REVIEW OF THE MIXED SURVEY IN THE COLOMBIAN INFORMAL SECTOR

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I. INTRODUCTION

This document is part of a compilation of documents made by DANE since 1995, date in which the Colombian Statistics Institute started its investigation on the informal sector, based on international statistical recommendations. I had the privilege of working as a consultant to DANE for several years, in the informal sector, and was part of the team, composed of professionals in various disciplines, that contributed in the preparation of several work documents. Some of these documents were brought to international seminars such as the Delhi Group and the Latin American Seminar on the Statistical Measurement of the informal Sector, organized by DANE and attended by several countries in the region.

Many of the ideas contained here are the result of meetings and exchange of ideas between various professionals from DANE, who have contributed to the informal sector's statistical knowledge base. In 1999 I worked closely with Luis Carlos Gómez in the DANE "Project Proposal for Statistical Measurement of Informal Sector for Colombia".

I would like to highlight the work done by Mr. Ralf Hussmanns, member of ILO (International Labor Office) in Geneva, and for his valuable comments on the informal sector's work documents, for the exchange of ideas, and for his constant collaboration with the Colombian Statistical Office in the design and execution of the Mixed Survey in Bogotá and the Continuous Household Survey.

II. BACKGROUND

The measurement done by the Colombian Statistics Department on the informal sector goes back to the '80s. From 1984, and every two years thereafter, an informality module is included in the Household Survey. We follow up on some socio-demographic characteristics of workers, such as age, sex, educational level, affiliation to the Social Security System, job position, activity, occupation, number of hours worked each week, etc.

The approximation to this issue has advanced during the last years, thanks to the resolution adopted by the XV Conference of Work Statisticians, held on 1993, which introduces new elements to fine tune the identification and characterization of the informal sector. These

advances reflect in an improvement of employment statistics, economic statistics, and national accounts.

In 1995, Colombia, together with two other developing countries, performed a survey on the informal sector, introducing the concepts of the XV Conference, under the orientation of IWO. This survey took place in Manila (Philippines), Dar es Salaam (Tanzania), and Bogotá (Colombia). The survey was performed as a Mixed Survey, in which information is collected both from households and from companies.

Since 1997, DANE has been participating in meetings of the Group of Experts from the Informal Sector, the Delhi Group. In June 1998, DANE organized the first Latin American Seminar on Statistical Measurement of the Informal Sector.

During the first half of 1999, an "Investigation Project for Measurement of the National Urban Informal Sector" took place. The proposal is framed within the mixed surveys, widely considered to be the best approximation to statistical measurement of the informal sector. The concept was applied based on a dual frame scheme: on one side, the National Household Survey, and on the other the framework of areas developed by DANE to investigate small businesses.

Since 1999, DANE, with the assistance of ILO, is reviewing the methodology applied to the National Households Survey, applying it continuously throughout the year instead of quarterly as done previously. This opens new possibilities for investigation of the informal sector.

III. MIXED SURVEY IN SANTAFÉ DE BOGOTÁ

A. Concept

The informal sector is defined as the set of productive units, in the form of household businesses not incorporated into companies, which operate on a small scale and with rudimentary organizations making no - or little - distinction between capital and work. Business relationships are based more on occasional employment, kinship, or personal and social relationships rather than on contractual agreements typical of formal enterprises.

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B. Definition of the informal sector

Three different levels of definition of the informal sector must be distinguished. The first level is conceptual and belongs to the socio-economic theory. It describes the informal sector, the units composing it, and the employment relationships of persons working within the sector.

The second conceptual level lies within national accounts. Since we are moving within an economic environment, we know that all economic activities are somehow included in national accounts. Consequently, production units from the informal sector display features characteristic of household enterprises. They are classified in the fifth institutional sector, the household sector. The other four sectors are financial companies, non-financial companies, and government and nonprofit private institutions.

There is also the level of statistical definition, which only approximates the conceptual definition as best possible; as all approximations, it may vary depending on each country's conditions. The statistical definition requires good understanding of concepts and of the selection of criteria used to measure a country's events. Operational criteria use a country's elements to statistically measure the desired economic and social phenomena.

