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**INCOME VARIABILITY AMONG
FAMILIES WITH PREGNANT
WOMEN, INFANTS, OR
YOUNG CHILDREN**

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KEY FINDINGS

BACKGROUND

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides supplemental food, nutrition education, and referrals to health care to eligible pregnant and postpartum women, infants, and children. To be eligible for WIC, participants must be categorically eligible (that is, they must be pregnant women, breastfeeding women up to 12 months postpartum, nonbreastfeeding women up to 6 months postpartum, infants up to 12 months of age, or children up to the fifth birthday). Participants also must be income eligible (defined as having family income below 185 percent of the poverty level) and at nutritional risk. The Food and Consumer Service (FCS) of the U.S. Department of Agriculture, which administers WIC, annually estimates the numbers of infants and children who are both categorically eligible and income eligible for WIC on the basis of the March Current Population Survey (CPS). These estimates are used in developing the program budget and in estimating program coverage.

FCS asked Mathematica Policy Research, Inc., (MPR) to assess the CPS estimates in relation to alternative estimates from the Survey of Income and Program Participation (SIPP), which collects longitudinal monthly income data. FCS wished to examine the following issues pertinent to income eligibility estimates:

- ***Annual Versus Monthly Income Measures:*** The CPS estimates must use annual income to assess eligibility, although WIC program staff members in general use monthly income to evaluate eligibility.¹ On the basis of previous literature on income variation around the poverty level, it seemed likely that monthly eligibility rates would be higher than annual rates. This could have implications for estimates of WIC participation rates that compare the number of participants from administrative data with estimates of the number of eligible people. Estimates using data from the CPS sometimes have indicated a participation rate for infants that is more than 100 percent.
- ***Changes in Income, Program Participation, and Other Characteristics Around a Birth:*** It seemed likely that the rate of income eligibility increases around the time of the birth (and for

¹Because the WIC program does not specify a definite income period for eligibility determinations, states have broad flexibility in measures used. However, according to FCS, states most often use monthly income in determining eligibility.

some period thereafter), as working women withdraw from the labor force at least temporarily. This could have implications for estimates of eligible pregnant women, which are based on the number of eligible infants. Trends in program participation and other characteristics associated with WIC eligibility and participation were also of interest.

**COMPARISON OF
ANNUAL AND
MONTHLY
MEASURES OF
INCOME
ELIGIBILITY FOR
WIC**

Key findings from the first phase of the analysis include:

- The proportion of infants and children income eligible for WIC was about 42 percent during the period 1990 to 1992, both when measured with the CPS and when measured with SIPP using annual-income methods that mimic the CPS estimates.
- Estimates of income eligibility in SIPP based on annual income were not significantly different from estimates based on monthly income, when estimates were based on the sample for whom annual income could be computed. For children ages 1 to 4, alternate monthly income estimates from the broadest possible SIPP samples were slightly but significantly higher (by 1 to 2 percentage points) than estimates from the restricted sample, but they are not directly comparable to the annual income estimates. Even using the broader estimates, the differences between the annual and monthly estimates were not substantial relative to what had been expected on the basis of the poverty literature.
- Estimated participation rates for infants were close to 100 percent regardless of whether annual or monthly measures of income eligibility were used.
- About 25 to 30 percent more infants and children are income eligible for WIC in *some* month of the calendar year than are income eligible on average. Since individuals are certified for WIC for up to 12 months, the proportion eligible in any month of the past year is an upper-bound estimate of those who could potentially be on WIC.

**TRENDS IN
INCOME
ELIGIBILITY
AND OTHER
CHARACTERISTICS
DURING
PREGNANCY AND
THE YEAR AFTER
BIRTH**

Key findings from the second phase of the analysis, which examined data on mothers and infants over the year before and the year after a birth, are as follows:

- Holding family size constant, the proportion of women income eligible for WIC increases gradually during pregnancy, takes an abrupt jump at birth, and then declines gradually during the year after birth (see Figure 1). The increase in the proportion of women who were income eligible for WIC (from 32 percent in the quarter before pregnancy to 46 percent in the quarter after birth) was due roughly equally to the increase in family size and the decline in family income.
- The characteristics of women income eligible before a birth are different than those of women income eligible after a birth. In particular, women who were income eligible after the birth, on average, were more educated, were more likely to live with the father, were more likely to be white, and had fewer children than those who were income eligible during pregnancy.

**PARTICIPATION
IN WIC AND
OTHER PROGRAMS**

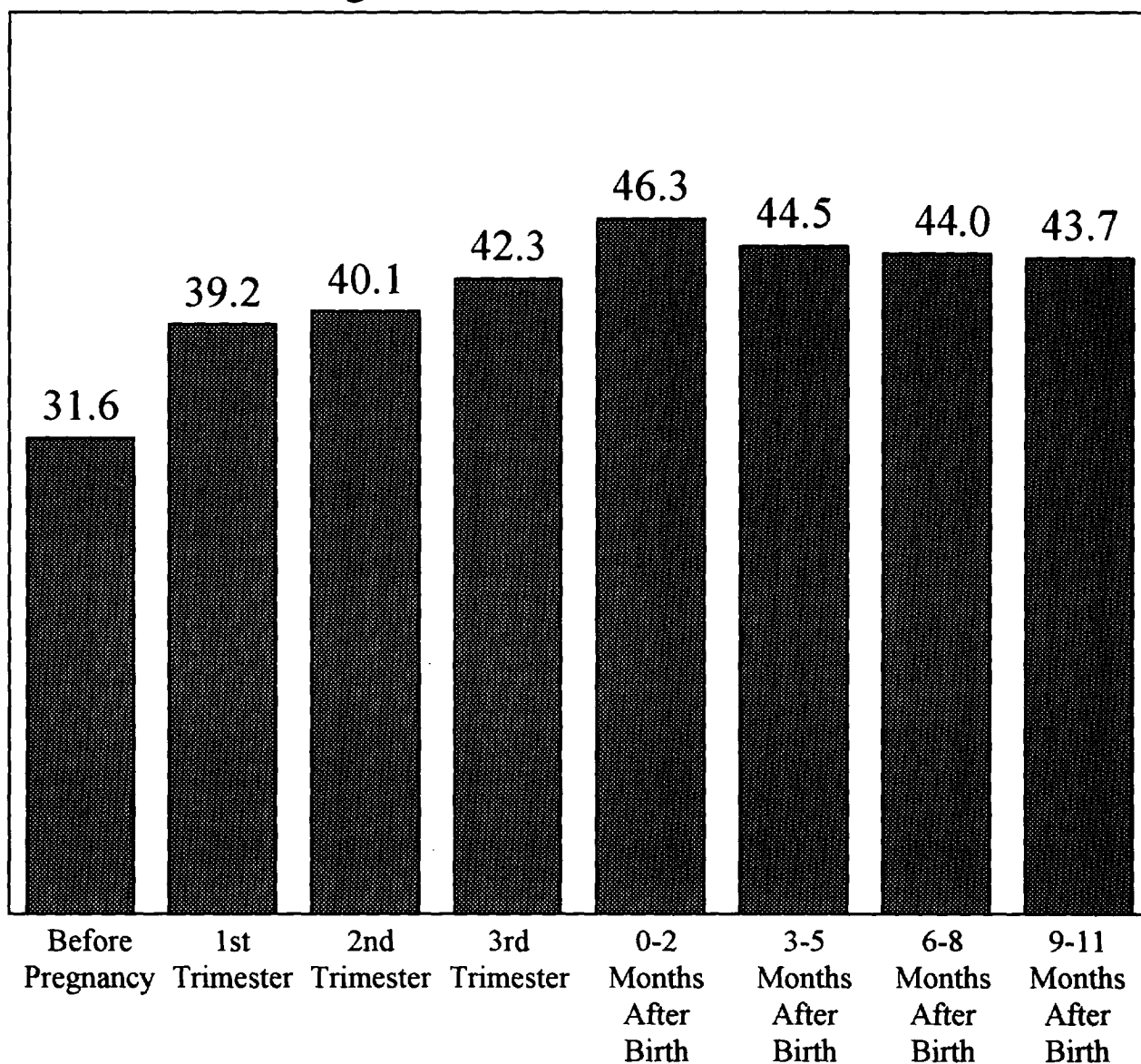
The reported rates of WIC participation among income-eligible pregnant women and infants are much lower than participation rates typically estimated from administrative data. Reported participation rates for children are closer to the administrative data. Underreporting of participation in WIC and other programs implies that the following findings concerning reported patterns of program participation and characteristics of participants may not generalize to the full population of participants:

- Infants and children who were intermittently eligible for WIC but not eligible on an annual basis were less likely to participate in WIC and other assistance programs than those annually eligible.
 - Among those eligible in all months, three-quarters report Medicaid and about half report WIC.
 - Among those annually eligible but not eligible in all months, about 30 percent report WIC and Medicaid.

FIGURE 1

TRENDS IN INCOME ELIGIBILITY FOR WOMEN BEFORE AND AFTER BIRTH

Percent Income Eligible



SOURCE: 1990 and 1991 SIPP panels.

