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Welfare and Poverty in Conakry: Assessment and Determinants

Carlo del Ninno

CORNELL FOOD AND NUTRITION POLICY PROGRAM



**WELFARE AND POVERTY IN CONAKRY:
ASSESSMENT AND DETERMINANTS**

Carlo del Ninno

The Cornell Food and Nutrition Policy Program (CFNPP) was created in 1988 within the Division of Nutritional Sciences, College of Human Ecology, Cornell University, to undertake research, training, and technical assistance in food and nutrition policy with emphasis on developing countries.

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1. INTRODUCTION

The assessment of a country's poverty and welfare levels is an important task, especially when that country is in the middle of a major economic reform program. Such analysis is useful for several reasons. First, policymakers need a reference point that will allow them to monitor changes in the welfare of the poor over time. Second, modelers need a determination of poverty and welfare levels to use as a starting point for simulations that determine how poverty alleviation policies affect the incidence and severity of poverty.

When talking about poverty and poverty measures, several methodological issues surface. Poverty is, in fact, a multidimensional problem and several approaches have been proposed and used in the literature to define and analyze it. According to the welfare school, poverty is a phenomenon that is best analyzed in relative terms. Welfare classes should be created and compared across a variety of socioeconomic household characteristics.

A second approach proposes the use of inequality and poverty measures. These measures respond to the need of choosing one indicator of individual well-being that can be used to define poverty and to compare different socioeconomic groups over time. The "absolutist" poverty approach brings with it the need of defining a minimum acceptable level of resources that individuals must attain so as not to be defined as poor.

An important prerequisite for any poverty analysis is the availability of suitable data. A detailed household expenditure survey provides most of the data necessary to analyze expenditure patterns and behavior. Because of the multidimensional nature of poverty, analysis of a rich household welfare survey, like the one available to us for Conakry, will help shed more light on the level and the depth of poverty there, as well as on the distinguishing characteristics of the poor themselves.

In this paper we attempt to use both the relative and absolute methodologies to give a full general description of poverty in Conakry. Forming the cornerstone of the analysis are the most important variables used in the paper: a) per capita expenditure levels, b) per capita daily calorie consumption, and c) expenditure shares.

In Section Two of this report, we discuss the characteristics of the population by expenditure class. We begin with a general graphical description of the distributions of per capita expenditure and calorie consumption. An analysis of the survey respondents' welfare characteristics by expenditure quintile and bottom 30th percentile follows. The section concludes with a description and analysis of inequality measures.

In Section Three we derive a poverty line for Conakry, and use a particular decomposable poverty measure to describe its poverty. An econometric analysis is used to find the determinants of poverty in the fourth section, and a fifth and final section on policy recommendations closes the document.

2. WELFARE CHARACTERISTICS OF THE POPULATION

The variables that have been used to approximate welfare among a population and ultimately to derive poverty measures are: a) total expenditures, b) the level of caloric consumption and c) the share of food consumption over total expenditure.

The use of expenditure rather than income as a measure of welfare has been suggested frequently in the literature. Theoretically, the comparison of unobserved utility between people makes use of "money metric" utility, which takes the value of total consumption to measure an individual's welfare. While income can be used as an equivalent measure, this brings with it difficulties concerning the classification of savings as a current consumption good, rather than as delayed consumption (Glewwe 1988). Consumption expenditures are also thought to be smoothed over time relative to income, and thus better reflect life-cycle welfare when observed at any one point. Finally, on a practical note, survey respondents may consider questions concerning expenditures as less sensitive than income, and provide more reliable data.

The components of total expenditure include all food expenditure, non food consumable expenditure, the imputed values of rents, and finally the imputed values of the consumption stream from household durables, deflated by a monthly consumer price index. Details concerning the calculation and derivation of total household expenditures used in this report are found in Arulpragasam and del Ninno (forthcoming). Per capita expenditure levels have been used as the main unit of welfare measure. Per adult equivalent expenditures have also been calculated for comparison in places; these follow the FAO (1972) tables reported in Trairatvorakul (1984).

DESCRIPTION OF CUMULATIVE PERCENTAGES

An analysis of the cumulative density functions of the main variables outlined above can broaden our understanding of the general distribution of welfare among the population.

The shape of the expenditure density functions can be examined for per capita or per adult equivalent expenditures. Per capita expenditures are total household expenditures divided by family size. To the extent that women or children consume less than men to achieve the same level of welfare, per capita expenditures can understate welfare levels for households with a higher than average proportion of women and children. Thus per adult equivalent

expenditures assign different weights to household members by age and sex and divide total household expenditures by "adjusted" family size. Density functions using per capita and per adult equivalent expenditures are compared in Figures 1A and 1B. In these figures the expenditure variable is reported on the horizontal axis and the total percentage of the population achieving that level of expenditure is reported on the vertical axis. The density shapes turn out to be very similar. Just under 80 percent of the population spends less than GNF 45,000 per capita and less than GNF 55,000 per adult equivalent. Looking at the per capita distribution, the segment of the distribution between 10 and 50 percent of the population has a steep slope. This means that a small movement along the expenditure axis corresponds to a large change in the cumulative percentage of the population. This is a fact to keep in mind when we make use of poverty measures that rely on a poverty line. It shows that a small horizontal shift in the expenditure level, due to an income transfer program, for example, can be translated into a large decrease in the percentage of the population below a given poverty level.

Examining Figure 1a, there are two specific points where the rate of change of the slope of the distribution changes. The first, around GNF 12,000, is where the function starts to increase at an increasing rate. It can be argued that the people below this point are those left behind, or in other words are the poorest group of the population. At the second point, around GNF 30,000, the function starts to increase at a decreasing rate. This expenditure level is the mode of the distribution above which welfare increases at an increasing rate.

The cumulative density functions of per capita and per adult equivalent daily calorie consumption are reported in Figure 2a and Figure 2b. Slightly over 40 percent of the population has a per capita daily consumption of less than 2,000 kilo-calories, or a per adult equivalent consumption of less than 2,500 kilo-calories. The 2,000 kilo-calorie level of per capita daily intake will later be used as the basis of our expenditure poverty line. Though the per capita consumption curve appears steeper than the corresponding adult equivalent function because of the larger minimum daily requirements, the structure of the two curves is actually very similar. The following analysis can therefore be conducted on a per capita basis and does not have to be performed in adult equivalent scales.

The last density function in Figure 3 describes the percentage of non food consumption as a share of total consumption. This variable can also be used to compare welfare levels between periods and groups of the population. As Figure 3 demonstrates, fifty percent of the population spends more than 50 percent of their budget on food alone.