1. Conceptual definition

The informal sector is a "set of units dedicated to the production of goods or to the provision of services whose main purpose is to create jobs and generate revenues for persons participating in this activity".

Informal productive units typically operate on a small scale, with a rudimentary organization in which little or no distinction is made between capital and work, as production factors. Employment relationships, if at all existing, are based on occasional employment, kinship, or in personal and social relationships, rather than on contractual agreements involving formal guarantees.

2. Conceptual definition in national accounts

The informal sector is considered a group of production units which, according to definitions and specifications in the United Nations National Accounts System (revision 4), are part of the households sector, i.e. companies belonging to households and not

established as an enterprise. They differ from companies and from pseudo-companies based on the legal organization of the units and the type of accounting carried.

Production units in the informal sector have the characteristic features of household enterprises. Fixed assets and other assets do not belong to the company as such, but rather to their owners. In many cases, it is impossible to clearly differentiate the portion of expenses that can be assigned to the company's production activities from those corresponding simply to normal household expenses. Similarly, certain elements such as buildings or vehicles can be used indistinctly for commercial purposes and for the household.

3. Statistical definition for a micro-businesses and the informal sector.

There are two fields of study. The first one meets the objective of investigating family businesses destined to national accounts, this scope relates primarily to the measurement of micro-businesses not covered in other economic surveys. The second is a subset of the first, and responds the to specific analysis requirements of the informal sector. Statistical investigation and methodology allows covering both fields in the same operation.

Criteria for defining family micro-businesses or family enterprises. The business must comply with all of the following criteria:

i) Businesses with 10 or more employees in manufacture and construction, and up to 5 in other activities, including holders[1] and permanent workers. Partners not earning wages and unpaid family workers, even if part of the informal sector, are not included in the number of workers considered under the criteria to discriminate the informal sector.

ii) Businesses developing their activity as natural persons or de facto companies. All incorporated companies are excluded.

iii) Businesses without complete set of accounts, General Balance and Profit and Loss statements.

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[1] Holders from the informal sector are employers and self-employed workers.

Additional criteria to define the informal sector

These criteria identify - in family enterprises - enterprises or informal businesses. According to fulfillment of one or several of them, the degree of informality of these businesses may be established. It is important to note that all the above criteria are mandatory for national or local authorities.

iv) Business not registered in the mercantile registry of the chamber of commerce of the respective city.

The mercantile registry is a legal institution, from which merchants, which carry out the activity locally, receive advertising for their business and their business locations, as well as for some acts that must be known by the community.

Chambers of Commerce are private entities responsible for the Commercial Registry. They provide commercial credibility information to third parties on natural or legal persons registered with them.

v) Affiliation of workers and business holders to the Social Security System. In Colombia, Law 100 of 1993 requires that all persons, regardless of their occupational position, be affiliated to the Social Security System of their selection, either private or public.

vi) Payment of national, local, or municipal taxes (license of operation, payment of VAT, payment of income taxes).

C. Degree of informality

Considering that the informal sector is an heterogeneous set of businesses or companies of various sizes, economic activities, locations, work conditions, and relationships with the economy's institutional sector, it was classified according to the degree of informality, as established through relationships existing between informal companies and the institutional sector, such as:

- Affiliation to the Social Security System

- Compliance with local, departmental, or national fiscal regulations

- Having a Mercantile Registration

- Having some sort of accounting records

There is a direct relationship between the number of conditions met by businesses and the degree of informality. Those not meeting any of them are considered to have the highest degree of informality. According to these four criteria, informal enterprises are a divided as follows:

Level 1. Those not meeting any of the above conditions.

Level 2. Those meeting one condition.

Level 3. Those meetings two conditions.

Level 4. Those meeting three institutional requirements.

Level 5. Those meeting all four conditions.

D. Classification of informal enterprises

For statistical purposes, informal companies were classified according to the occupational position of their holders.