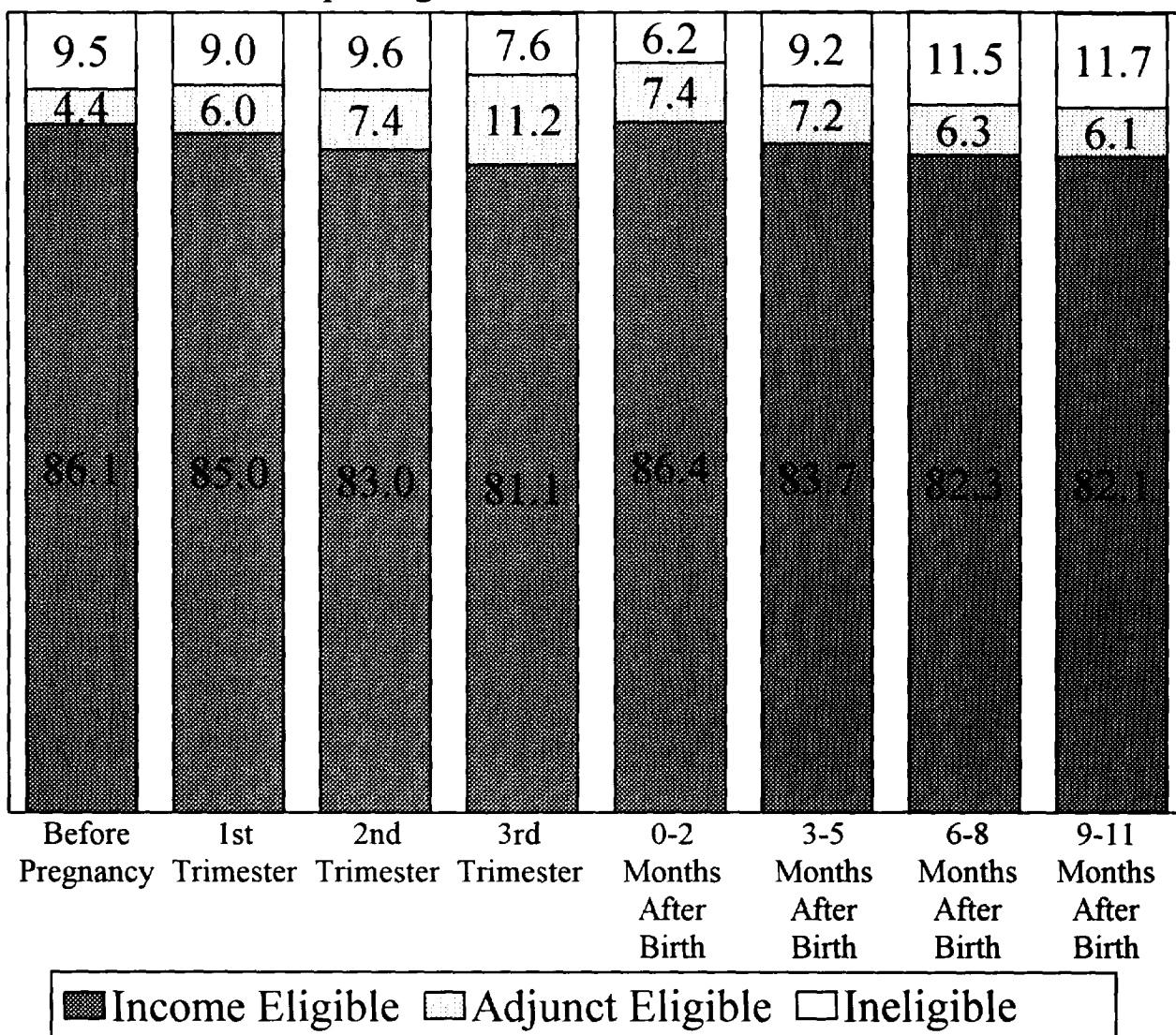
NOTES: In each quarter all women with data for that quarter were included. Income eligibility is defined as family income less than 185 percent of the WIC poverty guideline. Pregnant women were counted as two in determining the applicable threshold, as is current WIC policy.

- Among those eligible in some months but not on an annual basis, about 10 percent report WIC and Medicaid.
- Throughout the period around the birth, about 15 percent reported of WIC participants were not income eligible in the quarter in which their participation was measured. About one-third to one-half of this group were eligible on the basis of Medicaid or other program participation; others may have been income eligible when certified but were not any longer (see Figure 2).

FIGURE 2

ELIGIBILITY STATUS OF FAMILIES OF REPORTED WIC PARTICIPANTS BEFORE AND AFTER BIRTH

Percent of Participating Families



SOURCE: 1990 and 1991 SIPP panels.

NOTES: The sample in each quarter is all women who report that they or a family member participated in WIC in that quarter. WIC participation is substantially underreported in SIPP; thus, results should be interpreted with caution. Income eligibility is assessed on the basis of quarterly income.

Adjunct eligible here indicates families who were not income eligible but who participated in AFDC, Food Stamps, or Medicaid (usually Medicaid). At the time these data were collected, pregnant women were counted as one family member in the WIC program, but as two family members in the Medicaid program. Ineligible participants may have been eligible at the time of certification.

I. INTRODUCTION

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides supplemental food, nutrition education, and referrals to health care to eligible pregnant and postpartum women, infants, and children. To be eligible for WIC, individuals must be categorically eligible (that is, they must be pregnant women, breastfeeding women up to 12 months postpartum, nonbreastfeeding women up to 6 months postpartum, infants up to 12 months of age, or children up to the fifth birthday). Each categorically eligible individual also must be income eligible (defined as having family income below 185 percent of the poverty level) and at nutritional risk.¹ Those who participate in Aid to Families with Dependent Children (AFDC), the Food Stamp Program (FSP), or Medicaid are *adjunct eligible* (that is, automatically income eligible) and do not have to show further proof of income.

The Food and Consumer Service (FCS) of the U.S. Department of Agriculture (USDA), which administers WIC, currently develops estimates of the numbers of women, infants, and children who are both categorically and income eligible for WIC on the basis of the annual March Current Population Survey (CPS). Because these estimates are used in developing the program budget and in allocating program funds among the states, FCS is concerned with assessing these estimates in relation to alternatives.² In addition, FCS is considering development of a microsimulation model of the WIC program. An issue in designing such a model is whether it should be based on the CPS and the current methodology for estimating income eligibility for WIC.

Current estimates, based on the March CPS, identify categorically eligible infants and children on the basis of their age in March and evaluate income eligibility on the basis of annual family income in the previous calendar year, the only income period the CPS covers. The number of income-eligible pregnant women is estimated on the basis of CPS data on infants, since

¹A competent health professional must assess nutritional risk. The assessment must include measures of height, weight, blood-iron status, and dietary status. Common nutritional risks include overweight, underweight, anemia, inadequate or inappropriate dietary intake, as well as a wide range of risks specific to pregnancy (such as history of pregnancy loss or low-birthweight births).

²Estimates of eligible children in each state from the CPS are adjusted using sophisticated “shrinkage” estimation techniques (Schirm 1995). The shrinkage estimates of eligible children in each state are used as input into the allocation formula.

pregnant women are not identified in the CPS. The number of pregnant women is assumed to be three-quarters of the number of income-eligible infants (based on the assumption that pregnancy is 9 months long, on average).³ The measure of eligible pregnant women reflects program rules that count a pregnant woman as two family members for the purpose of assessing poverty levels during pregnancy; counting the pregnant woman as two has been the practice of the Medicaid program for some time (thus affecting adjunct eligibility through Medicaid) and has been the rule used in determining WIC eligibility since December 1994.

FCS wished to reexamine the CPS income eligibility estimates in several respects:

- The CPS estimates use annual income to assess eligibility, although WIC program staff members in general use monthly income to evaluate eligibility.⁴ It seemed likely that monthly eligibility rates would be higher than annual rates, on the basis of previous literature on income variation around the poverty level.
- Estimates of WIC participation rates that compare numbers of participants from administrative data with estimates of the number of eligible people from the CPS have sometimes indicated a participation rate for infants that is more than 100 percent. This discrepancy could, in part, reflect underreporting of income eligibility in the CPS.
- The assumption that the number of income-eligible pregnant women equals three-quarters the number of income-eligible infants implies that family income does not change after the birth. It seemed likely, however, that the rate of income eligibility increases around the time of birth (and for some period thereafter), as working women withdraw from the labor force at least temporarily.

³For additional information on current methods for estimating eligibility for WIC, see U.S. Department of Agriculture 1987.

⁴Because the WIC program does not specify an income period for eligibility determinations, states have broad flexibility in measures used. However, according to FCS, states most often use monthly income in determining eligibility.

To assess these issues, FCS requested that Mathematica Policy Research, Inc., (MPR) analyze income variation among families with members categorically eligible for WIC using data from the Survey of Income and Program Participation (SIPP). SIPP provides longitudinal monthly data on family composition, income, and participation in WIC, AFDC, FSP, and Medicaid.

Measurement of income eligibility for WIC also would be a key component of any WIC microsimulation model. Therefore, other motivations for this analysis were to provide help in deciding whether SIPP or the CPS should be the core database in a WIC microsimulation model and to examine, if SIPP were recommended as the core database, how to reconcile the SIPP-based estimates with the eligibility estimates from the CPS.

On the basis of these concerns, FCS asked MPR to investigate the following research questions:

- Are there significant differences between income eligibility estimates from SIPP that use monthly and annual income? Are there significant differences between SIPP-based income eligibility estimates measured using annual income and CPS-based estimates?
- Using estimates of income eligibles computed from SIPP and estimates of participants from WIC administrative data, how do the estimated participation rates for infants and children vary with the method of estimating income eligibility for WIC?
- How much variation is there in income eligibility during the periods before, during, and after pregnancy? How are these income patterns related to other family characteristics?
- What are the patterns of participation in Medicaid and other programs among WIC income eligibles and WIC participants? What was the role of adjunct eligibility through Medicaid in increasing WIC eligibility during the early 1990s?

Appendix A reviews the literature pertinent to this study, which consists of three groups of studies: (1) comparisons of measures of poverty that use SIPP and the CPS, (2) comparisons of monthly and annual estimates of poverty from SIPP, and (3) studies of changes in women's employment

behavior and in family incomes around the time of a birth. In general, the literature finds that poverty rates are higher when measured on a monthly basis than on an annual basis. Fluctuations in income and associated spells of poverty are more common for those with certain family characteristics: two-parent families and the unemployed. Pregnancy and birth tend to have a negative impact on family income and poverty status. Women employed before childbirth tend to begin working again within a few months of childbirth, however, and this suggests that the drop in income is often brief.

Chapter II describes SIPP and the two sets of analysis files constructed from SIPP to address the research questions outlined previously. Chapter III compares monthly and annual estimates of income eligibility for infants and children and assesses the implications of the alternative measures for participation rate estimates. Chapter IV presents data on variations during the 2 years surrounding a birth in income eligibility for WIC and considers how the characteristics of income-eligible women change over the period. Finally, Chapter V examines the relationship between WIC income eligibility and participation in WIC and other programs. Findings concerning program participation must be interpreted with caution, however, because of the substantial underreporting of participation in WIC and other programs in SIPP.