Figure 1a: Cdf of Per Capita Monthly Expenditure

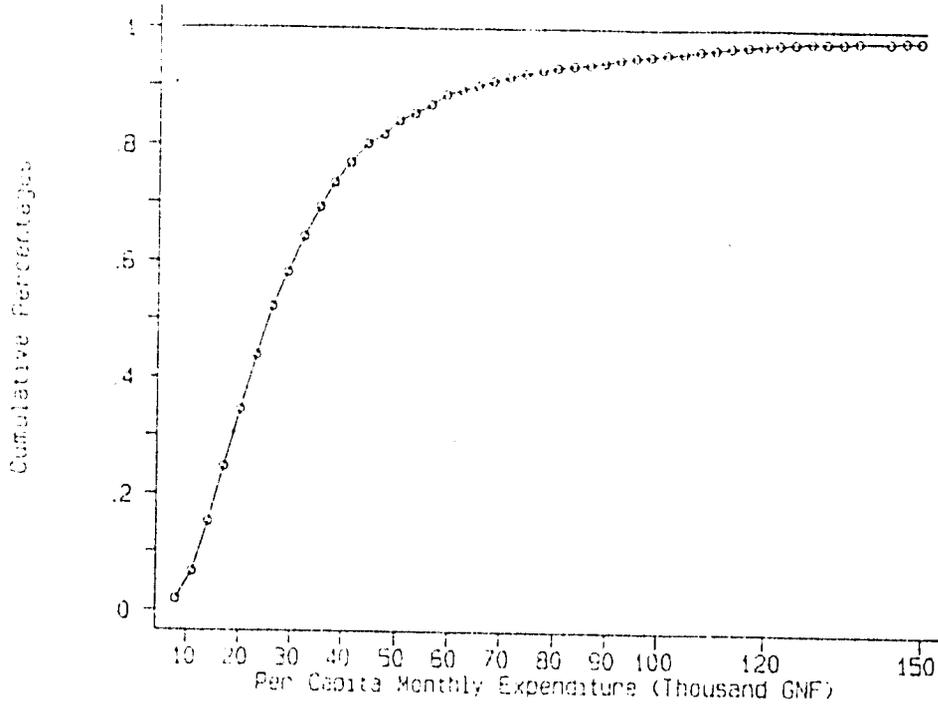


Figure 1b: Cdf of Adult Equivalent Monthly Expenditure

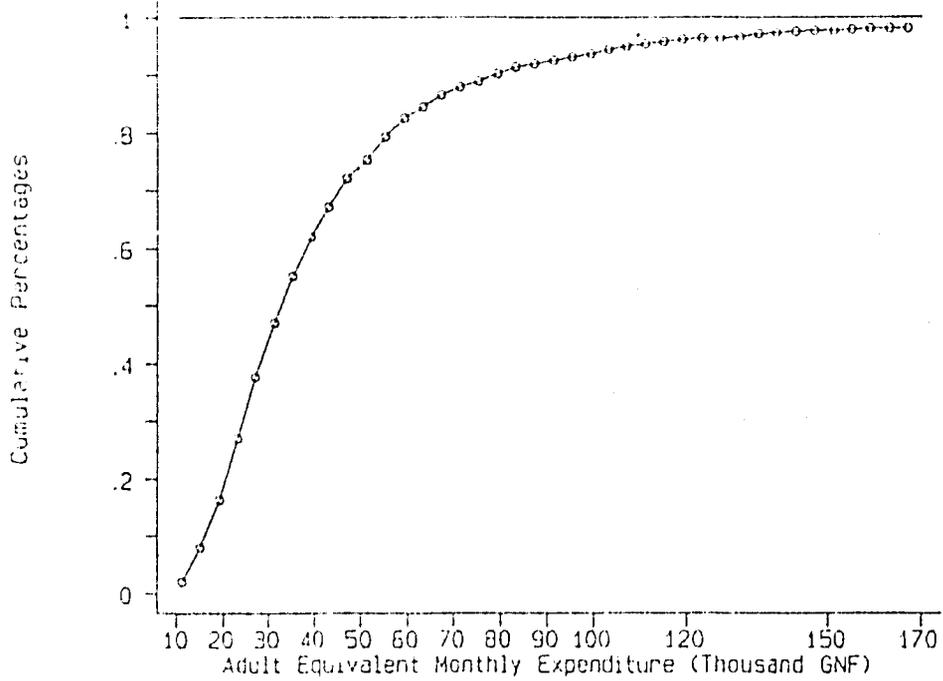


Figure 2a: Cdf of Per Capita Daily KgCal Consumption

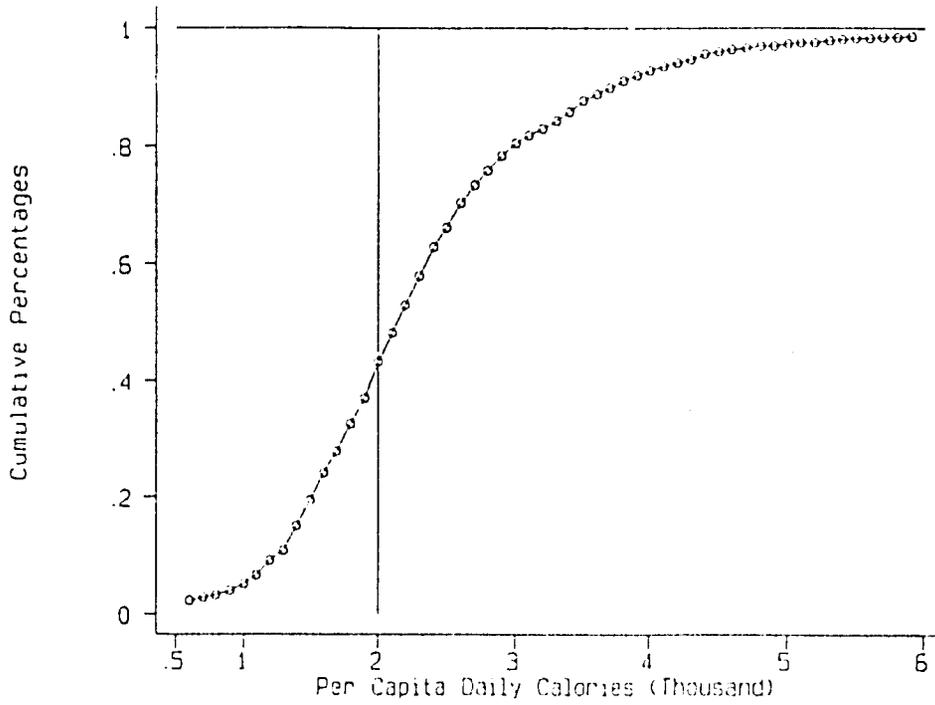


Figure 2b: Cdf of Per Adult Equivalent Daily KgCal Consumption

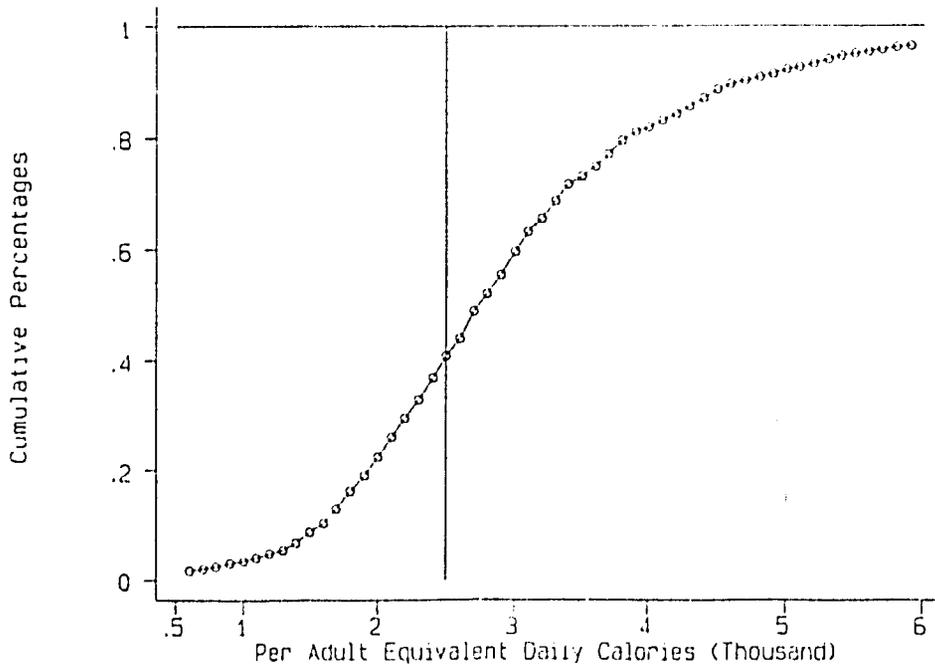
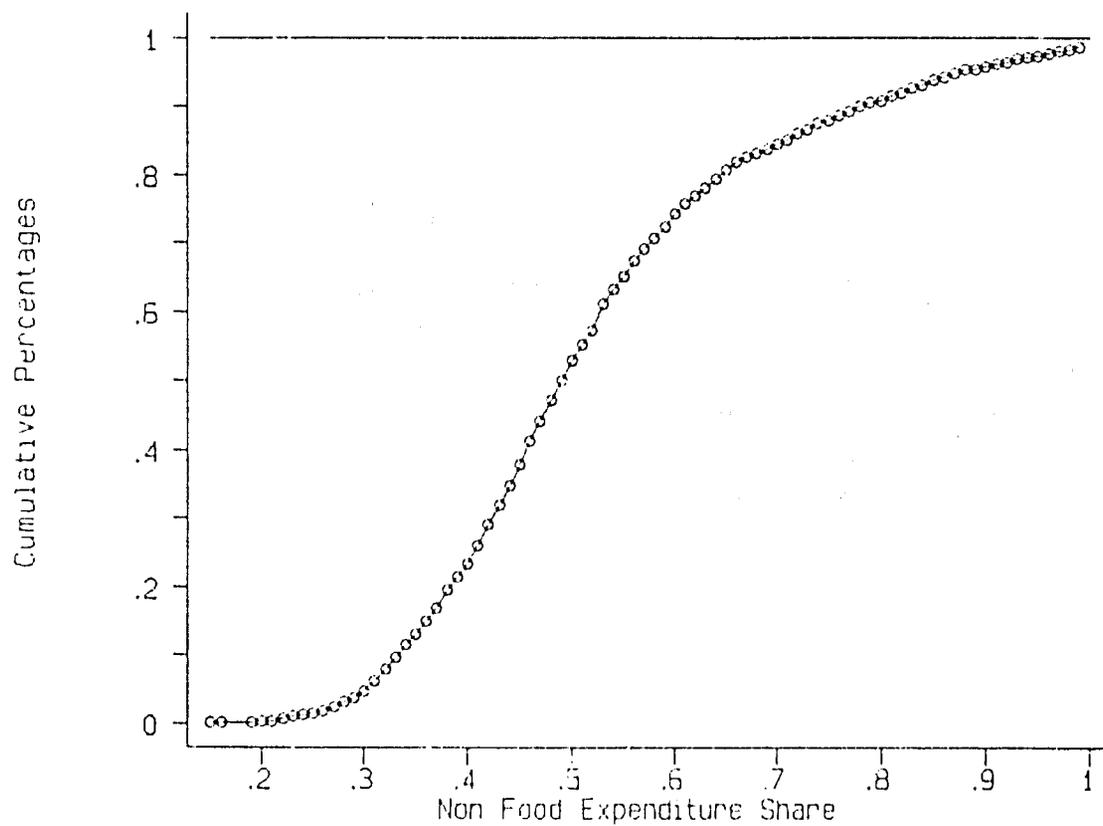


Figure 3: Cdf of Non Food Expenditure Share



WELFARE DISTRIBUTION BY EXPENDITURE CLASSES

To gain a better understanding of how the characteristics of the Conakry population vary across welfare levels, we start by separating the sample by expenditure groups.

Table 1 reports the distribution of household and per capita expenditure rankings by deciles. Expenditures have been ranked in two ways here: per capita and per adult equivalent. On average between January 1990 and March 1991, households in Conakry spent a total of GNF 187,367 in June 1990 currency, or GNF 34,392 on a per capita basis and GNF 43,216 per adult equivalent. Given that the distribution of expenditures commanded by each single decile does not differ substantially between the two types of ranking, the following analysis will be based on the distribution of expenditures by per capita quintiles and for the bottom 30th percentile. The bottom 30th percentile represents a first rough approximation of a poverty line; its upper band is set at GNF 18,580 per capita.

Household Structure

Household structure and size show a strong negative correlation with per capita expenditures. Per capita expenditures range from more than GNF 40,000 in households with four or fewer people to less than GNF 25,000 in households with eight or more people (Table 2). Similarly, the percentage of households in the lower expenditure quintiles increases as the family size increases. As Table 2 demonstrates, over 45 percent of the households with eight or more people are in the bottom 30th percentile. Table 3 shows that the number of spouses, children, and others decreases from the first quintile, where the average household size is 10.2 people, to the top quintile, where it is 3.9 people.

It has been found previously for Conakry that household size increases with the age of the household. It follows that average per capita expenditure decreases with the age of the household head. Indeed, as Table 4 reveals, over 40 percent of household heads 45 years or older are in the bottom 30th percentile. Female headed households (7.2 percent of the total) appear to be wealthier than male headed households, since they have higher average per capita expenditures than male headed households. The small number of female headed households and their welfare status reflects the fact that in Guinea all but wealthier women either remarry or are cared for by other households.

Table 1 - Distribution of Household Expenditure by Per Capita Expenditure Quintiles

| | Per Capita Decile Rankings | | | | | Adult Equivalent Decile Rankings | | | | |
|------------------------|----------------------------|------------------|------------------------|------------------|----------------------|----------------------------------|------------------|------------------------------|------------------|----------------------|
| | Household Expenditure | | Per Capita Expenditure | | | Household Expenditure | | Adult Equivalent Expenditure | | |
| | Average (GNF) | Percent of Total | Average (GNF) | Percent of Total | Food Share (Percent) | Average (GNF) | Percent of Total | Average (GNF) | Percent of Total | Food Share (Percent) |
| 1 | 108,030 | 5.78 | 9,910 | 2.85 | 56.24 | 113,407 | 6.07 | 12,890 | 2.99 | 55.80 |
| 2 | 129,982 | 6.92 | 14,023 | 4.01 | 55.78 | 129,889 | 6.91 | 18,279 | 4.22 | 54.89 |
| 3 | 147,563 | 7.90 | 17,164 | 4.93 | 54.76 | 135,870 | 7.27 | 22,282 | 5.17 | 52.91 |
| 4 | 154,579 | 8.29 | 20,130 | 5.75 | 52.07 | 160,333 | 8.53 | 25,982 | 5.99 | 52.82 |
| 5 | 168,526 | 9.02 | 23,411 | 6.79 | 51.94 | 163,927 | 8.77 | 30,142 | 6.99 | 49.37 |
| 6 | 179,083 | 9.53 | 27,401 | 7.83 | 49.73 | 164,636 | 8.76 | 34,977 | 8.07 | 48.28 |
| 7 | 180,652 | 9.67 | 32,647 | 9.38 | 45.83 | 193,542 | 10.36 | 41,232 | 9.57 | 48.63 |
| 8 | 231,773 | 12.33 | 99,452 | 11.27 | 44.26 | 217,521 | 11.38 | 50,428 | 11.63 | 44.12 |
| 9 | 233,223 | 12.48 | 52,581 | 15.11 | 39.06 | 245,046 | 13.12 | 64,859 | 15.05 | 40.01 |
| 10 | 340,799 | 18.14 | 112,428 | 32.13 | 27.19 | 349,959 | 18.52 | 131,357 | 30.31 | 30.05 |
| All | 187,564 | 100.00 | 34,892 | 100.00 | 47.69 | 187,364 | 100.00 | 43,216 | 100.00 | 47.69 |
| Bottom 30th Percentile | 128,522 | 20.60 | 13,699 | 11.79 | | | | | | |

Note: Households in the bottom 30 percentile have less than 18,580 GNF per capita

Source: CFNPP/ENCOMEC 1990/91 Survey Data

Table 2 — Household Size by Per Capita Expenditure Quintile

| Household Size | Average Per Capita Expenditure (GNF) | Quintiles | | | | | All | Bottom 30th Percentile | Average Adult Equivalent Expenditure (GNF) |
|----------------|--------------------------------------|-----------|-------|-------|-------|-------|-----|------------------------|--|
| | | 1 | 2 | 3 | 4 | 5 | | | |
| | | Percent | | | | | | | |
| Single | 80,879 | 1.31 | 1.98 | 6.54 | 22.88 | 67.32 | 100 | 1.31 | 82,260 |
| 2 to 4 | 40,306 | 6.48 | 14.90 | 22.89 | 26.78 | 28.94 | 100 | 12.53 | 50,791 |
| 5 to 7 | 30,458 | 18.22 | 23.60 | 23.19 | 20.91 | 14.08 | 100 | 30.23 | 40,822 |
| 8 to 10 | 24,887 | 33.55 | 24.92 | 18.60 | 14.95 | 7.97 | 100 | 46.84 | 32,210 |
| 11 to 15 | 22,804 | 33.82 | 26.47 | 20.59 | 13.24 | 5.88 | 100 | 49.02 | 23,310 |
| 18 and More | 18,333 | 45.45 | 24.79 | 15.70 | 10.74 | 3.31 | 100 | 58.58 | 24,353 |

Note: In the calculation of Adult Equivalent Expenditures, females are accounted as 80% of one male adult.

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 3 -- Household Structure (Average number of people) by Per Capita Expenditure Quintile

| Category | Quintiles | | | | | All | Bottom 30th Percentile |
|--------------------|-----------|------|------|------|------|------|---------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| Head | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Spouse | 1.55 | 1.25 | 1.16 | 0.99 | 0.64 | 1.12 | 1.47 |
| Kids | 4.64 | 3.80 | 3.01 | 2.21 | 1.17 | 2.97 | 4.45 |
| Other | 3.01 | 2.08 | 1.70 | 1.51 | 1.09 | 1.88 | 2.75 |
| Total Average Size | 10.19 | 8.13 | 6.88 | 5.71 | 3.90 | 6.97 | 9.66 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 4 — Age of Household Head by Per Capita Expenditure Quintile

| | Quintiles | | | | | Total | Bottom 30th Percentile | N | |
|-------------|--------------------------------|---------|-------|-------|-------|-------|------------------------|-------|------|
| | Average Per Capita Expenditure | 1 | 2 | 3 | 4 | | | | 5 |
| Age of Head | (GNF) | Percent | | | | | | | |
| 29 or under | 52,357 | 5.36 | 8.93 | 13.39 | 30.36 | 41.96 | 100 | 7.14 | 112 |
| 30 to 34 | 48,093 | 5.38 | 13.79 | 19.39 | 25.67 | 36.78 | 100 | 11.11 | 261 |
| 35 to 39 | 35,847 | 12.94 | 19.74 | 21.04 | 24.27 | 22.01 | 100 | 23.30 | 309 |
| 40 to 44 | 35,520 | 20.22 | 20.96 | 18.75 | 22.06 | 18.01 | 100 | 30.15 | 272 |
| 45 to 49 | 28,824 | 26.72 | 21.98 | 21.55 | 18.10 | 11.64 | 100 | 40.09 | 232 |
| 50 to 59 | 27,810 | 30.52 | 24.35 | 20.78 | 11.69 | 12.66 | 100 | 41.88 | 308 |
| 60 or over | 25,067 | 31.63 | 24.19 | 23.26 | 12.56 | 8.37 | 100 | 45.58 | 215 |
| Female Head | 39,042 | 16.13 | 23.39 | 18.55 | 16.94 | 25.00 | 100 | 25.00 | 124 |
| Male Head | 34,571 | 20.30 | 19.74 | 20.11 | 20.24 | 19.61 | 100 | 30.42 | 1601 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Migration

Migration is an important correlate of welfare in the population of Conakry. On the whole, migrants live in families that have higher average per capita expenditure levels, GNF 30,322, versus GNF 24,016 per capita in non migrant families (Table 5). Also, 35.1 percent of individual migrants are in the bottom 30th percentile of household per capita expenditures versus 47.3 of non migrants. Wealthier families attract more migrants and the migrants themselves are wealthier. Table 5 shows that most of the migrants and the poorest migrants come from nearby Guinea Maritime. The migrants from more distant regions are more likely to be in higher expenditure classes.

