

# Standing Rock

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*A Labor Force Survey of an  
American Indian Reservation*

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STANDING ROCK: A REPLICATION OF THE CURRENT  
POPULATION SURVEY ON AN AMERICAN INDIAN RESERVATION

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# Standing Rock: A Replication of the Current Population Survey on an American Indian Reservation.

## I. Introduction

This paper presents the findings from a State- and tribal-sponsored, Bureau of the Census conducted labor force survey of counties making up an American Indian reservation. The Standing Rock Indian Reservation is comprised of two sparsely populated counties which straddle the border of North Dakota and South Dakota.

County unemployment rates are important in determining whether or not local firms can receive preferential treatment when applying for defense contracts, in setting performance standards under the Job Training Partnership Act, in economic development grant application, and in the evaluation of the role of federal policies in local economies. Local unemployment rates are used to allocate opportunities under various programs and at the same time serve as an indicator of the extent to which national economic policies and trends create strong or weak labor markets.

The Current Population Survey, conducted by the Bureau of the Census, is the household sample survey program which is used each month by the Department of Labor's Bureau of Labor Statistics to estimate employment, unemployment, and the unemployment rate for states.

Substate (county and Metropolitan Statistical Area) labor force estimates are prepared each month using a technique which is driven by administrative data (e.g., the number of Unemployment Insurance claims) but which seeks, in principal, to mimic concepts found in the Current Population Survey. From the standpoint of the sponsor's goals, the primary objective of using the Current Population Survey for each reservation household was to determine whether or not the administrative technique used to generate county unemployment rates was systematically biased. If biased, the administrative technique was to be modified using the results of the survey.

The Current Population Survey in the United States is a sample survey. As such, relatively small random samples of households can be successfully used to estimate the characteristics of large and primarily urban populations on a "cost effective" basis.

On the other hand, sampling theory dictates that relatively large samples are required for small populations in order to achieve an equal degree of accuracy. For communities, most counties, and for reservations, monthly samples of households to accurately estimate local unemployment rates would be expensive. In the federal



statistical system, what gets measured is what is most important. Under these circumstances, locality and community by default have become defined as among the least relevant factors associated with labor market outcomes. As one Bureau of the Census staff member said during the initial windshield survey of the reservation, "...you can't do a survey every time some little county disagrees with its unemployment rate." What is costly from the standpoint of survey research has, at the same time, become defined as unimportant.

In the context of urban priorities for economic and labor market information, sampling theory, cost effectiveness, and political expedience, a federal statistical system has emerged which systematically ignores the relevance of locality as a crucial determinant of labor market outcomes. That is, because it costs more on a per-unit basis to provide accurate data for small areas and because it is politically expedient to do so, the idea that where people live as a factor in how people live has been assigned the convenient status of nonrelevance. What will be demonstrated in this paper is that the elements of locality--geography, remoteness, population density, and indigenous cultures--interacting with federal economic policy, are key determinants of labor market outcomes for rural Indians and nonIndians alike.

Much of the existing statistical literature on American Indians ignores locality as a factor associated with the likelihood that people will publicly identify themselves as a minority, how families are organized, and what types of labor market experiences they have. However, our survey results, when compared to findings from the analysis of national sample data bases, show that national findings are more often than not quite beside the point when viewed from the communities in which people live. In the case of earnings, for example, low earnings are a function of that particular place referred to as a reservation for Indians and nonIndians alike. National analysis, on the other hand, attributes low earnings for Indians to their racial/ethnic status as a minority.

Not only are the characteristics of places important determinants of labor market experiences, so are the external institutions over which local people exert little influence. Do Indians and nonIndians within the same rural area respond differently to harsh economic conditions? And if so, how? Survey results clearly show that Indians and nonIndians in rural counties live in two different economic environments. For nonIndians, federal trade, agricultural, fiscal, and regulatory policies create circumstances over which they exert little control. For Indians, Bureau of Indian Affairs, Indian Health Service, and Department of Labor policies exist as controlling circumstances over which they exert little influence. Labor market outcomes for both populations are virtually controlled by federal institutions and, to that extent, both Indians and nonIndians have a great deal in common. However,

since national sample data are not locally relevant, most analysis focuses on characteristics of individuals, rather than on institutional forces (e.g., the BIA or USDA) at work in real communities, as explanations of labor market outcomes.

Our results clearly illustrate the effect of dual or segmented economies on the reservation. But survey data, at least as it has been traditionally developed, has a much more difficult time demonstrating the persistence of barriers to upward mobility for minorities, females, and others. This difficulty stems from the fact that the dependent variables in quantitative labor market segmentation research change in value independently of institutional barriers to upward mobility, or are so narrowly defined as to be of questionable relevance. Because the labor, technical content, and income levels of occupations change so rapidly, the same occupational title is unlikely to refer to the same employment phenomenon for very long. Answering the question of whether or not a minority group has gained in the proportion of good jobs over time is extremely difficult when the quality of jobs is changing and occupational titles used to define the dependent variable (good jobs) refer to job content which is also changing. Other approaches to segmentation focus on changes in earnings over time and define those earnings in terms of usual weekly wages. Not only does the focus on wages represent an urban bias, it also avoids the importance of the access to, protection, and control of capital. Segmentation theory is, after all, a theory of political power. And the history of the 1980s, for agricultural states, has been the history of the loss of power and subsequent decline in the value of accumulated wealth.

The Current Population Survey was used on the Standing Rock Reservation to resolve longstanding issues of ascertaining the "true" level of labor supply. Rural labor market analysts have traditionally argued that rural labor markets are less complicated and labor market information more readily available in rural than urban areas. What this means is that job seekers in rural areas are more likely than job seekers in urban areas to stop the active search for work when no work is available and re-enter the labor market when, for example, seasonal factors imply that a job is likely to be found. By Current Population Survey definition, rural people without work are no longer defined as "unemployed" when they stop looking for work; they are now out of the labor force and are "discouraged" workers. Since discouraged workers are no longer in the labor force and unemployed, they do not contribute to the unemployment rate. Thus, although rural areas frequently experience severe labor market difficulties, they are less likely than are their urban counterparts to reveal the full extent of these difficulties in the published unemployment rate. The Current Population Survey could adequately address this problem, they suggest, by expanding the size of the sample in rural areas and publishing more information on the discouraged unemployed.

Our analysis suggests that a sample expansion of the Current Population Survey in rural areas, by itself, is not sufficient to the task of analyzing rural labor markets. First, the CPS defines job search in terms and language that are abnormal in the rural setting. While some people without jobs may, indeed, be "discouraged," most people share the knowledge of a broader community network and are pragmatic. They know when seasonal jobs will open up, and they also know that when jobs become available, others in the community will let them know about them. Second, because so many people in rural areas are self-employed, job loss often signals the loss of a business. Both events are frequently associated with out-migration. And, as we shall shortly demonstrate, out-migration from rural areas is a significant component of the nonIndian response to the absence of employment opportunities. Rural labor markets are very different from urban labor markets in the way they are organized, the way information is deployed, in the mutual obligations members of the community have to distribute information, and in the probability of migration in response to job loss. The Current Population Survey does not measure these phenomena and, in that respect, exhibits an urban industrial bias.

The Current Population Survey and other elements of the federal statistical system are poorly adapted to the measurement of rural labor markets, rural population trends, the rural agricultural economy, and the structure of the labor market on reservations. Collectively, the various statistical programs in the federal system create the impression that: Population out-migration is minimal; the unemployment rate is at an acceptable level; farming enterprises are more numerous than they actually are; and that private wage and salary employment is more vigorous on reservations than it actually is. Collectively, the federal statistical system sends the message that current federal policies, if not achieving positive results, are certainly benign with respect to rural areas. Regardless of the stated intent of the federal statistical system, the consequences of its performance are to minimize the scale of labor market difficulties in rural areas and especially on the Standing Rock Indian Reservation.

## II. Background and Methodology

On February 25, 1988, the Bureau of the Census entered into an agreement with Job Service North Dakota, the South Dakota Department of Labor, and the Standing Rock Sioux Tribe to conduct a special labor force census of all households in Sioux County, North Dakota, and Corson County, South Dakota. These two counties make up the Standing Rock Indian Reservation. The agreement between the Bureau and the three sponsors stated that the survey questionnaire, data collection, and processing were to replicate the sample-based monthly national Current Population Survey.

The two state entities (state employment security agencies) contract annually with the Bureau of Labor Statistics (BLS) for the production of monthly Local Area Unemployment Statistics (LAUS) for counties and Metropolitan Statistical Areas (MSAs). One of the major objectives of the Standing Rock survey and analysis was to determine whether or not the LAUS estimating technique was valid in comparison to survey-based estimates for reservation counties. Survey-based counts of employment and unemployment, using definitions and procedures adopted under the CPS program, and accepted by BLS as the official measure of labor force characteristics, were to be used in this evaluation. A second objective was to reconcile higher estimates of unemployment, such as those published by the Bureau of Indian Affairs, with the conventional "official" definition of unemployment, and additional measures of labor market hardship using the concepts of discouraged worker and underemployment. While this paper describes the contrast between the LAUS estimates and the survey results, it has additional objectives.

The Current Population Survey questionnaire, and Census Bureau interview techniques, quality control, data entry, and processing resulted in a rich tabular profile of the population and labor force on the reservation. The first purpose of this paper is to present the findings of the survey as they relate to longstanding labor supply and demand measurement issues in rural areas. The second objective is to apply the available data to issues raised by current literature regarding labor supply issues on American Indian Reservations. The final objective of the paper is to outline features of the "official" statistical system of the United States which "miscue" policy analysis and serve to allocate poverty to rural areas.

With its eastern shore on the Missouri River, the Standing Rock Indian Reservation straddles the border of North and South Dakota. The reservation lies at the heart of what was once Dakota Territory. Measuring 3,470 square miles, the two counties making up the reservation cover an area larger than two-fifths the size of the state of Massachusetts. But, in contrast to Massachusetts' 750 persons per square mile, the reservation's population density

is only 2.3 persons per square mile. Most of the reservation's population is gathered in a handful of small towns and hamlets. The largest community on the reservation is Fort Yates in Sioux County, North Dakota. Fort Yates is the seat of Tribal government administration and the location of Bureau of Indian Affairs and Indian Health Service offices.

The reservation is isolated from population centers. Although there are three communities of 1,000 persons or more within 30 miles of the reservation's perimeter, the nearest MSA is 40 miles from its northern border.

Under the terms of the contract, the Census Bureau, "...conducted a special census of all persons and living quarters on the ... reservation for the purpose of determining the demographic characteristics of all inhabitants and determining the labor force status of each person over the age of 13 years. To determine labor force status, the Census Bureau will use the same questions and concepts used in the monthly Current Population Survey." In contrast to the 1980 Decennial Census, which treated Sioux and Corson counties separately, the special survey treated the reservation as a single geopolitical unit.

Applicants for enumerator and crew chief were given pre-employment tests during the last week of September and the first week of October. At about the same time, a multi-media campaign was initiated (9/12/88) which encouraged participation and stressed the importance of the survey.

Current Population Survey staff, located in North Dakota, and experienced regional supervisory personnel from the CPS, provided crew leader and interviewer training (beginning 10/12/88). In order to accommodate the problem of sparse population and distance on the reservation, training was conducted at six communities. Staff were also trained in the use of the TIGER (Topographically Integrated Geographic Encoding and Referencing) mapping system. As a quality control measure, the contract also stipulated a "5-percent reinterview of households."