1. Informal enterprises whose owners are own account workers. These are companies belonging to independent workers and administered by themselves, either individually or in association with members of their own household, without hiring paid workers in an ongoing manner. They receive mixed income and not remuneration.

2. Informal employers' companies. These are companies whose owners are employers hiring at least one worker.

E. Economic activity

Informal enterprises were classified according to their economic activity, following the CIIU 4-digit classification; however, the analysis was made using two digits only, since the majority of informal enterprises are not always identifiable with a high level of disaggregation.

F. Analysis unit

- The analysis unit is the household enterprise

- Domestic servants were excluded

- Unpaid family workers, workers and employees of private companies, and government employees were excluded

- Agriculture, electricity, gas, waterworks, and communications were excluded from the survey

- Professionals are included in the informal sector if they comply with the informal sector criteria.

G. Issues investigated

- Business activity

- Legal nature

- Business origin

- Location and work site

- Production and revenues

- Production mode

- Capital

- Credit

- Level of training and education

- Business problems

- Work conditions and location

- Socio-demographic characteristics of workers

H. Methodology and sampling design

The purpose is to investigate both companies and households developing an economic activity.

The survey was conducted modularly, and the sampling design consisted in a national household survey, being the largest available source of information on the Colombian labor market.

The reason for proceeding this way, instead of designing a separate survey, was basically cost reduction and project length, lack of an appropriate sampling frame, the capacity to estimate the survey's results, and the possibility of linking information from the informal sector module with information obtained from the Employment Quality Survey performed in June 1994, and with the informality module made every two years, based on the National Households Survey.

The Santafé de Bogotá Informal Sector Survey was carried out in two phases:

1. Identification of holders of informal enterprises, using the module in phase 86 of the December 1994 National Households Survey.

2. Application of the Informal Sector questionnaire, between August 24 and September 8.

The desired sample size was 2,000 company holders (employers and self-employed workers). However, according to the results from the June 1994 module, the size was found to be too small. It was then decided to increase the number of segments in Bogotá by 55%, for the National Households Survey of December 1995, including 194 additional segments. This resulted in close to 7,000 households for the first phase of the survey.

I. Results of the collection

The National Households Survey of December 1994 on 7,000 households identified 3,372 holders as being potentially informal, according to established criteria. Taking into account the time elapsed between the first and the second phase of the survey, a telephone verification was performed.

1,615 telephone calls were made, the result of which was that 307 did not meet the condition for labor reasons such as changes of occupation, sale or liquidation of the business, or loss of the job, while 228 did not meet the condition for having moved the household (efforts were made to locate these 228 persons upon collecting the information). The telephone verification showed a loss of 16% with respect to the original sample (see Chart No. 1).

During the second phase of the Mixed Survey, between August 24 and September 8 of 1995, DANE collected information through 2,868 surveys, resulting in 1,892 surveys with complete information and 976 with incomplete information in at least one chapter of the questionnaire. Half of the incomplete information was the result of changes in domicile. 17% of the targets had died, 12% were absent, and only 9% rejected the surveyor. In the remaining cases, the person was not available.

It is important to highlight that questions on informal activities were required to be answered only by the holders, employers, or own account workers. In many cases, this meant having to make a second visit to the household, or following up with a telephone call to complete the information.

The second phase also detected that companies previously identified as being informal during the first phase, ended up being informal during the second phase (16%), not meeting the condition and the definition of informality.

Finally, of the 3,372 holders identified as potentially informal during the first phase of the National Household Survey, only 40% (1,359) were found to be informal enterprises. During the 8 months elapsed between the first and the second phases of the survey, 60% of the sample was lost.