Recent migrants, who came to Conakry after 1975, have higher expenditure levels that migrants who came to Conakry before 1975 (Table 6). More recent migrants may have fewer responsibilities and smaller household sizes which could account for their higher expenditure levels.

An analysis of the welfare distribution of migrants by their reasons for migrating and by gender shows that migrating males and females are associated with households of approximately the same type of spending power as themselves (Table 7). In particular, females who moved to Conakry for educational reasons have the highest average per capita expenditure (GNF 42,650), followed by females who moved for occupational reasons (GNF 35,250). The majority of females who moved for family or other reasons are associated with much poorer families; 40 percent of them are in the bottom 30th percentile.

The results are similar, though not so pronounced, for males. Males who moved for educational reasons are associated with households with per capita expenditure levels of GNF 37,188 and those who moved for work, who are the majority, are associated with households with GNF 30,518 per capita expenditure levels. Males that moved for family or other reasons are associated with poorer households, as with females.

Expenditure

Expenditure behavior and expenditure patterns vary greatly across quintiles. The distribution of per capita budget shares for major commodity groups are reported in Table 8. The total food share varies from 57.6 percent of total expenditures for the first quintile to 38.3 percent for the top quintile. Food expenditures for the lower quintiles are concentrated on a small group of foods. For the bottom 30th percentile, for example, over 35 percent of total expenditures go towards purchasing the few ingredients necessary for preparing a simple meal made of imported rice (11.5 percent), fish (8.8 percent), vegetables (8.6 percent), oil (3.3 percent) and spices

Table 5 — Migration by Region by Household Per Capita Expenditure Quintile

| Region of Migration | Household per Capita Expenditure Quintile | | | | | | Total | Bottom 30th Percentile | N |
|---------------------|---|------------------------|------|------|------|------|-------|------------------------|------|
| | Average Per Capita Expenditure (GNF) | 1 | 2 | 3 | 4 | 5 | | | |
| | | Percent of Individuals | | | | | | | |
| Maritime | 25.581 | 31.1 | 24.7 | 18.3 | 15.9 | 10.0 | 100 | 44.2 | 2556 |
| Moyenn | 31.360 | 22.5 | 21.6 | 21.0 | 18.1 | 16.8 | 100 | 33.0 | 1322 |
| Haute | 33.696 | 13.4 | 18.9 | 23.2 | 25.7 | 18.8 | 100 | 20.7 | 672 |
| Forestiere | 32.517 | 19.6 | 21.0 | 23.0 | 22.8 | 13.6 | 100 | 27.5 | 448 |
| Africa | 42.476 | 15.2 | 14.0 | 22.3 | 17.9 | 30.6 | 100 | 22.3 | 480 |
| Other | 68.973 | 0.0 | 0.0 | 25.6 | 32.6 | 41.9 | 100 | 0.0 | 43 |
| Total Migrant | 30,322 | 24.3 | 21.8 | 20.3 | 18.5 | 15.0 | 100 | 35.1 | 5521 |
| Non Migrant | 24,016 | 33.5 | 24.6 | 19.3 | 14.6 | 7.9 | 100 | 47.3 | 6487 |

Note: These numbers reflect means calculated using individual and not household observations.

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 6 — Migration by Year by Per Capita Expenditure Quintile

| Year of Migration | Average Per Capita Expenditure (GNF) | Quintiles | | | | | Total | Bottom 30th Percentile | N |
|-------------------|---|-----------|-------|-------|-------|-------|-------|---------------------------|------|
| | | 1 | 2 | 3 | 4 | 5 | | | |
| | | Percent | | | | | | | |
| Before 1960 | 27.270 | 33.20 | 25.05 | 15.92 | 14.76 | 11.07 | 100 | 46.60 | 515 |
| 1960 to 1969 | 28,008 | 28.10 | 23.50 | 19.67 | 16.48 | 12.26 | 100 | 40.61 | 783 |
| 1970 to 1974 | 28,598 | 28.14 | 19.89 | 21.51 | 17.74 | 12.72 | 100 | 40.32 | 558 |
| 1975 to 1979 | 31,624 | 28.94 | 17.03 | 21.25 | 18.50 | 14.29 | 100 | 36.26 | 546 |
| 1981 to 1984 | 30,847 | 19.92 | 22.96 | 21.63 | 18.98 | 16.51 | 100 | 31.50 | 1054 |
| 1985 and after | 31,706 | 20.83 | 21.56 | 20.63 | 20.10 | 16.88 | 100 | 30.15 | 2050 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 7 — Average Per Capita Expenditure by Sex and Reason of Migration

| Reason of Migration | Males | | | Females | | |
|---------------------|--------------------------------------|----------------------------------|------|--------------------------------------|----------------------------------|------|
| | Average per Capita Expenditure (GNF) | Bottom 30th Percentile (Percent) | N | Average Per Capita Expenditure (GNF) | Bottom 30th Percentile (Percent) | N |
| Work/Opportunity | 30.518 | 34.59 | 1480 | 35.252 | 21.78 | 225 |
| Study | 37.188 | 20.78 | 510 | 42.650 | 8.74 | 183 |
| Family | 29.487 | 40.05 | 729 | 27,687 | 40.04 | 2243 |
| Other | 24.755 | 39.73 | 73 | 27,065 | 43.59 | 78 |
| All | 31,317 | 33.63 | 2792 | 29,305 | 36.53 | 2729 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 8 — Expenditure Budget Shares by Per Capita Expenditure Quintile

| | Quintiles | | | | | All | Bottom 30th Perce- tile |
|--|-----------|--------|--------|--------|--------|--------|----------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Local Rice | 1.69 | 1.36 | 1.93 | 1.42 | 0.97 | 1.48 | 1.57 |
| Imported Rice | 12.33 | 9.11 | 6.76 | 4.70 | 2.35 | 7.05 | 11.51 |
| Other Coarse Grains, Roots, Tubers | 1.86 | 2.17 | 2.31 | 2.13 | 1.74 | 2.04 | 1.97 |
| Bread | 5.41 | 4.85 | 4.40 | 3.47 | 2.41 | 4.11 | 5.25 |
| Meat | 4.12 | 6.15 | 6.83 | 7.25 | 6.05 | 6.08 | 4.69 |
| Fish | 9.13 | 7.64 | 7.14 | 5.93 | 3.44 | 6.65 | 8.76 |
| Milk and Dairy Products | 1.28 | 2.25 | 2.53 | 2.68 | 2.48 | 2.24 | 1.59 |
| Vegetables | 8.69 | 7.96 | 7.59 | 6.14 | 3.82 | 6.84 | 8.59 |
| Fruits | 1.93 | 2.62 | 3.04 | 3.65 | 3.36 | 2.92 | 2.19 |
| Butter and Oil | 3.40 | 3.31 | 2.84 | 2.39 | 1.62 | 2.71 | 3.33 |
| Spices | 3.36 | 2.72 | 2.45 | 2.02 | 1.13 | 2.34 | 3.15 |
| Sugar | 1.85 | 1.71 | 1.56 | 1.19 | 0.88 | 1.4 | 1.89 |
| Beverages | 0.96 | 1.57 | 1.45 | 2.06 | 2.89 | 1.79 | 1.11 |
| Food Away From Home | 1.54 | 1.50 | 2.07 | 4.19 | 5.14 | 2.89 | 1.52 |
| Fuel | 6.81 | 6.19 | 5.27 | 4.18 | 3.00 | 5.09 | 6.70 |
| Domestic Consumables | 3.26 | 3.02 | 2.95 | 2.90 | 2.41 | 2.91 | 3.18 |
| Clothes and Shoes | 2.52 | 4.44 | 4.80 | 5.24 | 6.18 | 4.64 | 2.97 |
| Housing, Hh Durables, Utilities, Taxes | 15.45 | 13.77 | 13.90 | 14.32 | 15.92 | 14.67 | 14.88 |
| Personal, Discretionary, Recreation, CER | 5.31 | 6.86 | 8.72 | 10.09 | 16.69 | 9.53 | 5.52 |
| Transport | 5.92 | 7.37 | 7.93 | 10.64 | 14.33 | 9.24 | 6.31 |
| Education | 1.40 | 1.47 | 1.41 | 1.04 | 0.85 | 1.23 | 1.47 |
| Health | 1.79 | 1.95 | 2.11 | 2.35 | 2.33 | 2.11 | 1.85 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Food Share | 57.55 | 54.92 | 52.91 | 49.23 | 38.28 | 50.58 | 57.12 |
| Total Expenditure (GNF) | 11,961 | 18,643 | 25,400 | 36,040 | 82,418 | 34,892 | 13,699 |
| N | 345 | 345 | 345 | 345 | 345 | 345 | 518 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

(3.2 percent). These expenditures account for over 70 percent of all the calories consumed by households in this group (Table 9).

In the top quintiles, as anticipated, the expenditure shares of these commodities tend to decrease dramatically. Conversely, the shares of "luxury foods", like meat and dairy products, fruits, beverages and food away from home increase across quintiles.

Concerning non food expenditures, the highest costs for the bottom 30th percentile group are for housing (14.9 percent), cooking and lighting fuel (6.7 percent) and transportation (6.3 percent). While the budget shares for housing and durable costs remain approximately constant for all expenditure groups, all other non food expenditures increase across quintiles. The largest increase is for households in the top quintile who spend 14.3 percent of their budget on transportation.

The analysis of caloric consumption in Table 9 reveals that households in the two bottom quintiles are an average calorie deficient. Also, as mentioned, households in the lower quintiles derive most of their calories from a small group of foods (Table 9). In fact, rice alone contributes 44.5 percent of total calorie consumption for the bottom quintile. The low average per capita daily consumption and the lack of apparent flexibility of diet of households in the lower expenditure classes makes them much more vulnerable to price and policy changes. Households in the higher expenditure quintiles, in contrast, appear to have more flexibility, though even they still derive 20.4 percent of their caloric consumption from imported rice.

Rice is still the cheapest source of calories, and its cost does not change across quintiles (GNF 71.9 to supply 1,000 calories per person per day). The cost of calories from fish, vegetables and fruits almost doubles from the first to the top quintile. Wealthier households are willing to buy more expensive types of commodities to derive the same number of calories (Table 10). These price differences are also reflected in the price indices reported in Table 11.

Employment

The type of income-earning activities of household heads and other household members has a large impact on the expenditure patterns of households (Table 12). Households whose heads have wage earning activities are, on the average, slightly wealthier than households whose heads are self employed. The former have an average per capita expenditure of GNF 37,276, as compared to GNF 34,276 for the latter.

Among wage income earners, household heads with professional wage activities are the wealthiest. Their households report an average per capita expenditure of GNF 45,244. Only 6.7 percent of them are in the bottom quintile and 12.3 percent are in the bottom 30th percentile. Administrative

Table 9 — Daily Per Capita Caloric Intake by Commodity Group by Per Capita Expenditure Quintile

| | Quintiles | | | | | | Bottom 30th Percentile |
|--------------------------------------|-----------|---------|---------|---------|---------|---------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | All | |
| | Percent | | | | | | |
| 1 Local Rice | 5.75 | 5.51 | 7.49 | 6.76 | 6.73 | 6.45 | 5.55 |
| 2 Imported Rice | 44.53 | 39.55 | 33.78 | 28.58 | 20.42 | 33.48 | 43.39 |
| 3 Other Coarse Grains, Roots, Tubers | 3.13 | 4.37 | 5.33 | 5.13 | 5.80 | 4.75 | 3.44 |
| 4 Bread | 8.78 | 9.37 | 9.91 | 9.39 | 9.87 | 9.46 | 8.99 |
| 5 Meat | 1.71 | 2.75 | 3.56 | 4.62 | 5.90 | 3.69 | 1.99 |
| 6 Fish | 9.91 | 9.27 | 9.10 | 8.43 | 6.23 | 8.61 | 9.68 |
| 7 Milk and Dairy Products | 0.22 | 0.43 | 0.78 | 0.87 | 1.34 | 0.72 | 0.28 |
| 8 Vegetables | 6.70 | 7.19 | 6.96 | 6.67 | 5.63 | 6.64 | 6.82 |
| 9 Fruits | 2.11 | 2.77 | 3.47 | 4.70 | 6.49 | 3.88 | 2.34 |
| 10 Butter and Oil | 10.51 | 11.49 | 10.81 | 10.78 | 10.00 | 10.73 | 10.71 |
| 11 Spices | 0.98 | 0.82 | 0.94 | 1.07 | 0.81 | 0.92 | 0.87 |
| 12 Sugar | 3.16 | 3.54 | 3.63 | 3.38 | 3.81 | 3.50 | 3.45 |
| 13 Beverages | 0.03 | 0.07 | 0.09 | 0.12 | 0.34 | 0.13 | 0.03 |
| 14 Food Away From Home | 2.49 | 2.88 | 4.15 | 9.49 | 16.63 | 7.04 | 2.46 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Total Calories | 1525.42 | 1953.22 | 2302.74 | 2698.39 | 3548.90 | 2396.32 | 1642.00 |
| Number | 336 | 339 | 343 | 336 | 324 | 1678 | 508 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 10 — Real Price Per 1000 Daily Kil-Calories (Deflated by CPIFIN01) by Per Capita Expenditure Quintile

| | Quintiles | | | | | | All | Bottom 30th Percentile |
|---|-----------|----------|----------|----------|----------|----------|----------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | | |
| | Percent | | | | | | | |
| 1 Local Rice | 86.96 | 86.91 | 92.81 | 94.31 | 95.73 | 91.86 | 87.42 | |
| 2 Imported Rice | 71.60 | 72.08 | 71.64 | 72.00 | 72.28 | 71.90 | 71.72 | |
| 3 Other Coarse Grains, Roots, Tubers | 303.06 | 268.01 | 251.27 | 270.12 | 274.53 | 273.16 | 296.36 | |
| 4 Bread | 175.14 | 174.88 | 178.81 | 179.94 | 180.92 | 177.92 | 175.25 | |
| 5 Meat | 741.57 | 773.08 | 772.03 | 779.28 | 803.79 | 773.87 | 755.90 | |
| 6 Fish | 286.09 | 303.14 | 329.06 | 373.92 | 467.14 | 345.59 | 296.77 | |
| 7 Milk and Dairy Products | 1875.84 | 1894.66 | 1821.37 | 1835.28 | 1721.89 | 1822.01 | 1897.93 | |
| 8 Vegetables | 489.38 | 520.35 | 548.95 | 596.56 | 749.60 | 573.41 | 505.40 | |
| 9 Fruits | 338.61 | 384.88 | 386.96 | 408.07 | 538.99 | 412.95 | 353.41 | |
| 10 Butter and Oil | 89.27 | 94.14 | 100.10 | 106.87 | 121.73 | 101.59 | 89.97 | |
| 11 Spices | 3989.55 | 4180.64 | 3923.67 | 13674.42 | 4847.68 | 6036.59 | 3979.50 | |
| 12 Sugar | 160.28 | 162.65 | 162.59 | 165.39 | 164.36 | 163.04 | 160.52 | |
| 13 Beverages | 15755.08 | 15579.37 | 15947.11 | 15836.75 | 15308.59 | 15684.35 | 15694.56 | |
| 14 Food Away From Home | 212.97 | 217.99 | 239.10 | 259.45 | 299.35 | 253.21 | 218.61 | |

