geography of unemployment and underemployment do not correlate well with that of household income per capita and poverty.

The presence of poor unemployed people by region is not clearly associated with either income per capita or a poverty measure such as the incidence of poverty or the poverty gap. For example, the Spearman rank correlation between such measures and the unemployment rate among the poor is around 0.10 and statistically insignificant.<sup>27</sup> Rather than targeting employment creation in accordance with district poverty indices, we choose to use a more elaborate targeting mechanism that combines the unemployed poor and the working poor.<sup>28</sup>

Specifically, our targeting includes the poor who are unemployed, out-of-work seasonal workers and workers with low earnings. We proceed as follows: 1) we assume that the total number of jobs to be created is sufficiently large and that the wage paid by the programme is poverty reducing, 2) we expect that the new jobs will be taken first by unemployed poor workers and out-of-work seasonal poor workers, and 3) we expect the jobs to then be taken by the working poor, i.e., those workers whose individual earnings are lower than the wage paid by the programme.<sup>29</sup>

This last condition implies that we establish a minimum amount of labour earnings equivalent to the programme wage, effectively raising the earnings of many of the working poor. We impose one ceiling on the programme: the total payroll in a geographical area cannot be larger than the total amount of income that would be needed to just lift out of poverty all poor people in that area. This is an explicit poverty-based allocation criterion, which could be generally useful in setting ceilings on the allocation of resources by employment-creation programmes.

Another key feature of the programme is the level of the wages to be paid. We simulate a low wage for three reasons. First, we frame the exercise as a programme to support the poor with income derived from temporary jobs, assuming that a full-blown national employment-generation strategy will need time to unfold. Second, we want to use the wage to encourage poor workers to participate and discourage non-poor workers from doing so; in this way, we are relying on a self-selection method. This applies to both the unemployed and the already employed.

Third, we want to keep the budget within realistic limits. So the basic wage we propose for the programme is simply equal to the poverty line in each type of area, rounded to 1,000 KS in rural areas and 1,350 KS in urban areas. That is, with reference to our previous discussion, we are taking a minimalist approach, which implies pursuing immediate poverty alleviation by job creation rather than by raising earnings.

The poverty impact of the job programme at a wage equal to the poverty line conforms to expectations. The simulation exercise adds 2.1 million new jobs, of which 0.9 million are assigned to the unemployed poor and 1.2 millions to workers with low-earnings (Table 7). The payroll of the programme is equal to 3.9 per cent of total household income. It benefits 1.4 million households (out of the total of 3.7 million poor households), with an average transfer per household of 1,403 KS.<sup>30</sup>

The incidence of poverty decreases from 52 per cent to 47 per cent, i.e. by five percentage points while both the depth and severity of poverty decrease by about six percentage points (Table 7). The impact on inequality depends on which index is used. The Gini coefficient decreases by 0.04 points, but the mean log deviation, which is more 'bottom-sensitive', falls by 0.08 points.

The programme performs better in urban areas. The coverage is 71 per cent and 39 per cent of urban and rural poor households, respectively. The better performance in urban areas originates, in good measure, from the ability of the job programme to benefit poorer households in these areas. While the incidence, depth and severity of poverty all decrease by about six percentage points in rural areas, the corresponding reductions in urban areas are five for the incidence of poverty, but about seven for both the depth and severity of poverty. This effect can be visualised in Graph 2, which shows the greater impact of the programme on the income of the extremely poor in urban areas.

The impact of the programme on income per capita tends to be larger in districts with low pre-programme income, and smaller in districts with high pre-programme income. For example, the impact of the programme on the percentage increase in income per capita of the poorest rural district is very high, i.e., above 50 per cent. In rural districts with incomes lower than 800 KS, the rate of increase ranges from six to 20 per cent; but for those with incomes above 1,300 KS the percentage change is smaller than five per cent. However, in both rural and urban areas, there are significant variations in the magnitude of changes among districts with similar pre-programme incomes, including low-income districts that benefit only from a small percentage increase.

### 7.3 COMPARING THE CHILD-TRANSFER AND JOB-CREATION PROGRAMMES

Both the child-transfer and job-creation programme target the poor, but they have differing rationales: while the former uses the number of school-age children in poor households, the



latter uses the presence of unemployed and low-earnings workers. This difference implies that a given poor household could be a beneficiary of either, both or neither programme.

