TECHNICAL NOTES

Sampling Procedures

The quarterly establishment survey covers a total of 1,102 establishments from a sampling frame of 2,869 establishments, each of which employs ten or more persons. The sampling unit is the establishment, which is a legal economic unit under single control or ownership, and which engages in one or predominantly one kind of economic activity at a fixed location. Establishments included in the sample frame are obtained from the Central Register of Establishments maintained by STATIN.

Establishments are selected from all sectors of the economy in such a way that they make up a representative sample, reflecting the level and magnitude of economic activities within their respective industrial groups. Agriculture, Government, Free zone establishments and private educational services are excluded from this survey. However, statutory corporations such as the National Water Commission and the Jamaica Public Service are included in the quarterly surveys.

The selection of establishments in each industry group is determined by employment cut-off size. Establishments employing 50 or more persons have been included with certainty (a probability of one) in the survey, while a 20 per cent sample of establishments is selected from those employing 10 - 49 persons. The methodology employed for selection used a simple stratified sample survey of establishments, with some marginal adjustments in the case of a few industrial categories, where the total number of establishments was small. To arrive at the sample size, the first stage is to group the establishments into industries, with the second stage selection being dependent on employment level. This was done to ensure that the estimates are based on a representative sample in respect of specific industries and also to maintain confidentiality for firms that are classified in sub-groups with very few establishments.

Industry Groups

There are eight major industry groups in which establishments are placed based on their main economic activities. These are:

i. Mining
ii. Manufacturing
iii. Electricity, Gas and Water
iv. Construction
v. Trade, Hotels and Restaurants
vi. Transport, Storage and Communication
vii. Financing, Insurance, Real Estate and Business Services
viii. Community, Social and Personal Services (excl. Private Educational Services).

Source of Data

Data are derived from the E9 questionnaire in which a number of questions are asked regarding the number of salaried employees and wage earners in the establishments and the method of payments during the reference week at the end of each quarter (March, June, September and December). A copy of the questionnaire and instructions for the survey is shown in Appendix B.

Members of the field staff within the Field Services Division are responsible for the collection of the information from the establishments. After processing the questionnaires at the field offices, they are sent to the head office.

Questionnaires received from Field Services Division are assessed for comparability where current data are compared with past data sets. If there are significant differences, the Institute would seek clarification from the respective establishments through telephone calls or a personal visit.

Response Rate

The accuracy of the statistical data provided in the tables is dependent on the rate of response, especially where a few establishments are dominant in the industry. Average response rate for the first three quarters of 2005 and 2006 was under 40 per cent. In cases of late responses by some establishments, the previous quarter's data is used as the current quarter's estimates.

Tabulations

Statistical tables that incorporated annual and quarterly aggregates and averages are generated for all industrial groups at the three-digit level to ensure confidentiality, since many of the industrial categories had a response of fewer than three establishments at the four and five digit levels. There are also further aggregations at the one and two-digit levels.

The aggregates and averages are presented (in Tables A1 to A9) on the following:

i.	Total employment
ii.	Salaried employment
iii.	Wage Earners
iv.	Hourly-rated wage earners
v.	Average earnings per week of all employees
vi.	Average earnings per week of wage earners
vii.	Average straight time wages per week of hourly rated wage earners
viii.	Average straight time hours worked per week of hourly rated wage earners, and
ix.	Basic hourly wage rate of hourly rated wage earners.

Estimation

The "link relative" technique is used to make estimates of total employment, earnings, hours worked, at various levels of the industry. From the establishments reporting for both the current and previous quarters, the ratio of current quarter employment to that of the previous quarter is computed. This is called a "link relative", where Ω_t is the ratio of current quarter to previous quarter employment levels:

$$\Omega_t = \Sigma N_t \,/\, \Sigma N_{t-1}$$

where ΣN_t and ΣN_{t-1} represent the reported employment levels for the current and previous quarters, respectively.

The estimates of total employment for the current quarter are obtained by multiplying the estimates for the previous quarter by these link relatives. The link relative method is applied to the establishments under each industry and size group. Three size groups are considered, establishments employing 10-49, 50-99 and 100 and more persons. The estimation of other aggregates such as total earnings, hours worked, etc., is computed by raising the corresponding estimates of reporting establishments, by the ratio of the estimate of total employment to that in the reporting establishments.

Index Numbers of Employment, Earnings, etc.

The base period for these quarterly indices is the average of the four quarters of 2003. The index for the current quarter is arrived at as:

$$I_t \qquad = (X_t/X_o) \times 100$$

where I_t is the index for the current quarter,
$\quad X_t$ = total employment (or average earnings or hours worked, etc.) in the industry group or in all industry groups in the current quarter.
$\quad X_o$ = corresponding quarterly average in the base year 2003.

Comparison of Establishment and Labour Force Series

Data from establishment and labour force complement one another where each provides different types of information. The establishment survey provides detailed information on employment and earnings at the level of the firm, while the labour force reports on population characteristics. The difference in the data derived from these reports is due to the definitions, coverage, collection methods, sources and estimating procedures.

Limitations

The estimates are fairly precise at one and two-digit levels of the Industrial Classification, but this may not be the case at the three-digit level for some of the industries, where the number of reporting establishments is small. In the case of the breakdown of employees into salaried and wage earners, although the definition specifies that all the employees (other than

supervisory) engaged in the production process should be classified as wage earners, some of the establishments continue to classify some wage earners as salaried employees, because they are paid on a similar basis as the regular salaried employees.

Another limitation is that the average earnings and average wages are affected by the composition of the employees with different levels of emoluments and overtime payments, which differ from firm to firm, and sometimes differ between the reporting periods of the same firm, and these influence the estimates, especially at the detailed industrial classification level. However, the overall estimates bring out the broad trends in the earnings, wages and hours worked in large establishments. The estimates of employment do not include employment in Agriculture, Government, the Free Zones and Private Educational Institutions.