Note: Averages have been calculated including only actual purchases by households

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 11 — Deflated Commodity Price Index by Per Capita Expenditure Quintile

| | Quintiles | | | | | All | Bottom 30th Percentile |
|---|-----------|-------|-------|-------|-------|-------|---------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| 1 Local Rice | 0.911 | 0.910 | 0.935 | 0.924 | 0.949 | 0.926 | 0.908 |
| 2 Imported Rice | 0.924 | 0.939 | 0.925 | 0.936 | 0.923 | 0.929 | 0.93 |
| 3 Other Coarse Grains, Roots, Tubers | 0.895 | 0.901 | 0.926 | 0.915 | 0.969 | 0.921 | 0.900 |
| 4 Bread | 0.914 | 0.915 | 0.934 | 0.936 | 0.943 | 0.928 | 0.914 |
| 5-7 Meat and Dairy | 0.891 | 0.908 | 0.893 | 0.905 | 0.913 | 0.902 | 0.901 |
| 6 Fish | 0.883 | 0.911 | 0.964 | 0.983 | 0.980 | 0.944 | 0.891 |
| 8 Vegetables | 0.929 | 0.970 | 1.001 | 1.025 | 1.007 | 0.986 | 0.952 |
| 9 Fruits | 0.836 | 0.905 | 0.949 | 0.964 | 1.021 | 0.935 | 0.858 |
| 10 Butter and Oil | 0.919 | 0.908 | 0.940 | 0.923 | 0.967 | 0.931 | 0.911 |
| 11 Spices | 0.983 | 0.951 | 0.956 | 1.020 | 1.012 | 0.985 | 0.959 |
| 12 Sugar | 0.917 | 0.924 | 0.935 | 0.941 | 0.938 | 0.931 | 0.918 |
| 13 Beverages | 0.920 | 0.914 | 0.928 | 0.924 | 0.925 | 0.922 | 0.919 |
| Non Foods ² | 0.910 | 0.949 | 0.978 | 1.029 | 1.103 | 0.933 | 0.910 |
| Total | 345 | 345 | 345 | 345 | 345 | 1725 | 518 |

Note: 1) Index for each household is computed as
$$\sum_{j=1}^y \left(\frac{P_{ij}}{P^j} \cdot W_{ijk} \right)$$

where W_{ijk} = expenditure share of commodity j in commodity group k for household i .
 P_{ij} = price of commodity j paid by household i .
 P^j = mean price of commodity j across all households.
 y = number of commodities in commodity group k .

2) Missing observations have been replaced with cluster prices.
 3) Non Food prices calculated for cooking households.

Source: CFNPP/ENDOMEQ 1990/91 Survey Data.

Table 12 – Employment Categories of Household Head by Household Per Capita Expenditure Quintile

| | Average Per Capita Expenditure (GNF) | Quintiles | | | | | Total | Bottom 30th Percentile | N |
|---------------------------------------|---|-----------|-------|-------|-------|-------|--------|---------------------------|-----|
| | | 1 | 2 | 3 | 4 | 5 | | | |
| | | Percent | | | | | | | |
| Dependent Work Activity | | | | | | | | | |
| 1 Professional | 45,244 | 6.69 | 13.38 | 18.59 | 28.25 | 33.09 | 100.00 | 12.27 | 269 |
| 2 Administrative/Clerical | 40,408 | 18.00 | 16.00 | 22.00 | 18.00 | 26.00 | 100.00 | 30.00 | 50 |
| 3 Shopkeepers/Other Trade | 32,106 | 6.06 | 33.33 | 19.18 | 27.27 | 15.15 | 100.00 | 30.30 | 33 |
| 4 Hotel/Restaurant/Service | 29,814 | 30.36 | 20.24 | 21.43 | 13.69 | 14.29 | 100.00 | 40.48 | 168 |
| 5 Agriculture/Fishing | 58,909 | 5.00 | 20.00 | 35.00 | 10.00 | 30.00 | 100.00 | 15.00 | 20 |
| 6 Manufacturing/Industry/Construction | 35,671 | 18.95 | 24.21 | 16.84 | 21.05 | 18.95 | 100.00 | 31.58 | 95 |
| 7 Skilled | 42,566 | 18.11 | 14.96 | 16.54 | 26.77 | 23.62 | 100.00 | 26.77 | 127 |
| 8 Drivers | 29,131 | 21.60 | 23.20 | 20.00 | 20.00 | 15.20 | 100.00 | 29.60 | 125 |
| 9 Other Non Classified | 22,642 | 39.29 | 32.14 | 14.29 | 7.14 | 7.14 | 100.00 | 46.43 | 28 |
| All Wages | 37,276 | 17.49 | 18.91 | 19.23 | 21.86 | 22.51 | 100.00 | 26.56 | 915 |
| Self Employment | | | | | | | | | |
| 1 Agriculture/Fishing/Mining | 25,246 | 41.10 | 13.70 | 26.03 | 12.33 | 6.85 | 100.00 | 49.32 | 73 |
| 2 Manufacture/Trade | 33,408 | 21.48 | 18.79 | 16.78 | 21.48 | 21.48 | 100.00 | 32.21 | 149 |
| 3 Wholesale | 53,097 | 9.68 | 12.90 | 35.48 | 9.68 | 32.26 | 100.00 | 12.90 | 31 |
| 4 Retail/Commerce | 32,941 | 18.08 | 24.23 | 20.77 | 18.85 | 18.08 | 100.00 | 31.15 | 260 |
| 5 Services | 44,830 | 20.00 | 16.00 | 14.67 | 18.67 | 30.67 | 100.00 | 30.67 | 75 |
| 6 Non Classified | 26,520 | 18.18 | 18.18 | 35.35 | 18.18 | 9.09 | 100.00 | 27.27 | 11 |
| All Self Employment | 34,533 | 21.54 | 19.87 | 20.70 | 18.20 | 19.70 | 100.00 | 31.55 | 599 |
| Not Working | 28,109 | 26.69 | 21.80 | 21.80 | 16.92 | 12.78 | 100.00 | 36.47 | 265 |

Source: CFAPF/ENCOMEC 1990/91 Survey Data.

and skilled workers also have households with high average per capita expenditures but are more evenly spread across expenditure quintiles. At the lower end of the skilled worker spectrum are hotel, restaurant and service workers, since 40.5 percent of these households are in the bottom 30th percentile. Interestingly, only 15 percent of wage earner households in agriculture and fishing industries are in the bottom 30th percentile.

Among the self employed, household heads engaged in wholesale activities have households with the highest average per capita expenditure (GNF 53,097), and the lowest percentage of households in the bottom 30th percentile (12.9 percent), followed by those engaged in services (with an average per capita expenditure of GNF 44,830). Among the poorest are households with heads self-employed in agriculture, fishing, and mining. Almost 50 percent of them are in the bottom 30th percentile and they have an average per capita expenditure of only GNF 25,246.

Heads who are not engaged in income earning activities have households with low per capita expenditures (GNF 28,190) and they tend to be distributed towards the lower expenditure quintiles.

The distribution of employment by gender and sector is reported in Table 13. Public wage workers do better than private wage earners and self employed individuals. With respect to gender, women in the wage (public and private) sector have higher expenditures than do men. On the other hand, women who are self employed are from the poorest households on average. Almost 50 percent of them are in the bottom 30th percentile. This figure reflects the fact that the majority of self employed women work as street vendors.

As a result of the economic reform program, retrenched and retired public workers form a class of particular interest (Table 14). Those retrenched public employees who later found work exhibit expenditure patterns similar to other public workers (GNF 38,599 versus GNF 38,269). At the other extreme, retired public employees who are not working are in the lowest expenditure categories. Fifty percent are in the bottom 30th percentile, and they have an average per capita expenditure of only GNF 23,040.

Human Capital

Human capital characteristics such as education enrollment and speaking and writing capabilities vary greatly across welfare categories. In Table 15 it is evident that the household head's level of educational achievement increases across expenditure quintiles. A large percentage of household's in the top quintiles have heads that have attained secondary or university

Table 13 — Sector of Employment of Men and Women by Household Per Capita Expenditure Quintile

| Sector and Sex | Average Per Capita Expenditure (GNF) | Quintiles | | | | | All | Bottom 30th Percentile | N |
|-----------------|---|-----------|-------|-------|-------|-------|-----|---------------------------|------|
| | | 1 | 2 | 3 | 4 | 5 | | | |
| | | Percent | | | | | | | |
| Private Wage | | | | | | | | | |
| Men | 33,609 | 20.59 | 22.24 | 20.77 | 18.01 | 18.38 | 100 | 32.54 | 544 |
| Women | 39,300 | 18.57 | 11.43 | 20.00 | 22.86 | 27.14 | 100 | 21.43 | 70 |
| All | 34,257 | 20.36 | 21.01 | 20.68 | 18.57 | 19.38 | 100 | 31.27 | 614 |
| Public Wage | | | | | | | | | |
| Men | 36,922 | 17.16 | 19.07 | 17.80 | 24.15 | 21.82 | 100 | 26.48 | 472 |
| Women | 43,246 | 7.09 | 18.44 | 15.60 | 26.24 | 32.62 | 100 | 13.48 | 141 |
| All | 38,377 | 14.85 | 18.92 | 17.29 | 24.63 | 24.31 | 100 | 23.49 | 613 |
| Self Employment | | | | | | | | | |
| Men | 23,980 | 22.85 | 18.83 | 21.02 | 20.11 | 17.18 | 100 | 33.64 | 759 |
| Women | 33,067 | 32.54 | 26.75 | 21.34 | 12.52 | 6.85 | 100 | 48.88 | 547 |
| All | 27,787 | 28.48 | 23.43 | 21.21 | 15.70 | 11.18 | 100 | 42.50 | 1306 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 14 — Status of Pre-adjustment Public Workers by Per Capita Expenditure Quintile

| | Average Per Capita Expenditure (GNF) | Quintiles | | | | | Total | Bottom 30th Percentile | N |
|--|---|-----------|-------|-------|-------|-------|-------|------------------------------|-----|
| | | 1 | 2 | 3 | 4 | 5 | | | |
| | | Percent | | | | | | | |
| Pre-Adjustment Total Public | 38,269 | 14.70 | 18.44 | 17.87 | 25.79 | 23.20 | 100 | 23.49 | 694 |
| Total Leaving | 32,495 | 25.71 | 23.43 | 17.71 | 16.00 | 17.14 | 100 | 37.14 | 175 |
| Retrenched | 34,350 | 25.53 | 23.40 | 17.02 | 15.96 | 18.09 | 100 | 35.11 | 94 |
| Now Not Working | 30,101 | 34.43 | 21.28 | 14.89 | 14.89 | 14.89 | 100 | 38.30 | 47 |
| Now Working | 38,599 | 17.02 | 25.53 | 19.15 | 17.02 | 21.28 | 100 | 31.91 | 47 |
| Retired | | 28.79 | 25.76 | 19.70 | 13.64 | 12.12 | 100 | 43.94 | 66 |
| Now Not Working | 23,040 | 37.50 | 22.50 | 20.00 | 12.50 | 7.50 | 100 | 50.00 | 40 |
| Now Working | 36,516 | 15.38 | 30.77 | 19.23 | 15.38 | 19.23 | 100 | 34.62 | 26 |
| Immediate Transition to Other Work | 42,079 | 9.09 | 9.09 | 18.18 | 27.27 | 36.36 | 100 | 9.09 | 11 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 15 — Education of Head of Household by Per Capita Expenditure Quintile

| Education Level | Quintiles | | | | | All | Bottom 30th Percentile |
|-----------------|-----------|--------|--------|--------|--------|--------|------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| No School | 74.20 | 57.70 | 53.60 | 38.60 | 26.70 | 50.14 | 69.50 |
| Some Primary | 6.38 | 10.14 | 7.25 | 8.70 | 7.50 | 8.00 | 6.75 |
| Some Secondary | 14.20 | 18.30 | 20.00 | 21.16 | 25.00 | 20.00 | 16.02 |
| Some University | 4.05 | 8.70 | 9.85 | 18.00 | 18.50 | 11.82 | 5.60 |
| University | 1.16 | 5.20 | 9.30 | 13.60 | 21.60 | 10.08 | 2.12 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 345 | 345 | 345 | 345 | 345 | 1725 | 518 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

education. Among household heads in the bottom 30th percentile, however, 69.5 percent do not have any education.