Data collection took place from the 20th of October to the 8th of November, with the bulk of the interviews completed during the first ten days. The Bureau's initial "Summary of the Special Census" states:

A total of 80 enumerators were hired. Of these, 56 (70%) were American Indian and 24 (30%) were white. A total of 20 Crew Leaders were hired. Of these 13 (65%) were American Indian and 7 (35%) were white ... The Census Bureau feels that coverage was excellent. Nonresponse was very low (less than 1%).

Despite the overall success of the survey, these remarks concerning coverage were somewhat premature.

Subsequent Bureau status reports indicate that when the completed questionnaires reached the Census Bureau's Data Processing Division in Jeffersonville, Indiana:

... we found approximately 200 households which were occupied but for which we had no demographic information about the residents. As in a standard special census our instructions to the field staff had been that if a household refused to be interviewed or if none of the residents could be contacted ... the interviewers should obtain the demographic data only (not the labor force data) for the residents from a neighbor ... The standard CPS procedures, however, do not include this step, and in the apparent confusion about which procedures to follow it was the CPS procedures that were used ... In order to ensure as complete a demographic profile ... as possible, the Census Bureau began revisiting these households during the week of December 12 to obtain the missing demographic data. It should be noted that not having complete information for this number of households was not unexpected. In the monthly CPS, we ... encounter a noninterview rate of approximately 5 percent, even with a more completely trained and experienced interviewing staff. A noninterview rate of roughly twice this level would not be uncommon for a special study such as this...

Correspondence from the Bureau accompanying transmittal of the tabular data identifies the final count of nonresponse households at 176, or 7.7 percent, of the occupied households on the reservation. Nonresponse households included 359 persons of the total 5,047 persons 16 years of age or older.

The Bureau indicated that the noninterview rate was comparable to the monthly CPS and Decennial Census. However, it also pointed to two barriers to direct comparison between the Standing Rock Special Census and the monthly CPS. First, special census interviewers were exposed to a limited training period. Second, "rotation group bias" may be a factor. Rotation group bias refers to the fact that the levels of some characteristics measured in the CPS "...vary depending on the length of time the household has been in (the) sample" (Bailar, 1975:23; National Commission on Employment and Unemployment Statistics, 1979:9). Census staff suggested that first-wave interviews in the CPS may produce higher levels of unemployment than subsequent interviews and that the Standing Rock results may show lower levels of unemployment were the same households re-interviewed over a period of months. While we cannot determine whether or not some fraction of unemployment was an artifact of the one-time special survey, we can assume that since the Decennial Census is a one-time survey, both the special census

and the 1990 Census could be expected to create similar but unknown levels of artifact unemployment.

Additionally, the reference period for the CPS, and all other labor force and employment measures in the U.S. statistical system, is the week containing the twelfth of the month. The CPS questionnaire used in the special census refers to employment experiences for the prior week. The special census covered the appropriate reference week; however, enumeration passed into November yielding data for a two-week period in October. The effect of a moving reference period on labor force estimates has yet to be established by the Bureau of the Census (See -- U.S. Bureau of the Census, 1988a). Given the resources and circumstances, however, these constraints were unavoidable.

In contrast to the 1980 Decennial Census on Standing Rock, and the experiences of two other American Indian Tribes with the 1987 Test Census in west north central North Dakota (U.S. Bureau of the Census, 1988b), the special census was highly successful with respect to coverage. There is no clear means of allocating noninterview households between refusals (or the absence of families during the survey period) and the Bureau's failure to follow field procedures used in a standard special census. However, it must be assumed that had the Bureau followed standard special census procedures rather than CPS procedures, the nonresponse rate would have been less than 7.7 percent. A high level of household participation is most likely attributable to the concise focus of locally-generated promotional efforts.

Tribal Work Experience Participants (TWEP), along with others who could have been concerned about the loss of benefits under various assistance programs, were contacted through correspondence by program administrators and informed that the survey was confidential and would not threaten program eligibility. In addition, the survey was undertaken with the clear support of Tribal officials.

Tribal liaisons who observed and participated in the 1987 Test Census in west north central North Dakota found that the primary cause of turnover among American Indian enumerators was the length of time it took to receive their paychecks. Going to work produced immediate costs, especially for transportation, but Bureau payroll policy is not responsive to this need. Indeed, in anticipation of high turnover, the Census Bureau tested 203 persons and qualified 167 of them for enumerator and crew chief training for the 1988 Standing Rock Survey.

In order to remove the cost of going to work as a barrier to employment on the special census, the Standing Rock Sioux Tribe and the JTPA Title IV operator established a voucher system for the payment of immediate employment costs. Once census office staff credited enumerators with completing a short-term work assignment,

they were eligible for payments from the tribe which were then credited against anticipated paychecks from the Bureau. The voucher system permitted enumerators to pay the immediate expenses of day care and motor fuel. As a result, the turnover rate was only 4 percent. The low turnover rate minimized the Census Bureau's training replacement costs and developed census takers who could build on their experience and maintain the continuity of the enumeration process.

In addition to the uniqueness of a moving reference period for labor force data, a low rate of refusal, and a low rate of staff turnover, a modification was made to the CPS interview questionnaire. The usual CPS questionnaire (and the Decennial Long Form) asks whether or not an individual is employed by a privately owned business, by an entity of government, or is a self-employed or unpaid family worker. The "class of worker" question provides forced-choice responses to identify the level of government for which respondents work. Because individuals enrolled in the Tribal Work Experience Program (TWEP) view themselves as "working for the tribe," a response category was added to the "class of worker" question in order to screen these individuals and code them for processing as "not in the labor force -- enrolled in training."

Individuals on tribal payrolls often responded, in 1980, to the "class of worker" question by indicating that they were employees of federal, state, or local entities. Being paid through the Tribal payroll, but working in a community college setting, for example, may lead individuals to respond to the "class of worker" question by indicating that they are "government" employees. In order to determine how many people were employed by Tribal government, "tribal government" employment was added as a legitimate response category to the "class of worker" question for those on tribal payrolls who were not TWEP participants.

Finally, the CPS household interview technique relies upon the availability of any adult aged 16 and over for a description of characteristics for all members of the household. The modal household composition for both Indians and nonIndians in the survey included two adults.<sup>1</sup> However, 7.8 percent of the nonIndian respondent households, and 17.8 percent of Indian households, contained four or more adults. Because the employment reference period is so recent ("last week"), respondents can be assumed to be knowledgeable about other household members' interaction with the labor market. However, some CPS items ask about the intentions of other adults in the household to look for work during the next twelve months. Still other questions ask respondents to determine when other adults in the household last worked. Questionnaire items which require respondent speculation concerning the long-term future intentions of others, or questions which assume an intimate knowledge of others' long-past work history would appear to create dubious results especially in households with large numbers of



adults. Some survey results, although of theoretical or practical interest, may be invalid and their use has been avoided in the following analysis.

### III. Population Distribution

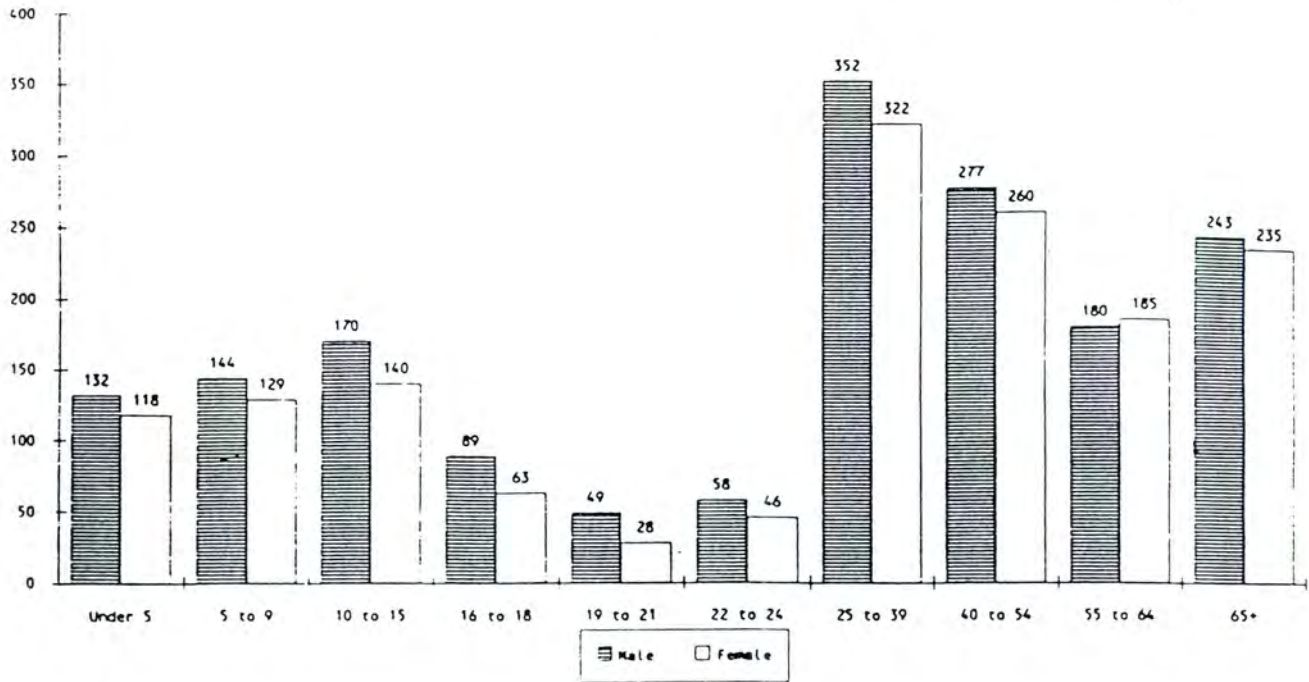
Despite the fact that American Indians comprise somewhat less than 4 percent of North Dakota's population, they are responsible for one of every ten children born in the state. American Indian deaths, during the mid-1980s, also account for an unusually higher 13 to 15 percent of all deaths among those age 24 and under (See - North Dakota State Department of Health, 1988). High birth rates and a disproportionately high incidence of death among the young are common to the reservations of the Plains states. "Indeed, the causes of death among American Indians in South Dakota are associated with a young population and social conditions that produce higher rates of accidents, alcohol abuse, and infant deaths with unknown causes" (DeWitt et al., 1989:19). Despite the high rate of death among the young, birth rates are substantially higher than death rates and the American Indian population is a rapidly growing population.

On the Standing Rock Indian Reservation, between April 1980 and October 1988, each death among American Indians was replaced by 3.7 births.<sup>2</sup> Among nonIndians, however, only 2 births replaced each death. Despite comparable rates of out-migration, -23.1 percent for Indians, and -25.9 percent for nonIndians, high population replacement rates resulted in a net population loss of only one person among Indians. For nonIndians on the reservation, however, the net population loss was -19.8 percent (-796). High birth rates and a high incidence of death among young Native Americans, and selective out-migration, produce (as illustrated in Figure 1) strikingly different profiles of the reservation's Indian and nonIndian populations.

