North Dakota STATE DATA CENTER

Case Studies - Understanding the Data

Case Study Analysis by the North Dakota State Data Center at North Dakota State University, Fargo, ND, an Equal Opportunity Institution

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NORTH DAKOTA CASE STUDY: PERCEIVED INCOME AND POVERTY CONTRADICTION

1. Statement of Problem of Challenge: State employment officials examining county-level wage and poverty data uncovered statistics they perceived to be contradictory, that led them to question the validity of Census information. This situation was problematic on several levels. First, the anomaly brought into question the accuracy of county-based poverty data from the Census Bureau and its corresponding value for program and funding decisions. Second, the contradiction which centered on child poverty, raised questions among child advocacy organizations with regard to appropriate levels of need. In brief, the situation had the potential of creating an atmosphere of mistrust and ill-informed policy actions that would have been detrimental to children.

2. Assessment of the Situation: Local and federal data sources indicate that Oliver and Mercer counties in North Dakota have the highest average wages per job in the state (Table 1). In addition, these two counties have some of the highest median family incomes for North Dakota families with children according to Census 2000 (Table 2). Yet, in spite of these high family income figures, more than one in five children in Oliver County was impoverished in 2000 (23.6 percent) (Table 3). Mercer County, however, had a much lower child poverty rate (5.2 percent) (Table 3).

How is this apparent contradiction in Oliver County possible? If incomes and wages are some of the highest in the state, how could so many children be impoverished?

Table 1. Average Wage Per Job: 2004

	Job Service North Dakota data		U.S. Bureau of Economic Analysis data	
Area	Average Wage Per Job	Rank in State	Average Wage Per Job	Rank in State
Mercer County, North Dakota	$42,055	2nd highest	$41,057	2nd highest
Oliver County, North Dakota	$46,141	highest in state (1st)	$44,773	highest in state (1st)
North Dakota	$28,987		$28,741	

Sources: Job Service North Dakota, "North Dakota Employment and Wages, 2004 Annual Averages", www.jobsnd.com/publications/pub.detail.html?publd=600 and the U.S. Bureau of Economic Analysis, Regional Economic Information System, CA34 - "Average Wage Per Job", Issued December 2005, www.bea.gov.

Table 2. Median Family Income for Families with Children: 2000

Area	Median Family Income for Families with Children	Rank in State
Mercer County, North Dakota	$55,707	highest in state (1st)
Oliver County, North Dakota	$50,147	4th highest
North Dakota	$44,640	

Source: U.S. Census Bureau, Census 2000, SF4, PCT122

Table 3. Children Ages 0 to 17 Living in Families Below Poverty: 2000

	Children Ages 0 to 17 in Families for Whom Poverty Status is Determined			
		Below Poverty		
Area	Total	Number	Percent of Total	Rank in State (Percent)
Mercer County, North Dakota	2,439	128	5.2%	Lowest in state (53rd)
Oliver County, North Dakota	568	134	23.6%	6th highest
North Dakota	158,651	22,163	14.0%	

Source: U.S. Census Bureau, Census 2000, SF3 Table P87 (PCT52)

3. The Data Solution: First of all, it was important to view the actual distribution of families with children by income level, as averages, medians, and per capita figures can mask underlying distributions. Consider the income distribution below for Oliver County using Census data. While the median figure is relatively high for families with children at $50,147 (Table 2), 18.4 percent of families with children had incomes below $20,000 (8.1 percent in Mercer County) (Table 4). Thus, the higher proportion of lower-income families in Oliver County is hidden by the relatively high median income figure.

Table 4. Family Income Distribution for Families with Children: 2000

	Mercer County, North Dakota		Oliver County, North Dakota	
Family Income Categories	Number of Families with Children Under 18	Percent of All Families with Children Under 18	Number of Families with Children Under 18	Percent of All Families with Children Under 18
Families With own Children Under 18 Years:	1,204	100.0	268	100.0
Less than $10,000	38	3.2	20	7.5
$10,000 to $14,999	30	2.5	16	6.0
$15,000 to $19,999	29	2.4	13	4.9
$20,000 to $24,999	47	3.9	8	3.0
$25,000 to $29,999	43	3.6	16	6.0
$30,000 to $34,999	59	4.9	8	3.0
$35,000 to $39,999	87	7.2	13	4.9
$40,000 to $44,999	79	6.6	20	7.5
$45,000 to $49,999	52	4.3	19	7.1
$50,000 to $59,999	224	18.6	50	18.7
$60,000 to $74,999	273	22.7	38	14.2
$75,000 to $99,999	202	16.8	27	10.1
$100,000 to $124,999	29	2.4	10	3.7
$125,000 to $149,999	11	0.9	4	1.5
$150,000 to $199,999	0	0.0	6	2.2
$200,000 or more	1	0.1	0	0.0

Source: U.S. Census Bureau, Census 2000, SF4 Table PCT121

Secondly, Census data provide an opportunity to profile the children living in these lower-income families. Specifically, we were able to determine the average number of children living in impoverished families. Families with children living below poverty in Oliver County averaged 3.0 children per family. Mercer County families with children living below poverty averaged 1.8 children per family. Thus, family size for impoverished families in Oliver County was larger than the family size for impoverished families in Mercer County (Table 5).

Table 5. Children Per Impoverished Family: 2000

Area	Families with Children for Whom Poverty Status is Determined			Children Living in Families That are Below Poverty (from Table 3)	Number of Children Per Impoverished Family
	Total	Below poverty	Percent of Total		
Mercer County, North Dakota	1,237	70	5.7%	128	1.8
Oliver County, North Dakota	280	45	16.1%	134	3.0
North Dakota	83,678	10,043	12.0%	22,163	2.2

Source: U.S. Census Bureau, Census 2000, SF3 Table P90 and PCT52

Thus, the apparent contradiction between income and child poverty can be explained, in part, by family size and income distribution dimensions. Oliver County has a higher proportion of families with children in lower-income brackets than Mercer County; and these families in the lower-income brackets tend to have more children, on average, than lower-income families in Mercer County. Therefore, while incomes are high in Oliver County, many of its children live in lower-income families which results in a higher child poverty rate than Mercer County.

4. Explanation: The above results were delivered to the client (who initially questioned the poverty numbers) in an email with the appropriate tables as attachments. Census data allowed us to examine the family size and income distributions which were necessary to explain the perceived contradiction. No other data source would provide us with this type of detail at this level of geography.