

RESIDENTIAL CONSTRUCTION COSTS – METHODOLOGICAL CARD

CONCEPT OR VARIABLE	DESCRIPTION
RESEARCH TITLE	RESIDENTIAL CONSTRUCTION COST INDEX
RESEARCH ACRONYM	ICCV (By its acronym in Spanish)
BACKGROUND	<p>Creation Year: 1971 ICCV Base: December 1971=100,00</p> <p>In 1972, DANE started doing research on the costs involved in the construction of residential units. Since 1972 and up to the date, three stages can be identified according to the types of housing, as well as to the geographic coverage. The first stage corresponded to the period between January, 1972 and December 1979; the index coverage comprised ten (10) cities: Barranquilla, Bogota, Cali, Cartagena, Cucuta, Manizales, Medellin, Neiva, and Pasto; and was aimed to the single family homes with 76 materials, 3 categories related to labor, and 4 elements in the indirect cost component.</p> <p>Redesign December 1979=100.00</p> <p>The second stage comprised December 1979 to March 1989. By an agreement between CAMACOL and CENAC, the index expanded to the cities of Armenia, Barrancabermeja, Ibague, Monteria, Popayan, Pereira, Santa Marta, Sincelejo, Tunja, Valledupar, and Villavicencio. Also multiple family homes were included in the study, for two types of structures (up to and more than five floors), and it covered only direct costs.</p> <p>Redesign March 1989=100.00</p> <p>The third stage of the index started in March 1989 up to December 1999 and it covered thirteen cities (13): Armenia, Barranquilla, Bogota, Bucaramanga, Cali, Cartagena, Cucuta, Ibague, Manizales, Medellin, Neiva, Pasto, and Pereira. The index included single family housing for low, middle, and high costs; for the multiple family housing, for structures with up to or more than five floors. The basket that only explained direct costs contained 117 materials, 4 categories for labor, 7 equipments, and 5 minor tools.</p> <p>Redesign Starting January 1997, the methodological redesign started. Its main objective was the modernization of the baskets for the cities involved in the research. Aspects such as the updating of the types of housing, extension of geographic coverage, updating of the base year in the index, and the estimation of a general basket for all its components.</p>
GENERAL OBJECTIVE	To measure the evolution of the average cost of the demand of construction inputs by analyzing variations nationwide in the price of those inputs themselves, in the 15 cities included in the research.
SPECIFIC OBJECTIVES	<p>To analyze the evolution and trends of the inputs used in the housing construction.</p> <p>To produce a deflator for economic variables, such as the production value, value added, and salaries.</p> <p>To be used as an instrument for the readjustment of the labor contracts, even if they are between particular parties or between particular parties and official organizations.</p>
BASIC DEFINITIONS	<ul style="list-style-type: none"> · Construction Budget: it is the advance calculation to a specific date of the cost of a construction project in whole or part. This budget is designed by the constructor in order to follow up on each one of the construction stages. It has two parts: general budget and analysis of unit prices.

	<p>- General Budget: Generally, a budget has these parts: chapter name, chapter analysis, material measure unit, amount of work to complete, unit value per work, analysis partial value, and chapter value.</p> <p>- Unit value analysis: It is a basic element for the elaboration of the construction budget. Its calculation basis is the measure unit for each one of the items on the general budget.</p> <p>- Inputs: It corresponds to the fixed level in the Index Basket, based on the general classification of materials according to their use in the construction process.</p> <p>- Basic input: It is the fundamental level in the structure, and it is on the lowest level for the fixed ponderation.</p> <p>- Single Family Homes: They are defined as housing located in buildings with no more than three floors, and which are constructed directly on a lot, and that are separated from one and other by means of an independent access point.</p> <p>- Multiple Family Homes: They are defined as housing apartment-like that are in a building with three or more floors, that share common goods and amenities, such as: access points, special services, and recreational zones.</p>
THEMATIC COVERAGE	It is the price effect that compares the price of the inputs used for residential construction.
TYPE OF RESEARCH	Non-probabilistic sampling survey. The criteria for the inclusion of the sources were: representativeness (they must be specialized in the selling of materials for residential construction), variability in the prices, measure unit, and input ponderation.
VARIABLES AND INDICATORS	<p>Classification Variables: Main cities, cost groups (materials, labor, machines, equipment), type of housing (single family, multiple family, and VIS)</p> <p>Analysis Variables: Price of construction inputs.</p> <p>Calculated variables: Indexes such as Laspeyres that use geometrical reasons at the basic level, and arithmetic averages at the aggregated levels.</p> <p>Indicators: Indexes, variations, contributions, and participations.</p>
ESTIMATING PARAMETERS	Indicators
SCOPE OF STUDY	Economic units that are specialized in the selling and provision of services such as equipment rent, and labor supply. They are located in either one of these fifteen cities: Armenia, Barranquilla, Bogota, Bucaramanga, Cali, Cartagena, Cucuta, Ibague, Manizales, Medellin, Neiva, Pasto, Pereira, Santa Marta, and Popayan.
POPULATION	Economic units that are specialized in the selling and provision of services such as equipment rent, and labor supply. They are located in either one of these fifteen cities: Armenia, Barranquilla, Bogota, Bucaramanga, Cali, Cartagena, Cucuta, Ibague, Manizales, Medellin, Neiva, Pasto, Pereira, Santa Marta, and Popayan.
STATISTICAL UNITS OF OBSERVATION, SAMPLING, AND ANALYSIS	<p>Analysis Units: Price of the main inputs used for residential construction.</p> <p>Observation and Sampling Units: Economic units, either big or small that are in charge of the distribution of construction materials, as well as residential construction companies.</p> <p>Indicators: Indexes, such as Laspeyres.</p>
AMOUNT OF PRIMARY AND SECONDARY SOURCES	Approximately, there are 3,701 sources, which include producers, manufacturers, and material distributors in the residential construction business. Construction companies are included in this group too.
STATISTICAL FRAMEWORK	The frame used for the study is the list of companies that are specialized in the selling and provision of services such as equipment rent, and labor supply. This list was made up by putting together the specialized lists of construction companies, as presented on the Building census.
PRECISION REQUIREMENTS	Does not apply