Children's school enrollment also increases with increasing per capita household expenditure (Table 16). This increase is particularly large for both boys and girls under 10 years of age and is less marked for males and females over 20. The difference in social attitudes towards education for boys and girls remains very large. This is especially born out in the 10 to 14 year old age group within which 82.5 percent of boys are enrolled in school versus 57.5 percent of girls.

An analysis of general verbal and reading skills, reported in Table 17, shows that most individuals in the lower expenditure classes cannot read or write or speak French. Almost 70 percent of males in the bottom 30th percentile neither read or write and only one third speak French. For females in the same welfare group, 86.9 percent do not read or write and only 12.3 percent of them speak some French. The situation improves for the males in the top quintile, where 67.2 percent can read and 76.0 percent can speak French. The corresponding percentages for females also increase in the top quintile, though of these only 34.2 percent can read and 24.1 percent speak French.

Housing and Assets

The general standard of living in Conakry is very low, but it is worse for people in the lower welfare quintiles. To elaborate on this we will focus on some general measures of standard of living, namely occupancy rates, source of drinking water, electricity, and type of sanitary facility.

People in the bottom 30th percentile live in dwellings with few rooms given the size of their households; 31.4 percent have two to three people per room and 43.8 percent have four or more people per room (Table 18). By contrast, almost 50 percent of the people in the top quintile have an occupancy rate of 1 or fewer people per room.

The source of drinking water is conveniently located in the house or in the courtyard for 61.6 percent of people in the top quintile, but for only 35.8 percent of those in the bottom quintile (Table 19). The households in the bottom 30th percentile rely primarily on faucets located outside their compound (40.6 percent) or on wells (18.3 percent).

Electricity is available only sporadically in the city of Conakry. But only 9.3 percent of households in the top expenditure quintile have no electricity, compared to 23.0 percent of households in the bottom quintile (Table 20).

The most common type of sanitary facility used by the households in the bottom 30th percentile is an outside latrine (75.4 percent) shared with other

Table 16 — Percent of Household Members Enrolled in School in each Family by Age Group and Per Capita Expenditure Quintile

| | Quintiles | | | | | All | Bottom 30th Percentile |
|----------------|-----------|-------|-------|-------|-------|-------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Males | | | | | | | |
| 5-9 | 53.13 | 65.97 | 73.80 | 81.73 | 89.50 | 67.41 | 55.77 |
| 10-14 | 79.40 | 83.28 | 80.99 | 88.81 | 85.00 | 82.52 | 80.37 |
| 15-19 | 57.60 | 64.24 | 59.55 | 64.72 | 69.40 | 61.88 | 60.60 |
| 20-24 | 32.25 | 38.42 | 39.22 | 37.24 | 43.08 | 37.28 | 33.50 |
| Number | 285 | 252 | 230 | 185 | 97 | 1049 | 419 |
| Females | | | | | | | |
| 5-9 | 41.90 | 50.40 | 54.34 | 54.10 | 71.30 | 51.32 | 43.54 |
| 10-14 | 52.65 | 57.54 | 58.28 | 60.45 | 57.62 | 57.53 | 52.47 |
| 15-19 | 23.70 | 30.00 | 38.21 | 39.63 | 32.22 | 31.88 | 25.24 |
| 20-24 | 12.90 | 5.67 | 14.20 | 17.45 | 19.50 | 13.60 | 10.63 |
| Number | 294 | 286 | 255 | 235 | 168 | 1238 | 435 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 17 — French Speaking, Reading, and Writing Capabilities by Household by Per Capita Expenditure Quintile

| | Quintiles | | | | | | Bottom 30th Percentile |
|--------------------|-----------|-------|-------|-------|-------|-------|---------------------------|
| | 1 | 2 | 3 | 4 | 5 | All | |
| | Percent | | | | | | |
| Male | | | | | | | |
| - Read and write | 24.91 | 34.60 | 39.16 | 47.23 | 64.63 | 41.91 | 27.55 |
| - Read no write | 4.36 | 3.95 | 3.25 | 3.82 | 2.54 | 3.59 | 4.13 |
| - No read or write | 70.72 | 61.44 | 57.60 | 48.93 | 32.82 | 54.49 | 68.32 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| - French Speaking | 30.65 | 41.24 | 47.88 | 57.90 | 76.01 | 50.52 | 33.30 |
| Number | 342 | 341 | 343 | 338 | 328 | 1692 | 514 |
| Female | | | | | | | |
| - Read and write | 8.87 | 14.87 | 17.13 | 29.40 | 41.23 | 20.89 | 10.68 |
| - Read no write | 2.40 | 4.17 | 3.72 | 3.53 | 2.50 | 3.31 | 2.40 |
| - No read or write | 88.71 | 80.95 | 79.13 | 67.07 | 56.27 | 75.81 | 86.92 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| - French Speaking | 9.78 | 17.61 | 21.07 | 33.45 | 46.01 | 24.05 | 12.31 |
| Number | 342 | 341 | 330 | 300 | 238 | 1551 | 513 |

Source: IANSA ECONOMIC 1990/91 Survey Data.

Table 18 — Occupancy Rate by Per Capita Expenditure Quintile (Number of persons per room)

| Occupancy Rate | Quintiles | | | | | All | Bottom 30th Percentile |
|----------------|-----------|--------|--------|--------|--------|--------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| 1 or less | 1.45 | 2.90 | 9.00 | 17.65 | 49.00 | 16.00 | 1.53 |
| 1 to 2 | 20.55 | 30.15 | 38.25 | 43.00 | 32.75 | 32.93 | 23.14 |
| 2 to 3 | 29.25 | 35.35 | 29.55 | 25.20 | 11.30 | 26.15 | 31.44 |
| 3 to 4 | 24.90 | 18.25 | 15.05 | 8.70 | 4.05 | 14.20 | 22.18 |
| More than 4 | 23.75 | 13.30 | 8.10 | 5.50 | 2.90 | 10.73 | 21.61 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 345 | 345 | 345 | 345 | 345 | 1725 | 518 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 19 — Source of Drinking Water by Capita Expenditure Quintile

| Source of Drinking Water | Quintiles | | | | | All | Bottom 30th Percentile |
|--------------------------|-----------|--------|--------|--------|--------|--------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| House/Courtyard | 35.75 | 43.00 | 47.65 | 53.20 | 61.60 | 48.25 | 37.73 |
| Other Faucet | 39.80 | 41.00 | 38.65 | 34.30 | 31.50 | 37.03 | 40.63 |
| Well | 21.00 | 14.80 | 12.20 | 11.60 | 6.50 | 13.19 | 18.78 |
| Other | 3.50 | 1.15 | 1.50 | 1.00 | 0.60 | 1.51 | 2.70 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 344 | 344 | 344 | 344 | 344 | 1720 | 516 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 20 — Hours of Electricity by Capita Expenditure Quintile

| | Quintiles | | | | | All | Bottom 30th Percentile |
|---------------|-----------|--------|--------|--------|--------|--------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| Hours per Day | Percent | | | | | | |
| None | 23.00 | 19.20 | 12.80 | 12.50 | 9.30 | 15.34 | 22.64 |
| 0-6 | 39.00 | 44.15 | 50.00 | 46.20 | 43.60 | 44.60 | 39.86 |
| 7-12 | 18.90 | 21.50 | 21.50 | 21.50 | 28.00 | 22.27 | 20.11 |
| 13 and over | 19.15 | 15.10 | 16.00 | 19.50 | 19.15 | 17.80 | 17.42 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 344 | 344 | 344 | 344 | 344 | 1720 | 517 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

households (Table 21). The situation is radically different for higher expenditure quintiles. A full 26.5 percent of the households in the top quintile have an inside toilet.

An analysis of the type and value of assets owned by households show that people in the lower expenditure quintiles also have lower values of per capita assets. For example, 38.01 percent of households in the bottom 30th percentile have assets valued at less than GNF 50,000 per person (Table 22). In addition, households in the lower quintiles concentrate their holdings in land, buildings, and agricultural assets. In contrast, more of the households in higher expenditure quintiles have televisions, appliances, and cars or trucks. In particular, 42.6 percent of households in the bottom 30th percentile own some buildings, accounting for 76.4 percent of their total value of assets (Table 24) and 13.5 percent own agricultural assets. In comparison only 24.4 percent of households in the top quintile own buildings and only 5.5 percent own agricultural assets (Table 23).

In the bottom 30th percentile, 23.6 percent of households own appliances, 17.8 percent own televisions and 4.8 percent own cars or trucks. By contrast, in the top expenditure quintile 62.6 percent own appliances, 41.2 percent own televisions and 32.8 percent own cars or trucks. Cars and trucks alone account for 21.9 percent of the top quintile's total value of assets.

Health

The nutritional status of young children in Conakry can be measured using the concepts of acute and chronic malnutrition. A child is said to suffer from acute malnutrition if his weight-for-height is less than 2/3 of a standard deviation from the median for his age and sex. Chronic malnutrition occurs when a child has a height-for-age of less than 2/3 of a standard deviation from the median.

We find that for Conakry preschoolers, acute and chronic malnutrition decreases dramatically for boys and girls as per capita expenditure increases (Table 25). The percentage of acutely malnourished boys decreases from 11.7 percent in the bottom 30th per capita expenditure percentile to 3.0 percent in the top quintile. Similarly for girls, the percentage decreases from 10.4 percent to 5.2 percent. The percentage of chronically malnourished boys drops from 18.5 percent in the bottom 30th percentile to 4.2 percent in the top quintile. Similarly for girls the incidence falls from 17.7 percent to 3.5 percent. The better living conditions and higher calorie availability among higher expenditure households together have a definite impact on nutritional welfare of children.

The same type of correlation is not true for adults as measured by the Body Mass Index (BMI) (Table 26). For males, the only difference across quintile expenditure classes is the slight increase of overweight people (13.0 percent in the top quintile). For women, there are definitely more overweight

Table 21 — Type of Sanitary Facility Per Capita Expenditure Quintile

| Type of Sanitary Facility | Quintiles | | | | | All | Bottom 30th Percentile |
|---------------------------|-----------|--------|--------|--------|--------|--------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Inside Toilet | 3.20 | 4.95 | 7.55 | 16.30 | 26.50 | 11.70 | 3.70 |
| Outside Toilet | 16.90 | 18.05 | 19.80 | 14.85 | 15.15 | 16.94 | 16.85 |
| Outside Latrine | 74.80 | 75.10 | 71.90 | 67.50 | 57.05 | 69.26 | 75.39 |
| Other | 0.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.12 | 0.40 |
| None | 4.65 | 2.05 | 0.85 | 1.15 | 1.45 | 2.04 | 3.70 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 344 | 344 | 344 | 344 | 344 | 1719 | 516 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 22 — Total Per Capita Asset Value by Per Capita Expenditure Quintile

| Asset Value Categories (Thousand GNF) | Quintiles | | | | | All | Bottom 30th Percentile | |
|--|-----------|--------|--------|--------|--------|--------|------------------------------|--|
| | 1 | 2 | 3 | 4 | 5 | | | |
| | Percent | | | | | | | |
| Less than 25 | 26.70 | 16.20 | 10.15 | 3.75 | 1.75 | 11.41 | 23.98 | |
| 25 and 50 | 14.75 | 15.90 | 15.35 | 12.15 | 5.50 | 12.74 | 14.09 | |
| 50 and 100 | 8.95 | 14.20 | 13.05 | 17.65 | 8.40 | 12.45 | 10.02 | |
| 100 and 250 | 13.05 | 13.90 | 13.30 | 15.90 | 16.80 | 14.59 | 12.92 | |
| 250 and 500 | 7.80 | 6.35 | 10.40 | 12.15 | 16.20 | 10.60 | 6.93 | |
| 500 and 1,000 | 11.30 | 12.75 | 9.25 | 11.00 | 17.65 | 12.39 | 12.52 | |
| 1,000 and 2, 500 | 12.75 | 13.05 | 13.90 | 13.30 | 15.65 | 13.72 | 13.32 | |
| 2,500 and 5,000 | 4.65 | 7.25 | 10.15 | 9.25 | 6.65 | 7.58 | 5.03 | |
| 5,000 and more | 0.85 | 0.85 | 4.35 | 4.65 | 11.30 | 4.40 | 1.17 | |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | |
| Number | 345 | 345 | 345 | 345 | 345 | 1725 | 518 | |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 23 — Percentages of Households Owning Particular Assets by Per Capita Expenditure Quintile

