THE MEASUREMENT OF NONFARM SELF-EMPLOYMENT INCOME: THE 1979 ISDP RESEARCH PANEL

Thomas Cameron Whiteman, Department of Health and Human Services*

The paper examines two methods used to obtain the income of the nonfarm self-employed in the 1979 Income Survey Development Program (ISDP) Research Panel. The ISDP was managed by the Department of Human Services (DHHS) in collaboration with the Bureau of the Census. Two different methods were used to obtain income information from the self-employed: by personal interview and by an off-line, mail-back, self-administered questionnaire. A brief discussion of the conceptual difference in information sought and of the problems posed when trying to allocate the income of the self-employed between its property and labor components follows the description of the kind of data collected in the personal interview and in the drop-off questionnaire. This discussion will demonstrate how the decisions concerning self-employment income data collection in the 1979 Panel reflected an attempt to provide information that would allow analyses which approach the definition of self-employment income from various perspectives depending upon the purpose of the analysis.

The Collection of Nonfarm Self-employment Data: The 1979 ISDP Procedures

The 1979 Panel used a staggered design for collection of data in the personal intrerviews with the survey respondents. Income data were collected with a three month reference period beginning in February, 1979. Each interview (February, March, April) was conducted on one-third of the sample; so the reference period for each third of the sample overlapped. Those interviewed in February were asked about their income for the previous January, December, November, while that portion interviewed in March had a reference period of February, January, December. It was in this interview scheduling that the self-employed answered questions in the personal interview about their amount of "salary or money" taken out of the business for "living expenses during the 3-month period." Another procedure was used in the first interview to obtain information on the self-employed's business income and characteristics of their business. This was the drop-off, off-line, mail-back questionnaire (see appendix). This information was collected for the calendar quarter (January, February, March) for all of those who responded to that questionnaire. It was believed that self-employment income could be collected more naturally on the calender quarter rather than the staggered reference period used in the personal interview. This difference in reference period should be kept in mind when comparisons between the data collected by each procedure are made. The drop-off questionnaire was left with the respondent and mailed back to the Census Bureau's regional offices responsible for the region in which the respondent resided.

The "Drop-Off" Survey Results

The "off-line" or "drop-off" survey of the self-employed completed in the first interview period of the 1979 Panel yielded interesting results. The results are subject to the qualification that there was approximately a 50% nonresponse rate, that is, one half of those given and asked to complete the drop-off form for their business establishment did not mail it back. The fact that the "drop-off" method of collection was used could account, in part, for the high nonresponse rate. Still, the data collected on the mail-back, "drop-off" are interesting and worth summarizing before discussing the data from the personal interview and then comparing the two.

Of those returning the form 25% reported the legal form of their business as "corporate". This compares with the 20% of the self-employed that report the legal form of their business as corporate in the Statistics of Income (SOI) from the Internal Revenue Service's (IRS) data. It is also worth noting that 25% of the self-employed in the ISDP Panel reported the inclusion of wages and salaries paid to their owners as a portion of their total expenses charged to the business.1 / This is consistent with the proposition that only the self-employed with a legal form of corporate would pay salaries to owners.

Next, the mean incomes of those self-employed who returned the drop-off or "establishment" form are discussed. As the data indicates the inclusion of losses has a significant effect on the mean income of the self-employed. The average net income of firms with either breakeven or a positive income was $10,632. When those businesses reporting a loss are included with these the average falls to $4,628. According to SOI data the average income for the self-employed ranges from $4,000 to $6,000 dollars.

Upon closer observation it is found that the industry with largest average net losses was "other professional services." The largest net profit occurred in manufacturing. Table 1 summarizes the average losses and profits for selected industries. The examination of the data for the self-employed businesses (excluding those reporting losses) revealed a mode net profit of about $4000. Approximately 20% of those reporting had a net income of that amount. The median net profit was approximately $3,000.

The Personal Interview

For those persons reporting "salary or money" taken out of the business for living expenses (draw), and a net income, the average draw was $5,066. The average draw for all self-employed (whether they reported a net income amount or not) was $4,911. This compares with the average net income (including losses and zeros) of $4,628 but, is considerably lower than the $10,632 average net income of those businesses with a positive or zero net income. These differences arise from a potentially serious problem of identification. These could be related to the economic definitions of "draws" versus net income or to the method of data collcetion. Further discussion of this problem is pursued in the next section.

Comparison of Net Income and "Draw" For The Self-Employed

Table 2 presents the cross-classification between "draw" taken from the personal interview by net income from own business from the off-line, drop-off questionnaire. Entries on the diagonal of the table give the number of selfemployed who estimated their net income for the calendar quarter to be the same as the draw reported for the three month period prior to the time they were interviewed. The reader should keep in mind that the cross-classification in this table are restricted to those respondents matched, responding to the personal interview questionnaire and to the drop-off questionnaire. For the dollar classes between $300 and $2,000 only 3% of the observations are on the diagonal. Only 16.6% of all the observations are on the diagonal. The percentage above the diagonal is 47.3 while 36% were below the diagonal.2/ The percent observations with draw and net income for selected dollar size classes is presented in table 3.