SAMPLING DESIGN	Does not apply
TYPE OF SAMPLE	Non-probabilistic
SELECTION METHOD	Directed
SAMPLE SIZE	Approximately 3,701 sources and 23,924 quotes.
CONSERVATION OF SAMPLE	Continuous revision by local and central experts.
QUALITY INDICATORS	Process quality indicator present in the collection, critic, and supervision stages. Non-response rates and technological development rates are considered as well.
GEOGRAPHIC COVERAGE	15 cities are included: Armenia, Barranquilla, Bogota, Bucaramanga, Cali, Cartagena, Cucuta, Ibague, Manizales, Medellin, Neiva, Pasto, Pereira, Santa Marta, and Popayan.
REFERENCE PERIOD	Current Month
COLLECTION PERIOD	All month long.
COLLECTION PERIODICITY	Monthly
FREQUENCY OF RESULT REPORTS	Results from the previous month are published in the second week of each month.
DISAGGREGATION OF RESULTS	<p>Thematic: Indexes and variations for the national totals, groups, subgroups, and input; according to the type of housing (single or multiple family homes).</p> <p>Geographic: National totals, highlighting the 15 cities that are the center of the geographic coverage of the study.</p>
COLLECTION METHOD	Direct interview using a mobile device, (DMC, Spanish acronym)
AVAILABLE YEARS AND PERIODS	Series from 1972 up to the date. Original databases: December 1971=100.00; December 1979=100,00; March 1989=100,000, and December 1999=100,00.
MEANS OF DISSEMINATION	Press releases, statistical bulletins, special publications (CD), databases, webpage (under construction), and intranet.
COMPUTER SYSTEMS: A TOOL FOR DEVELOPMENT	Visual FoxPro 6.0
COMPUTER SYSTEMS: Developed Modules	Magnetic pre-processing, data capture on mobile device, analysis, dissemination, and utilitarian products.
COMPUTER SYSTEMS: Development Architecture	Server-client and multiple user
COMPUTER SYSTEMS: Development Level	Intermediate
PUBLICATION	Research methodology, specification manual, collection manual, and system manual.
WHAT IS ICCV (Spanish Acronym)	It is a statistical instrument that allows the recognition of the average percent change within two periods of time in the prices of the most important inputs needed for residential construction.
OBSERVATION UNIT	All the business in charge of the production, manufacturing, and distribution of materials used in residential construction. Construction companies are included here as well.

DISAGGREGATION	National totals, cities, type of housing, in the case of the fixed structure at group level (3), subgroups (19) and basic inputs (100). The flexible structure is made up by inputs (264).
STRUCTURE COMPONENTS	<p>Fixed and flexible levels.</p> <p>Fixed level: it uses de index associated to the fixed inputs. It is updated by collecting work budgets. It is made up by three categories: cost group; cost subgroup; and basic input.</p> <p>Flexible level: It is modified by changes in the cost patterns. It allows the use of geometric averages, and it is made up by inputs.</p>
REFERENCE BASKET	Residential construction budgets for the 1996-1998 period.
PRICE FOLLOW UP BASKET	It is the set of inputs and articles (264) which are representative to the residential construction business, and whose price variation affects the index calculation.
REFERENCE POPULATION USED FOR THE BASKET CONSTRUCTION	Residential construction companies.