| Type of Asset | Quintiles | | | | | All | Bottom 30th Percentile |
|---------------------|-----------|--------|-------|-------|-------|-------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Land | 30.72 | 28.12 | 27.83 | 27.25 | 33.33 | 29.45 | 29.98 |
| Building | 42.90 | 36.52 | 37.68 | 29.28 | 24.35 | 34.14 | 42.55 |
| Furniture | 100.00 | 100.00 | 99.71 | 99.71 | 99.71 | 99.83 | 100.19 |
| Appliances | 19.71 | 35.07 | 43.77 | 49.57 | 62.61 | 42.14 | 23.60 |
| Ventilator | 29.28 | 45.51 | 54.20 | 63.19 | 64.64 | 51.36 | 33.08 |
| Radiocassette | 46.09 | 57.68 | 67.83 | 68.41 | 73.04 | 62.61 | 49.32 |
| Radio | 33.62 | 30.14 | 31.88 | 34.20 | 43.48 | 34.67 | 33.27 |
| TV | 14.78 | 24.64 | 25.80 | 36.23 | 41.16 | 28.52 | 17.79 |
| Stereo/VCR | 1.74 | 4.93 | 9.86 | 15.36 | 25.80 | 11.54 | 2.32 |
| Bike/Moped/Moto | 2.90 | 6.67 | 6.67 | 5.51 | 6.38 | 5.62 | 4.45 |
| Car/Truck | 3.48 | 7.25 | 8.41 | 20.00 | 32.75 | 14.38 | 4.84 |
| Other Durables | 4.93 | 2.61 | 2.03 | 3.19 | 4.93 | 3.54 | 4.45 |
| Agricultural Assets | 14.20 | 10.14 | 8.70 | 10.72 | 5.51 | 9.86 | 13.54 |
| Business Assets | 8.70 | 8.99 | 8.99 | 10.43 | 14.49 | 10.32 | 8.32 |
| Food Stock | 12.46 | 18.84 | 19.13 | 20.00 | 13.62 | 16.81 | 15.47 |
| Financial Assets | 16.52 | 20.29 | 23.48 | 23.77 | 26.96 | 22.20 | 18.18 |
| Number | 345 | 345 | 345 | 345 | 345 | 1725 | 518 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 24 — Share of Asset Value by Per Capita Expenditure Quintile

| Type of Asset | Quintiles | | | | | All | Bottom 30th Percentile |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Land | 11.38 | 10.97 | 12.28 | 7.20 | 6.51 | 9.44 | 12.09 |
| Building | 77.78 | 76.37 | 73.42 | 66.20 | 41.59 | 65.42 | 76.36 |
| Furniture | 3.49 | 4.13 | 4.00 | 4.59 | 6.19 | 4.60 | 3.60 |
| Appliances | 0.54 | 1.31 | 1.35 | 3.14 | 3.14 | 2.01 | 0.71 |
| Ventilator | 0.15 | 0.21 | 0.24 | 0.30 | 0.27 | 0.24 | 0.16 |
| Radiocassette | 0.30 | 0.42 | 0.49 | 0.54 | 0.55 | 0.47 | 0.31 |
| Radio | 0.07 | 0.08 | 0.08 | 0.09 | 0.11 | 0.09 | 0.07 |
| TV | 0.28 | 0.57 | 0.61 | 0.93 | 1.09 | 0.73 | 0.36 |
| Stereo/VCR | 0.05 | 0.31 | 0.45 | 0.94 | 1.55 | 0.73 | 0.11 |
| Bike/Moped/Moto | 0.13 | 0.33 | 0.50 | 0.45 | 0.24 | 0.33 | 0.22 |
| Car/Truck | 0.96 | 1.58 | 2.93 | 8.44 | 21.94 | 8.13 | 1.14 |
| Other Durables | 0.34 | 0.03 | 0.07 | 0.16 | 0.35 | 0.20 | 0.23 |
| Agricultural Assets | 3.45 | 2.74 | 2.27 | 3.16 | 1.39 | 2.52 | 3.59 |
| Business Assets | 0.27 | 0.34 | 0.45 | 2.67 | 8.10 | 2.73 | 0.29 |
| Food Stock | 0.10 | 0.09 | 0.04 | 0.05 | 0.03 | 0.06 | 0.11 |
| Financial Assets | 0.73 | 0.52 | 0.83 | 1.15 | 6.92 | 2.31 | 0.62 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Average Value | 6,622,232 | 6,894,791 | 7,841,135 | 7,939,235 | 9,492,806 | 7,758,040 | 6,977,014 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 25 — Acute and Chronic Malnutrition of Children by Per Capita Expenditure Quintile

| | Quintiles | | | | | All | Bottom 30th Percentile |
|-----------------|-----------|-------|-------|-------|------|-------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Acute | | | | | | | |
| Boys | 16.46 | 12.80 | 12.20 | 10.30 | 3.03 | 10.94 | 11.65 |
| Girls | 15.20 | 16.95 | 14.61 | 7.56 | 5.23 | 11.90 | 10.36 |
| All | 15.82 | 14.92 | 13.43 | 8.90 | 4.15 | 11.43 | 10.99 |
| Number of Boys | 164 | 164 | 164 | 165 | 165 | 822 | 369 |
| Number of Girls | 171 | 171 | 171 | 172 | 172 | 857 | 386 |
| Chronic | | | | | | | |
| Boys | 28.83 | 21.47 | 24.54 | 12.20 | 4.24 | 18.21 | 18.52 |
| Girls | 27.48 | 21.05 | 15.80 | 13.45 | 3.50 | 16.24 | 17.66 |
| All | 27.14 | 21.25 | 20.05 | 12.83 | 3.86 | 17.20 | 18.08 |
| Number of Boys | 163 | 163 | 163 | 164 | 165 | 818 | 367 |
| Number of Girls | 171 | 171 | 171 | 171 | 172 | 856 | 385 |

Note: a - ≤ -2 Z-score height-for-age
 b - ≤ -2 Z-score weight-for-age

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 26 — Body Mass Index for Adults by Per Capita Expenditure Quintile

| | Quintiles | | | | | All | Bottom 30th Percentile |
|-----------------|-----------|--------|--------|--------|--------|--------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Males | | | | | | | |
| Health Risk | 12.93 | 7.24 | 9.70 | 13.43 | 12.71 | 11.12 | 10.94 |
| Underweight | 15.52 | 16.35 | 21.50 | 16.30 | 17.63 | 17.30 | 16.03 |
| Acceptable | 59.88 | 62.93 | 54.50 | 57.31 | 54.91 | 58.24 | 60.43 |
| Overweight | 9.80 | 11.80 | 12.47 | 11.30 | 13.00 | 11.53 | 10.56 |
| Obese | 1.85 | 1.66 | 2.08 | 1.68 | 1.73 | 1.80 | 2.03 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 541 | 483 | 433 | 417 | 346 | 2220 | 786 |
| Females | | | | | | | |
| Health Risk | 4.41 | 3.20 | 3.77 | 4.58 | 3.69 | 3.95 | 3.80 |
| Underweight | 7.20 | 3.40 | 5.10 | 3.56 | 3.69 | 4.85 | 5.98 |
| Acceptable | 48.53 | 51.80 | 52.10 | 47.83 | 40.95 | 48.94 | 49.37 |
| Overweight | 25.98 | 26.60 | 27.05 | 28.50 | 29.15 | 27.17 | 26.12 |
| Obese | 13.88 | 15.00 | 11.97 | 15.52 | 22.50 | 15.09 | 14.73 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number of Girls | 612 | 500 | 451 | 393 | 271 | 2227 | 869 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

and obese individuals in the top quintile (29.2 percent and 22.5 percent) than in the bottom 30th percentile (26.1 percent and 14.7 percent respectively). There are also slightly more underweight women in the bottom 30th percentile (6.0 percent) than in the top quintile (3.7 percent).

An analysis of sickness in terms of frequency and type by expenditure class reveals that the incidence of self-reported disease appears to increase in higher expenditure quintiles (Table 27). A possible explanation for this phenomenon is that households in the higher expenditure classes are more likely to recognize unusual physical symptoms. In fact the percentage of children sick with infections in the top expenditure quintile is particularly higher (1.6 percent in the bottom 30th percentile versus 5.8 percent in the top quintile). A similar pattern can be seen with fevers and malaria (3.7 percent in the bottom 30th percentile versus 5.8 percent in the top quintile) and various childhood diseases (1.3 percent in the bottom 30th percentile versus 3.5 percent in the top quintile). In the case of the general (including adult) population the difference in the case of fever or malaria is also evident; 2.6 percent report these afflictions in the bottom 30th percentile versus 4 percent in the top quintile.

The type of medical advice people seek varies with respect to gender and expenditure category (Table 28). Males from wealthier households are more likely to seek medical advice than females or poorer individuals. Only 10.1 percent of males in the top expenditure quintile do go without consultation as compared to 17.2 percent in the bottom 30th percentile. Of females, 15.0 percent in the top quintile forego consultation, as compared to 19.4 in the bottom 30th percentile.

When they do seek medical advice, both males and females in the bottom 30th percentile rely mostly on health centers (24.1 percent of males and 27.4 percent of females) and hospitals (24.6 percent of males and 26.3 percent of females). From the heavy use of health centers among the lower expenditure quintiles, use which decreases as expenditure quintiles increase, it can be argued that health centers have been successful in attracting lower income people. Their promotion benefits the poor the most.

INEQUALITY MEASURED BY COEFFICIENTS OF DISPERSION

Several measures have been used in the literature to summarize with a single number the degree of income inequality present in a society's distribution of expenditures. Though limited in descriptive detail, these measures give a rough idea of the severity of inequality. Furthermore, decomposing these inequity measures by specific population characteristics helps us to discern the major determinants of inequality. We use four inequality measures in this study: (a) the Gini coefficient, which though not decomposable is useful for broad comparisons with other countries; (b) the Theil entropy measure (Theil T); (c) the alternative Theil measure (Theil L);

Table 27 — Type of Sickness for Children and for all by Per Capita Expenditure Quintile

| | Quintiles | | | | | | Bottom 30th Percentile |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------------------|
| | 1 | 2 | 3 | 4 | 5 | All | |
| | Percent | | | | | | |
| Children 0 to 4 | | | | | | | |
| Fever/Malaria | 3.73 | 4.04 | 4.01 | 5.28 | 5.78 | 4.29 | 3.74 |
| Infectious | 1.52 | 1.70 | 5.35 | 3.63 | 5.78 | 3.04 | 1.63 |
| Intestinal | 5.93 | 11.30 | 8.02 | 7.60 | 7.51 | 8.06 | 7.36 |
| Childhood | 1.02 | 1.91 | 0.27 | 2.31 | 3.47 | 1.52 | 1.30 |
| Other | 1.35 | 2.76 | 2.67 | 1.98 | 1.73 | 2.09 | 1.75 |
| Total | 13.55 | 21.71 | 20.32 | 20.8 | 24.27 | 19.01 | 15.78 |
| Number | 590 | 470 | 374 | 303 | 173 | 1910 | 856 |
| All People | | | | | | | |
| Fever/Malaria | 2.40 | 2.88 | 2.40 | 3.81 | 4.05 | 2.92 | 2.64 |
| Infectious | 0.52 | 0.91 | 1.50 | 1.51 | 1.35 | 1.06 | 0.65 |
| Intestinal | 2.19 | 3.32 | 2.66 | 3.08 | 2.86 | 2.77 | 2.41 |
| Childhood | 0.26 | 0.62 | 0.30 | 0.88 | 0.87 | 0.52 | 0.34 |
| Other | 1.41 | 2.33 | 2.70 | 2.61 | 4.05 | 2.11 | 1.62 |
| Total | 6.78 | 10.06 | 9.56 | 11.89 | 13.18 | 9.39 | 7.66 |
| Number | 3465 | 2738 | 2325 | 1913 | 1257 | 11698 | 4919 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 28 – Health Care Consultation by Sex and Per Capita Expenditure Quintile

| | Quintiles | | | | | All | Bottom 30th Percentile |
|----------------|-----------|--------|--------|--------|--------|--------|---------------------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| | Percent | | | | | | |
| Male | | | | | | | |
| Nobody | 16.66 | 16.05 | 16.03 | 19.13 | 10.12 | 15.98 | 17.24 |
| Doctor | 7.40 | 12.40 | 4.72 | 11.30 | 15.18 | 9.94 | 7.40 |
| Traditional | 8.73 | 7.30 | 6.60 | 7.82 | 5.06 | 7.30 | 8.86 |
| Health Center | 22.22 | 19.70 | 16.03 | 16.52 | 13.92 | 18.11 | 24.13 |
| Hospital | 23.80 | 26.30 | 41.50 | 26.08 | 30.03 | 29.12 | 24.63 |
| Pharmacy | 15.87 | 12.40 | 10.40 | 12.17 | 24.05 | 14.40 | 12.80 |
| Other | 5.55 | 5.40 | 4.71 | 6.95 | 1.26 | 5.15 | 4.92 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 126 | 137 | 106 | 115 | 79 | 563 | 203 |
| Females | | | | | | | |
| Nobody | 21.10 | 20.85 | 23.07 | 16.81 | 14.94 | 19.64 | 19.43 |
| Doctor | 7.34 | 7.91 | 6.83 | 6.19 | 9.19 | 7.43 | 6.85 |
| Traditional | 6.42 | 7.91 | 6.83 | 5.26 | 4.60 | 6.55 | 5.71 |
| Health Center | 27.52 | 21.58 | 16.24 | 15.04 | 12.64 | 18.93 | 27.43 |
| Hospital | 22.02 | 24.46 | 30.76 | 30.97 | 39.08 | 28.84 | 26.28 |
| Pharmacy | 9.17 | 15.10 | 12.82 | 15.04 | 18.39 | 13.98 | 9.71 |
| Other | 6.42 | 2.16 | 3.42 | 9.73 | 1.14 | 4.60 | 4.57 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Number | 109 | 139 | 117 | 113 | 87 | 565 | 175 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

and (d) the log Variance. A discussion of the desirable properties of inequality measures and the characteristics of these measures in particular can be found in Glewwe (1988). The equations of the four measures used here are reported in Appendix A. In a perfectly egalitarian society the value of the Gini and other coefficients will be equal to zero; each measure increases with inequality.