II. DESCRIPTION OF DATA AND ANALYSIS FILES

Two databases were developed from the 1990 and 1991 panels of the Survey of Income and Program Participation (SIPP) to address the research questions described in Chapter I. The first database was created to compare Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) eligibility estimates based on monthly income with those based on annual income and to compare the characteristics of infants and children eligible over different periods. It was also used to compare the number of infants and children eligible for WIC with the number of participants. The second database was created for the analysis of income dynamics surrounding a birth and the analysis of patterns of participation of pregnant women in WIC and other programs. This chapter first provides a general description of SIPP. It then offers brief descriptions of the two databases developed for this project. More information on the two databases can be found in Appendix B.

THE SURVEY OF INCOME AND PROGRAM PARTICIPATION (SIPP)

SIPP is a nationally representative longitudinal survey that provides detailed monthly information on household composition, family composition, income, labor force activity, and participation in government programs such as WIC, Medicaid, Aid to Families with Dependent Children (AFDC), and the Food Stamp Program (FSP). A new sample is selected for SIPP on a regular basis (originally, every year) and interviewed repeatedly; each set of interviews based on the same original sample is referred to as a panel (U.S. Department of Commerce 1994).

This report uses data drawn from the 1990 and 1991 panels of SIPP. The 1990 panel began in February of that year with a sample of approximately 21,900 households (of which roughly 3,000 constitute an oversample of black, Hispanic, or female-headed households). The 1991 panel began the following February with a sample of about 14,300 households. Sample households within each panel are divided into four subsamples of roughly equal size, referred to as *rotation groups*. One rotation group is interviewed each month. Each cycle through the four rotation groups using the same questionnaire is called a *wave*. This interview schedule results in each household in the sample being interviewed at 4-month intervals. There were eight waves in each of the SIPP panels discussed here, providing up to 32 months of income and program participation data for each sample person.

At each interview, information is collected about the prior 4 months. Thus, the 1990 SIPP panel covers the period from October 1989 through August 1992, and the 1991 SIPP panel covers the period from October 1990 through August 1993. Because these two panels both cover the period from October

1990 through August 1992, this report combines data from the two panels for analyses covering the 1991 calendar year.

The U.S. Census Bureau attempts to interview all adults (persons age 15 or older) present at the time of the first interview. Persons under age 15 who are members of originally sampled households are also considered sample members, and relevant information is collected about them. During subsequent interviews, the original sample members and any persons living with them are considered part of the sample for that wave. Interviews are attempted with all adult sample members, and relevant information is collected about all sample members under age 15.

The Census Bureau creates files with data for each wave of interviews. Upon completion of the final wave of interviews in a given panel, the Bureau constructs a full-panel longitudinal research file. To construct these files, the Bureau links the data collected for each sample person over the life of the panel; each record contains the stream of data for a single person.

As in all longitudinal surveys, not all of the original sample members complete later SIPP interviews. Such attrition is one potential source of bias in the analyses presented in this report. For example, 25 percent of the 58,288 persons who completed interviews in the first wave of the 1990 SIPP panel were nonrespondents for at least 1 later month.¹ If sample members who drop out of the sample are different from those who remain, analyses that do not account for these differences may yield biased results. The Census Bureau attempts to compensate for some differences by adjusting the sample weights provided with the files. In the analyses reported here, there is no attempt to adjust for attrition bias other than by using the Census Bureau weights. If the sample must be restricted to cases that have complete data over periods longer than one SIPP wave (as in the first database discussed next), the sensitivity of the results to that restriction is examined (to the extent feasible). If possible, the influence of attrition is minimized by including all cases with valid data at each point in time, instead of restricting the sample to cases with complete data over time (for example, the second database has this structure).

“Seam bias” is another widely recognized problem in longitudinal data that may affect the analyses. SIPP purports to contain monthly data, but a wide literature shows that transitions in status are more likely to occur on the “seam” between interviews (for example, between the fourth month of the first wave and the first month of the second wave) than at other times (see Klerman 1991 and references cited therein). For example, Klerman finds that transitions in health insurance coverage and employment are two to four times more likely to be reported at the seam than they would be if transitions were evenly distributed across the 4 months. The explanation is that individuals

¹Another 10,827 persons were not sample members during the first wave of the 1990 panel but were interviewed during at least one of the later waves of interviews.

report current status as having been constant over the full reference period for the interview (in this case, 4 months), because of failure to recall changes or because of a desire to limit the duration of the interview. However, because the analyses in this report are built around reference periods not determined relative to interview months, seam biases in the numbers reported by different individuals may cancel each other out. Furthermore, recall is still likely to be more accurate with SIPP's frequent interviews than in surveys with annual or longer recall periods, such as the Current Population Survey (CPS).

OVERVIEW OF THE FIRST DATABASE

The first database is used to compare WIC eligibility estimates on the basis of monthly versus annual income and to compare estimates of WIC eligibles and participants. It contains three files, corresponding to each of the 3 calendar years this study covers (1990, 1991, and 1992). Each calendar year file contains data describing the income, program participation, and family composition of each person for 12 months.² Each file also contains information about each person's family as defined in March of the subsequent year. This information allows researchers to use this database to mimic the family definition and income period covered in the official, CPS-based, WIC eligibility estimates.

Each of the 3 calendar year files was constructed as follows: a subsample was selected of persons in the SIPP sample for all 13 months of interest (the entire calendar year and the following March) who lived in households in which all adults (age 15 and older) present in the second March were also in the SIPP sample (although not necessarily in the same household) for all 13 months. This subsampling was necessary to compute a measure of WIC eligibility that mimics the CPS. The calendar year weights that the Census Bureau provided were adjusted to account for this subsampling (see Appendix B). Even with this adjustment, the children in this database live with more stable adults than those in the full calendar year file, which may introduce some bias into the estimates. The sensitivity of the monthly income estimates based on this subsample to these restrictions was tested by comparing them to monthly income estimates from the unlinked core files from each wave of interviews, which include the maximum available sample in each month. As described further in Chapter III, for some groups, slightly higher eligibility rates were found using the broader sample, but there was no indication of a major bias.

The file contains two sets of income and poverty measures for each person. The first set mimics the methods used in estimating income and poverty from the CPS. Annual family income and poverty are estimated assuming that the same family composition that existed in March existed for the entire prior calendar year. The second set of income and poverty measures is based on observed family composition in each month of the calendar year. Each file

²The 1990 panel provided data for calendar years 1990 and 1991, and the 1991 panel provided data for calendar years 1991 and 1992.

also contains monthly information on each person's demographic characteristics, labor force participation, and program participation.

OVERVIEW OF THE SECOND DATABASE

The second database contains a single file constructed from the 1990 and 1991 SIPP panels. It is used in the analysis of the dynamics of mothers' income, eligibility, and program participation during the months surrounding a birth. The file contains all women who had a birth just before or during the SIPP panel in which they appear.³ The file contains 24 months pertinent to this study: the 2 months prior to pregnancy, the 9 months of pregnancy, the birth month, and 12 postpartum months.

The file includes as much information as possible about these women for the year before and after they gave birth. A standard set of demographic variables for each woman was extracted, as well as monthly data on the woman's family composition, family income, labor force participation, and program participation.

These new mothers may not have been in the SIPP sample for the whole panel, however. If they were observed for the full panel, the full period of interest may not have overlapped with the period the panel covered. (The latter situation arose whenever a birth occurred before the 12th month or after the 20th month of the SIPP panel.) Thus, the file contains *up to* 24 months of information about the experiences of mothers around the time of each birth.

Because the file is anchored around the birth month, it does not cover a fixed calendar period. Each month of postbirth data may be drawn from any month between October 1989 and August 1993. Trends in the economy during this period will tend to average out and thus not affect the observed trends around the birth.

The analyses based on this file, presented in Chapters III and V, use data on every woman observed for the specific period of interest (usually a 3-month term). For example, measures of income during the first 3 months of pregnancy are based on all women in the file observed for *that* period and exclude all women not observed for that period. Similarly, measures of income for the 3 months following the birth event are based on all women observed for *that* period. While the two sets of women in this example contain many of the same individuals, they are different samples. This approach minimizes (but may not eliminate) the effects of attrition bias and maximizes the effective sample size for each estimate. However, because estimates for different periods are based on different samples of women, comparisons of these estimates should account for possible differences in the

³Because SIPP does not directly assess pregnancy and birth, this study identified these events indirectly by selecting all infants under 1 year old at any point in the panel and linking their records with their mother's records. Appendix B describes this process in detail.

composition of the samples. Furthermore, the use of different samples for different periods implies none of the weights provided by the Census Bureau is appropriate for this file. All analyses of the file are thus unweighted; reasons for this decision are described further in Appendix B.

III. COMPARISON OF ESTIMATES OF ELIGIBILITY AND PARTICIPATION RATES BASED ON MONTHLY AND ANNUAL INCOME

As discussed in Appendix A, research on the effects of using monthly versus annual accounting periods on measured poverty levels reveals higher poverty rates using a monthly accounting period, as well as considerable movement into and out of poverty over the course of a year. This past research suggested that, since WIC income-eligibility estimates are based on annual income, the estimates may understate income eligibility for WIC, which is generally based on monthly income. However, the WIC eligibility threshold is substantially higher than the poverty level. The dynamics of income around the higher WIC threshold (185 percent of poverty), and for the specific population served by WIC (children under age 5), do not necessarily match the patterns observed around the poverty level. This chapter investigates the relationship between WIC income-eligibility estimates based on annual income and estimates based on monthly income.

The research questions addressed include:

- Are the numbers of infants and children eligible for WIC on the basis of annual income substantially different from the numbers eligible on the basis of monthly income?
- What proportion of infants and children are ever eligible for WIC over the course of a year, and how does this compare to the proportion eligible in a typical month, or on the basis of annual income?
- What are the characteristics of those with different patterns of WIC income eligibility over the course of a year?
- How are estimates of WIC participation rates affected by the data and time period used to estimate income eligibility?

