

HEAVY CONSTRUCTION COST INDEX – METHODOLOGICAL CARD

CONCEPT OR VARIABLE	DESCRIPTION
RESEARCH TITLE	HEAVY CONSTRUCTION COST INDEX
RESEARCH ACRONYM	ICCP (By its acronym in Spanish)
BACKGROUND	<p>Creation Year: 1981 ICCP Base: December 1871=100,00 In 1965, the National Department of Transportation and Public Works (MOPT, Spanish Acronym) was the first organization to start the research on the elaboration and evolution of the heavy construction cost indexes. These indexes were the basis for the methodology designed by DANE in 1981 and whose main objective was the updating of ponderations, as well as the creation of new baskets. The study involved five work groups and four cost groups.</p> <p>Redesign: 1995 and 1996 ICCP Base: December 1996=100.00 Taking into account the ongoing transformation that the country has been through, and the continual technological advance, DANE finds important to revise and redesign the methodology of the heavy construction cost index. In that way, that index would reflect the real changes in the price within diverse groups.</p> <p>Redesign: 2004-2005 ICCP Base: December 2005=100.00 In order to respond to international parameters with regards to the revision of the reference baskets and the monitoring of prices when involving Laspeyres indexes, DANE allocated a budget for the redesign of the methodology of the heavy construction cost index. In that way, that index would reflect the real changes in the price within diverse groups.</p>
GENERAL OBJECTIVE	To measure the evolution of the average cost of the main inputs used in the construction of highways and bridges, within a specific period of time.
SPECIFIC OBJECTIVES	To analyze the evolution and trends of the inputs used in the construction of highways and bridges.
BASIC DEFINITIONS	<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 Prices: They are the budget assignments that are present on the general budget as defined by the unit costs, according to the elements being analyzed: equipment, materials, transportation, labor, and indirect costs. The sum of all these partial values is what is called the “unit price” for each assignment.</p> <p>- Work Groups: They refer to the activities completed in a section of the highway of bridge being built.</p>
THEMATIC COVERAGE	It is the price effect of the inputs used for the construction of highways and bridges.
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 the construction of bridges and highways), variability in the prices, measure unit, and input ponderation.
VARIABLES AND INDICATORS	<p>Classification Variables: Cost groups (materials, labor, machines, equipment), work groups (explanation works, sub-bases and bases, material transportation, steel and metallic elements, structural steel, steel cables, concrete, various works, concrete used for superstructures of bridges and asphalt paving.)</p> <p>Analysis Variables: Price of inputs used in the construction of highways and bridges.</p> <p>Calculated variables: Indexes such as Laspeyres.</p>

	Indicators: Indexes, variations, contributions, and participations.
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 for the construction of highways and bridges. They are located in either one of these fifteen cities: Armenia, Barranquilla, Bogota, Bucaramanga, Cali, Cartagena, Cucuta, Ibague, Manizales, Medellin, Neiva, Pasto, Pereira, Popayan, Santa Marta, and Villavicencio.
POPULATION	Economic units that are specialized in the selling and provision of services such as equipment rent, and labor supply for the construction of highways and bridges. They are located in either one of these fifteen cities: Armenia, Barranquilla, Bogota, Bucaramanga, Cali, Cartagena, Cucuta, Ibague, Manizales, Medellin, Neiva, Pasto, Pereira, Popayan, Santa Marta, and Villavicencio.
STATISTICAL UNITS OF OBSERVATION, SAMPLING, AND ANALYSIS	Analysis Units: Price of the main inputs used for the construction of highways and bridges. Observation and Sampling Units: Economic units, either big or small that are in charge of the distribution of construction materials, as well as construction companies that build highways and bridges. Indicators: Indexes, such as Laspeyres.
AMOUNT OF PRIMARY AND SECONDARY SOURCES	Approximately, there are 2,531 sources, which include producers, manufacturers, and material distributors in the highway and bridge construction business. Construction companies and 12,277 quotes 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 for the construction of highways and bridges. This list was made up by putting together the specialized lists of construction companies.
PRECISION REQUIREMENTS	Does not apply
SAMPLING DESIGN	Does not apply
TYPE OF SAMPLE	Non-probabilistic
SELECTION METHOD	Directed
SAMPLE SIZE	2,531 sources.
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	Nationwide with collection in these cities: Armenia, Barranquilla, Bogota, Bucaramanga, Cali, Cartagena, Cucuta, Ibague, Manizales, Medellin, Neiva, Pasto, Pereira, Popayan, Santa Marta, and Villavicencio.
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	Thematic: Indexes and variations for the national totals, groups, subgroups, and input, according to the work group.

	Geographic: National totals.
COLLECTION METHOD	Direct interview using a mobile device, (DMC, Spanish acronym)
AVAILABLE YEARS AND PERIODS	Series from 1981 up to the date. Original databases: December 1981=100.00; December 1996=100,00; and December 2005=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 7.0
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 ICCP (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.
COST GROUP	The ICCP is classified into five (5) groups with different numbers of inputs; equipment (32); materials (72); transportation (1); labor (6), and indirect costs (9).
WORK GROUPS	These work groups were put together, based on the similarity of their characteristic costs: Explanation works, sub-bases and bases, material transportation, steel and metallic elements, structural steel, steel cables, concrete, various works, concrete used for superstructures of bridges and asphalt paving; and all the companies in charge of the construction of highways and bridges.
STRUCTURE COMPONENTS	Fixed and flexible levels. 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. 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.
DISAGGREGATION	National totals, work groups, subgroups, and inputs or articles.
REFERENCE BASKET	Highway and bridge construction budgets for the 1994-2003 period.
PRICE FOLLOW UP BASKET	It is the set of inputs and articles (120) which are representative to the highway and bridge construction business, and whose price variation affects the index calculation.
REFERENCE POPULATION USED FOR THE BASKET CONSTRUCTION	Highway and bridge construction companies.