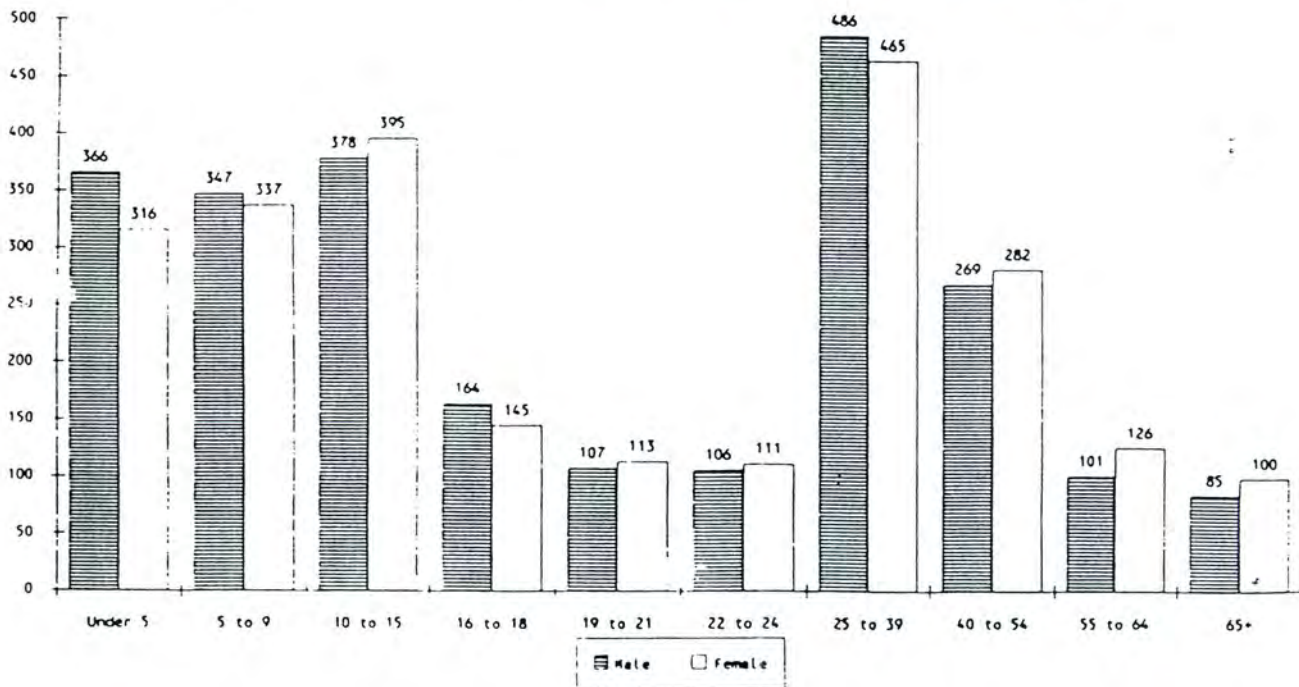
The reservation's population stood at 8,019 persons in October 1988, down from 8,816 in 1980. The survey enumerated 4,779 Indian and 3,220 nonIndian residents on the reservation. Over the decade, the proportion of Indians in the population expanded from 54.4 to 59.8 percent of the total. According to tribal officials, and the tribe's Census Bureau liaison, intra-reservation migration has been characterized by a movement from Corson County to Sioux County. The cause of the redistribution is attributed to differentials in public assistance grants. The fact that the administration of assistance programs and other services, and employment opportunities, are focused in Ft. Yates were perceived to be

Figure 1:

Age Distribution of the nonIndian Population by Sex: Standing Rock



Age Distribution of the Indian Population by Sex: Standing Rock



contributing factors to the direction of the migration. Much of the migration off the reservation has been inter-reservation migration.

The reasons for the selective pattern of out-migration among nonIndians are both social and economic. To some extent, they can be inferred from survey data and the dependence of the nonIndian population on agriculture for employment. Evaluating the attrition (between the 1980 decennial census and the October 1988 survey) for age cohorts from the boom generation, indicates that the more mature members of the post-war boom generation, rather than those from the middle or tail end of the boom, were more likely to remain as residents of Sioux and Corson counties. The boom generation, almost a third of the population, came of age during a time when agriculture was in crisis. Only those with secure financial circumstances were assured of weathering the change. With employment dependent upon the control of a finite resource, farm land, the only alternative to securing employment was out-migration. The median age of nonIndians on the reservation is 34.5 with the dominant cohorts from the post-war baby boom generation or older. Only 19.3 percent of the nonIndian population is aged 15 or younger.

Among Indians, on the other hand, with a median age of 18.6 years, the dominant cohorts are from the boom era and younger. Fully one-third of the Indian population is below the age of 15.

Contrasting age structures help explain differences in labor force participation and the demand for goods and services. Individuals often participate in the labor force for age-specific reasons. The contrasts in age structure also helps explain differences in the demand for education, health, and other services created by the two populations. Finally, especially for nonIndians, the unique population distributions are also reflective of differences in access to employment opportunities.

Passel and Berman's (1986) analysis of the number of American Indians identified by the decennial census focuses on the "recruitment phenomenon" as the cause of substantial growth in the number of Indians, between 1970 and 1980, which cannot be explained by natural increase. They suggest that the unusual increase is a function of changes in the pattern of willingness to be identified and enumerated as an American Indian. They conclude with the admonition "... that users exercise considerable caution in using and interpreting data on the American Indian population. Users must be aware of the method of data collection and of the possible deficiencies in the data" (Passel and Berman, 1986:182). The decennial census uses self-enumeration, while the CPS uses the interview technique to identify race/ethnicity. People may be more likely to identify themselves as Indian in 1988 than in 1980. Or, they may be more likely to identify themselves as Indian in 1988 to an interviewer than were they to be responding to a self

administered questionnaire. In any event, Passel and Berman's caution is worth noting when describing the change in American Indian population data between the 1980 Decennial Census and 1988 survey data for Standing Rock. However, the caution substantially understates the scale of the analytical problem. Population is relevant only to the extent that it is temporally and geographically located. Passel and Berman avoid the issue of "where", geographically, "recruited" American Indians come from. Clearly, the implications for analysis of racial/ethnic identification are equally significant for demographic change over time among "donors" to the recruitment process, especially for population segments living on or near reservation lands. Indeed, has the reservation experienced a 19.8 percent loss of nonIndians as the survey results suggest? Or, are people more willing to identify themselves as Indians, causing the survey results to show an artificial reduction in the number of nonIndians? Notes of caution regarding the use and interpretation of Census data would appear to be applicable to the analysis of all populations in geographic areas from which "recruits" may be drawn.

Analysis which focuses on a particular population segment to the exclusion of where, on the rural-urban continuum, that population segment resides conveniently avoids the issue of residence as a key determinant in how people live. Nationally-derived data bases tend to channel analysis towards characteristics of individuals and away from the analysis of the local context and institutional structures as explanatory variables in labor market outcomes. Analyzing data for American Indians, to the exclusion of regional contexts and institutional structures, necessarily focuses the basis of potential policy development on the characteristics of individuals rather than the characteristics of broader economic or social context.

#### IV. Employment Opportunities

##### A. Labor Force Participation and Conventional Estimates of Employment and Unemployment

In contrast to the Decennial Census, which samples households with respect to labor force characteristics, the October special census collected labor force data from every household and for each adult in the civilian noninstitutional population. The civilian population and labor force characteristics of adults in nonresponse households were estimated using a matrix composed of labor force participation and employment and unemployment rates from response households. The matrix used five age groupings, by sex, for each

racial/ethnic grouping. Application of the matrix to the 359 nonresponse adults ages 16 and over resulted in 6.7 percent of the civilian labor force being estimated. The estimates are presented in Table 1.

Using the conventional BLS definition of employment and unemployment, the survey found that the unemployment rate for Indians, at 28.6 percent, was ten times greater than for nonIndians, at 2.9 percent. The highest unemployment rate, at 31.4 percent (in Table 1), was estimated for male Indians. Indian youth, ages 16-18 and 19-21, had the highest unemployment rates with 43.3 percent and 51.1 percent unemployed respectively. As striking as these results are, two other features, the impact of unemployment for Indians and nonIndians on the total unemployment rate for the reservation as a whole and the structure of labor force participation rates, are of equal interest.

The fact that the number of persons in the reservation's labor force is weighted slightly towards nonIndians, with 55.4 percent (n=1,552) of the reservation's total labor force, serves to establish the overall unemployment rate for the reservation at 14.4 percent. By conventional measure, the unemployment rate for nearly half of the adults on the reservation is 28.6 percent. But the presence of a large number of employed nonIndians mutes the labor market problems of Indians when the reservation or its counties are taken as the unit of analysis. In effect, programs designed to achieve certain goals for American Indians, such as JTPA Title IV, but which use county unemployment rates in allocations formulas, and in the calculation of performance standards, substantially misrepresent the scale of labor force problems for the target group.

Comparatively low participation rates also serve to mask the extent of labor market difficulties experienced by Indians and raises the question of whether or not the official unemployment rate represents comparable phenomenon for distinctly different segments of the reservation's population. At 53.6 percent, the male Indian participation rate is 23.7 percent lower than the male nonIndian participation rate while the gap between Indian and nonIndian females is 11.2 percent. With the probability of success in finding work very low, as demonstrated by high unemployment rates, low participation rates for Indians would appear to represent a logical response to harsh labor market conditions.

Among males in North Dakota and South Dakota, annual average labor force participation rates in 1988 were 77.6 percent and 78.4 percent respectively (U.S. Department of Labor, 1989a). These estimates are comparable to the 77.3 percent participation rate for nonIndian males on the reservation. NonIndian females, with a 52.1 percent

Table 1: Labor Force Estimates for the Standing Rock Indian Reservation (Sioux County, North Dakota & Corson County, South Dakota) October, 1988

Indian: Total	Civilian Population	Participation		Labor Force		
		Number	Rate %	Employed	Unemployed Number	Rate %
<b>Both Sexes</b>						
Total	2646	1,249	47.2	891	358	28.6
16-18	308	26	8.4	15	11	43.3
19-21	214	87	40.7	43	45	51.1
22-39	1164	696	59.8	478	219	31.4
40-64	775	421	54.4	340	81	19.2
65 +	185	18	9.8	16	2	12.4
<b>Male</b>						
Total	1306	701	53.6	481	220	31.4
16-18	163	15	9.2	9	6	38.5
19-21	103	52	50.0	22	29	57.1
22-39	588	395	67.2	271	125	31.5
40-64	367	226	61.6	167	59	26.1
65 +	85	13	14.9	11	1	9.1
<b>Female</b>						
Total	1340	548	40.9	411	138	25.1
16-18	145	11	7.6	5	5	50.0
19-21	111	36	32.0	20	15	42.4
22-39	576	301	52.3	207	94	31.2
40-64	408	195	47.8	173	22	11.3
65 +	100	5	5.4	4	1	20.0
<b>NonIndian: Total</b>						
<b>Both Sexes</b>						
Total	2378	1,552	65.3	1,506	46	2.9
16-18	149	43	28.7	37	6	14.3
19-21	77	40	51.9	34	6	15.0
22-39	775	669	86.3	650	19	2.8
40-64	899	681	75.8	668	14	2.0
65 +	478	119	25.0	118	1	0.9
<b>Male</b>						
Total	1242	960	77.3	935	25	2.6
16-18	86	32	37.6	27	5	15.6
19-21	49	31	63.3	26	5	16.1
22-39	409	395	96.7	386	9	2.4
40-64	455	409	89.9	404	5	1.3
65 +	243	92	38.0	92	0	0.0
<b>Female</b>						
Total	1136	592	52.1	571	21	3.5
16-18	63	10	16.4	9	1	10.0
19-21	28	9	32.1	8	1	11.1
22-39	366	273	74.7	264	9	3.5
40-64	444	272	61.3	264	8	3.0
65 +	235	27	11.6	26	1	3.8
Total*	5024	2,801	55.8	2,398	403	14.4

\*Cells are estimated separately and may not add due to rounding.

participation rate on the reservation, fell slightly behind the annual average estimate for both Dakotas at 60.2 percent. Since females have continued to expand their participation in the labor force, taking jobs in the retail trade and services sector (U.S. Department of Labor, 1984), and because the expansion of these industries is urban-based, the gap of 8.1 percent between the average CPS for the two states as a whole and a rural reservation may be explained by the absence of rural employment opportunities in retail trade and services. Females have lower participation rates on the reservation for the same reason that Indians do: There is simply a lack of employment opportunity. The lower female participation rate on the reservation is an expression of labor market hardship for this component of the population.