A comparison of inequality measures in different countries is reported in Table 29. Unfortunately, these figures should be interpreted with caution since they are based on different welfare measures and different methodologies employed in the data collection. It appears, however, that welfare in Conakry is distributed more evenly than in Yaounde and Douala, Cameroon, but less equitably than in Accra, Ghana. A comparison with Abidjan, Cote d'Ivoire is complicated by a comparison of per capita with per adult equivalent expenditures, but it appears expenditures are slightly more equitably distributed in Conakry.

In our analysis of per capita expenditure inequality measures we focus on their decomposition by group characteristics. Decomposition of inequality by groups yields a "within group measure" of inequality, which describes the dispersion inside each group, and "between group measure", that describe the dispersion across groups. Particular attention is paid to the relative size of the between-group measures. It has been suggested that when the contribution of between-group inequality to total inequality is large, say over 10 percent, policies aimed at improving the welfare of lower income groups would result in larger strides towards equality.

The within-group inequality of male headed households (Theil T = 0.2868) is smaller than that of female headed households (Theil T = .3515), but the inequality between these two groups is negligible (Table 30). The contribution of between-group inequality to total inequality in the case of the age of household heads, by contrast, is approximately 10 percent. As mentioned previously, per capita expenditures tend to decrease substantially as the age of the household head increases, more so than is accounted for by proportional increases in family size.

A decomposition by the education level of the household head follows in Table 31. Inequality tends to increase slightly as education level increases, which is expected, because the probability of households having large expenditure values increases for higher levels of education. Given that the between-group contribution towards total inequality appears to be in the 12.7 to 14.1 percent range, we can conclude that the household head's level of education has a strong impact on the welfare of his household, and subsequently on the expenditure distribution.

The last decompositions have been made with respect to wage and independent activities, reported in Table 32. The contribution of between-group inequality to the total for wage earners is in the range of 6.4 to 8.2 percent, while the between-group contribution of independent activities ranges from 5.0 and 6.3 percent. In this case, the inequality within groups appears more important than the inequality between groups.

Table 29 – Per Capita Expenditure Inequality Measures

| City/Year | Gini | | Theil T | | Theil L | | Log Variance | |
|----------------|------------|-------------|------------|-------------|------------|-------------|--------------|-------------|
| | Households | Individuals | Households | Individuals | Households | Individuals | Households | Individuals |
| Coskry (1990) | .3900 | .3353 | .2737 | .2925 | .2553 | .2553 | .4858 | .4409 |
| Abidjan (1985) | N.A. | .4109 | N.A. | .3108 | N.A. | .2609 | N.A. | .5035 |
| Yaounde (1983) | .4900 | N.A. | .5530 | N.A. | N.A. | N.A. | .6340 | N.A. |
| Douala (1983) | .4420 | N.A. | .3720 | N.A. | N.A. | N.A. | .5310 | N.A. |
| Accra (1987) | N.A. | N.A. | N.A. | .1687 | N.A. | .1523 | N.A. | .2788 |

Source: ^a ENCOMED/CFAPP Survey
^b Glewe (1987)
^c Lynch (1990)
^d Glewe (unpublished)

Table 30 — Per Capita Expenditure Inequality Measures Decomposed by Age and Gender

| | Percent of Population | Theil T | Theil L | Log Variance |
|-----------------------------------|--------------------------|---------|---------|--------------|
| Gender of Household Head | | | | |
| Male Headed | 92.81 | 0.2868 | 0.2514 | 0.4363 |
| Female Headed | 7.19 | 0.3515 | 0.2987 | 0.4954 |
| Between Group Contribution | | | | |
| Percent | | 0.18 | 0.20 | 0.08 |
| Total | 1725 | 0.29253 | 0.25531 | 0.44088 |
| Age of Household Head | | | | |
| 20 to 25 | 0.94 | 0.2631 | 0.2430 | 0.4276 |
| 25 to 29 | 5.62 | 0.2456 | 0.2325 | 0.4382 |
| 30 to 34 | 15.27 | 0.2555 | 0.2324 | 0.4178 |
| 35 to 39 | 18.08 | 0.2319 | 0.2028 | 0.3587 |
| 40 to 44 | 15.92 | 0.3197 | 0.2672 | 0.4403 |
| 45 to 49 | 13.58 | 0.2632 | 0.2181 | 0.3599 |
| 50 to 59 | 18.02 | 0.2908 | 0.2448 | 0.4053 |
| 60 and Over | 12.58 | 0.2285 | 0.1908 | 0.3213 |
| Between Group Contribution | | | | |
| Percent | | 9.79 | 10.93 | 11.72 |
| Total | 1709 | 0.2930 | 0.2557 | 0.4414 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 31 — Per Capita Expenditure Inequality Measures Decomposed by Education of Household Head

| | Percent of Population | Theil T | Theil L | Log Variance |
|----------------------------|--------------------------|---------|---------|--------------|
| Education Level | | | | |
| No School | 50.15 | 0.2316 | 0.2002 | 0.3466 |
| Some primary | 8.00 | 0.2492 | 0.2203 | 0.3831 |
| Some secondary | 19.94 | 0.2670 | 0.2383 | 0.4212 |
| Some University | 11.83 | 0.2732 | 0.2455 | 0.4328 |
| University | 10.19 | 0.2815 | 0.2465 | 0.4203 |
| Between Group Contribution | | 0.0372 | 0.0359 | 0.0589 |
| Percentage | | 12.71 | 14.07 | 13.36 |
| Total | 1725 | 0.2925 | 0.2553 | 0.4409 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table 32 – Per Capita Expenditure Inequality Measures Decomposed by Occupation of Household Head

| | Percent of Population | Theil T | Theil L | Log Variance |
|-------------------------------------|-----------------------|----------|----------|--------------|
| Wage Activities | | | | |
| Professional | 29.4 | 0.237727 | 0.215858 | 0.391639 |
| Administrative/Clerical | 5.46 | 0.298562 | 0.277866 | 0.499128 |
| Shopkeepers/Other Trade | 3.61 | 0.158886 | 0.146342 | 0.26538 |
| Hotel/Restaurant/Service | 18.36 | 0.300836 | 0.254858 | 0.420612 |
| Agriculture/Fishing | 2.19 | 0.212632 | 0.218472 | 0.449119 |
| Manufacturing/Industry/Construction | 10.38 | 0.33465 | 0.279482 | 0.450179 |
| Skilled | 13.88 | 0.357117 | 0.310454 | 0.522687 |
| Drivers | 13.66 | 0.172683 | 0.168755 | 0.323198 |
| Others Non Classified | 3.06 | 0.286851 | 0.221762 | 0.339659 |
| Between Group Contribution | | 0.0185 | 0.0192 | 0.0369 |
| Percent | | 6.42 | 7.48 | 8.208 |
| Total Wage | 915 | 0.2886 | 0.2566 | 0.4498 |
| Independent Activities | | | | |
| Agriculture/Fishing/Mining | 12.19 | 0.351249 | 0.264665 | 0.404827 |
| Manufacture/Trade | 24.87 | 0.248012 | 0.230497 | 0.425883 |
| Wholesale | 5.18 | 0.409534 | 0.370602 | 0.615119 |
| Retail/Commerce | 43.41 | 0.260101 | 0.224596 | 0.383743 |
| Services | 12.52 | 0.358859 | 0.327128 | 0.567178 |
| Non Classified | 1.84 | 0.120076 | 0.146143 | 0.348061 |
| Between Group Contribution | | 0.0175 | 0.0168 | 0.0227 |
| Percent | | 5.67 | 6.34 | 5.01 |
| Total Independent | 599 | 0.3088 | 0.2667 | 0.4538 |
| Non Working | 265 | 0.2469 | 0.2089 | 0.3604 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

3. THE POVERTY LINE AND POVERTY INDICATORS

The data analyzed in this paper thus far indicate that the population of Conakry is generally poor. In order to say much more, such as how common poverty is, how severe it is, or to explore the causes of poverty, we must first fix a poverty line that distinguishes the poor from the non-poor. We pursue the concept of food poverty, defining the poverty line as the minimum level of per capita real expenditure necessary for an individual to acquire a minimum level of daily kilo-calorie consumption. As mentioned at the outset, we take as our unit of measurement per capita daily calorie requirements. Following FAO (1972) guidelines, we have chosen a general level of 2,000 kilo calories per person per day as the minimum caloric requirement.

To translate calorie needs into an actual food and non-food minimum expenditure requirement (our poverty line), we estimate a full demand system. Using the Almost Ideal Demand System (AIDS) model, we predict the expenditure level that corresponds to the consumption bundle that assures a per capita daily consumption of 2,000 kilo calories. Our expenditure estimate is based upon parameters such as prices, expenditures and family size computed from the bottom 30th percentile of the population. This yields an expenditure poverty line of GNF 20,800. Alternate methodologies such as single equation calorie expenditure functions yielded similar poverty lines (Table 33).

Armed with a point of reference, we can now use a poverty index to measure the incidence and severity of poverty in Conakry. One index with much to recommend is the Foster, Greer, Thorbecke (FGT) poverty measure. The general formula for the index is:

$$P_{\alpha} = \frac{1}{n} * \sum_{i=1}^q \left(\frac{Z - Y_i}{Z} \right)^{\alpha}$$

Where:

- Y_i = Income of person i
- Z = Poverty line
- n = Total number of individuals
- q = Number of individuals below the poverty line

One useful property of the FGT index is that it assumes several choice interpretations as the parameter α is varied:

- for $\alpha=0$: P₀ is the *head count index*, which measures the percentage of people below the poverty line, i.e. the poor;

Table 33 — Summary of FGI Poverty Measures

| | Poverty Line | P ₀ | P ₁ | P ₂ |
|------------------------------------|--------------|----------------|----------------|----------------|
| | (GNF) | Percentages | | |
| Per Capita Calorie Functions | | | | |
| a) Log Log Function | 20,803 | 36.87 | 10.64 | 4.24 |
| b) Log Log Inverse | 20,354 | 36.00 | 10.07 | 3.97 |
| Projection of Full Demand System | | | | |
| c) Based on Average | 19,800 | 33.80 | 9.38 | 3.64 |
| d) Based on Bottom 30th Percentile | 20,800 | 36.87 | 10.64 | 4.24 |

Source: Calculations made using CFNPP/ENCOMEC 1990/91 Survey Data.

- for $\alpha=1$: P_1 is the *average poverty gap*, or average income shortfall of the population calculated as a proportion of the poverty line;
- for $\alpha=2$: P_2 is the *severity index*, which weights households according to their shortfall below the poverty line.

FGT poverty measures for $\alpha=0, 1$, and 2 are reported in Table 33. All three measures are increasing in poverty. From the table it emerges that approximately 36% of the population in Conakry is poor. The average poverty gap (P_1) is 10.6%, meaning that on average the income gap is about 10% of the poverty line. The severity index (P_2) is 4.2%, which is more difficult to interpret apart from comparisons. It can be thought of as a weighted average poverty gap expressed as a proportion of the poverty line.

Finally, before turning to the causes of poverty, we return to the issue of household size. Expenditure quintile data suggested that larger households are, in general, in lower per capita expenditure quintiles. We therefore make use of another useful feature of the FGT poverty measure, namely decomposability, to ask how poverty varies for households of different sizes.

As presented in Table 34, the headcount of poverty increases dramatically as the number of children in the household increases. Over 68 percent of families with 5 or more young children are below the poverty line, as compared to 10.4 percent of families with no young children in the house. Yet households with even one child are significantly more likely to be poor than those without children, which include a substantial number of single person and older households. It is evident, then, that larger households are at risk.

Table 34 — FGT Poverty Measures, Decomposed by Number of Children 0 to 5 Years Old

| | Average Per Capita Expenditure | Bottom 30th Percentile | P ₀ | P ₁ | P ₂ | N |
|--|--------------------------------------|------------------------------|----------------|----------------|----------------|-----|
| | (GNF) | | Percent | | | |
| Number of Children 0 to 5 years of age | | | | | | |
| 0 | 51,566 | 10.36 | 15.36 | 3.51 | 1.23 | 560 |
| 1 | 29,496 | 30.30 | 38.81 | 10.06 | 3.71 | 505 |
| 2 | 25,972 | 41.37 | 49.75 | 14.80 | 5.99 | 394 |
| 3 | 25,374 | 50.00 | 54.49 | 18.58 | 7.93 | 156 |
| 4 | 22,120 | 57.63 | 64.41 | 22.06 | 9.31 | 59 |
| 5 or more | 18,042 | 62.75 | 68.63 | 24.89 | 11.81 | 51 |

Source: Calculations made using CFNPP/ENCOMEC 1990/91 Survey Data.