CHART No. 1

Second phase sample size

SAMPLE	NUMBER OF SURVEYS	%	PARTICIPATION WITHOUT INITIAL SELECTION
Initial sample selection	3372	100	100
Telephone verification	1615	48	
Without verification, no telephone	1757	52	
Do not meet condition *	307	9	
Moved household	228	7	
INITIAL SELECTION	3372	100	
Do not meet conditions	535	16	16
ACTUAL SAMPLE SIZE	2837	84	
EXPANSION OF SAMPLE COLLECTED**	31		+1
SIZE OF COLLECTION	2868	100	
Complete information	1892	66	
Incomplete information***	976	34	28
DO NOT MEET CONDITION****	533		16

Changed occupation, sold or closed the business, lost their jobs.

*** Recovered some that have been discarded during telephone calls*

*** Half of incomplete information resulted from changes in domicile; 17% had died or belonged to the same company. 12% were absent.*

**** Had more than 10 employees in manufacturing and construction, more than 5 in other branches, or belonged to the formal sector according to the definition.*

J. Frequency of the survey

The scheme designed for the Mixed Survey to measure the informal sector proposes to establish a linked system of statistics from the informal sector, based on two sources: i) a survey specialized on the informal sector, and ii) a set of questions included in the national households survey.

It also considers performing an informal sector survey at least every five years, investigating the number of units in the informal sector and their characteristics (productive structure, organization, operation, income level, expense levels, employment types, socio-demographic characteristics of workers, work conditions, development limitations and possibilities, etc.).

Secondly, it proposes to measure, in the informality module, the evolution of employment and some economic variables allowing to extrapolate the information obtained from the Informal Sector Survey. Measurement of these variables will depend on the manner of application of the module. Up until 1999, DANE performed the National Households Survey on a quarterly basis. After this year, the survey is ongoing, which indicates that the module can be applied throughout the year, with the resulting advantages of avoiding seasonal changes, including shorter reference periods, allowing for better estimate of economic variables, and in an annual coverage - instead of monthly, among others.

In order to cover all the activities of the informal sector, it is necessary to include questions on the second economic activity, as done in the first phase of the Mixed Survey.

II. ALTERNATE PROPOSAL FOR MEASUREMENT OF THE INFORMAL SECTOR

All the international experience points out that the best manner to measure the informal sector is by Mixed Surveys, i.e. surveys on companies and households. A large portion of informal activities are performed by natural persons, which may only be identified and investigated in their households, while the rest is performed in commercial locations. Due to this, it is recommended to collect the information both from commercial locations and from households. Following is an alternate proposal of a Mixed Survey for the Colombian case.

A. Classification

The informal sector can be classified based on the location where the main economic activity is being carried out. This classification guarantees excluding sampling frameworks, without the possibility of duplication and estimation errors (see Chart No. 2).

The following are the results obtained from the Bogotá Informal Sector Survey of 1995.

CHART NO. 2

Type of informal sector	Informal businesses % S/Total	%
Visible		
Fixed work location (plant, shop, office, commercial location)	20.9	
Subtotal		20.9%
Mobile		
Vehicle	3	
Mobile location / open spot in the street	6.9	
Door-to-door	2.3	
Kiosk	4.0	
Construction sites	4.5	
Subtotal		20.7
Non-visible		
In own household or that of the partner, with special infrastructure for the business**	23.1	
In own household or that of the partner, without special infrastructure for the business	14.5	
In customer's household (per diem, seamstresses, etc.)	20.8	
Subtotal		58.4
Total		100

** Unfortunately, the survey does not allow establishing whether all work performed in the household with a special infrastructure is visible or not. For future investigations, the questionnaire should be able to differentiate this variable.

Chart No. 2 shows that over half of all informal units identified in the Mixed Survey on the Bogotá informal sector (58.4%) carry out their activities in non-visible locations, inside the informal holder's household, or in households of customers or in those contracting for their services.

20.7% of informal businesses are mobile. It is clear in the case of vehicles, door-to-door workers, and in the case of those working in construction and traveling based on the construction development. Kiosks are basically mobile, although there are some considered semi-permanent in specific areas of the city; however, we have included this group in the mobile category.

Finally, visible businesses only represent 20.9% of informal businesses. However, they may represent the largest group from an economic point of view. These are businesses with investments in physical infrastructure independent from their households or their transportation means, with a location specifically assigned for the development of their productive activities.