It is a fallacy to generalize from the CPS estimates for a state to one of the CPS's potential sample constituents. However, the comparison serves two functions. First, the role of expanding job opportunities as a precondition for high participation rates, especially in this rural setting, has an intuitive and analytical appeal with a broad subscription among analysts of rural labor markets (Nilson 1979, Tickamyer and Bokemeier, 1988). Lower than average female participation rates in more rural counties are consistent with decennial census data for North Dakota. Both ruralness and low female participation rates are closely associated with the absence of employment opportunities in industries dominated by female job incumbents. Secondly, were CPS estimates of participation rates for the two Dakotas found to be sharply at odds with those found in the Standing Rock survey, suspicion would be raised about the quality of the survey data. As such, we do not find a broad or inexplicable contrast existing between the CPS sample estimates for the states and participation rates for nonIndians on the reservation.

Most adult nonIndian males are employed, retired, or have emigrated from the reservation. As illustrated in Table 1, males beyond high school age have extraordinarily high participation rates accompanied by an unemployment rate (less than 2.5 percent) that would be defined nationally as indicative of full employment. Male nonIndian participation rates were at 96.7 percent and 89.9 percent for 22-39 year olds and 40-64 year olds. With a -19.8 percent out-migration rate for nonIndians, however, full employment for this population segment is achieved through out-migration of most excess labor. The low unemployment rate for nonIndians, rather than signalling positive economic conditions, reflects harsh labor market conditions and the exodus of population.

Conventional measures of labor force participation and unemployment indicate that race/ethnic grouping is a key variable associated with differences in access to employment opportunities. In addition, it is evident that both population segments respond rationally, but differently, to the absence of employment opportunities: American Indians tend to withdraw from the

conventionally defined labor force but maintain their residence on the reservation, while nonIndians leave the reservation entirely.

B. Bureau of Indian Affairs Labor Force Estimates and Alternative Measures of Labor Market Hardship

Historically, the literature has been critical of conventional labor force measures in rural areas on conceptual and technical grounds. Some of the technical criticism is related to the inadequacy of the CPS sample size for rural areas (National Commission on Employment and Unemployment Statistics, 1979:96). Other criticism is aimed at the accuracy of the Local Area Unemployment Statistics (LAUS) program as a whole. The accuracy of the LAUS program for the Standing Rock Indian Reservation will be examined later in this paper.

Critique of conventional estimates are implicit in Bureau of Indian Affairs estimates of unemployment on reservations. For 1988, the Bureau of Indian Affairs estimated Standing Rock unemployment at 87 percent.<sup>3</sup> The BIA definition includes not only those 16 years of age and over who are without work and actively seeking it, but "... also includes persons who are not seeking work but are employable" (Ainsworth, 1989:9). The BIA definitional departure is much less a technical than a conceptual critique of the conventional measure.

Regardless of how much the national CPS sample might be expanded to attain reliable estimates for rural areas, unless the CPS redefines the measurement of underutilized labor, estimates of unemployment on reservations will remain well below the 87 percent rate.

Nilson (1979) emphasizes the fact that jobs are multidimensional with respect to their quality and that earnings associated with job holding is a variable dependent upon metropolitan and nonmetropolitan settings. Since the incidence of self-employment is higher in nonmetropolitan areas, and earnings tend to vary widely for the self-employed, employment measured by the CPS in nonmetro areas has a different earnings meaning than it does in urban areas. Working along similar lines, and using the CPS, Lichter and Costanzo (1986) were able to demonstrate dramatically higher levels of labor force underutilization, by examining such variables as the proportion of the population able to find only part-time work in nonmetropolitan as compared to metropolitan areas.

Not only do the several dimensions of job holding with respect to wage rates, hours of employment, and spells without work, depend upon place of residence the quality of mainstream employment varies substantially over time. As Bluestone and Harrison demonstrate



(1988), despite the fact that the United States has seen a dramatic increase in the number of persons at work, an increasing share of people at work have low earnings. Both temporal and geographic (metro - nonmetro) analysis of earnings differentials, however, rely upon the CPS for their analysis. Criticism of the monodimensional unemployment rate, implied by multidimensional analysis of job holding and employment loss, is much less a critique of CPS labor force definitions, and data collection and availability, than it is a critique of the exclusive emphasis placed by BLS on the conventional national unemployment rate and the associated political and public consequences of that focus (see -- House of Representatives, 1986:4).

More to the heart of the conceptual issue is Nilson's observation that job loss among the self-employed frequently marks the loss of an enterprise. The loss of a farming enterprise, for example, is often accompanied by out-migration. Since, in the CPS, the housing unit is the unit of analysis, CPS inquiries never ascertain where absent families might be, nor what has happened to the first household when family turnover in a housing unit occurs. Sample mortality only takes place when the housing unit is moved or destroyed. By implicitly assuming that job loss has no (or marginal) impact on patterns of residency and migration, the CPS demonstrates a conceptual blindness to labor market problems in rural areas (or, indeed, any geographic area undergoing rapid in- or out- migration).

Similarly, by relying upon a behavioral, atomistic definition of labor market activity, the CPS is conceptually insensitive to the key factor that brings cohesion to the labor market: labor market information. (Moreover, it should be clearly understood that the CPS does not observe labor market behavior, rather, it merely collects "reports" about behavior.)

One of the crucial differences between urban and rural labor markets is that labor market information about job openings is quickly distributed through community and family networks. Secondly, the networking of information is attuned to seasonal and other reoccurring institutional phenomenon. An analysis of the survey findings for Standing Rock states: "The labor market on reservations is characterized by seasonal and short-term employment. ... Employment opportunities are closely related to the availability of federal and tribal funds and to the starting and ending of programs... People enter the labor market as employment opportunities expand" (North Dakota's and South Dakota's Request for a Variance, 1989:5). These observations are consistent with Korshing and Lasley's (1986:174) description of labor markets in rural areas:

Such (rural) populations are interlaced with friendship and kinship links, which are excellent channels of communication for the passing of information. If indeed

jobs are available, the unemployed are most likely to hear about them from friends, neighbors, relatives, or other personal sources. This alleviates the need for making regular contacts with the employment office once the unemployment insurance benefits expire.

In order to learn about jobs in the immediate rural area, many people need only rely on normal networking process and a knowledge of usual seasonal patterns of employment opportunity. The behavioral initiative in the job finding strategy rests as much with others in the network as it does with the individual job seeker.

In addition, since those without work frequently experience normal short-term periods of joblessness while moving between jobs, or when employed are self-employed, their link to unemployment insurance benefits (and the concept of being "on layoff") is more tenuous. The language of the labor market in rural areas reflects the unique experience of leaving a job when the job is finished in the course of normal seasonal events. In the CPS, then, it is less likely that rural people without work would identify themselves as "job losers, on lay off" or "job leavers" since the concepts are not pertinent to the dynamics of rural labor markets. Rather, the rural unemployed are much more likely to be classified as a "new entrant" or a "reentrant" to the labor force.<sup>4</sup>

Nationally, new and reentrants to the labor market comprised 38.8 percent of the unemployed in October 1988 (Council of Economic Advisors, 1989:13). In more rural states, such as North Dakota and South Dakota, new and reentrants to the labor force made up 48.7 and 48.6 percent, respectively, of all unemployed during 1988 (U.S. Department of Labor, 1989a:81). On the even more sparsely populated and remote Standing Rock Indian Reservation, then, it is not surprising that new and reentrants to the labor force made up 83.8 percent of those who, by conventional definition, were unemployed. Given the seasonal predictability of job openings, the pervasiveness and effectiveness of informal methods of communications about job openings, and the lack of prior success in job search outside the informal network, it does not appear reasonable for respondents to engage in the types of behaviors required to meet the conventional, CPS behavioral definition of unemployed. This does not mean, however, that they are unavailable for work or that, given the conditions present in the labor market, their methods of job finding are ineffective.

In order to meet the conventional definition of unemployment, individuals must have gone through a specific set of questionnaire identified behaviors of job search. However, as we have seen, the list of behaviors is not exhaustive of "work seeking activity." Specifically, the survey framework excludes the normal information gathering process concerning getting a living in a rural community that is part of the networking process.<sup>5</sup> The CPS, in order to

define someone as unemployed, requires affirmative reports to a finite set of behavioral categories that may not be sociometrically relevant. In effect, the CPS requires respondents to expend energy in the job search in a manner unwarranted by local labor market information. In order to be defined as unemployed by the CPS, one needs to report behaving in ways that local labor market conditions, information systems, and community norms indicate are not rational.

In Nilson's words: "The relatively higher rates of worker discouragement in nonmetro areas result from factors related to job information systems and the job search. Employment prospects are quickly disseminated if information systems are efficient. Quick dissemination thus reduces the length of time a person is looking for a job; the person will either become employed or become discouraged and drop out of the labor force" (1979:6-7). It may, however, be a misnomer in the language of labor force analysis to describe all of those who have changed their strategy, from the specific job search behaviors identified in the CPS, to active participation in a rural network as "discouraged."

Displayed in Table 2 are additional measures of labor force hardship or underutilization from the Standing Rock survey. The data in Table 2 represent survey counts rather than estimates. The first column shows the computation of U-5, the official unemployment rate. With the addition of "discouraged workers" in the second column (those who have not sought work in the framework of the specific behaviors of job search found in the CPS because they believe there is no work to be found), the index of labor force underutilization increases from 14.1 percent to 20.3 percent. The final column includes the unemployed, discouraged workers, and the underemployed. The underemployed are working part-time for economic reasons; they want full-time work but could find only part-time work. This measure, U-7, adds those working part-time for economic reasons into the numerator and denominator of the equation.

At its highest level, 43.0 percent, labor force underutilization is greatest for Indians. Moreover, there appears to be a different pattern of labor force underutilization based upon race/ethnicity. American Indians are far more likely to be without work entirely and "discouraged" (184 or 32.3% of 568) than are nonIndians (21 or 17.1% of 123). In contrast, almost half (58 or 47.2% of 123) of underutilized nonIndians are working part-time for economic reasons, at the same time only 10.2 percent of Indians (n=58 of 568) are working part-time for economic reasons. Once again, there appears to be a difference in the way the two populations interact with the labor market.