Table 3 also shows the percentage difference between the number of observations with a draw and net income for the same dollar size classes. For the under $300 category there is a 182% difference between the number of self-employed with a draw and net income. For the categories between $300 and $4999 the percent differences are all positive, varying from 38% down to 0.0%. From $5,000 to $7,499 the percent difference is a negative 11% with the remaining differences being positive except for the $15,000 and over class. In that class the difference was a negative 180%. Table 3 and Table 4 bring together evidence supporting the premise that the kinds of information collected by the two procedures were quite different. The two survey methods collect different data which are not substitutes for each other but are complementary pieces of information.

Analytical Applictions of The Different Kinds of Data Collected In The 1979 ISDP Research Panel

As is well known the share categories used in the National Income and Product Accounts (NIPA) involve a simple, twofold classification between labor income on the one hand, property income, on the other, the former including the earnings of labor; the latter, income arising from the use of physical assets, "capital". This distinction is to some extent taken for granted although its empirical measurement, in field surveys for the income of the self-employed is problematic. The major problem posed for self-employment income is its allocation between its property and labor components. Some have argued that this distinction cannot be accomplished, that self-employment income is a mixture of the owner's labor, entrepreneurship and the capital employed in the business, none of which can be separated out. For an interesting discussion of these arguments see Budd, pp. 6-7. Kravis introduced one method based on an arbitrary percentage allocation of self-employment income between labor and capital (Kravis, p. 925). The "proportional basis" divides self-employment income, 65% labor, 35% property. These are some of the reasons there is no distinction in the NIPA between the labor and property components of income received by the self-employed. All of the net income of the self-employed is allocated to labor. These difficulties led to the distinction between the kinds of data collected in the Wave 1 1979 ISDP Research Panel.

More recently some researchers have been using other techniques to estimate the "income" of the self-employed (Chiswick, 1976). Using economic/demographic data collected in a survey Chiswick estimates earnings functions of the self-employed. Earnings functions were estimated separately for men and women. She concluded that a self-employed male reported a net income from own business equal to their opportunity cost of working for someone else (earning a wage). It is worth noting that she found a systematic tendency to attribute the "nonlabor" components of self-employment income of "family businesses" to the household head.

This discussion demonstrates the need for the collection of different kinds of information on the self-employed in income surveys such as the ISDP Research Panel. Next will be a presentation of the conclusions that can be drawn from the data presentated in the paper thus far.

Conclusions

The present data provide considerable evidence that the income of the self-employed collected in the "drop-off" questionnaire is necessary to measure in the survey in order to insure quality income data. It also indicates that the approach of collecting draw only would not satisfy this objective. The data collection effort should concentrate on obtaining quality data on the income and businesses' of the self-employed. This is not necessarily at the exclusion of collecting data on draw or money taken out of the business for living expenses. For some purposes the latter is of use in measuring a kind of resource base that some self-employed persons use to protect themselves agairist fluctuations in the net income from their businesses. The former is a necessary component of the total money income concept necessary for comparability with other data series and to insure the adequacy of the income data for the purpose of various kinds of analyses.

The differences in the kinds of information obtained in the two procedures used in Wave 1 of the 1979 ISDP Research Panel to collect nonfarm self-employment data led to two very different variables being measured, draw and net income. It is recommended that the ISDP continue to unravel the problems associated with the collection of net income from self-employemnt. There is still confusion, among theoreticians and survey methodologist, over what is actually being measured and the best method to measure it. These differences will persist but the methods of collection and measurement should continue to produce estimates of the highest quality possible in any given survey climate. It is not possible at this time to exactly segregate out the causes of the differences in the two kinds of data collected between method of data collection and the conceptual differences between the economic definition of net income and draw. Further experimentation would seem highly desirable to determine the effects of using the self-administered "drop-off" to collect the net income of the self-employed as opposed to collecting the same information in a personal interview. The use of the "drop-off" makes it very easy for the self-employed who are reluctant to respond or report accurately a simple and perfect way out, namely, not to mail the form back.

TABLE 1

MEAN NET PROFIT AND LOSSES FOR SELF-EMPLOYED FOR SELECTED INDUSTRIES*

Industry	Mean Profit (Breakeven or Profit Only)	Mean Loss (Losses Only)
Other Professional Services	$16,390 n=52	(-) $106,753 n=12
Personal Services	$1,072 n=28	(-) $10,433 n=11
Construction	$5,608 n=40	(-) $4,646 n=9
Retail Trade	$7,101 n=69	(-) $4,607 n=22
Manufacturing	$36,988 n=21	-
Wholesale Trade	$14,091 n=17	-
Health Services	$10,803 n=34	-

Source: 1979 ISDP Research Panel, unpublished data from the Department of Health and Human Services and the Bureau of the Census. *n=# of observations.