METHODS FOR ESTIMATING INCOME ELIGIBILITY FOR WIC

This section describes four methods for estimating the percentage of infants and children income eligible for WIC. The next section and (in more detail) Appendix C present the results of each method. The four alternatives are:

1. Estimates from the March CPS, which are based on annual income in the prior calendar year

TABLE III.2

ESTIMATES OF AVERAGE MONTHLY WIC INCOME ELIGIBILITY RATES FROM ALTERNATIVE SIPP FILES,
BY YEAR AND AGE OF CHILD

	First Analysis Database (A)	Unlinked Core Files (B)	Difference (A - B)		
	Estimate	Estimate	Estimate	Standard Error	t-statistic
1990					
Infants	43.9%	43.1%	0.8%	1.0%	0.84
Children	39.5	41.6	-2.0	0.5	-3.88 **
All	40.3	41.9	-1.6	0.5	-3.24 **
1991					
Infants	43.7	45.1	-1.4	0.7	-1.97 *
Children	42.1	43.8	-1.7	0.4	-4.35 **
All	42.4	44.1	-1.7	0.4	-4.59 **
1992					
Infants	44.2	44.2	0.0	1.3	0.00
Children	43.4	44.0	-0.7	0.7	-0.89
All	43.5	44.1	-0.5	0.7	-0.75
1990-1992					
Infants	43.8	44.2	-0.4	0.6	-0.65
Children	41.5	43.2	-1.7	0.3	-5.86 **
All	42.0 %	43.4 %	-1.5 %	0.3 %	-5.56 **

SOURCES: Column 1: first SIPP analysis database developed from the 1990 and 1991 SIPP full-panel files. The files include data for each calendar year and the subsequent March for the subsample of persons who were present in all 13 months and who have full data on income of the March family in the prior calendar year. Column 2: unlinked files from the 1990 and 1991 SIPP panels. All children with data for each calendar month were used, and estimates are weighted by the monthly SIPP weights.

NOTE: Standard errors of the differences were calculated using software that fully accounts for the correlations among observations. See Appendix D.

*Significantly different from zero at the .05 level, two-tailed test.

**Significantly different from zero at the .01 level, two-tailed test.

Estimates of the Percentage of Infants and Children Ever Income Eligible for WIC During a Calendar Year

As noted, WIC income eligibility is generally determined on the basis of monthly income, but recertification only takes place every 6 to 12 months. By counting all of those who ever dropped below the eligibility threshold over the course of a year, an upper-bound estimate is obtained of those who could have been certified as income eligible for WIC.

More than 50 percent of infants and children live in families that had at least 1 month of income eligibility during the past year (Table III.1).⁹ Looking at these estimates from another perspective, about 25 to 30 percent more children live in families that experienced at least 1 month of WIC income eligibility over the course of a year than live in such families in any given month (last line of Table III.1).¹⁰ This means that the pool of children who could be receiving WIC benefits at a point in time could be as much as 1.3 times larger than the number below the income-eligibility threshold in that month.

Comparison with Previous Literature

The findings just discussed suggest less volatility in monthly income among the families of young children than the studies of the dynamics of poverty reviewed in Appendix A had suggested. For example, Table III.1 indicates that the proportion of children eligible for WIC in at least 1 month over the course of a year is about 25 to 30 percent larger than the proportion eligible on an annual basis. The poverty studies cited in Appendix A showed that the proportion of persons in poverty in at least 1 month of the year is about twice as large as the proportion who are poor on an annual basis (see Table A.3). The differences from the poverty literature could be the result of at least two factors. First, young children may be in families with more stable incomes than the population in general. Second, there may be greater income stability

⁹These estimates are based on less than 12 months for most infants and many children, since only months when they were in the appropriate age group are counted; thus, the proportion of children whose family's income fell below the eligibility threshold during the past year may be understated.

¹⁰The estimate provided in the text counts as eligible only families with annual incomes below three times the poverty level; Appendix C provides alternative results for lower cutoffs. The first section of this chapter contains a discussion of why an annual income cutoff is used.

around the WIC eligibility threshold (which is 185 percent of the poverty line) than around the much lower poverty threshold.¹¹

Results presented in Tables III.3 and III.4 indicate that both factors are at work. Table III.3 provides estimates of the percentage of infants, young children, and all persons with incomes less than 185 percent of the poverty level in 1991. Table III.4 provides estimates of the percentage of infants, young children, and all persons with incomes less than 100 percent of the poverty threshold in 1991. Using either income threshold, the proportionate difference between the estimate based on annual income and the estimate of those with at least 1 month of eligibility during the year is substantially greater for the population as a whole than it is for either infants or for young children. For example, Table III.3 (last line) shows that infants are 26 percent more likely to be WIC income eligible in at least 1 month of the year than on an annual basis, while people in general are 40 percent more likely to be income eligible in at least 1 month of the year. Table III.4 shows that infants are 40 percent more likely to be poor in at least 1 month than on an annual basis, while people in general are 81 percent more likely to be poor in at least 1 month. This indicates that young children are less likely than the population as a whole to live in families with month-to-month variability around either of these two thresholds. Children are poorer than the population in general and, thus, more likely to be consistently poor.

The estimates in Table III.4 as compared to Table III.3 indicate that the disparity between the annual and monthly estimates of those below the threshold is greater around the poverty line than around the higher WIC threshold. For example, although only 26 percent more infants are WIC eligible in at least 1 month than on an annual basis, fully 40 percent more infants are poor in at least 1 month than on an annual basis. Because the poverty threshold is lower than the WIC threshold, there are more families who drop below the threshold only some of the time relative to those who stay below consistently.

¹¹A third possibility is that low-income individuals may have had more stable incomes in the early 1990s than in the period the earlier analyses covered (1984-1985). Comparison of the last column of Table III.4 with Table A.3 provides some support for this hypothesis, but the differences are not large enough to be conclusive.

TABLE III.3
 ALTERNATIVE ESTIMATES OF PERCENTAGE OF INFANTS, YOUNG CHILDREN, AND ALL PERSONS
 WITH INCOME BELOW THE WIC ELIGIBILITY THRESHOLD
 (Calendar Year 1991)

	Infants (Less than 1 Year Old)		Young Children (Ages 1 to 4)		All Persons	
	Percentage or Proportion	Standard Error	Percentage or Proportion	Standard Error	Percentage or Proportion	Standard Error
SIPP Estimates						
SIPP Annual Income Estimate (Emulating March CPS Estimate)	41.4 %	2.0	41.6 %	0.8	27.7 %	0.2
Average of 12 Monthly Estimates	43.5 %	1.2	42.0 %	0.7	28.8 %	0.2
Income Eligible in Any Month*	52.1 %	1.2	53.0 %	0.7	38.9 %	0.2
Proportion of SIPP Annual Income Estimate						
Average of 12 Monthly Estimates	1.05	0.05	1.01	0.01	1.04	0.00
Income Eligible in Any Month*	1.26	0.05	1.27	0.02	1.40	0.01

SOURCES: First SIPP analysis database developed from the 1990 and 1991 SIPP full-panel files. The files include data for each calendar year and the subsequent March for the subsample of persons who were present in all 13 months and who have full data on income of the March family in the prior calendar year.

*Annual income constrained to be less than 300 percent of the poverty level using WIC poverty guidelines. Appendix C presents estimates using alternative annual income caps.

TABLE III.4

ALTERNATIVE ESTIMATES OF PERCENTAGE OF INFANTS, YOUNG CHILDREN, AND ALL PERSONS
WITH INCOME BELOW 100 PERCENT OF THE DHHS POVERTY GUIDELINE
(Calendar Year 1991)

	Infants (Less than 1 Year Old)		Young Children (Ages 1 to 4)		All Persons	
	Percentage or Proportion	Standard Error	Percentage or Proportion	Standard Error	Percentage or Proportion	Standard Error
SIPP Estimates						
SIPP Annual Income Estimate (Emulating March CPS Estimate)	23.4 %	1.7	22.2 %	0.7	11.7 %	0.1
Average of 12 Monthly Estimates	24.9 %	1.1	22.5 %	0.6	12.7 %	0.1
Poor in Any Month*	32.8 %	1.2	32.7 %	0.7	21.2 %	0.2
Proportion of SIPP Annual Income Estimate						
Average of 12 Monthly Estimates	1.06	0.07	1.01	0.02	1.09	0.01
Poor in Any Month*	1.40	0.09	1.47	0.04	1.81	0.02

SOURCES: First SIPP analysis database developed from the 1990 and 1991 SIPP full-panel files. The files include data for each calendar year and the subsequent March for the subsample of persons who were present in all 13 months and who have full data on income of the March family in the prior calendar year.

* Annual income constrained to be less than 300 percent of the poverty level using WIC poverty guidelines. Appendix C presents estimates using alternative annual income caps.

**Characteristics of
Children Income
Eligible Over Various
Periods**

To clarify the relationship between the measures of income eligibility for WIC, the distribution of infants and children across four eligibility groups was assessed. The four groups are:

1. Income eligible on an annual basis and in every month
2. Income eligible on an annual basis but not in every month
3. Not income eligible on an annual basis but eligible in at least 1 month
4. Not income eligible on an annual basis or in any month

These groups are referred to as Groups 1 to 4, for brevity. To explore the characteristics of children in these four groups and their mothers, data on the income, program participation, and other characteristics of the children's mothers was merged with the records of their children. Income eligibility estimates in this section are based on income data from the mother's record and, thus, are not directly comparable to those in previous sections. In particular, for infants, data on income for the mother refers to the entire previous year, including some period before the infant was born. This section focuses on patterns of income eligibility among these four groups; Chapter V considers patterns of program participation. Appendix F presents further details on the files used in this analysis, as well as additional tabulations of the characteristics of the four groups.

Patterns of Income Eligibility. Table III. 5 shows the distribution of children across the four groups for infants, children ages 1 to 4, and all children under age 5. Just over one-quarter of all children under age 5 (26 percent) are always WIC eligible, from 16 to 17 percent are in each of the middle two

TABLE III.5
INCOME ELIGIBILITY PATTERNS OF FAMILIES, BY AGE OF CHILD
(ROW PERCENTAGES)

	Annually Eligible and Eligible for WIC In		Not Annually Eligible and Eligible for WIC In		Unweighted Sample Size
	All Months	Some Months	Some Months	No Months	
All Children Under Age 5	25.6 %	16.4 %	16.7 %	41.3 %	11,098
Infants	21.7 %	19.3 %	15.4 %	43.6 %	1,948
Children Ages 1 to 4	26.5 %	15.7 %	17.0 %	40.9 %	9,150

SOURCE: Weighted estimates from the first analysis database created from the 1990 and 1991 SIPP panels.