The majority of labor force underutilization research has been limited to comparison based on the dichotomy between metropolitan

Table 2: The Official Unemployment Rate and Alternative Measures of Labor Market Hardship for the Standing Rock Indian Reservation

<u>Total</u>	<u>Unemployment Rate, Official U-5 %</u>	<u>Discourage Worker Plus Official U-5</u>	<u>Underemployed Plus Discouraged and Official U-5</u>
Civilian Noninstitutional Population	4,688	4,688	4,688
Labor Force	2,624	2,829	2,829
Labor Force Participation Rate	56.0	N/A	N/A
Employed	2,254	2,254	2,254
Unemployed	370	370	370
Discouraged Workers		205	205
Working Part-time for Economic Reasons			116
Total Unemployed/Underemployed	370	575	691
Total Unemployed/Underemployed Rate	14.1	20.3	24.4
<u>Indian</u>			
Civilian Noninstitutional Population	2,402	2,402	2,402
Labor Force	1,136	1,320	1,320
Labor Force Participation Rate	47.3	N/A	N/A
Employed	810	810	810
Unemployed	326	326	326
Discouraged Workers		184	184
Working Part-time for Economic Reasons			58
Total Unemployed/Underemployed	326	510	568
Total Unemployed/Underemployed Rate	28.7	38.6	43.0
<u>Other</u>			
Civilian Noninstitutional Population	2,286	2,286	2,286
Labor Force	1,488	1,509	1,509
Labor Force Participation Rate	65.1	N/A	N/A
Employed	1,444	1,444	1,444
Unemployed	44	44	44
Discouraged Workers		21	21
Working Part-time for Economic Reasons			58
Total Unemployed/Underemployed	44	65	123
Total Unemployed/Underemployed Rate	3.0	4.3	8.2

and nonmetropolitan areas of the country, or been conducted in areas where race/ethnicity has had only a marginal impact on the data. Statewide estimates of underemployment for rural North Dakota, using household survey techniques and the CPS definitions of underemployment were prepared by Ludtke, Kelly and Geller (1988). The estimates revealed a rate of unemployment for U-5 of 7.2 percent. But, by adding discouraged and involuntary part-time workers, the rate of underemployment nearly tripled to 21.5 percent. Based on the data in Table 2, underemployment among nonIndians in the reservation setting appears to be a more prevalent problem than the discouraged worker phenomena. However,

the total rate of underutilization, at 8.2 percent, is nearly three times the size of the official unemployment rate and, in that sense, is consistent with research for rural portions of North Dakota as a whole. Using conventional CPS concepts, the two surveys arrived at similar estimates of underutilization when compared to the estimate of U-5 alone.

Comparatively low unemployment rates for nonIndians in rural areas have traditionally been "explained" by research which illustrates a high level of "discouraged" worker phenomenon. Being defined in the CPS as discouraged is a default classification which denies the importance of networking as a job search strategy. Under the CPS, when all labor market information indicates that the market is extremely loose, the types of behavior required to be counted as unemployed become nonrational. Labor market conditions can be so loose for such an extended period of time that one of the most extreme behavioral responses to harsh labor market conditions, out-migration, is taken. And yet, this dramatic behavioral response to harsh labor market conditions is not measured by the CPS. In summary, for rural areas, simply expanding the sample size for the monthly CPS and changing our focus from U-5 to U-7 would not appear to be sufficient to address the conceptual blindness of procedures, unit of analysis, and the conventional measure of unemployment in the Current Population Survey.

The highest level of labor market underutilization, 43 percent, still does not reach the BIA estimate of unemployment. Many adults are involved in activities outside the labor market. These activities are closely associated with the age structure of Indian and nonIndian populations on the reservation.

Table 3 presents survey data on persons not in the labor force by age and race/ethnicity. The younger Indian population, which "does not want a job now" (29.8% of the total), is quite likely to be going to school, an activity normally associated with youth. On the other hand, the older nonIndian population is more likely to indicate that they are "retired" (27.2%) or keeping house (45.1%) and do not want a job now. The higher proportion of Indians who indicate that they do not want a job now and are ill or disabled (14.1%), as compared to nonIndians (7.1%), may partly reflect the higher proportion of veterans among Indians than nonIndians. Veterans make up 17.9 percent of all Indians ages 22 to 55, while veterans make up only 13.0 percent of nonIndians for this same age group. Those of both racial/ethnic segments who are not in the labor force are quite often not presently interested in job holding and are engaged in activities consistent with age-ascribed status.

Age structure is also an important factor associated with the difference in the proportion of the total populations, not in the labor force, by CPS definition, who want a job. Of all nonIndians, 95 or only 11.9 percent of those not in the labor force, report that they want a job.

Table 3: Persons Not in the Labor Force by Reason by Race/Ethnicity and Age

	16 to 18 Years		19 to 21 Years		22 to 39 Years		40 to 64 Years		65 And Over	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>INDIAN</b>										
Total	731	100.0	55	100.0	168	100.0	209	100.0	143	100.0
Do Not Want a Job Now	218	29.8	31	56.4	41	24.4	6	2.9	1	0.7
Going to School	103	14.1	0	0.0	18	10.7	53	25.4	31	21.7
Ill, Disabled	234	32.0	8	5.1	78	46.4	93	44.5	45	31.5
Keeping House	83	11.4	0	0.0	0	0.0	19	9.1	64	44.8
Retired	93	12.7	9	5.8	31	18.5	38	18.2	2	1.4
Other Activity										
Want a Job Now	535	100.0	94	100.0	257	100.0	113	100.0	7	100.0
Reason for not Looking:										
School Attendance	160	29.9	77	81.9	23	35.9	51	19.8	9	8.0
Ill Health, Disability	63	11.8	2	2.1	21	8.2	36	31.9	2	28.6
Home Responsibilities	89	16.6	5	5.3	11	17.2	11	9.7	1	14.3
Think Cannot Get a Job	184	34.4	10	10.6	102	39.7	47	41.6	4	57.1
Other Reasons	39	7.3	0	0.0	7	10.9	10	8.9	0	0.0

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	16 to 18 Years		19 to 21 Years		22 to 39 Years		40 to 64 Years		65 And Over	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>NONINDIAN</b>										
Total	703	100.0	82	100.0	77	100.0	162	112.3	332	100.0
Do Not Want a Job Now	117	16.6	79	96.3	11	14.3	1	0.6	1	0.3
Going to School	50	7.1	0	0.0	5	6.5	24	14.8	21	6.3
Ill, Disabled	317	45.1	1	1.2	53	68.8	130	80.2	130	39.2
Keeping House	191	27.2	0	0.0	0	0.0	17	10.5	174	52.4
Retired	28	4.0	2	2.4	8	10.4	10	6.2	6	1.8
Other Activity										
Want a Job Now	95	100.0	22	100.0	24	100.0	28	100.0	14	92.9
Reason for not Looking:										
School Attendance	28	29.5	21	95.5	4	6.3	2	8.3	0	0.0
Ill Health, Disability	13	13.7	0	0.0	3	12.5	5	17.9	5	35.7
Home Responsibilities	24	25.3	0	0.0	2	3.1	17	70.8	4	14.3
Think Cannot Get a Job	21	22.1	1	4.5	0	0.0	1	4.2	12	42.9
Other Reasons	9	9.5	0	0.0	1	1.6	6	21.4	7	50.0

Among Indians, on the other hand, 535 persons (42.3% of all not in the labor force) were found by the survey to want a job. Of all Indians who wanted a job, nearly a third (29.9%) were not looking for a job but attending school. (School attendance is the major reason given for both Indians and nonIndians ages 19-21 for those who do not want a job now.) However, the largest classification of those who wanted a job were "discouraged workers" (n=184). The overwhelming majority (n=102) of discouraged workers came from the age cohort 22-39 which closely approximates the post-war baby boom years.

The fact that so many Indians attending school also want a job, and that there are additional large numbers of discouraged who would like a job, suggests that the potential supply of Indian labor far exceeds that implied by the 28.6 percent unemployment rate identified in Table 1. But, what about the quality of that labor? Pottinger (1985) states that findings from the 1984 Presidential Commission on Indian Reservation Economies perpetuate the mistaken perception that the labor force typically found on reservations is too unskilled and unreliable to sustain economic development. He sought to assess local labor force quality and reliability through the analysis of personnel records on job applicants and job holders in a major firm on a Navajo reservation.

Pottinger indicates that "One method of assessing the quality of a labor force is by determining what proportion of job applicants have qualifications that match an equivalent proportion of the employees of a successful firm in that market. ... Education and experience are important dimensions of employment skills..." (1985:4). Displayed in Table 4 are the educational accomplishments of labor force participants and discouraged workers for Indians and nonIndians aged 25 and over.

Unemployed Indians are quite likely to have post-high school education: 27.1 percent had 13 to 15 years of schooling and an additional 3.4 percent had 16 or more years of schooling. Similarly, 16.6 percent and 17.3 percent of employed nonIndians had formal schooling in the range of 13 to 15 years and 16 years or more. If the data in Table 4 is collapsed into a simple dichotomy of 12 years of schooling and less, and 13 years of schooling or more, it can quickly be demonstrated that unemployed Indians are as educated as employed nonIndians. Moreover, as a population segment, employed Indians are more likely to have formal training beyond 12 years than are employed nonIndians.

With almost half of the discouraged Indians (49.2%) having less than 12 years of schooling, educational barriers to employment appear to be present for a substantial but select segment of the Indian population.

Table 4: Labor Force Participation for Persons 25 Years Old or More by Education and Race/Ethnicity for the Standing Rock Indian Reservation

	Civilian Noninstitutional Population		Employed		Unemployed		Discouraged Workers	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	Indian							
Total	1,728	100.0	709	100.0	236	100.0	124	100.0
Years of School Completed								
Less than 12 Years	675	39.1	167	23.6	76	32.2	61	49.2
12 Years	501	29.0	214	30.2	88	37.3	35	28.2
13 to 15 Years	426	24.7	233	32.9	64	27.1	21	16.9
16 and more years	126	7.3	95	13.4	8	3.4	7	5.6
Other								
Total	1,971	100.0	1,304	100.0	28	100.0	19	100.0
Years of School Completed								
Less than 12 Years	626	31.8	294	22.5	4	14.3	3	15.8
12 Years	774	39.3	569	43.6	12	42.9	6	31.6
13 to 15 Years	309	15.7	216	16.6	8	28.6	9	47.4
16 and more years	262	13.3	225	17.3	4	14.3	1	5.3

Based on the dimensions of job holding and formal education, then, survey results tend to support Pottinger's finding that economic development on reservations is not "...limited by an inadequate supply of local labor with suitable qualifications" (1985:5). It is also clear from the data in Table 4 that returns in the labor market to individual investment in education are different for Indians and nonIndians. Well-educated Indians are quite likely to be unemployed. With the exception of a segment of the discouraged workers, barriers to employment would appear to have explanations unrelated to the educational achievement of most labor force participants on the reservation.

Synonymous with the lesser economic complexity of rural areas has been the frequent finding that the educational level of rural populations is lower in comparison to the nation as a whole. With important exceptions, and apparently due to the uniqueness of the reservation, employed individuals on the reservation do, indeed, have somewhat lower educational qualifications than the population as a whole. Comparison with CPS national data is limited to employed persons ages 25 to 64 in 1987 (U.S. Bureau of the Census, 1988c). Only 14 percent of the employed population nationally has less than 12 years of schooling compared to just over 20 percent of employed Indians and nonIndians alike on the reservation. The



Indians, however, are much more likely to have some education after 12 years, with 32.9 percent of employed Indians having 13 to 15 years of education as compared to only 19.9 percent nationally. Education in the 13 to 15 year category for unemployed Indians in Table 4, at 27.1 percent, is also uniquely above the national average. Nationally, 26.2 percent of the employed population has 16 years of schooling or more in comparison to 13.4 percent of employed Indians and 17.3 percent of employed nonIndians. Employed residents of the reservation, both Indians and nonIndians, lack the aggregate educational level of employed persons in the more complex national society. However, for all but selected segments, a lack of education does not appear to be a barrier to employment on the reservation for either the unemployed or the potential labor force.

Employment opportunities for American Indians on the reservation are nearly the exclusive province of federal, state, local, or tribal government. As shown in Table 5, these four levels of government are responsible for 73.2 percent of all Indian employment on the reservation.