B. Methodology

Following is a proposal for a Mixed Survey for DANE, using two frameworks: one used as the basis for the National Households Survey and the other one being the one developed by DANE, to investigate small businesses.

The area framework is used whenever list framework has coverage problems or is not updated, or whenever no administrative information providing a full framework is available. These conditions are typical of the informal sector, so that the area framework is considered to be best to measure the informal sector.

It is planned to use the area framework for small businesses, to measure the *visible* informal sector, i.e. that carrying out its productive activities in a fixed location, such as factories, shops, offices, or commercial locations.

The probabilistic area sampling scheme, preferably having previous stratification of the areas in the universe under study, based on the expected density of these businesses (or on a proxy of this density) seems to be the appropriate scheme.

The *non-visible* informal sector is better studied investigating household activities, such as those activities performed inside the household, as is the case of informal holders working in their households or in their customers' household.

Mobile activities, even if being visible, are better studied in the household. This is the case of holders working in vehicles, kiosks, door-to-door, and in work or construction.

When using full frameworks, the estimate of variables under investigation is obtained by expanding the calculated expansion coefficients, according to each frame's selection probabilities. The total estimate is the simple addition of partial expansions from the national household's survey and from the area survey on small businesses. Since the two samples are independent, total variance is the sum of total variances.

C. Collection

The manner to collect information on these groups differs substantially, depending on the location where the work is being performed. It was intended to investigate visible businesses using the area framework developed by DANE, with the assistance of the Canada Statistics Office (Statistics Canada), designed for economic investigations of business, services and manufacturing. The place where information on visible businesses would be collected would be commercial locations, shops, offices, and factories, as done with an economic survey.

On the other hand, both non-visible and mobile businesses would be considered under the household's survey's sampling framework. The surveys would be performed in the households, using the Mixed Survey methodology in the traditional module. The survey will be held in two phases: the first one to identify the holder, and the second one to apply the informal sector questionnaire.

III. GENERAL CONSIDERATIONS

The Santafé de Bogotá Mixed Survey was a valuable experience, from which the following conclusions were obtained:

- The questionnaire must be simple and easy to fill out.

- The best time of the year should be selected for the first phase. December does not seem to be the best time, since informal businesses are highly seasonal and increased their activities at the end of the year, during the Christmas holidays.

- Before starting activities, a profile of the holder should be made available in order to be certain of the time available to fill out the questionnaire.

- The time elapsed between the first and the second phase should not exceed 15 days, considering the volatility of the informal sector. Otherwise, significant losses would be likely to occur.

- It is quite possible that some economic activities, such as commerce, will have a sufficiently large sample size, while others, such as transportation, will be small, so that they will not be represented independently.

The value of mixed surveys is evident for measuring the informal sector, especially when the purpose is not only to measure social-labor variables, but additionally to measure economic variables to organize the national productive structure and include small units into the national statistical system and in the national accounts.

However, whenever there are other area frameworks available, designed to measure the economic activities of small businesses, I believe these should be used, especially to measure the visible informal sector. This sector could be under-valued if only the Household Surveys are used. We should remember the economic contribution of the visible informal sector. The problem is that creating and maintaining this type of framework is expensive.

The use of area frameworks in the investigation of other businesses not covered by the traditional surveys due to difficulties in updating information of the list frameworks is very

advantageous. These economic sectors are included in the national accounts only as indirect entries, which diminish the possibility of statistical verification. The sampling frameworks developed for the informal sector have ample possibilities in other economic investigations.

Despite the methodology to measure the informal sector being useful to measure other economic sectors or units not covered by traditional surveys, this does not necessarily mean that they are the same. The concept of micro-business refers to the economic size, to the number of workers, and to the legal nature, and statistically is related to business or companies not covered by other economic surveys. The concept of informal sector may be interpreted as a subset of the first, and has other additional considerations such as employment relationships and non-fulfillment of at least the minimum condition required by the authorities for performance of any productive activity. This may vary from country to country, depending on specific national regulations.

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