NOTE: Data for calendar years 1990 to 1992 are pooled. Estimates of monthly and annual income eligibility were estimated using the family income from the mother's record. The primary way this differs from using the child's income is that monthly income eligibility estimates may include months before the child's birth. See Appendix F for additional discussion.

groups, and 41 percent are never eligible for WIC. The patterns for infants and older children are similar.¹²

Table III.6 shows how these four groups differ in their mean and median incomes, the number of months they qualify for WIC, and their rates of income eligibility for WIC in each month. As the percent of time eligible for WIC falls, mean and median incomes increase.¹³ Those in Group 1, who are always eligible for WIC, have both mean and median incomes below the poverty line. Group 2 children are eligible for WIC annually and for 8 months on average; about two-thirds are eligible in any given month, and their median annual incomes are 150 percent of poverty, still well below the WIC threshold. Group 3 children are eligible for WIC for just over 3 months on average, but are not annually eligible, and their family's median annual incomes are 231 percent of poverty. Finally, Group 4 children, who are never eligible for WIC, live in families with median incomes of nearly four times the poverty level.

Tables III.5 and III.6 together show how monthly and annual eligibility rates can be very close, despite the substantial numbers who move in and out of being eligible based on monthly income. In any given month, about two-thirds of those in Group 2 are annually eligible and eligible in that month, but about one-third are not eligible in that month (see the monthly eligibility rates in Table III.6). However, about one-third of those in Group 3 are eligible in each month, but not annually. Because Groups 2 and 3 are roughly equal in size (Table III.5), the number eligible each month is roughly equal to the number annually eligible.

¹²Despite the use of the mother's income, the results are consistent with the previous analyses. For example, 42 percent of children are annually eligible, as would be expected since the calculations should be the same for the mother and child. Although 60 percent are eligible in some month of the year, which is higher than the figure in Table III.1, this is both because no annual income cap is used and because using the additional months of income puts a few more children in the ever eligible category.

¹³Appendix F shows that other family characteristics, such as education and employment of the mothers, follow patterns consistent with this ascending hierarchy of economic well-being.

TABLE III.6

INCOME AND INCOME ELIGIBILITY PATTERNS, BY WIC ELIGIBILITY GROUP
(POOLED DATA FOR 1990 TO 1992 FOR ALL CHILDREN UNDER AGE 5)

	Full Sample	Annually Eligible and Eligible in		Not Annually Eligible and Eligible in	
		All Months	Some Months	Some Months	No Months
Median Annual Income/Poverty Ratio	2.19	0.66	1.50	2.31	3.81
Mean Annual Income/Poverty Ratio	2.62	0.71	1.38	2.64	4.29
Mean Number of Months Eligible for WIC	5.0	12.0	8.1	3.3	0.0
Income Eligible for WIC in					
January	38.9 %	100.0 %	54.3 %	26.4 %	0.0 %
February	42.3	100.0	69.3	32.3	0.0
March	40.0	100.0	61.7	25.8	0.0
April	40.0	100.0	64.7	22.7	0.0
May	38.2	100.0	57.9	18.7	0.0
June	40.4	100.0	64.6	25.2	0.0
July	42.0	100.0	69.2	30.4	0.0
August	41.6	100.0	69.7	27.4	0.0
September	43.0	100.0	76.8	28.6	0.0
October	41.8	100.0	73.6	24.9	0.0
November	43.1	100.0	75.1	31.4	0.0
December	44.1	100.0	76.3	36.0	0.0
Sample Size (unweighted)	11,098	2,730	1,712	1,869	4,787

SOURCE: Weighted estimates from the first analysis database created from the 1990 and 1991 SIPP panels.

NOTE: Annual and monthly income eligibility were estimated using the family income from the mother's record. See Appendix F for additional details.

**WIC
PARTICIPATION
RATES FOR
INFANTS AND
CHILDREN**

Estimates that compare the number of WIC participants from administrative data to the number of eligible individuals from the CPS sometimes have indicated a participation rate for infants in excess of 100 percent. This discrepancy was thought to reflect underreporting of income eligibility in the CPS. One potential source of an underestimate was the use of an annual accounting period in the CPS estimate but the use of short-term (typically monthly) income in program administration. However, as shown in the previous section, estimates of eligibility from the SIPP based on monthly income and annual income are very close to each other and to the CPS estimate. This suggests that participation rates that use eligibility estimates based on monthly income probably will not differ from those based on annual income, except for sampling error.

This section presents:

- Estimates of the number of income eligible infants and children from SIPP and the CPS
- Estimates of the number of WIC participants from FCS administrative records
- Participation rates based on combinations of the above estimates

All estimates in this section are for calendar year 1992, the most recent year these data cover.

**Estimates of the
Number of Infants
and Children Income
Eligible for WIC**

Table III.7 presents three estimates of the number of infants and children income eligible for WIC in 1992. They are:

1. March 1993 CPS annual income estimates for 1992
2. SIPP annual income estimates for 1992 (from the 1991 panel), using CPS methods
3. SIPP estimates of average monthly eligibility in 1992 (from the 1991 panel)

TABLE III.7

ALTERNATIVE ESTIMATES OF NUMBER OF INFANTS AND
CHILDREN INCOME ELIGIBLE FOR WIC IN 1992
(Standard Errors in Parentheses)

Participant Category	March 1993 CPS	1991 SIPP Panel: Annual Income Estimate for 1992 ^a	1991 SIPP Panel: Average Monthly Estimates for 1992
Infants	1,717,743 (61,939)	1,357,408 (205,128)	1,649,199 (209,551)
Children	6,925,815 (122,618)	7,113,488 (463,905)	7,075,566 (429,095)
Infants and Children	8,643,558 (136,331)	8,470,896 (504,764)	8,724,765 (474,802)

SOURCES: March 1993 CPS; first analysis database created from the 1990 and 1991 SIPP panels.

^aUsing methods that emulate the March CPS estimate.

These estimates were computed using methods described earlier.

When CPS methods (an annual accounting period and fixed family composition) are used, SIPP provides a point estimate for the number of infants income eligible for WIC that is lower than the CPS point estimate (1.4 million, versus 1.7 million) and a point estimate for the number of children that is close to the CPS estimate (7.1 million, versus 6.9 million).¹⁴ In both cases, however, the standard error for the SIPP estimate is so large that it is not significantly different from the CPS estimate.¹⁵

SIPP estimates of income-eligible infants and children based on averages of monthly estimates are remarkably close to (and not significantly different from) the CPS estimates.

Estimates of WIC Participants

FCS administrative data indicate that there were 1,647,553 infants and 2,496,374 children participating in WIC in an average month in 1992. Because the administrative numbers are based on states reporting to FCS on the number of food instruments issued, they have no sampling error associated with them. The numbers used here are an average of the 12 monthly participation counts. Participants in U.S. territories were excluded, since they are not included in the SIPP universe.

¹⁴The low estimate for infants reflects a small overall sample of infants in the file in March 1993. This may reflect attrition in SIPP. Infants in March 1993 were assigned weights on the basis of their mothers' 1992 weights. These weights, therefore, only represent infants born to mothers present in January 1992 and remaining in the SIPP sample through March 1993. Previous tables did not use infants born in January through March of 1993; however, these infants were used in computing the estimates of eligibles based on annual income shown in this table.

¹⁵The standard error estimates presented in Table III.7 are calculated using a Taylor Series method and generalized variance parameters provided by the Census Bureau.

Implied WIC Participation Rates

Table III.8 presents alternative participation rate estimates for 1992 using three eligibility estimates: (1) estimates using annual income from the March 1993 CPS; (2) the SIPP eligibility estimate calculated in a manner comparable to the CPS; and (3) the SIPP estimate that is an average of 12 monthly estimates of income eligibles, which seems the most appropriate comparison with the FCS data.¹⁶

The estimates of WIC participation rates for infants and children in Table III.8 are based on the estimates of eligible infants and children presented in Table III.7. In each case, the numerator (the number of WIC participants) is the average monthly number of participants from FCS administrative data. The estimated participation rate thus varies only with the denominator, the estimate of the number of infants and/or children income eligible for WIC.¹⁷

Because estimates of the number of children income eligible for WIC were generally similar across data sources and methods, estimates of participation rates also are similar. The only exception is that the estimated participation rate for infants using the SIPP estimate of eligibles based on annual income is implausibly high--121 percent. As noted earlier, this reflects a very small SIPP sample of infants of all incomes in March 1993. However, both the CPS annual income estimate and the SIPP monthly income estimate imply a participation rate for infants of nearly 100 percent; in contrast, the participation rate for children is estimated to be 35 to 36 percent.

Standard errors for the estimated number of infants and children income eligible for WIC could be reduced by pooling data across SIPP panels and/or across years. Pooling data across panels for an estimate that applies to 1992

¹⁶FCS currently estimates participation rates based on CPS estimates of income-eligible infants and children. The CPS-based participation rate estimates presented here are not fully comparable to those published by FCS, however, primarily because FCS adjusts the estimates to reflect the estimated rate of nutritional risk among the income-eligible population.

¹⁷Standard errors are not reported for this table because confidence bounds for these numbers are not symmetrical around the point estimate. To find the confidence bounds for an estimate in this table, construct the confidence interval around the estimate from Table III.7. Confidence bounds of the participation rate can then be constructed using these upper and lower limits as the denominator and the FCS number of participants as the numerator.

TABLE III.8

1992 WIC PARTICIPATION RATES IMPLIED BY FCS PARTICIPATION COUNTS
AND ALTERNATIVE ESTIMATES OF INCOME ELIGIBILITY
(Percentages)

Participant Category	Eligibility Estimate Used in Calculating Participation Rates		
	March 1993 CPS	1991 SIPP Panel: Annual Income Estimate for 1992 ^a	1991 SIPP Panel: Average Monthly Estimates for 1992
Infants	95.9	121.4	99.9
Children	36.0	35.1	35.3
Infants and Children	47.9	48.9	47.5

NOTE: These participation rate estimates are based on the estimates of WIC eligibles in Table III.7.