Table 5: Class of Employed Worker by Race/Ethnicity for the Standing Rock Indian Reservation

	Indian		Other		Total	
	Number	Percent	Number	Percent	Number	Percent
Total	810	100.0	1,444	100.0	2,254	100.0
Private Wage and Salary	176	21.7	432	29.9	608	27.0
Employee of Own Corporation	14		96		110	
Total Government	593	73.2	359	24.9	952	42.2
Federal	208		84		292	
State	47		73		120	
Local	43		183		226	
Tribal	295		19		314	
Agricultural Self Employed & Unpaid Family	27	3.3	564	39.1	591	26.2
Self Employed	26		498		524	
Unpaid Family	1		66		67	
Nonagricultural Self Employed & Unpaid Family	14	1.7	89	6.2	103	4.6
Self Employed	13		79		92	
Unpaid Family	1		10		11	

Tabulation "by class of worker" for nonIndians, on the other hand, reveals that self-employed and unpaid family work in agriculture is the single largest source of employment. Only one quarter (24.9 %) of nonIndians are employed in government. NonIndians, however, dominate local government employment. Despite the fact that the adult population on the reservation is divided nearly evenly between Indians and nonIndians, only 43 (23.5%) of 226 local government jobs are held by Indians.

Not only does local government exhibit a pattern of differential access to employment based on race/ethnicity, the ratio of employment incumbency for private wage and salary jobs is equally skewed. As shown in Table 5, only 28.9 (n=176) percent of all (n=608) wage and salary jobs on the reservation are held by Indians. The importance of government obligations for services in health care, regulatory activities, and in the education of youth (and the large number of Indian youth) serves to increase the importance of government employment on the reservation. However, just as the distribution of unemployment and out-migration are strategies unique to the two racial/ethnic segments of the population, so, too, is access to employment opportunities.

The distribution (and absence) of employment opportunities among households results in more than one-third (35.5 %) of Indian children (those under age 16) living in households with no employed worker. In contrast, only 4.7 percent of children in nonIndian households resided in a household where no one was working.

Table 6 shows the distribution of households by the number of employed adults in those households, and the associated populations for all households in which complete counts on all dimensions are available. In almost two-fifths (38.2%) of all Indian households (containing 1,333 persons), there are no employed workers. An additional 40.9 percent of all Indian households, containing 1,584 persons, had only one employed adult. During the time of the survey, then, 79.1 percent of the households had one or less employed worker. With the seasonal nature of employment opportunities on the reservation, it is uncertain how many households have at least one person employed during the whole of the year.

In contrast, only 5.3 percent of nonIndian households had no employed adult at the time of the survey.

Because so few Indians reach retirement age or have substantial nonlabor sources of income, households without employed adults are very likely to be in poverty. Moreover, employment is no guarantee that a household will have earnings above the poverty rate. The poverty level, in 1988 for a family of four, was \$11,650. The average household size for Indian households with one employed worker was 4.52 persons (1,584 persons/350 households with one employed worker in Table 6), while median usual weekly earnings for Indians, shown in Table 7, were \$228.30. Annualized, these earnings amount to \$11,872.<sup>6</sup> With large average household memberships and low average earnings, it would appear that in October of 1988, approximately four-fifths of the Indian population was either at or very near the officially defined poverty level.

Table 6: Distribution of Employed Workers and Total Persons for Households

Number of Employed Workers	Indian					
	Number of Household		Employed Adults		Persons	
	Number	Percent	Number	Percent	Number	Percent
0	327	38.2	0	0.0	1,333	34.9
1	350	40.9	350	47.7	1,584	41.4
2	157	18.4	314	42.8	775	20.3
3	16	1.9	48	6.5	90	2.4
4 or more	5	0.6	21	2.9	42	1.1
Total	855	100.0	733	100.0	3,824	100.0

Number of Employed Workers	Other					
	Number of Household		Employed Adults		Persons	
	Number	Percent	Number	Percent	Number	Percent
0	43	5.3	0	0.0	108	4.2
1	325	40.4	325	25.5	838	32.3
2	365	45.4	730	57.2	1,334	51.4
3	63	7.8	189	14.8	267	10.3
4 or more	8	1.0	33	2.6	49	1.9
Total	804	100.0	1,277	100.0	2,596	100.0

Median weekly earnings (Table 7) for both Indians and nonIndians were well below the national average. In response to the same income questions concerning "usual weekly earnings" found in the national CPS during the fourth quarter of 1988, median weekly earnings in the United States were \$392 or 49.6 percent above median earnings of those on the reservation with the highest level of earnings, nonIndian males. However, because nonIndian males are more likely than any other population segment to be self-employed (but unincorporated) farm proprietors, they are the most likely to be at work, but the least likely to have "usual weekly earnings". One of the key features separating employment opportunities for Indians and nonIndians is the ownership of property. The tribe maintains an active interest in using rental income from tribal lands to acquire privately held land in the two counties, the private ownership of farm or ranch land however, is a major prerequisite for employment among nonIndian males.

Sandefur and Scott (1983) suggest that Indians on reservations are unlikely to have substantial earnings because the available employment does not pay well. However, low wage rates for wage and salary workers, in comparison to national standards appear to be a condition of reservation status for both Indians and nonIndians alike. Others (Tomaskovic-Devey 1987) have suggested that the sheer oversupply of labor and the absence of bargaining structures,

Table 7: Usual Weekly Earnings of Wage and Salary Workers by Race/Ethnicity and Sex

	Employed	Working for Wages		Median Weekly Earnings \$
	Number	Number	Row %	
Indian				
Total	810	754	93.1	228.30
Male	435	394	90.6	223.10
Female	375	360	96.0	233.70
Other				
Total	1,444	695	48.1	231.00
Male	896	316	35.3	262.00
Female	548	379	69.2	211.70

such as unions, puts downward pressure on the overall wage structure in rural areas.

Sandefur and Sakamoto (1988), in an analysis of a sample of national Decennial Census data, found that Indians were more likely to form family households (83%) than nonfamily households, when compared with whites who were found in family households less often (73%). These findings are similar to those from the Standing Rock survey found in Table 8. "Family" households predominate on the reservation; families made up 85.3 percent of the Indian households, as compared to only 76.8 percent of white households. Sandefur and Sakamoto's analysis led them to conclude that the greater likelihood of Indians to form family households, "... and especially couples with children ... should be taken into account in designing social policies to assist this group. ... among blacks in our sample ... mothers with children make up 33 percent of poor households. Among American Indians, however, couples with children make up 31 percent of the poor households, whereas mothers with children make up 22 percent of the poor households. Consequently, it is important that the current preoccupation of social policy discussions with the problems of female-headed households not lead us to overlook the fact that among some sectors of the population ... couples with children constitute a larger proportion of the poor than do mothers with children" (1988:79-80). Based on the data in Table 8, however, Sandefur and Sakamoto's recommendations regarding policy development with respect to the populations of rural reservations may not be appropriate.

Although the Standing Rock survey did not collect the broad array of income data needed to compute poverty matrices, job holding for

Table 8: Employment Status of Householders 16 Years and Over by Household Type and Race/Ethnicity

	INDIAN		Employed		OTHER		Employed	
	Number	Percent	Number	Row %	Number	Percent	Number	Row %
Total	972	100.0	449	46.2	1,128	100.0	832	73.8
Nonfamily Households	143	14.7	54	37.8	262	23.2	143	54.6
Male Householder	87	9.0	30	34.5	121	10.7	95	78.5
Female Householder	56	5.8	24	42.9	141	12.5	48	34.0
Family Householder	829	85.3	395	47.6	866	76.8	689	79.6
Spouse Present Householder:	341	35.1	207	60.7	745	66.0	606	81.3
Male	302	31.1	185	61.3	698	61.9	580	83.1
Female	39	4.0	22	56.4	47	4.2	26	55.3
No Spouse Present Householder:	488	50.2	188	38.5	121	10.7	83	68.6
Male	132	13.6	65	49.2	70	6.2	50	71.4
Female	356	36.6	123	34.6	51	4.5	33	64.7

Indians in the current setting is nearly the only way to generate income. Indian female householders with no spouse present represent a slightly greater proportion of all households (36.6%) than do married couple households (35.1%). (These findings are consistent with those of DeWitt et al., 1989:21.) Moreover, while 60.7 percent of householders in married couple households were employed, only 34.6 percent of females with no spouse present were employed. Reliance exclusively on national data would appear to channel policy development in directions inappropriate to the rural reservation setting.

In general, the survey results point to marked cleavages between labor market experiences of Indians and nonIndians on the reservation. Labor market differences are, in turn, interwoven with differences in the age structure of the population and strategies of adaptation to create contrasting patterns of household formation and living arrangements. Quantitative data from the special census are sufficient to document nearly discrete labor markets and social systems. They are, however, inadequate to the task of delineating the processes which bring them about.

"...(T)he dual labor market model or, more generally, segmented labor market model", according to Dickens and Lang, "is simultaneously a description of the income distribution ..." (1988:129). On the reservation, however, access to wealth in the form of agricultural property, and processes governing its intergenerational transfer, are key variables in labor market segmentation. Casting the issue of labor market segmentation exclusively in terms of income avoids the issues of upward mobility, the institutional processes channeling access to employment opportunities, and the multidimensional character of job holding.

Although labor market stratification can be documented by a one-point-in-time measure, segmentation theory is based on the premise that institutional barriers prevent upward mobility. Processes which sustain stratified labor markets can only be documented with time series analysis. However, income measurement is problematic in time series analysis for the self-employed.<sup>7</sup> Indeed, Anderson, Butler, and Sloan (1987) omit the self-employed from their longitudinal analysis of survey data.

The analysis of "structural antecedents," as Tomaskovic-Devey (1987) refers to it, still leaves in doubt the institutional processes which sustain stratified labor markets and poverty. One of the local institutions facilitating the maintenance of the current level of Indian labor market attachment, revealed through the participant observation process on Standing Rock, is the black market. "Hundreds of Indians receive huge amounts of free food from the government, then turn around and sell it to white ranchers on a thriving black market" (Montaigne, 1989:25). Illegitimate trade between Indians and whites provides a substitute source of

income for the socially legitimate behavior of employment. Documentation of institutional processes which maintain segmented labor markets yield only reluctantly to quantitative analysis. As Piore (1983) points out, labor market segmentation theory owes much of its origin to the participant observation method. Given the low level of social approval for the institutional mechanisms (i.e., black markets, discrimination) needed to sustain stratified labor markets, it does not appear that the development of labor market segmentation theory can be abstracted from the methodological technique inherent in its genesis.

#### V. Allocating Poverty to Rural Areas

The special labor force survey data on Standing Rock complement Pottinger's (1985) findings on a Navajo reservation: the quantity and quality of labor on the reservation is sufficient to support any reasonable level of economic development. Why then, Pottinger asks, "...does the image of reservation Indians as unreliable and unskilled persist?" (1985:7). His analysis indicates that the image persists because it is required to obtain training grants. Training grants are a major source of income and employment for Indian administrators and the federal bureaucracy. The BIA's 87 percent unemployment rate on Standing Rock, for example, "...maintains the credibility of grant justification ... This is especially important when there is little hope that employment alternatives, such as private sector initiatives, will prove successful" (Pottinger, 1985:9). This system, he points out, was imposed by Washington. And because the system is imposed by the federal government, the likelihood that the federal government will develop the accurate information needed to guide economic policy on the reservation is remote.

There may, however, be another answer to Pottinger's question concerning the function of mythical images about the American Indian labor force on reservations. In this view, it is politically expedient within the national framework to allocate poverty to selected population segments and regions of the country. The variables in the allocation matrices are race, sex, and population. In this system, one would anticipate the greatest concentration of poverty to be found in rural areas, among females, and for racial minorities -- those with the least political leverage. Among the key institutions in the allocations process is the federal statistical system.