There are various differences between the two programmes. These include the size of the direct monetary commitment, the extent of coverage, the relative impact across the income distribution and across districts, and other relevant programme features beyond the mere transfer or the job programme payroll.

While the child programme provides grants to school-age children in poor households that are equivalent to 2.8 per cent of total household income, the job programme pays wages equal to 3.9 per cent. About 1.8 percentage points of the latter programme are accounted for by the wages of poor unemployed and out-of-work seasonal workers and 2.1 percentage points are accounted for by low-earnings working members from poor households.

Since both programmes set the 'transfer' with reference to the poverty line, the difference in total outlays can be interpreted as alternative indications of the total amount of resources needed to reduce poverty. The cost of the child-transfer programme should be regarded as the low boundary for such purposes.

The second difference between the two programmes is coverage. The child-transfer programme reaches more widely, benefiting one fourth of the poor while the job programme benefits one fifth (Table 7). In terms of the average transfer to beneficiary households, the child grant transfers a relatively small amount (759 KS), which represents a little more than half of the benefit of the job programme (1,396 KS). These differences in coverage and size of transfer are important features to consider when designing poverty alleviation policies.

The third difference between the two programmes relates to the impact, i.e., across the rural and urban income distributions and across rural and urban districts. Both programmes produce a larger income increase for poorer households and poorer districts, but there are significant differences between the two.

Given the demographic and labour conditions prevalent in urban Kenya, the child-transfer programme does not appear to be ideally suited to reach extremely poor households, as suggested by the low reduction in poverty indices that are more sensitive to changes at the bottom of the distribution. The employment programme appears to be more suited to situations in which the extremely poor are deprived of job opportunities, whether through open unemployment or lack of access to jobs with decent earnings.

The fourth difference touches on issues outside our simulation exercise. Child-support programmes often condition transfers on school attendance and health check-ups, a feature that has led many analysts to emphasise their impact on human capital. However, the evidence regarding the need for conditionality is mixed: it suggests that in many instances it suffices to raise income to obtain increases in education and improvements in health, provided that the supply of education and health services is available.

To the extent that increases in income suffice to improve human capital, a job programme will have a similar impact. Moreover, since a job programme also provides work experience and helps develop relevant labour skills, employment-based targeting has some clear advantages over cash transfers.

In addition to the benefit derived from the direct transfer, child-transfer programmes might help other poor households in the community that can respond to the additional demand for goods and services induced by the income transfer. The same effect can be

expected from a job programme, with the advantage that such a programme can be crafted to create useful social and economic infrastructure, such as schools, clinics, irrigation works and roads.

Child programmes often transfer the money to the female head of the household—an approach that can lead to a more effective use of the money. In contrast, a job programme would transfer the money to the person actually performing the work. This might result in a less effective use of the money since one would expect that such a scheme is likely to benefit men more. This relative female disadvantage could be addressed by ensuring wide access by women workers to the job programme. Contrary to expectations, our results suggest, in fact, that women constitute two thirds of the job-programme beneficiaries in urban areas and 53 per cent of all beneficiaries. So our targeting methods appear to be successful in reaching them.

Finally, it has been argued that job programmes disrupt the competitive functioning of labour markets. This presumed negative effect is, of course, possible also in the case of child grants. Without debating the general validity of such an argument, it should be apparent that under the conditions prevalent in Kenya, the benefits derived from the creation of new jobs and local infrastructure are likely to exceed any such potentially negative effects.

The capacity of child-transfer and job-creation programmes to produce a sustained reduction of poverty depends critically on policies accompanying the payment of the corresponding grants and wages. From the start, a job-creation programme needs additional monetary and human resources to effectively and appropriately develop local infrastructure. It is a more demanding programme, but it also has larger potential benefits. A child-grant programme can function without much complementary action, but then its impact is more likely to be confined to the temporary alleviation of poverty provided by the transfer plus its multiplier effect on local aggregate demand.

## **8 FINAL REMARKS**

In this Working Paper we have analysed the structure of employment in Kenya as it entered the Twenty-First Century. Using the unit record data of the 1998/99 Labour Force Survey, we have examined unemployment, underemployment, employment and labour earnings. We have also examined the links between employment and poverty by utilizing various heuristic techniques, including regression analysis. We have concluded with an examination of the potential impact on poverty of a cash-transfer programme to poor households based on targeting children and a job-creation programme based on targeting the unemployed poor and the working poor.