^aUsing methods that emulate the March CPS estimate.

was not possible when these estimates were prepared, because the Census Bureau had not yet released the 1992 SIPP panel file. Pooling data across years and across panels would be possible, but the resulting estimate would not be an estimate for 1992; it would be a weighted average of the number of infants income eligible for WIC over the period covered. Such an estimate could be compared to a similarly weighted average number of infants participating in the program over the period to yield an average participation rate. The weights used could be chosen to minimize the standard error of the desired estimate.

The estimates reported in Table III.8 suggest that such improvements will still yield participation rates for infants of close to 100 percent. The results reported in the previous section suggest that this high apparent participation rate may be the result of the long certification period for infants. The number of infants in the pool of WIC eligibles (those income eligible at a point in time plus those who potentially could have been certified as income eligible and have not yet been scheduled for recertification) could be as much as 25 percent greater than the estimates used here (see Table III.1). An estimate counting all “ever eligible” infants would thus yield participation rates up to 20 percent lower than rates based on the number of infants with incomes below the eligibility threshold at a point in time.

SUMMARY

Previous studies have found higher levels of poverty using monthly income measures than using annual measures. On the basis of those studies, this research set out to investigate the hypothesis that estimates of WIC income eligibility based on an annual accounting period could be understating the size of the eligible population in any month and that estimates of participation rates derived from these eligibility estimates could be overstated. The findings of this study suggest a somewhat different picture. Specifically, this study found:

- The proportion of infants and children income eligible for WIC is very similar when measured with the CPS and measured with SIPP using methods that mimic the CPS estimates.
- SIPP estimates of the average monthly percentage of infants and children income eligible for WIC are close to SIPP estimates based on annual income. Because none of the SIPP estimates is ideal for comparison to the CPS, this issue was investigated using a range of methods. Using the sample for which annual income was available,

the SIPP estimates of annual and average monthly eligibility rates were not significantly different. Using the largest possible SIPP sample each month, estimates of average monthly eligibility rates for children ages 1 to 4 were slightly higher than the estimates for the restricted sample; however, it may be that annual eligibility rates for this sample would also be higher, if an annual income measure were available. Even if the annual income estimate was the same for the broader sample, the differences between the monthly and annual estimates are small and less than had been expected from the review of the poverty literature.

- Both previous research and this study find that estimates of poverty rates based on monthly income are generally higher than estimates based on annual income. The difference between the findings for poverty rates and WIC eligibility rates results in part because a higher threshold (185 percent of poverty) is used for WIC eligibility, and in part because infants and young children are in families with more stable (and lower) incomes than individuals in general.
- Although monthly and annual eligibility rates are similar, this does not imply the same individuals are eligible for WIC from month to month. In fact, 25 to 30 percent more infants and children are income eligible for WIC in *some* month of the calendar year than are income eligible on average.¹⁸ Since individuals are only recertified for WIC every 6 to 12 months, the number eligible in any month of the past year is an upper-bound estimate of those who could potentially be on WIC.
- A comparison of the characteristics of those consistently and intermittently eligible for WIC confirms that consistent eligibility is strongly associated with lower income.
 - Infants and children who are eligible for WIC in all months of the year are poor on average.

¹⁸This is a conservative estimate, as noted above, in that it includes only those with annual incomes below 300 percent of the poverty level and, for infants, income is only counted in the months after birth.

- Those who are annually eligible, but not eligible in all months, are eligible for 8 months on average and have median incomes about 150 percent of poverty.
- Those who are not annually eligible, but are eligible in some months, are eligible for about 3 months on average and have median annual incomes about 230 percent of poverty.
- Regardless of whether an annual or monthly income eligibility estimate was used, the estimated participation rate for infants was close to 100 percent. The estimated participation rate for children was 35 to 36 percent.

FCS had been concerned that the use of an annual, instead of a monthly, measure of income eligibility was the reason that estimates of participation rates for infants were at or near 100 percent, but the findings just described imply this result is not due to use of an annual income measure. Instead, the length of the certification period for infants, coupled with income changes during that period, is likely to explain much of the high estimated participation rate for infants.

IV. PATTERNS OF INCOME ELIGIBILITY AROUND BIRTH

This chapter describes the incomes and other characteristics of families in the year before and after a birth. Specifically, the tables describe:

- Quarter-by-quarter patterns of income, poverty, and income eligibility for WIC among families during the year before and the year after a birth
- Rates of transition between income eligibility and ineligibility for selected periods, for subsamples with full data for these periods
- The characteristics of income-eligible families in each quarter

Analyses of patterns of participation in WIC and other programs over the same period are presented in Chapter V.

As discussed in Chapter II, the analysis is based on a file that contains data on all women with births during or just before the SIPP panels for 1990 and 1991. The file contains up to 24 months of data on each woman and her family, covering the year before and the year after the birth. Because the WIC program counted a pregnant woman as one family member in determining WIC eligibility during this period, all of the tables in this chapter have been prepared using this definition of eligibility. Table IV.1 also presents alternate results using the current definition of WIC eligibility, which counts a pregnant woman as two family members. Appendix G presents alternate versions of the other tables. In all tables in this chapter, women with more than one pregnancy during a SIPP panel contribute two observations. Appendix H presents alternate versions of selected tables in which only one pregnancy per woman is counted.

TRENDS IN INCOME, POVERTY, AND WIC INCOME ELIGIBILITY IN FAMILIES WITH A BIRTH

In families with a birth, average incomes fall somewhat during pregnancy, fall sharply around the time of birth, and then increase slightly over the year after the birth (but not to the prepregnancy level). Rates of poverty and WIC eligibility exhibit patterns that closely correspond to the patterns for average income; in addition, because they reflect family size, these rates also take a sharp jump at whichever point the family size is considered to increase. These patterns are consistent with previous studies showing that both poor women and higher-income women tend to leave work at birth and to resume work activity in the year after birth at a lower level than before.

The top panel of Table IV.1 shows trends in income for families around a birth.¹ The rest of Table IV.1 shows the distribution of income relative to the poverty level using two measures: (1) U.S. Census Bureau poverty thresholds, which are used in calculating the official poverty rate; and (2) WIC program poverty guidelines, which are based on the somewhat simpler U.S. Department of Health and Human Services poverty guidelines and lag the Census Bureau thresholds by 6 months (since each year's guidelines are implemented on July 1 of that year). This lag implies that the WIC poverty thresholds will always indicate lower levels of poverty than the Census Bureau thresholds. This report refers to the Census Bureau thresholds in discussing poverty but the WIC thresholds in discussing income eligibility for WIC. Both poverty measures are shown in two ways: (1) counting the pregnant woman as two family members during pregnancy, and (2) counting the pregnant woman as one during pregnancy. This is because pregnant women were counted as one in measuring WIC eligibility during the period covered by these data but, since December 1994, have been counted as two in determining WIC eligibility during pregnancy.

On average, family incomes fall in the period around a birth. Mean annualized family income for all women with a birth is approximately \$39,000 in the quarter before pregnancy, falls steadily throughout pregnancy, and reaches its lowest point (under \$34,000) right after birth, in the first quarter postpartum. Income then gradually rises again to about \$35,000 in the last quarter postpartum. The downward shift in income appears to occur throughout the income distribution. This pattern is consistent with the hypothesis that many working women leave the workforce, at least temporarily, shortly before or at the time of the birth. Furthermore, the fact that family income does not rise back to its prepregnancy level accords with past research that shows some women who had worked do not return to the workforce after the birth of a child.

Changes in poverty from quarter to quarter around a birth show a pattern similar to the changes in mean income (second panel of Table IV.1; see the line showing the cumulative percent of families below 100 percent of poverty). The number of families with income below the Census Bureau poverty level (counting the pregnant woman as one) rises from 17.3 percent before pregnancy to 21.3 percent in the third trimester, peaks at 26.6 percent in the first quarter postpartum, and then gradually falls again to 25.5 percent

¹All income data are adjusted to January 1992 dollars using the Consumer Price Index.

TABLE IV.1

INCOME PATTERNS BEFORE PREGNANCY, DURING PREGNANCY, AND DURING THE YEAR AFTER BIRTH

Characteristics	Before Pregnancy	Pregnancy			After Birth			
		First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Quarterly Family Income (Annualized)								
Under \$5,000	6.7	6.1	7.2	8.0	8.6	8.0	8.0	7.8
\$5,000 - \$9,999	7.4	8.9	8.8	9.3	9.0	9.5	9.3	9.4
\$10,000 - \$14,000	7.8	7.5	7.8	8.1	9.1	8.6	8.8	8.5
\$15,000 - \$29,999	22.4	22.7	22.8	23.6	26.5	24.9	25.1	24.6
\$30,000 - \$49,999	28.1	27.4	26.7	26.8	26.3	27.7	26.2	26.2
\$50,000+	27.5	27.4	26.7	24.2	20.4	21.3	22.7	23.5
Mean (Dollars)	38,597	38,009	37,489	36,049	33,611	34,153	34,626	35,218
SD	29,410	28,164	28,982	28,711	27,139	26,850	27,791	27,517
Monthly Income as Percentage of Census Poverty Thresholds (Averaged)								
Pregnant Woman Counted as One in Determining Poverty Threshold Distribution:								
Under 50 Percent	8.3	7.8	8.9	9.4	12.3	11.6	11.4	11.0
50-<100	9.0	10.0	10.5	11.9	14.3	13.7	14.3	14.5
100-<130	5.7	5.7	6.1	5.5	7.6	7.7	7.7	6.6
130-<185	11.0	10.4	9.5	10.2	14.7	13.5	13.2	13.2
185-<250	11.4	11.5	12.2	12.3	13.2	14.7	14.4	14.4
250+	54.6	54.8	52.8	50.7	38.0	38.8	39.0	40.3
Cumulative Distribution:								
<50 Percent	8.3	7.8	8.9	9.4	12.3	11.6	11.4	11.0
<100	17.3	17.7	19.3	21.3	26.6	25.3	25.7	25.5
<130	22.9	23.4	25.5	26.8	34.2	33.0	33.3	32.1
<185	34.0	33.8	35.0	37.0	48.9	46.5	46.5	45.3
<250	45.4	45.2	47.2	49.3	62.0	61.2	61.0	59.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean Percentage	340	335	329	315	241	245	248	252
SD	277	267	274	269	209	205	208	207
Pregnant Woman Counted as Two in Determining Poverty Threshold Distribution:								
Under 50 Percent	8.3	10.0	11.5	12.3	12.3	11.6	11.5	11.2
50-<100	9.0	11.9	12.6	12.8	14.3	13.7	14.4	14.8
100-<130	5.7	6.8	6.3	7.0	7.7	7.6	7.8	6.4
130-<185	11.0	12.8	12.1	12.7	14.6	13.5	13.1	13.2
185-<250	11.4	13.4	14.1	13.8	13.2	14.8	14.5	14.4
250+	54.6	45.1	43.5	41.4	38.0	38.7	38.7	39.9
Cumulative Distribution:								
<50 Percent	8.3	10.0	11.5	12.3	12.3	11.7	11.5	11.2
<100	17.3	21.9	24.1	25.1	26.6	25.4	25.9	26.0
<130	22.9	28.7	30.3	32.1	34.2	33.0	33.7	32.4
<185	34.0	41.6	42.4	44.8	48.9	46.5	46.8	45.6
<250	45.4	54.9	56.5	58.6	62.0	61.3	61.3	60.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean Percentage	340	272	268	257	241	245	247	250
SD	277	217	223	219	209	205	207	205