In what Tomaskovic-Devey describes as an "employment opportunity structure" the available jobs and associated income within a locality are distributed by age, gender, race, and education. But

these characteristics "...do not cause poverty. Rather, these are the characteristics used in the United States to allocate poverty. ... Poverty is a function of the amount of opportunity in a labor market relative to the size of the population. When a job-training program upgrades the skills of an AFDC recipient and she obtains a nonpoverty job, she has merely displaced some other entry-level worker and not reduced the poverty rate. The poor are ... female, and have low education, not because these characteristics are the "cause" of poverty, but because employers use these statuses as "cues" when they hire employees" (1987:59). In his analysis of secondary data for counties in South Carolina, Tomaskovic-Devey defines jobs as the mediator between industrial structure and poverty. Using "cues" (e.g. stereotypes) as an explanatory variable, suggests how interactions between employer and worker allocate minorities to inferior labor markets. Informational "cues" in this context do not, however, explain how industrial structures, and therefore jobs and poverty, are allocated to different areas of the country, nor does it identify the institutional processes which sustain it.

The maintenance of the myth of unreliable Indian labor force may be viewed as a "cue" in the broader national context that facilitates the current process of allocating poverty to certain segments of the population and regions of the country. Pottinger's description of myths about the Indian labor force serves a maintenance function, minimizing the societal level threat to the freedom of movement of capital investment, and assuring that economic development will not take place on the reservation.

There are other "miscues" which function to minimize the appearance of the scale of economic problems in rural areas, obscure the extent of labor market hardship, and permit the current structure of allocating low wage jobs, poverty, and boom and bust cycles (see Markusen, 1980) to persist.

The Bureau of Labor Statistics' Local Area Unemployment Statistics (LAUS) program was described in the National Commission on Employment and Unemployment Statistics report as a "badly overburdened statistical system" (1979:14). State-level labor force estimates are derived largely from the monthly Current Population Survey. The LAUS technique relies primarily on county-specific administrative records and decennial census data to allocate state-level labor force estimates to counties. Since the monthly Current Population Survey's estimates of state level employment and unemployment are a finite quantity, altering the LAUS allocation formula for counties has intrastate political consequences.

Others (Korsching and Sapp, 1978; Carter, 1982; Korsching and Lasley, 1986) have critiqued the LAUS technique on the grounds that the primary allocator of the number of unemployed to a county is the number of unemployment insurance claims. Establishing one's



number of quarters and at a sufficient wage level to qualify as "insured." As we have seen, however, those working in agriculture and in the Indian labor force are either new and re-entrants to the labor force, or are self-employed and not eligible for UI benefits. Consequently, unless one is covered by unemployment insurance, one's status as unemployed plays no role in the LAUS allocations process. As others have found, this phenomenon minimizes the rate of unemployment in rural counties. Minimizing the official rate of unemployment in rural areas, and especially rural areas populated by Indians, serves as a "cue" in the policy process.

Displayed in Table 9 are county labor force estimates for the reservation (derived through the process described for Table 1) and estimates from the LAUS technique. In comparison to direct observation, the LAUS technique substantially underestimates the number of unemployed. It also tends to overstate the amount of employment, trivializing the harsh labor market conditions on the reservation. The observed rate of unemployment in both counties is at least twice as great as those produced by the LAUS technique regardless of which state employment security agency calculates the estimates. In effect, the LAUS technique itself minimizes the scale of labor market harshness for the population segments with the least political leverage.

Table 9: Labor Force Survey Based Estimates and LAUS Estimates for Corson County South Dakota and Sioux County North Dakota , October 1988

	Corson County			Sioux County		
	LAUS	Survey	% Difference	LAUS	Survey	% Difference
Labor Force	1,603	1,549	3.5	1,200	1,252	-4.2
Employment	1,535	1,374	11.7	1,091	1,024	6.5
Unemployment	68	175	-61.1	109	228	-52.2
Unemployment Rate	4.2	11.3		9.1	18.2	

One "miscue" by itself would appear to be insufficient to the task of allocating poverty to rural areas or rural areas with major components of minorities in their populations. The Commerce Department's intercensal county population estimates and BLS's labor force estimates are separate estimating programs which precludes the calculation of county-level labor force participation

rates. Intercensal county population estimates, when summed, form the parameter for each state's Current Population Survey.

Table 10: Intercensal County Population Estimates for Standing Rock Indian Reservation and Selected Counties in North Dakota

	Standing Rock Indian Reservation	
	Corson County	Sioux County
July 1979 Provisional Estimates	4,700	3,900
April 1980 Decennial Census	5,196	3,620
Percent Difference	-9.5	7.7
July 1988 Provisional Estimates	4,800	4,200
October 1988 Special Census	4,202	3,817
Percent Difference	14.2	10.0

	Benson County, North Dakota Part Devils Lake Sioux Indian Reservation	Rolette County, North Dakota Turtle Mountain Indian Reservation
	July 1979 Provisional Estimates	8,300
April 1980 Decennial Census	7,944	12,177
Percent Difference	4.5	5.1
July 1986 Provisional Estimates	7,800	13,000
April 1987 Test Census*	7,531	12,265
Percent Difference	3.6	6.0

\*"1987 Test Census; North Central North Dakota", TC87-1, Bureau of the Census (May) 1988.

Intercensal population estimates are slow to adapt to migration, lagging well behind events in boom-and-bust prone, resource-rich western states, and under-represent the scale of out-migration associated with the crisis in agriculture. Intercensal population estimates for reservation counties are displayed in Table 10.

Data for the two counties in the study area are complemented with data for counties from the 1987 Test Census in north central North Dakota. Benson County contains most of the Devils Lake Sioux Indian Reservation. Rolette County, at 913 square miles, includes The Turtle Mountain Indian Reservation, which is approximately one-tenth of the county's size. In only one of the eight observed time periods were county population estimates for these rural counties less than what they were when enumerated. As discussed elsewhere (Gallagher 1989b), intercensal county population estimating procedures are slow to detect migration. For the rural

reservation counties found in Table 10, underestimates of out-migration disguise the radical nature of harsh economic circumstances and subsequent population response. By systematically and consistently minimizing the rate of out-migration, intercensal population estimates smooth the appearance of harsh economic conditions and serve to miscue policy analysis.

Any formal model (and most coffee shop discussions) of economic-demographic relationships contain explicit (or implicit) equations estimating the interaction between the two variables. When an export base model is postulated, the value of products exported by goods-producing industries (most often mining, manufacturing, agriculture, and occasionally selected service industries) is estimated to require a certain amount of labor. As the value of exports increases, the cost of inputs (i.e. land, labor, and capital) increase accordingly. The value of products exported and the labor required become driving factors in the subsequent creation of jobs in private service sector industries. At the same time, employment growth is associated with an increase in the size of the dependent population and the need for governmentally maintained infrastructure and essential public services. Indirectly, employment in government is the outcome of expansion in the value of products exported by goods-producing industries and associated population effects. In rural areas and especially in rural areas with Indian populations, however, empirical (and common sense) models of economic-demographic interaction are distorted by the official federal statistical system.

The estimated value of farmland, as a reflection of the value of agricultural exports from North Dakota, fell by 39.8 percent between 1982 and 1987. The number of farms, according to United States Department of Agriculture estimate, fell a corresponding 9.5 percent (-3,500). In the multi-county region containing Sioux County, the estimated average value of farm land fell from \$264 to \$179 (-32.2%) over the same period. Despite the dramatic loss of nonIndian, farm-dependent population (the nonIndian population of Sioux County fell by 22.2 percent to 984 persons in 1988), the Census of Agriculture enumerated ten more farms in 1987 than they did in 1982 in Sioux County. "The Bureau's techniques of enumerating "farms" produced two new farms in the 10 to 49 acre size class with \$10,000 or more in sales" (Gallagher, 1989a:22). During a period of massive out-migration and the collapse of farmland property values, the Census of Agriculture enumerated an increase in the number of farm and ranch enterprises involved in the export of agricultural products from Sioux County. This finding of the Census serves as one more miscue in the policy analysis. Like the official unemployment rate, LAUS estimates of unemployment, and intercensal estimates of county population, the Census of Agriculture "cues" analysis, implying that current national agricultural and employment policies are maintaining a healthy economy on the reservation.

Despite the Department of Commerce's statement that "the goals of the Census of Agriculture are to provide relevant, comprehensive statistical information on the agricultural sector of the U.S. economy at the national, state and county levels...", it functions, rather, to miscue policy analysis (1989:CEN-176). For North Dakota, the Census of Agriculture found a 74.1 percent increase in the number of farms in the 10 to 49 acre size class and \$10,000 in gross sales. The number of "farms" in the 1 to 9 acre size class, with \$10,000 or more in agricultural sales, expanded by 16.5 percent. Reservation settings, it appears, are merely on the extreme end of a continuum of "miscues" on which other rural areas share a degree of commonality.

How far can the results of the Standing Rock survey be generalized to other rural reservation settings? If it is assumed that comparable economic structures (agriculture and tribal employment) and circumstances (the collapse of the agricultural economy) are mediated by common social process (withdrawal from the official labor force or out-migration) to produce similar demographic consequences, the available evidence suggests that findings from Standing Rock have broad application. Table 11 presents age distribution and population change factors for reservation counties participating in the 1987 Test Census. Dependency ratios and population change calculations for Indians and whites summarize the differences in response to harsh economic conditions.

Dependency ratios are traditionally calculated as the aged support ratio (the proportion of persons ages 18 to 64 relative to the proportion 65 years of age and over) and the young support ratio. The young support ratio is defined as the proportion of persons ages 18 to 64 relative to the number of persons ages 17 and less. The principle relies on the concept of the number of persons of "working age" who, in turn, support those who are not in the labor market (see -- U.S. Senate Special Committee on Aging, 1984:8). The ratios presented in Table 11 are modified from the traditional age level of 18 up to age 21 to reflect the high proportion of Indians in this age grouping who attend school.

High birth rates for Indians serve to push young dependency ratios for those under 21 years of age in Table 11 well above 1.0. Young dependency ratios for nonIndians and whites, on the other hand, fall within a narrow and much lower range of .63 to .59. Dependency ratios for Indians over the age of 65 reflect high death rates and fall in the narrow range of .13 to .08 for the three reservation settings. Dependency ratios for nonIndians over 65 years of age were more than two and one-half times those of Indians in each reservation setting.