The employment landscape of Kenya is characterised by high unemployment, widespread underemployment, a small modern urban sector, large-scale informality and a rural setting dominated by traditional farming and pastoralist activities. More importantly, the main features of the employment situation correspond to those of a stagnant economy.

In Kenya there are a large number of people not working who are willing to work but are not actively seeking it. Counting these people as unemployed produces an unemployment rate of about 12 per cent. Kenyan workers often find themselves in low-earnings traditional or informal activities. Those in modern activities represent less than 30 per cent of the workforce. As is common in developing countries, underemployment affects a sizeable proportion of the labour force, mainly through seasonal patterns of work—on farms and, less so, in paid jobs—and in short working weeks.

The main characteristics of unemployment, underemployment and employment cut across gender and the rural/urban location of workers in ways that suggest a constrained functioning of labour markets. Unemployment affects mainly residents of urban areas and urban women in particular. Two thirds of discouraged workers are urban women (willing to work but not actively seeking employment).

The large weight of the traditional sector within rural economic activities leads to widespread underemployment, particularly among women. This paper has shown that two thirds of workers who are seasonally unemployed and 45 per cent of workers labouring less than 15 hours per week are women in rural areas. The small modern sector is dominated by urban males while informal activities are concentrated in urban areas and do employ a significant proportion of women.

Household income per capita depends, in part, on the age structure of the family, its educational attainments, and its labour characteristics; it also depends on the urban or rural location of the household. Access to secondary and, particularly, tertiary education, as well as access to a paid job in the modern sector are among the most important factors that increase household income.

Wages of those with a paid job depend on well known socio-demographic factors that are common to labour markets in many developing countries, but Kenya's case stands out because of the high returns to secondary education and extremely high returns to tertiary education. This suggests the need to prioritize the increase in access of the population to education at these levels, particularly secondary education. Household income also responds positively to increases in primary education and to favourable dependency and labour participation rates, but these factors are less powerful.

Since the best jobs are found in the modern sectors, an employment-based economic strategy should expand their scope. However, this paper has argued that, given the stagnant economic conditions in Kenya, rendering labour markets more flexible or improving job search mechanisms that can better match labour supply and demand are unlikely to significantly improve the employment landscape. Instead, this paper endorses the need for catalytic public investments to spark faster employment-intensive growth.

While designing and implementing substantial public investments is important, employment-creation efforts need to be clearly directed to certain sectors and locations in order to ensure that poor workers benefit from newly created jobs. Examples are policies providing part-time job opportunities that could supplement the income of underemployed rural workers and temporary work programmes providing jobs to out-of-work seasonal workers in rural areas.

Kenya is currently facing the daunting challenge of accelerating growth and rapidly reducing poverty. An employment-generation programme should be a core component of its economic strategy. The benefits of such a strategy might accrue, however, only over the medium term. There is thus a need to immediately support the incomes of poor households while an employment-focused development strategy unfolds and eventually begins to deliver broad-based benefits.

This Working Paper has simulated two basic programmes designed to provide income support to poor households. The first simulates a transfer of 350 KS to each school-age child in poor households. The second simulates a job-creation programme providing jobs to the unemployed and low-earnings workers in poor households, based on a wage of 1,000 KS in rural areas and 1,350 KS in urban areas.

Cash-transfer programmes targeting school-age children are widely considered an effective means to reach the poor. Our simulations for Kenya confirm this effectiveness. Although the ability of employment-generation programmes to benefit the poor has been questioned, our simulations show that such programmes, if appropriately designed, can effectively reach and benefit poor workers.

Our results suggest that both programmes improve the incomes of the poor and result in significant reductions in the depth and severity of poverty. The job programme appears to be a particularly powerful device to reduce poverty and reach the extremely poor in urban areas.

The impact of child-transfer and job-creation programmes on the geography of poverty is an important concern in evaluating their effectiveness. Both programmes succeed in producing more than proportional increases in the average income of households in poorer districts; however, performance varies widely, even among districts with similar pre-programme incomes.

The additional, distinctive benefits of a job-creation programme that is associated with creating local infrastructure and enhancing the skills of the working poor should lead policy makers in developing countries to adopt such a programme as a core component of a general development strategy for accelerated growth and poverty reduction.