TABLE 2

DRAW BY NET INCOME

	UNDER $300	$300-899	$900-1,599	$1600-2999	$3000-7499	$7500-9999	$10000-OR MORE	SUM
UNDER $300	21	17	15	28	12	6	4	103
$300-899	7	14	9	6	-	-	-	40
$900-1599	-	3	5	8	7	-	-	26
$1600-2999	3	5	7	8	9	-	-	34
$3000-7499	2	4	4	19	19	11	3	62
$7500-9999	-	-	-	-	5	-	4	13
$10000-OR MORE	2	-	-	10	19	8	16	57
SUM	36	45	42	80	72	30	31	336

Source: Unpublished data Department of Health and Human Services: 1979 ISDP Research Panel. Draw categories are on the column and net income is on the row. (-) indicates less than 3 observations in that particular cell.

TABLE 3

DRAW AND NET INCOME OF THE NONFARM SELF-EMPLOYED: % OF TOTAL OBSERVATIONS IN DOLLAR CATEGORIES AND % DIFFERENCE BETWEEN % OBSERVATIONS WITH DRAW AND NET INCOME IN EACH DOLLAR CLASS*

Dollar Classes	(1) % Observations with a Draw	(2) % Observations with Net Income	(3) % Difference Between the % with a Draw and Net Income In Each Dollar Class**
Under $300	11.0%	31.0%	(-) 182.0%
$300-599	8.0%	7.0%	(+) 12.5%
$600-899	5.0%	4.5%	(+) 10.0%
$900-1199	4.0%	4.0%	(+) 0.0%
$1200-1599	9.0%	3.6%	(+) 60.0%
$1600-1999	6.0%	3.6%	(+) 40.0%
$2000- 2999	17.0%	7.0%	(+) 59.0%
$3000-4999	13.0%	8.0%	(+) 38.0%
$5000-7499	9.0%	10.0%	(-) 11.0%
$7500-9999	9.0%	4.0%	(+) 56.0%
$10,000-14,999	4.0%	3.0%	(+) 25.0%
$15,000 or more	5.0%	14.0%	(-) 180.0%
Sum	100.0%	100.0%	N. A.

*N= 336

**(3) = $\frac{(1) - (2)}{(1)}$.

Source: 1979 ISDP Research Panel; Department of Health and Human Services and Human Services: unpublished data.

BIBLIOGRAPHY

(1) Budd, E.C. "The State of Income Distribution Theory", a paper presented at the Income Distribution Workshop, Agricultural Policy Institute, North Carolina State University, Raleigh, North Carolina, 1966.

(2) Chiswick, Carmel "On Estimating Earnings Functions for LDCs," Journal of Development Economics, vol. 3, 1976, pp. 67-68.

(3) Kravis, I.B. "Relative Income Shares In Fact and Theory," American Economic Review, vol. 49 (December, 1959), pp. 917-49.

(4) U.S. Internal Revenue Service "Statistics of Income", Individual Income Tax Returns, Washington, D.C. 1978.

FOOTNOTES

*The views expressed are those of the author and do not necessarily represent the position of the agencies or institutions with which he is affiliated.

1 / Over 30% of the businesses classified as "real estate" indicated that rental receipts were part of their gross receipts. This would be consistent with the manner in which IRS would treat rental income as part of self-employment income. One might expect of those businesses classified as real estate to have a larger portion of their receipts as rental.

It is possible that some of the self-employed who receive rental income in an "incidental" way, that is, not as a significant part of their gross receipts, report rental income in the rental income portion of the personal interview and don't include it in the receipts of their businesses. There is no way at this time to determine the magnitude of this misclassification of rental income.

2/ An identical cross-classification was tabulated for the third of the sample (interviewed in April, 1979) which had identical reference periods for the drop-off and the personal interview. Of the nonfarm self-employed in that group (N=126) the cross-classification revealed only 12% of the observations were on the diagonal, 47% above and 41% below.

APPENDIX

Selected Drop-Off Questions for Nonfarm Self-employed

(1) During January, February, and March 1979, what were the gross receipts from this business or professional practice?

(2) During January, February, and March 1979, what were the total expenses for this business or professional practice?

(3) What was the net profit (loss) for this business or professional practice for the months January, February, March 1979?

Questions Asked the Nonfarm Self-employed in the Personal Interview

(1) How much did .... take out for salary or living expenses (Read each month)?

3 months ago ________.
2 months ago ________.
1 month ago ________.

Source: 1979 ISDP Drop-Off Questionnaire and 1979 Wave 1 101A Questionnaire. Department of Health and Human Services and Bureau of the Census.