4. DETERMINANTS OF POVERTY

Now that we have a rough idea of the extent of poverty's grasp on the people of Conakry, we seek to know its causes. What affects the probability that a person is poor, in the sense previously defined? In the probit model used here, the probability of being poor is specified as the value of the cumulative density function of Z which is specified as a function of exogenous explanatory variables:

$$Z = \alpha + \beta X$$

Where the probability of being poor is a dichotomous variable equal to one if the household per capita expenditure level is below the poverty line and zero otherwise. The vector of explanatory variables X includes household head characteristics, education, household composition, migration, ethnicity and location. Head characteristics include sex, age and highest grade completed. Education variables reflect the number of household members in several categories of maximal schooling attainment, by gender. Composition variables similarly reflect the number of household members in each age group, by gender. Migration, ethnicity and location are all dummy variables.

The results of the estimation obtained using a Maximum Likelihood Estimator are reported in Table 35. Two general conclusions emerge. Higher levels of human capital among its members increases a household's probability of avoiding poverty. Secondly, the larger a household's size, especially the greater the number of children, the greater the probability of that household being poor. A detailed discussion on the individual coefficients follows. Negative coefficient values are associated with reducing the probability of being poor.

Female headed households are more likely not to be poor. The age of the household head increases the probability of being poor at a decreasing rate, and this effect remains clear when household size is taken into account.

All the education coefficients have a negative impact on the probability of being poor. The coefficients on female education levels range from $-.266$ for primary education to $-.547$ for university education, and they are all very significant. This leads us to the conclusion that female education has an especially strong impact on the probability of escaping poverty.

The importance of human capital is reinforced by reading and language variables. Reading is negatively associated with the probability of being

Table 35 — Results of Probit Equation - Dependent Variable Poor

| | Coefficient | t Statistic |
|----------|-------------|-------------|
| femhead | -.1778371 | -1.231 |
| ageyrs | .0514565 | 2.573 |
| ageyrs2 | -.0004184 | -2.124 |
| grade | -.0086212 | -1.207 |
| mle_prim | -.0126545 | -0.197 |
| mle_sec | -.2143939 | -2.495 |
| mle_univ | -.1877169 | -1.184 |
| fem_prim | -.2657522 | -4.528 |
| fem_sec | -.2942849 | -2.890 |
| fem_univ | -.5474911 | -2.423 |
| read | -.1445382 | -1.153 |
| langl | .3912774 | 3.756 |
| migra | .0762455 | 0.693 |
| child_6 | .2255846 | 6.965 |
| child_15 | .1417812 | 5.493 |
| males_21 | .1475111 | 2.613 |
| fem_21 | .1172434 | 2.166 |
| males_65 | .1388963 | 2.552 |
| fem_65 | .0852431 | 1.766 |
| elderly | .076701 | 0.539 |
| malinke | -.354949 | -3.505 |
| fula | -.1342093 | -1.576 |
| forest | .1290358 | -0.784 |
| incity | -.1202951 | -1.074 |
| constant | -2.416525 | -4.868 |

Note: Number of obs = 1724
 Log Likelihood = -872.6601
 chi2(24) = 524.75
 Prob . chi2 = 0.0000
 Pseudo R2 = 0.2312

Source: Calculations made using CFNPP/ENCOMEC 1900/91 Survey Data.

poor, while speaking only a local language is a strong (.391) determinant of poverty.

The coefficient for migration is positive, but not very large and not significant. When the other characteristics are taken into account, migration does not appear to have a strong impact on poverty.

All the household dependents variables are positive. The size of the coefficients and their significance decreases with the age of the groups. The largest impact is from children 0 to 6 years of age (.226). This reinforces the preliminary finding that young children add a financial burden to household economies.

Ethnic dummy variables for all but the Soussu have been included in the analysis. As expected the Malinke are associated more than the Fulani with the probability of avoiding poverty, though both groups have negative coefficients relative to the Soussu reference group.

The last explanatory variable, the location of households in the inner city vs. the periphery, is not very large or significant, and does not appear to increase a household's probability of being poor.

In conclusion, by analyzing the impact of all variables simultaneously, we can separate out the distinct influence on poverty that each variable has. Once again, human capital, especially for women, and smaller family size are more strongly associated with non poor households than any of the other household characteristics considered.

5. SUMMARY AND POLICY CONCLUSIONS

A variety of approaches have been used in this paper to derive a comprehensive determination and description of the poor in Conakry. Our first general conclusion is that poverty is large and widespread. The main characteristics of the poor that emerge are that they have large household sizes, live in small houses with meager sanitary conditions, and that they have a large number of children who in turn have a higher probability of being malnourished. Poor households have a calorie-deficient diet made up mostly of imported rice, fish, oil, and vegetables.

As a result of our analysis we offer a number of possible policy suggestions in order to reduce the number of poor and the severity of poverty in Conakry. In the short term, particular consideration should be given to income transfer programs, food and commodity subsidy programs, and to health programs targeted towards mothers and children.

Income transfer programs could be a very effective means to decreasing the number of poor in Conakry, because a small increase in per capita expenditure at low income levels would shift a substantial part of the expenditure distribution of households above the poverty line.

Similarly, support measures for imported rice or other staple foods used by the poorest segment of the population could also be very effective in increasing their calorie consumption. Extreme care, however, should be taken with subsidy policies, because they have larger implications for producers and consumers alike and should therefore be analyzed in a computable general equilibrium context.

Families with mothers that have young children tend to be poor and poor women are more likely to use health care centers. These centers should therefore be effectively supported, both to increase their capabilities and use.

In the long term, policies should be aimed at improving the human capital of Guineans and reducing their family sizes; these two problems seem to be the general underlying causes of poverty in Guinea.

APPENDIX A

INEQUALITY MEASURES

The Gini coefficient is derived from the following mathematical formula:

$$Gini(G) = \frac{1}{2NY} \sum_{i_1} \sum_{i_2} |Y_{i_1} - Y_{i_2}|$$

where N = number of persons (or households)

Y = income of individual i.

The Theil (T), Theil (L), and Log Variance (LV) inequality measures are defined as follows:

$$Theil(T) = \frac{1}{N} \sum_{i=1}^N \frac{Y_i}{Y} \ln \left(\frac{Y_i N}{Y} \right) = \sum_j \left(\frac{Y_j}{Y} \right) T_j + \sum_j \left(\frac{Y_j}{Y} \right) \ln \left(\frac{Y_j/Y}{N_j/N} \right)$$

$$Theil(L) = \frac{1}{N} \sum_{i=1}^N \ln \left(\frac{Y_i N}{Y} \right) = \sum_j \left(\frac{N_j}{N} \right) L_j + \sum_j \frac{N_j}{N} \ln \left(\frac{N_j/N}{Y_j/Y} \right)$$

$$LogVariance(LV) = \frac{1}{N} \sum_{i=1}^N (\ln(Y_i) - \ln \bar{Y})^2 = \sum_j \left(\frac{N_j}{N} \right) LV_j + \sum_j \frac{N_j}{N} (\ln Y_j - \ln \bar{Y})^2$$

where Y = total income of the population, Y_i = income of individual i, Y_j = total income of group j, N_j = number of people in group j, N = total population, $\ln \bar{Y}$ = mean of $\ln(Y_i)$ over the entire population, and $\ln Y_j$ = mean of $\ln(Y_i)$ over the population in group j.

The terms to the right of the equality sign express the decomposition of the inequality measures into within-group and between-group components.

APPENDIX B
DERIVATION OF POVERTY LINE

The estimations results of the per capita calorie consumption on per capita real expenditure used to derive the poverty lines are:

a) Log Function

$$\ln Pcca1 = 3.29 + 0.433 \ln RPCEXP$$

$$N = 1522$$

$$R^2 = 0.48$$

b) Log inverse function

$$\ln Pcca1 = 12.23 - 45.97 \ln 1/RPCEXP$$

$$N = 1522$$

$$R^2 = 0.50$$

Estimations have been restricted to households with cooking facilities and consumption between 500 and 5,500 calories per person per day. All coefficients are highly significant.

Table B.1 – Base Poverty Lines

| | Average Population | | | | Bottom 30th Percentile | | | |
|--------------------------------------|--------------------|----------------|--------------------|----------------|------------------------|----------------|--------------------|----------------|
| | Base Run | | Simulation Run | | Base Run | | Simulation Run | |
| | Expenditure Shares | Calorie Shares | Expenditure Shares | Calorie Shares | Expenditure Shares | Calorie Shares | Expenditure Shares | Calorie Shares |
| Local Rice | 1.43 | 7.33 | 1.75 | 6.28 | 1.66 | 5.31 | 1.43 | 5.65 |
| Imported Rice | 5.79 | 38.03 | 9.91 | 45.42 | 12.30 | 47.81 | 9.26 | 44.72 |
| Other Grains, Roots, Tubers | 2.36 | 4.09 | 2.28 | 2.76 | 2.15 | 2.02 | 2.21 | 2.58 |
| Bread | 3.47 | 9.22 | 4.92 | 9.11 | 5.32 | 6.47 | 4.26 | 8.41 |
| Meat and Dairy | 9.55 | 6.94 | 8.34 | 4.23 | 7.16 | 1.91 | 8.05 | 2.67 |
| Fish | 6.02 | 8.25 | 8.87 | 8.48 | 9.97 | 9.36 | 7.87 | 9.18 |
| Vegetables | 6.56 | 5.41 | 8.88 | 5.10 | 9.57 | 5.28 | 7.86 | 5.38 |
| Fruits | 3.09 | 3.53 | 2.89 | 2.31 | 2.59 | 2.04 | 2.73 | 2.68 |
| Butter and Oil | 2.43 | 11.29 | 3.45 | 11.19 | 3.83 | 11.86 | 3.08 | 11.84 |
| Spices | 2.12 | 0.17 | 3.30 | 0.18 | 3.63 | 0.25 | 2.76 | 0.24 |
| Sugar | 1.21 | 3.50 | 1.85 | 3.73 | 2.02 | 3.51 | 1.55 | 3.34 |
| Beverages | 1.90 | 0.06 | 1.51 | 0.03 | 1.08 | 0.02 | 1.37 | 0.03 |
| Nonfood (Incl. Food Away From Home) | 54.07 | 2.19 | 42.05 | 1.19 | 38.72 | 2.15 | 47.58 | 3.28 |
| Total Expenditure and Total Calories | 34,892 | 2,462 | 19,800 | 2,002 | 13,699 | 1,638 | 20,800 | 2,002 |

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

Table B.2 – Base Poverty Lines

| | At Mean Expenditure (Poorest 30th Percentile) | | At Base Poverty Line Expenditure | | At 1987 Poverty Line Expenditure with Dec. 1987 Prices | | At Compensated Poverty Line Expenditure with 25% Tariff Increase on Imported Rice | | At Compensated Poverty Line Expenditure with 20% Tariff Reduction on Imported Rice | |
|--|---|-------------------|-------------------------------------|-------------------|--|-------------------|---|-------------------|--|-------------------|
| | Expenditure Shares | Calorie Shares | Expenditure Shares | Calorie Shares | Expenditure Shares | Calorie Shares | Expenditure Shares | Calorie Shares | Expenditure Shares | Calorie Shares |
| Local Rice | 1.66 | 5.31 | 1.43 | 5.65 | 1.32 | 5.92 | 1.74 | 7.46 | 1.12 | 4.04 |
| Imported Rice | 12.30 | 47.81 | 9.26 | 44.72 | 8.66 | 47.49 | 9.70 | 40.54 | 8.95 | 49.10 |
| Other Grains, Roots, Tubers | 2.15 | 2.02 | 2.21 | 2.58 | 2.41 | 1.96 | 2.21 | 2.79 | 2.21 | 2.35 |
| Bread | 5.32 | 8.47 | 4.26 | 8.41 | 4.10 | 8.89 | 4.02 | 8.58 | 4.55 | 8.16 |
| Meat and Dairy | 7.16 | 1.91 | 8.05 | 2.67 | 8.35 | 2.55 | 8.05 | 2.89 | 8.01 | 2.41 |
| Fish | 9.97 | 9.36 | 7.87 | 9.18 | 7.77 | 10.07 | 7.56 | 9.54 | 8.26 | 8.76 |
| Vegetables | 9.57 | 5.28 | 7.86 | 5.38 | 9.34 | 3.99 | 7.61 | 5.64 | 8.18 | 5.09 |
| Fruits | 2.59 | 2.04 | 2.73 | 2.68 | 2.76 | 2.65 | 2.80 | 2.97 | 2.66 | 2.37 |
| Butter and Oil | 3.03 | 11.86 | 3.08 | 11.84 | 2.70 | 9.27 | 2.99 | 12.45 | 3.19 | 11.16 |
| Spices | 3.63 | 0.25 | 2.76 | 0.24 | 2.44 | 0.28 | 2.67 | 0.25 | 2.88 | 0.23 |
| Sugar | 2.02 | 3.51 | 1.55 | 3.34 | 1.46 | 3.74 | 1.41 | 3.28 | 1.71 | 3.35 |
| Beverages | 1.08 | 0.02 | 1.37 | 0.03 | 1.44 | 0.03 | 1.37 | 0.03 | 1.36 | 0.03 |
| Nonfood (Incl. Food Away From Home) | 38.72 | 2.15 | 47.58 | 3.28 | 47.26 | 3.17 | 47.88 | 3.57 | 46.92 | 2.94 |
| Total Expenditure and Total Calories | 13,699 | 1,638 | 20,800 | 2,002 | 19,800 | 2,002 | 22,500 | 2,002 | 18,900 | 2,002 |

Note: * Base simulation runs for the poorest 30th percentile of the Conakry population are based on coefficients estimated on sample of households that cook and the means expenditure shares, household size, per capita expenditure levels, prices, and lambda values of the poorest 30th percentile among all 1725 households in the sample.

Source: CFNPP/ENCOMEC 1990/91 Survey Data.

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