## ANNEX

TABLE A.1

### Population, Age and Economic Participation: Kenya

Population group		#	%
0-4 years old	Minor	3,903,218	<b>13.2</b>
15-64 years old	Child not working	8,126,979	27.5
	Child working	564,024	1.9
	Sub total	8,691,003	<b>29.4</b>
15-64 years old	Inactive	3,517,340	11.9
	Unemployed	1,439,072	4.9
	Employed	10,976,431	37.1
	Sub total	15,932,842	<b>53.8</b>
65+ years old	Elder not working	423,983	1.4
	Elder working	652,455	2.2
	Sub total	1,076,438	<b>3.6</b>
All ages	Total	29,603,498	<b>100</b>

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

TABLE A.3

### Employment in Formal, Informal, Traditional and other Activities: Concentration Index\*

Sector-employment status		Rural	Urban	Total
Formal	Paid employee modern public sector	-	2.03	1.00
	Paid employee modern private sector	-	2.23	1.00
	Paid employee in other sectors	-	2.08	1.00
	Paid employee in small farms	1.34	-	1.00
Informal	Paid employee in the informal sector	-	1.82	1.00
	Working employer in informal sector	-	1.86	1.00
	Own account, other informal workers	1.12	-	1.00
	Unpaid family and other workers	-	1.63	1.00
Traditional	Small farm/pastoralist	1.37	-	1.00
Total	Total	1.00	1.00	1.00

Note: \* The concentration index is calculated as follows:  $(n_i / n_t) / (N_i / N_t)$ . Employment figures do not include the out-of-work seasonal workers. n refers to urban or rural; N refers to the total employment.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

TABLE A.4

### Underemployment

	# workers	%
Working less than 15 hours	914,850	8.7
Working less than 30 hours	2,919,073	27.7
Out-of-work seasonal workers*	450,822	4.1
Part-time paid employees**	16,941	0.6

Notes: \* As a proportion of total employment plus out-of-work seasonal workers.

\*\* Part-time workers with more than 15 hours per week.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.





TABLE A.5

**Mean Wages of Paid Employees by Education, Sex and Region**

		Primary incomplete	Primary complete	Secondary	University	All
Male & Rural	Modern public	4,698	4,748	9,380	18,439	8,730
	Modern private	3,227	3,521	6,109	21,299	4,614
	Informal	2,891	2,961	4,538	12,785	3,354
	Small farm/pastoralist	1,613	1,670	3,539	.	1,804
	Other	2,240	3,410	6,335	.	3,831
	Total	2,666	3,042	7,455	18,763	4,918
Female & Rural	Modern public	5,343	4,723	7,721	15,121	7,842
	Modern private	2,428	2,410	4,500	10,163	3,048
	Informal	1,514	1,246	2,454	11,047	1,671
	Small farm/pastoralist	1,452	1,530	2,109	.	1,546
	Other	850	1,111	.	.	1,066
	Total	2,029	1,841	6,435	14,059	3,805
Male & Urban	Modern public	6,586	7,254	10,589	42,409	13,776
	Modern private	3,687	6,294	10,132	69,549	12,671
	Informal	3,044	4,869	5,844	21,405	5,360
	Small farm/pastoralist	4,223	831	2,000	.	1,869
	Other	2,368	3,015	6,748	.	3,777
	Total	3,604	5,801	9,587	53,916	11,338
Female & Urban	Modern public	2,900	5,033	8,329	23,590	9,042
	Modern private	3,087	3,530	9,835	27,107	8,253
	Informal	6,163	1,762	5,822	.	3,872
	Small farm/pastoralist	1,600	1,191	3,500	.	1,792
	Other	717	1,554	1,788	.	1,496
	Total	3,427	2,752	8,360	25,308	6,983

Notes: Reference age is 15-64 years old.

Wages are gross earnings, i.e., including benefits.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

TABLE A.6

**Earnings Returns to Worker Characteristics (%)**

	Total	Rural	Urban
Sex	18.9	14.1	18.6
Area (urban/rural)	32.1	0.0	0.0
Primary complete	32.6	23.8	44.3
Secondary complete	135.6	111.2	157.8
University	740.5	392.1	891.8
Age in years	8.9	8.4	9.6
Public sector	145.6	128.3	151.0
Private sector	98.5	57.3	119.3
Informal sector	39.2	28.3	40.0
Small-farm sector	24.4	8.2	-8.5

Note: Runs of regression are available upon request from the author.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.