TABLE IV.1 (continued)

Characteristics	Pregnancy				After Birth			
	Before Pregnancy	First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Monthly Income as Percentage of WIC Eligibility Guidelines (Averaged)								
Pregnant Woman Counted as One in Determining Poverty Threshold Distribution:								
Under 50 Percent	7.9	7.3	8.2	8.7	11.7	11.0	10.6	10.2
50-<100	8.7	9.7	10.3	11.4	13.7	13.4	13.7	14.0
100-<130	5.1	5.1	5.5	5.4	6.9	6.9	7.3	6.7
130-<185	10.0	10.5	9.5	10.1	13.9	13.2	12.3	12.4
185-<250	11.3	11.2	11.7	11.6	13.6	14.3	14.9	13.9
250+	57.0	56.3	54.8	52.7	40.1	41.2	41.2	42.8
Cumulative Distribution								
<50 Percent	7.9	7.3	8.2	8.7	11.7	11.0	10.6	10.2
<100	16.5	17.0	18.5	20.1	25.4	24.4	24.3	24.2
<130	21.6	22.0	24.1	25.6	32.3	31.3	31.6	30.9
<185	31.6	32.5	33.5	35.7	46.2	44.4	44.0	43.3
<250	43.0	43.8	45.2	47.3	59.9	58.8	58.8	57.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean Percentage	356	351	344	329	251	254	258	263
SD	290	279	285	281	213	210	214	213
Pregnant Woman Counted as Two in Determining Poverty Threshold Distribution:								
Under 50 Percent	7.9	9.1	10.3	11.3	11.7	11.1	10.8	10.4
50-<100	8.7	11.9	12.1	13.1	13.7	13.4	13.8	14.3
100-<130	5.1	6.4	6.5	6.1	7.0	6.8	7.3	6.4
130-<185	10.0	11.8	11.1	11.8	13.9	13.2	12.1	12.6
185-<250	11.3	13.3	13.8	14.3	13.5	14.4	15.0	13.9
250+	57.0	47.5	46.1	43.5	40.1	41.1	41.0	42.5
Cumulative Distribution								
<50 Percent	7.9	9.1	10.3	11.3	11.7	11.1	10.8	10.4
<100	16.5	21.0	22.5	24.4	25.4	24.5	24.6	24.7
<130	21.6	27.4	29.0	30.5	32.4	31.3	31.9	31.0
<185	31.6	39.2	40.1	42.3	46.3	44.5	44.0	43.7
<250	43.0	52.5	53.9	56.5	59.9	58.9	59.0	57.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mean Percentage	356	285	280	268	250	254	257	260
SD	290	224	229	225	213	209	213	211
Sample Size	1,974	2,192	2,621	2,909	3,019	3,074	3,290	3,457

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. The file includes all women with a child less than 1 year old in any wave of SIPP.

NOTE: In each quarter, all women with valid data for that quarter are included.

SD = standard deviation.

in the last quarter postpartum. Since poverty level is dependent on family size as well as family income, the percent in poverty rises substantially between the third trimester of pregnancy and the first quarter postpartum, when the family size changes. To distinguish the effect of changes in income from the effect of changes in family size on the increase in the percentage of families in poverty, the percentage of families in poverty was also calculated when counting the pregnant woman as two. The percentage of families in poverty still peaks just after the birth and remains well above the prebirth level for the year after the birth.²

The percentage of families income eligible for WIC (with income below 185 percent of the WIC poverty guidelines) follows the same general trend as mean income and the percentage of families in poverty (last panel of Table IV.1; see the line showing the cumulative percentage of families below 185 percent of the WIC poverty guideline). When the pregnant woman is counted as one, the percentage of families income eligible for WIC rises gradually from 32 percent just before the pregnancy to 36 percent in the third trimester. When the pregnant woman is counted as two, the income-eligibility rate rises from 32 percent prepregnancy to 39 percent in the first trimester and increases gradually to 42 percent in the third trimester. In either case, income eligibility peaks at 46 percent in the first quarter postpartum and then falls gradually to about 43 percent in the last quarter postpartum.³ Thus, the change in income apparently has an effect on the increase in the income-eligibility rate around birth roughly equal to the effect of the change in family size. (Of the total increase of about 14 percentage points from prepregnancy to the quarter after birth, 7 are due to change in income, and 7 are due to change in family size.)

The decline in family income around a birth implies that the current method for estimating income-eligible pregnant women (as three-quarters of income-

² Counting the pregnant woman as two smooths the trend around the birth month because family size does not suddenly change when the child is born. However, family size does change from the first quarter before pregnancy to the first trimester of pregnancy, thus causing the number of families in poverty to rise substantially between these quarters.

³ The income-eligibility rate that counts a pregnant woman as two produces a slightly different estimate for the quarters after birth than the rate that does not, because women who become pregnant during the postpartum period are also counted as two. Some pregnancies during this period may be missed, however, because the birth is not observed.

eligible infants) overstates the number eligible during pregnancy. Counting the pregnant woman as two, the average income-eligibility rate during pregnancy is 91 percent of the average income-eligibility rate in the year after the birth. Specifically, the average of the income-eligibility rates during the three trimesters of pregnancy (39.2, 40.1, and 42.3 percent) divided by the average of the income-eligibility rates during the four quarters after birth (46.3, 44.5, 44.0, and 43.7 percent) is .908. Thus, a better estimate of the number of income-eligible pregnant women would be 91 percent of 75 percent of income-eligible infants, or 68 percent of income-eligible infants.⁴

INCOME ELIGIBILITY FOR WIC DURING PREGNANCY

Table IV.2 considers patterns of WIC eligibility during pregnancy for the sample with data for the entire period of pregnancy and the birth month. The sample is restricted to make it possible to look at the timing and duration of eligibility for particular cases.⁵ (In contrast, the analysis in Table IV.1 looks only at trends in average rates of income eligibility.) The pregnant woman is counted as one in computing eligibility during pregnancy, as was the practice during this period.

Of all pregnant women, 53 percent are income eligible for WIC (incomes below 185 percent of WIC poverty guidelines) in at least 1 month of pregnancy, counting the pregnant woman as one family member (47 percent are never eligible). Among those ever eligible during pregnancy, 61 percent are eligible in the first month of pregnancy (indicating that their family income was below 185 percent of the WIC poverty guidelines even before they became pregnant), while 11 percent are first eligible in the birth month (when family size increases and the poverty level correspondingly decreases). The first month of eligibility for the remaining 28 percent of women income eligible in at least 1 month of pregnancy is fairly evenly distributed among months 2 through 9 of pregnancy.

As shown in the second column of Table IV.2, among women income eligible for WIC in at least 1 month of pregnancy, almost an equal percentage are

⁴Neither this estimate nor the current FCS estimates adjust for fetal or infant deaths.

⁵One caveat in interpreting this table is that the requirement for continuous data during this period may lead to some upward bias in the incomes of women included in the table, since SIPP nonresponse is correlated with income.

TABLE IV.2

PATTERNS OF INCOME ELIGIBILITY FOR WIC DURING PREGNANCY
(Sample with Data for Entire Pregnancy)

	Percent of All Pregnant Women	Percent of Pregnant Women Income Eligible for WIC in at Least 1 Month of Pregnancy
Percent of Pregnant Women Who First Become Income Eligible for WIC During the Following Months:		
Never Eligible	46.8	n.a.
1	32.6	61.3
2	2.7	5
3	2	3.8
4	1.7	3.1
5	1.7	3.1
6	1.5	2.8
7	1.7	3.2
8	1.5	2.8
9	2.2	4.2
Birth Month	5.7	10.7
Percent Income Eligible Throughout Pregnancy	20.7	38.8
Percent Income Eligible in Some Month Who Lose Eligibility in a Later Month	19.6	36.8
Distribution of Pregnant Women by Number of Months Eligible for WIC During Pregnancy		
Never Eligible	46.8	n.a.
1	7.7	14.4
2	4.4	8.3
3	3.1	5.9
4	3.1	5.8
5	2.3	4.4
6	2.9	5.4
7	2.6	4.9
8	2.4	4.6
9	4	7.6
10	20.7	38.8
Mean Number of Months of Eligibility	3.5	6.5
SD	4.2	3.5
Sample Size	2,104	1,210

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. The file includes all women with a child less than 1 year old in any wave of SIPP.

