

CN 039

Don: please review and return.
Roy

ECONOMIC SURVEY METHODOLOGY

Minnesota's Regional Copper-Nickel conducted an economic and energy survey of firms in northeast Minnesota to:

... validate the trade assumptions presently incorporated in SIMLAB II, recalibrate these assumptions if appropriate, survey a check on secondary data sources; help determine the amount of dollar leakage from the study areas' economy; and provide fuel use and substitution data for the Minnesota Energy Agency.

The questionnaire was developed by Copper-Nickel staff withⁱⁿ cooperation of ~~with~~ Wilbur Maki of the University of Minnesota, St. Paul, ^{and Dr. Ernesto Venegas} In addition there is a one-page addendum prepared with help from staff of the Minnesota Energy Agency.

20 The questionnaire begins with a series of questions intended to help determine ^{existing trade patterns within the study area and} the flow of dollars across the boundaries of the study areas. This section is followed by questions concerning past, present, and future capital investments in land, buildings, and equipment. Finally, there is a series pertaining to past and present employment. The energy addendum deals with past and projected energy usage according to type of energy. (See attached questionnaire).

The economic questionnaire was two pages in length. If the respondent could ~~respond~~ without reference to past records, the questionnaire required
2/19/81

15 to 20 minutes to complete. *explain why two regions and what their characteristics are that caused us to define them.*

The questionnaire was sent to businesses of two regions, one a subregion of the other, larger area. The smaller of the two areas, the ^{Regional} Copper-Nickel Study Area, is located within St. Louis County on the eastern end of the Mesabi iron range. Within its boundaries are ten communities: Aurora, Babbitt, Biwabik, Ely, Eveleth, Gilbert, Hoyt Lakes, Soudan, Tower and Virginia (see map).

The larger area is the Regional Development Region III plus Douglas County in Wisconsin. Region III is made up of seven counties: Aitkin, Carlton, Cook, Itasca, Koochiching, Lake and St. Louis (see map).

These two boundaries correspond with those being used by the Copper-Nickel Study for work with SIMLAB II and many other projects.

no questionnaire was sent to a sample of area firms
The sample to which the questionnaire was sent was drawn from a data file *to Dun & Bradstreet, Inc.* which the Governor's Manpower Office leased from Dun and Bradstreet, Inc. *provided by*

This computer file contains information on 71,000 Minnesota business enterprises. *why are they listed in our area studies?* While the file does not contain every business in Minnesota (Department of Employment Security records show 81,000 establishments), its accessibility and easy handling made for an effective mailing list.

The file, which is administered by Minnesota Analysis and Planning System at the University of Minnesota, was easily programmed to produce short summaries of each business and mailing labels for our selected

sample. *Do we feel D & B provides more sensitive list?*

The sample was chosen ^{so} (on the basis) that a 100 percent return would provide ^{produce} ~~data~~ that had a 95 percent confidence level when the sample was applied to existing control totals. Rather than selecting the number of firms as the population to be sampled, the Copper-Nickel Study felt that total employment should be the sample population, ^{Surrogate of gross output - contribution to economy} thereby acknowledging the increased influence of the larger firms by weighing the sample. The procedure for selecting the sample from the Dun and Bradstreet, Inc. data file was as follows:

- 1) All firms in the data file were sorted according to an economic sectoring scheme which corresponds with that of SIMLAB II.
- 2) All firms were then sorted by location so that the Copper-Nickel Study could select a sample for each of the two study areas.
- 3) Sample employment ^{criteria} ~~size~~ were computed from total sector employment which would provide 95 percent confidence according to methodology provided by the Measurement Services Center of the University of Minnesota.
- 4) Firms were chosen randomly within each sector until the cumulative employment equalled or exceeded the criteria computed in 3 above.
- 5) A summary of each firm selected in the sample was printed.
- 6) Mailing labels were printed.

This procedure produced a sample of 591 business enterprises in the Copper-Nickel Study area and a sample of 1360 businesses in regional development Region III. Each firm was assigned a coding number and firms which appeared

In both samples were eliminated from the Region III sample. This brought the Region III sample to 1216 businesses.

The administration of the survey followed the format detailed below:

- 1) One week prior to the mailing of the survey questionnaire a letter of announcement signed by D. Kelly Campbell, Chairman of the Arrowhead Regional Development Commission's Economic Policy Committee, and Royden E. Tull, Copper-Nickel Study Planning Manager, went to each firm to inform them of the pending questionnaire.
- 2) The first mailing of the questionnaire included a cover letter detailing the procedure ~~being~~ being followed, the questionnaire, and an addressed, stamped return envelope. The survey was mailed to the Copper-Nickel Study area sample on or about October 10, 1977. The Region III mailing went out about November 1, 1977.
- 3) The first mailing of the questionnaire was followed in two weeks by a postcard which reminded ~~respondents~~ ^{the sample} of the survey and listed the Copper-Nickel Study address and telephone number.
- 4) A second mailing of the survey went to those of the sample who had not responded after four weeks from the original mailing.

5) *Phone Contact*

During the course of the survey, a master list was kept and responses were tallied and recorded as they ~~returned~~ ^{were returned} to the Copper-Nickel Study offices.

Data from the questionnaires ~~was~~ ^{were} then transferred to uniform coding forms in preparation for keypunching and entry to the Copper-Nickel Study computer data files.

After accounting for mailings which did not reach the addressee, the Copper-Nickel Study area sample numbered 552 and the Region III sample 1126. This is 93 percent, in both cases, of the original mailing. Responses were received from 285, 51 percent, in the Copper-Nickel Study area and 297, 26 percent, in the Region III area.