TABLE A.7

**Income Returns to Household Demographic and Socio-economic Characteristics**

	Returns %		
	National	Rural	Urban
Urban residency	20.0	-	-
Household members	-6.0	-6.9	-1.3
Age of household head	0.8	0.4	1.7
Workers / Active members	-7.6	50.4	-9.4
Active / working age members	25.8	30.8	24.7
Working age / members	61.0	75.8	69.4
Primary educated / members	36.1	21.5	48.2
Secondary educated / members	142.2	230.9	113.4
Tertiary educated / members	1,221.0	4.8	2,890.4
Paid employees in modern sectors / wks	114.2	45.6	320.8
Paid employees informal / wks	61.6	19.2	249.6
Farm-pastoralist / wks	-9.1	-35.9	142.3
Informal working owners / wks	38.8	-16.6	248.7
Week hours worked per worker	0.4	0.6	-0.1
Memo:			
Constant	215	206	94
R <sup>2</sup> Adjusted	0.14	0.13	0.07

Notes: Numbers in lighter font and italics are not statistically significant at the 95% level.

Runs of regression are available upon request from the author.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

TABLE A.8

**Incidence of Poverty by Households**

		Rural	Urban	Total
Education of head	Primary incomplete	70.6	55.5	68.8
	Primary	59.6	24.5	50.7
	Secondary	31.4	14.9	21.7
	Tertiary	15.4	9.2	10.5
Sex of head	Male	53.0	19.5	40.8
	Female	67.3	27.1	56.8
Age of head	5-14 years	53.6		53.6
	15-39 years	48.3	19.4	34.6
	40-64 years	59.5	22.5	50.1
	65+ years	72.3	42.2	69.3
Total	Total	57.7	21.3	45.5

Note: Head count ratios based on food poverty line adjusted by equivalence scales.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

TABLE A.9

**Odds of Being in Poverty according to Household Demographic and Socio-economic Characteristics**

	dF/dx		
	National	Rural	Urban
Urban residency	<b>-0.06</b>	-	-
Household members	<b>0.02</b>	<b>0.02</b>	<b>0.01</b>
Age of household head	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Workers / Active members	<i>-0.10</i>	<b>-0.34</b>	<i>-0.02</i>
Active members / working-age members	<b>-0.21</b>	<b>-0.26</b>	<i>-0.07</i>
Working-age / total members	<b>-0.08</b>	<b>-0.12</b>	<i>0.00</i>
Primary educated / total members	<b>-0.06</b>	<b>-0.01</b>	<i>-0.12</i>
Secondary educated / total members	<b>-0.35</b>	<b>-0.52</b>	<b>-0.21</b>
Tertiary educated / total members	<b>-0.46</b>	<i>-0.09</i>	<b>-0.50</b>
Paid employees in modern sectors / wks	<b>-0.29</b>	<b>-0.26</b>	<b>-0.25</b>
Paid employees in informal sector / wks	<b>-0.15</b>	<i>-0.14</i>	<b>-0.17</b>
Farmers-pastoralists / wks	<i>0.12</i>	<b>0.19</b>	<i>0.09</i>
Informal working owners / wks	<b>-0.07</b>	<i>0.07</i>	<b>-0.19</b>

Notes: Numbers in lighter font and italics are not statistically significant at the 95% level.

Runs of regression are available upon request from the author.

Source: Own calculations based on Kenya's Integrated Labour Force Survey 1998/9.