NonIndian population loss from the Test Census counties, at -14.3 and -13.0 percent, were slightly less than the population loss for Standing Rock. However, given the time differential between the test and special enumerations, adjustments to the loss of

Table 11: Age Distribution, Dependency Ratios and Components of Change for Indians and nonIndians, Standing Rock Indian Reservation and Selected Counties in North Dakota

Standing Rock Indian Reservation, Benson County North Dakota April, 1987; Rolette County North Dakota, April 1987\*  
 October, 1988 Part Devils Lake Sioux Indian Reservat Turtle Mountain Indian Reservation

Age	Indian		Other		Indian		White		Indian		White	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 5	682	14.2	250	7.8	482	18.1	295	6.1	1,023	13.3	311	7.0
5 to 9	684	14.3	273	8.5	389	14.6	347	7.2	1,005	13.0	347	7.8
10 to 15	773	16.1	310	9.6	398	15.0	410	8.5	1,063	13.8	403	9.0
16 to 18	309	6.4	152	4.7	163	6.1	244	5.0	526	6.8	180	4.0
19 to 21	220	4.6	77	2.4	132	5.0	114	2.4	378	4.9	93	2.1
22 to 24	217	4.5	104	3.2	124	4.7	131	2.7	400	5.2	150	3.4
25 to 39	951	19.8	674	20.9	521	19.6	906	18.7	1,588	20.6	967	21.7
40 to 54	551	11.5	537	16.7	271	10.2	720	14.9	892	11.6	689	15.4
55 to 64	227	4.7	365	11.3	92	3.5	583	12.0	410	5.3	457	10.2
65+	185	3.9	478	14.8	84	3.2	1,098	22.6	434	5.6	863	19.4
Total	4,799	100.0	3,220	100.0	2,656	100.0	4,848	100.0	7,719	100.0	4,460	100.0
21 & Under	2,668		1,062		1,564		1,410		3,995		1,334	
22 to 64	1,946		1,680		1,008		2,340		3,290		2,263	
21<Ratio	1.37		0.63		1.55		0.60		1.21		0.59	
65>Ratio	0.10		0.28		0.08		0.47		0.13		0.38	
% Change	4,800		4,016		2,277		5,657		7,020		5,127	
	0.0		-19.8		16.6		-14.3		10.0		-13.0	

\*1987 Test Census; North Central North Dakota, IC87-1, Bureau of the Census (May) 1988.

population would appear most appropriate in the direction of continued out-migration. As we saw in Figure 1, Indian populations on reservations in North Dakota tend to be dominated by those from the baby boom and their offspring. NonIndian populations are dominated by those from the boom generation and their more mature parents. The population loss, to which intercensal estimates are insensitive, are driven by a declining agricultural economy.

Direct measurement and documentation of labor market experiences and demographics in rural counties with significant Indian reservation populations illustrate how the official statistical system produces a series of "miscues" for policy analysis. But the system also impedes the use of empirical techniques to link the findings from Standing Rock to other reservation settings. Changing economic-demographic circumstances -- for example, those documented by the Census of Agriculture, intercensal population estimates, and the LAUS technique -- cannot be used as vehicles to generalize the findings from Standing Rock to other reservation settings.

Not only does the official statistical system impede generalizing the findings from Standing Rock to other reservations, ongoing features of the statistical reporting system miscue analysis aimed at economic development. Twice each year, the Department of Commerce's Bureau of Economic Analysis (BEA) publishes employment estimates by industrial sector by public and private ownership classification for each county in the United States. The majority of the employment estimates are derived from state employment security agency records (ES-202 reports) which originate with quarterly employer unemployment insurance tax filings. States assign each firm a Standard Industrial Classification (SIC) code and an ownership code (Office of Management and Budget, 1987). At Commerce directive, Tribal government firms are assigned the SIC code 8641: Civic, Social, and Fraternal Associations in the private sector. Thus, even though "These (tribal) governments are akin in many respects to state governments" (Sandefur, 1989:40), the official statistical system codes and publishes these data as private sector employment.

Analysts of reservation economies, and comparative analysis of nonIndian labor markets, are exposed to a significant miscue if they are under the impression that export base employment is a much larger component of reservation economies than it actually is. Table 12 displays annual average ES-202 counts of unemployment insurance covered jobs and BEA estimates for 1986 (the most recent available), and ES-202 quarterly averages for the fourth quarter of 1988 for Sioux County, North Dakota. The second panel displays persons enumerated as employed in nonagricultural wage and salary jobs and illustrates the consequences of assigning private sector or public sector ownership codes to individuals employed by the tribe. Coding requirements and BEA's estimating procedures created, in 1986, a profile of wage and salary employment which was

51 percent private sector. Because the Census Bureau processed the special census according to standard CPS procedures and Commerce directives, employees of the tribe were enumerated as private sector. All standard CPS tabulations by industry and occupation of employment from the survey, with the exception of one specially requested array, coded tribal employees as private sector. Enumerating tribal government as public employment, however, reveals that fully 67.5 percent of all wage and salary employment in Sioux County is found in federal, state, local, or tribal government. Since government employment is a dependent variable in export base analysis, coding tribal government as private sector clearly miscues analysts with respect to the economic vitality of reservation exports.

Table 12: Monagricultural Wage and Salary Employment and Survey Results for Private and Public Employment in Sioux County

	Counts of Wage and Salary Jobs						October 1988 Labor Force Survey, Persons in Monagricultural Jobs			
	ES-202* 1986		BEA** 1986		ES-202 1988:IV		Tribal Government Enumerated as: Private Sector		Public Sector	
	N	%	N	%	N	%	N	%	N	%
Private	338	45.6	448	51.0	365	43.7	460	56.8	263	32.5
Government	403	54.4	431	49.0	471	56.3	350	43.2	547	67.5
Total	741	100.0	879	100.0	836	100.0	810	100.0	810	100.0

\*ES-202 references quarterly employer tax fillings for Unemployment insurance submitted to State Employment Security Agencies.

\*\* The Commerce Department's Bureau of Economic Analysis adds estimates of employment not covered by UI to ES-202 to develop estimates of total employment by industrial classification.

Coding tribal employees as "private sector" creates the impression that the local economy is more prosperous than it actually is, and fails to delineate the extent to which Indians depend upon tribal government for employment. Since the "class of worker" question, question 30 on the 1990 Decennial long form questionnaire, fails to specify "tribal government" as a response category, it can be anticipated that "local" and "state" government response categories will be inflated by individuals on tribal payrolls. Moreover, since many Tribal Work Experience Program, JOBS, and Community Work Experience Program participants view themselves as employed, the lack of decennial field screening procedures will result in many of these individuals enumerating themselves as "employed." The net effect of the Decennial Census will be to inflate the level of employment, decrease the actual rate of unemployment, and miscue policy analysis with respect to the extent of labor market hardship on reservations.

## VI. Conclusions

The federal statistical reporting system, rather than serving merely as a reporter of economic and social conditions, also acts as an allocator of low wage jobs and poverty. By minimizing and smoothing trends in economic, labor market, and demographic indices, the federal statistical system obviates the devastating impact of current national policies on rural areas.

Labor market problems on Indian reservations are, in part, an extension of labor market problems in rural areas. Had nonIndians not emigrated from the Standing Rock Indian Reservation, survey measurement of unemployment for this group would have approached that for Indians simply because nonIndians are unlikely to displace Indians in tribal jobs. Despite calls to improve "... the quality, quantity, and timeliness of statistics on Indian and other Native Americans..." (Ainsworth, 1989:19), reforming the federal statistical system would require a fundamental change in concepts and redirection of resources to rural areas. Since the interests benefiting from the current system of allocating low-paying jobs and poverty to rural areas have not spontaneously heeded calls for change in the past, it seems unlikely that they will do so in the future.

Given that Washington is unlikely to change to meet the data needs required to develop reservation economies, Pottinger argues that the responsibility defaults to the research community (1985:15). But, here again, reform is blocked by the enormous resources at the disposal of the official statistical system and key segments of the social science community who rely on those resources for research grants, tenure and the prestige "research" brings to their employing institutions (of course, the system also uses other less subtle methods of control).

The approach the Census Bureau uses, for example, to develop policy and procedures designed to reduce undercounts for marginalized population segments is based on grants to ethnographers to study "Behavioral Causes of Undercounts." Grants to anthropologists are available for participant observation focusing on population mobility, illiteracy barriers, concealment to protect resources, irregular household arrangements, and resistance as a local strategy for dealing with outsiders--especially the government (Brownrigg and Martin, 1989). Not only does the Bureau's grants strategy to study undercounts create the circumstances necessary to co-opt the academic, it also serves to shift attention away from the traditional colonial status mediating relations between Indian and white society. Given the lack of enumerator turnover and the high level of participation by Indians and whites alike in the Standing Rock Reservation survey, why, then, does the Bureau persist in creating the image that it is the Indian community that



is responsible for undercounts on reservations? While the tribal liaison program is a step (or, as some would observe, a stumble) in the right direction, the success of the special census is attributable not just to promotional efforts but also to the survey's interaction with the reservation as a single geopolitical unit, and to the tribe's adaptability in providing immediate wages to defray the cost of working as an enumerator.

Indian suspicion concerning governmental use of information in the repression of Indians is factually grounded. As recently as the 1980 decennial census, a large but unknown number of Indians on CETA programs were counted as employed, deflating reservation unemployment rates, and effectively miscuing policy analysis. As Pottinger points out, the research community has a responsibility to carry necessary research forward. The question, however, is whether or not it recognizes it.

Finally, I do not believe the research community will be funded by the federal statistical system to investigate the institutional processes that allocate low wage jobs and poverty to rural areas. American Indian population growth, especially in the Plains and Mountain states, is transforming both the rural and urban landscape. Along with this population growth is an increasing political astuteness. As Tomaskovic-Devey concludes, "The political reality of poverty in general is that its reduction demands an aggressive and continuing social movement by the poor for better standards of living" (1987:72). I believe that the future of the social movement by Indians is gaining strength and that part of that movement necessarily involves restructuring the official federal statistical system. It is no accident that Indians focus extensive political energy on changing the method of calculating the official unemployment rate on reservations.

#### NOTES:

1. There are a small number of nonwhite, nonIndian racial/ethnic minorities on the reservation whose confidentiality is preserved by grouping them with the population of "nonIndians" or "others."

2. Vital statistics for these analysis were provided by the North Dakota State Department of Health and Consolidated Laboratories, Bismarck, North Dakota, and the Center for Health Policy and Statistics, South Dakota Department of Health, Pierre, South Dakota.

3. Correspondence between Russel Bradley, Bureau of Indian Affairs, and Charles Murphy, Chairman, Standing Rock Sioux Tribe, 3/22/89.

4. New entrants to the labor force are "...new workers looking for a job ... who have not previously held a full-time job lasting 2 weeks or longer. ...Reentrants -- In the CPS, persons who previously worked at a full-time job at least 2 weeks but who were out of the labor force for 2 weeks or more prior to beginning to look for work" (U.S. Department of Labor, 1979:G7-G9).

5. In a review of the BLS's role in adhering to the current CPS framework, Liebhafsky, Gnuschke and McKee (1980) argue that the BLS has traditionally not become involved in value judgments attributable to those who believe that the current level of unemployment is either overstated or understated from what it "should" be. The present analysis, on the other hand, focuses on the consequences for rural areas of value judgments implicit in the present CPS concepts, questionnaire, sampling process and unit of analysis.

6. With the highly seasonal nature and restricted industrial scope of employment opportunities for American Indians, annualizing weekly median earnings may be misleading. Annual, primarily nonagricultural, unemployment insurance covered earnings per job for all of Sioux County in 1988, at \$16,798, were 1.8 percent higher than for the state of North Dakota. The difference between annualized median earnings per person working in October, and the mean average per unemployment insurance covered job worked during the year may be a function of the strong seasonal nature of employment opportunities, and the concentration of earnings at the high end of the income scale for the relatively small proportion of the population who find employment. Unemployment insurance earnings are used to set performance standards for the Job Training Partnership Act. With such a large proportion of employment opportunities in government, and with wages dominated by nonmarket factors, it would appear that JTPA performance standards, calculated from the average unemployment insurance covered wage, represent an unrealistic standard of performance for the placement of trainees in entry-level jobs.

7. Besides oversimplifying theory to conform to the limitations of a favored quantitative technique, the reduction of segmented labor market theory to the analysis of income presents extensive problems in the measurement of agricultural income. As illustrated in Table 7, the CPS has obvious shortcomings in this regard. In addition, since farm income can vary widely from one year to the next, annual (March) CPS estimates, or Decennial data are unlikely to be representative of the earnings of self-employed farm proprietors.

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