## REFERENCES

- Geda, Alemayehu, Niek de Jong, Mwangi S. Kimenyi and Germano Mwabu (2005). 'Determinants of poverty in Kenya: a household level analysis'. Working Paper 44, Department of Economics, University of Connecticut.
- Bigsten, Anne, Peter Kimuyu and Karl Lundvall (2000). 'Are formal and informal small firms really different? Evidence from Kenyan Manufacturing'. Mimeo.
- Bocquier, Philippe (2005). 'Informal sector versus informal contracts in Nairobi, Kenya'. *Document de Travail* 10, DIAL, Paris.
- CBS (Central Bureau of Statistics) (2003). *Geographic Dimensions of Well-Being in Kenya: Where Are the Poor?* Government of Kenya, Nairobi.
- \_\_\_\_\_. (2001). *The 1998/99 Integrated Labour Force Survey*. Government of Kenya, Nairobi.
- \_\_\_\_\_. (2000). *Second Poverty Report in Kenya*. Government of Kenya, Nairobi.
- Christiansen, Luc J. and Kalanidhi Subbarao (2004). 'Towards an understanding of household vulnerability in rural Kenya'. World Bank Policy Research Working Paper #3326, Washington, DC: World Bank.
- Islam, Rizwanul (2004). 'The Nexus of Economic Growth, Employment and Poverty Reduction: An Empirical Analysis'. *Issues in Employment and Poverty*, Discussion Paper #14, ILO, Geneva.
- Kakwani, Nanak, Hyun H. Son and Richard Hinz (2006). 'Poverty, old-age and social pensions in Kenya'. International Poverty Centre, Working Paper #24, Brasilia.
- Khan, Azizur (2001). 'Employment policies for poverty reduction'. *Issues in Employment and Poverty*, Discussion Paper #1, ILO, Geneva.
- Kimalu, Paul, Nancy Nafula, Damiano K. Manda, Germano Mwabu and Mwangi S. Kimenyi (2002). 'A situational analysis of poverty in Kenya'. KIPPRA Working Paper Series #6, Nairobi.
- Lundstrom, Susanna and Per Ronnas (2005). *An integrated economic analysis for pro-poor growth in Kenya*. Sida Country Economic Report #8, Stockholm.
- Manda, Damiano K. (2004). 'Globalisation and the labour market in Kenya'. KIPPRA Discussion Paper #31, Nairobi.
- Odhiambo, Walter and Damiano K. Manda (2003). 'Urban poverty and labour force participation in Kenya'. Paper presented at the World Bank Urban Research Symposium, Washington D.C.
- Oiro, Miriam W., Germano Mwabu and Damiano K. Manda (2004). 'Poverty and employment in Kenya'. KIPPRA Discussion Paper #33, Nairobi.
- Pollin, Robert, James Heintz and Mwangi Githinji (2006). *An Employment-Targeted Program for Kenya*. Mimeo, Political Economy Research Institute, Amherst, Massachusetts.
- Psacharopoulos, George and Harry A. Patrinos (2002). 'Returns to investment in education: a further update'. World Bank Policy Research Working Paper #2881, Washington, D.C.: World Bank.

Soares, Fabio, Sergei Soares, Marcelo Medeiros and Rafael Osorio (2007). 'Cash-transfer programmes in Brazil: Impacts on Inequality and Poverty'. International Poverty Centre, Working Paper #21, Brasilia.

Shultz, Paul T. (2003). 'Evidence of returns to schooling in Africa from household surveys: monitoring and restructuring the market for education'. Economic Growth Center Discussion Paper #875, Yale University.

Vos, Rob, Arjum Bedi, Paul K. Kimalu, Domiano K. Manda, Nancy N. Nafula and Mwangi S. Kimenyi (2004). 'Achieving universal primary education: can Kenya afford it?' Working Paper #47, Department of Economics, University of Connecticut.

## NOTES

1. The CBS unemployment estimate of about 15 per cent originates in the decision to include out-of-work seasonal workers as part of the unemployed. We choose to discuss this group as a separate category, namely, as part of the underemployed.
2. See Table A.1 for estimates of unemployment for the entire population. For a discussion of poverty and the elderly see Kakwani, Son and Hinz (2006).
3. The length of search is also relatively low for the least educated workers, namely, those with no education or incomplete primary education. The length averages about 12 months, which compares to a 20-month overall average.
4. This result also holds if we limit our attention to those actively seeking a job, i.e., those more commonly regarded as unemployed.
5. In addition to these, we also count as employed (or, more properly underemployed, as will be discussed below) about 450,000 seasonal workers who happen to be out-of-work at the time of the interview.
6. This miscellaneous category includes a mix of unpaid family workers in informal businesses and other informal workers together with unpaid family workers in non-informal sectors, apprentices, workers with undefined employment status and workers with no stated sector of activity.
7. See Table A.2 in the appendix.
8. See Table A.3 in the appendix.
9. Lundstrom and Ronnas (2005) define underemployment differently. For them, the underemployed are those who work long hours, at high intensity and with little pay.
10. See Table A.4 in the appendix.
11. Information on income from labour is not readily available for all categories in the survey. Labour income data for individual workers are available only for paid employees. Income data for these workers are categorized as basic salary, benefits and in-kind income. The sum of the first two is identified as gross income, which is the category that we use here.
12. Whether one can justify on productivity grounds that wages in the public sector should be higher than those in the private is a matter beyond the scope of this paper, but a topic that deserves further research.
13. Wages for paid employees in other sectors are higher than those in small farms but lower than those in the informal sector; however, these estimates are based on a limited number of observations and are, therefore, less reliable.
14. We refer the reader to Table A.5 in the appendix.
15. See Table A.6 in the appendix.
16. All income figures in the paper are Kenyan Shillings at current prices. We will refer to them as KS or simply give the figure.
17. These rates are defined as follows: the employment rate is equal to working household members over economically active household members (note that this rate is inversely related to the unemployment rate); the participation rate is equal to the economically active members over the working-age members of households; and the availability rate is equal to the working-age members over all household members (this rate is an inverse proxy for the dependency rate).
18. Regression coefficients have the right sign and are statistically significant (see Table A.7). We arrived at this specification after some experimentation with variables. The main results presented here are robust to these alternative specifications. The fit of the regression is good, with all the coefficients with the expected sign and statistically significant. We also ran a similar specification but using 'ratio of' instead of 'number of'—such as the ratio of working members to household members or the ratio of paid employees to total household workers. The results that we obtained were similar.
19. Using a nationally defined food poverty line adjusted with adult-equivalent weights and using data for 1997, the CBS (2000) estimated the rural head count ratio as 50.7 per cent and the urban ratio as 32.3 per cent (table 4.3, p. 26).
20. In 1997 the food poverty line was set at KS 927 in rural areas and KS 1,254 in urban areas. Using consumer prices to express the food poverty line in 1998/99 values gives KS 1,016 for rural and KS 1,374 for urban areas.
21. The incidence of poverty is actually highest among those still tied to small farms, but this group represents only a small proportion of urban workers. Broadly, these estimates are consistent with those of Oiro et al. (2004) and Odhiambo and Manda (2003). See also Table A.8 in the appendix.
22. See Table A.9 in the appendix. Interestingly, these results suggest that child labour reduces the probability of being in poverty only for rural households, not for urban families.
23. The Mexican CCT programme, *Oportunidades*, gives a similar transfer, i.e., a value that is about 20 per cent of Mexico's national food poverty line.
24. The exact numbers are 4,925,795 transfers to 1,470,734 households.
25. Simulated results are comparable to the actual results rendered by cash-transfer programmes in Brazil's *Bolsa Familia* and Mexico's *Oportunidades* (Soares et al 2007).
26. The impact on poverty by district is not as straightforward. In fact, the proportional reductions in the incidence of poverty and the poverty gap are not always superior in high-poverty districts. If anything, the change in poverty follows a trend inversely related to the starting level of poverty. There are two reasons. First, in very poor districts a small child transfer is likely to lift only a few households out of poverty. Second, since the demographic composition of households does not change much across the poor, households with either a small or a large poverty gap are likely to receive similar transfer amounts. The result is that the proportional change in the gap is likely to be higher for households with low poverty gaps.

27. Data allow for a break-down of estimates in 36 rural and 57 urban districts and towns. Poverty in rural regions ranges from 31 per cent to 82 per cent. In urban areas it ranges from zero to 100 per cent.

28. See, for example, Mduma and Wobst (2005).

29. Specifically, the simulation recalculates income for each beneficiary household by adding a full wage for unemployed members, and the difference between the working member's low earnings and the wage stipulated by the job programme.

30. The total payroll estimate of 3.9 per cent of household income is the sum of the full wage paid to the unemployed plus the difference between the wages of the working poor and the programme's wages. If instead of this differential, we compute the equivalent of a full programme wage for poor workers joining the programme, the total payroll estimate increases to 4.5 per cent of household income. We use the first procedure throughout our discussion of the programme, which addresses the question of what would be the impact of the programme if earnings were at least equal to the wage that it offers.



**International Poverty Centre**

SBS – Ed. BNDES, 10º andar  
70076 900 Brasília DF  
Brazil

[povertycentre@undp-povertycentre.org](mailto:povertycentre@undp-povertycentre.org)  
[www.undp-povertycentre.org](http://www.undp-povertycentre.org)  
Telephone +55 61 2105 5000  
Fax +55 61 2105 5001