NOTES: Sample is limited to women with income-eligibility data for all 9 months of pregnancy and the birth month. Women who were income eligible in the first month of pregnancy may also have been income eligible before pregnancy.

n.a. = not applicable; SD = standard deviation.

income eligible throughout pregnancy (39 percent) as are income eligible in some month and lose eligibility in a later month (37 percent). The remaining 24 percent gain eligibility sometime after the first month of pregnancy and remain eligible through the rest of their pregnancy (not shown).

On average, pregnant women are eligible for WIC for 3.5 of the 10 months. Those who are ever eligible are eligible for 6.5 months on average. As noted, 39 percent of pregnant women who are ever eligible are eligible for the entire 10 months; 8 percent are eligible for 9 months. At the other extreme, 14 percent of those ever eligible are eligible for only 1 month (8 percent of all pregnant women), and 8 percent are eligible for 2 months. The rest are eligible for periods that are fairly uniformly distributed from 3 to 8 months. Thus, nearly a quarter of those ever income eligible were income eligible for only 1 or 2 months of pregnancy. Most likely, many such women did not apply for WIC benefits.

In Appendix G, Table G.1 shows patterns of income eligibility during pregnancy when the pregnant woman is counted as two, as in current WIC program practice. Using the alternative definition of income eligibility, more women are income eligible for WIC at some time during pregnancy (57 percent), and a greater proportion of these women become eligible in the first month of pregnancy (68 percent). The average number of months of eligibility increases to 4.1 months (7.1 months for those ever eligible).

INCOME ELIGIBILITY FOR WIC IN THE YEAR AFTER A BIRTH

Of all women in families not income eligible for WIC in the third trimester of pregnancy, 19 percent become income eligible in the first quarter postpartum (top panel of Table IV.3). Conversely, of women in families income eligible for WIC in the first quarter postpartum, 26 percent were not income eligible in the third trimester of pregnancy. The large percentage of families that become income eligible for WIC in the first quarter postpartum is due both to the decline in family income as working women leave the workforce and to the increase in family size when the infant is born.⁶ The estimated increase in income eligibility is consistent with Ruggles and Williams (1986), who found that persons disproportionately become poor in the same month as a birth in the family.

⁶Table G.2 in Appendix G shows the percentages making these transitions when the pregnant woman is counted as two. There is still a substantial increase in eligibility around the time of the birth.

Among women ever income eligible for WIC in the postpartum quarters, most (83 percent) are eligible in the first quarter postpartum (lower panel of Table IV.3). Among those eligible in the first quarter postpartum, 13 percent are not income eligible by the second quarter postpartum, and 28 percent lose income eligibility at some point. Since there is no reason to suspect that family composition changes substantially during the postpartum quarters, the decline in income eligibility during this period is probably mostly caused by mothers returning to work.

**CHARACTERISTICS
OF WOMEN
INCOME ELIGIBLE
FOR WIC BEFORE
AND AFTER BIRTH**

Table IV.4 examines the demographic and economic characteristics of women income eligible for WIC and their families, by quarter.⁷ Table IV.5 presents the characteristics of the full population of women with a birth and their families. These tables address the following questions:

- What are the characteristics of women income eligible for WIC and their families in the year before and after a birth? How do they compare to the characteristics of all women and families that experience a birth?⁸
- How do the characteristics of all women change during the period around a birth?
- What are the changes in the characteristics of income-eligible families because more families become eligible for WIC around birth?

⁷Table G.3 in Appendix G shows how the patterns in this table change when the pregnant woman is counted as two during pregnancy. The changes in sample characteristics noted around birth in Table IV.4, as less disadvantaged women enter the sample, occur in two stages in Table G.3: (1) at the start of pregnancy, when the family size increases; and (2) at birth, when income falls on average.

⁸Because the focus of this analysis was on description of trends, standard errors were not estimated. Thus, the statistical significance of differences between the two samples was not assessed.

TABLE IV.3

INCOME ELIGIBILITY FOR WIC DURING THE YEAR AFTER A BIRTH

	Percentage
Among Women Not Income Eligible in Quarter Before Birth (1,723), Percent that Become Eligible in First Quarter After Birth	18.7
Among Women Income Eligible in First Quarter After Birth (1,225), Percent Not Income Eligible in Quarter Before Birth	26.4
Sample Size (universe = women with valid data for all 3 months before and all 3 months after birth)	2,671
Of Women Ever Income Eligible After Birth (1,061), Percent Who First Become Eligible in:	
First quarter after birth	83.3
Second quarter after birth	7.4
Third quarter after birth	5.0
Fourth quarter after birth	4.3
Percent of Women Ever Income Eligible After Birth (1,061) Who Lose Eligibility at Some Point After Birth	28.3
Of Women Income Eligible in First Quarter After Birth (884), Percent Who First Become Ineligible	
Second quarter after birth	13.2
Third quarter after birth	7.9
Fourth quarter after birth	5.7
Sample Size (universe = women with valid data for the entire year after birth)	1,973

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. Sample is all women with a child less than 1 year old in any wave of SIPP.

TABLE IV.4

CHARACTERISTICS OF INCOME-ELIGIBLE WOMEN AND THEIR FAMILIES, BY QUARTER

Characteristics	Before Pregnancy	Pregnancy			After Birth			
		First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Age of Mother (Years)								
Under 20	25.0	24.3	21.3	19.4	16.5	17.1	14.9	12.9
20-24	29.3	30.9	32.1	32.6	32.5	32.7	33.3	32.8
25-29	26.3	24.3	24.6	24.9	27.8	26.6	25.9	26.3
30-34	14.3	16.1	17.1	17.3	16.3	16.2	18.5	19.0
35+	5.1	4.5	5.0	5.7	6.9	7.5	7.4	9.1
Mean	24.2	24.2	24.6	24.8	25.3	25.3	25.5	26.0
Race/Ethnicity								
American Indian	2.4	2.2	2.5	2.4	1.6	1.6	1.8	1.4
Asian	3.4	2.9	3.3	3.4	3.2	3.4	3.9	4.2
Black, non-Hispanic	22.3	22.6	21.2	20.5	18.3	19.1	20.1	20.4
Hispanic	21.6	22.0	22.3	23.2	22.9	22.8	21.9	22.0
White, non-Hispanic	50.3	50.2	50.7	50.5	54.2	53.1	52.4	52.0
Education of Mother								
Less than high school	45.8	44.3	42.5	42.7	37.8	38.0	38.8	38.4
High school or GED	39.3	39.8	41.2	40.5	40.8	41.5	41.7	42.4
1-3 years of college	11.2	12.1	12.6	13.6	16.3	15.7	14.5	14.6
4+ years of college	3.7	3.8	3.6	3.2	5.0	4.8	5.0	4.5
Family Composition								
Two parents	39.3	41.7	45.7	47.7	57.4	56.1	55.2	55.3
Mother only	41.8	40.7	37.9	36.4	29.2	30.2	31.5	31.5
Mother and other adult(s)	17.8	16.5	15.8	15.3	12.8	12.8	12.4	12.8
Other	1.1	1.1	0.6	0.6	0.6	0.9	0.8	0.4

TABLE IV.4 (continued)

Characteristics	Pregnancy				After Birth			
	Before Pregnancy	First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Number of Children Under Age 18 (Counts Do Not Include Infant in Postbirth Quarters)								
None	15.7	17.0	19.7	19.6	26.0	24.7	25.0	24.9
1	30.0	29.9	28.8	31.5	32.6	32.7	34.2	32.0
2	27.1	26.2	25.3	23.2	21.6	20.8	20.3	21.3
3+	27.2	26.9	26.3	25.7	19.8	21.7	20.6	21.9
Mean	2.0	1.9	1.8	1.7	1.7	1.6	1.5	1.4
Number of Children Age 4 and Under (Counts Do Not Include Infant in Postbirth Quarters)								
None	41.2	41.4	41.8	43.2	48.2	48.7	48.2	49.9
1	36.2	38.1	38.9	37.7	36.9	37.3	38.2	36.4
2	15.7	14.7	14.1	13.7	11.9	11.1	11.5	11.6
3+	6.9	5.8	5.2	5.4	3.0	2.9	2.1	2.1
Mean	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7
Mother Employed (Based on Employment Codes)	40.4	40.8	31.2	25.2	28.5	28.1	31.1	30.1
Mother Employed (Based on Earnings)	38.5	39.3	29.4	23.9	26.1	25.5	29.2	27.3
Mother's Hours Worked (of Those Employed Based on Earnings)								
Less than 35	47.5	50.0	52.7	48.8	43.7	51.7	49.3	47.9
35+	52.5	50.0	47.3	51.2	56.3	48.3	50.7	52.1
Mean (in months worked)	31.4	31.6	31.6	31.8	32.1	30.7	31.1	32.2
Mother's Earnings (Average Monthly over All Months in Quarter; of Those with Earnings)								
Mean	554	518	539	520	431	562	543	581
SD	357	351	365	365	373	428	402	410
Mother's Earnings (Average Monthly over Months with Income; of Those with Earnings)								
Mean	597	575	635	615	649	645	635	662
SD	341	329	388	370	458	435	418	415
Family Contains Other Adults with Earned Income								
	44.9	50.1	50.1	52.6	60.5	57.2	55.8	55.7

TABLE IV.4 (continued)

Characteristics	Before Pregnancy	Pregnancy			After Birth			
		First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Family with the Following Types of Income or Benefits:								
Earnings	67.1	71.9	67.5	65.6	69.8	67.7	68.3	68.6
Social security	8.3	8.1	7.7	8.3	6.9	7.0	7.3	7.5
Railroad retirement	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Veterans' benefits	0.6	0.8	0.6	0.9	0.6	0.9	0.9	0.8
Unemployment compensation	6.1	7.3	8.1	7.6	6.8	7.5	7.3	7.0
Employment sickness benefits	0.2	0.1	0.2	0.1	0.7	0.2	0.1	0.1
Aid to Families with Dependent Children	28.2	28.3	28.9	31.0	28.7	31.6	32.2	32.0
Supplemental Security Income	6.1	5.8	5.6	5.8	5.2	5.6	5.7	5.1
General Assistance	2.9	2.7	3.1	3.3	2.6	2.6	2.8	2.5
Other Welfare	1.4	1.4	1.6	1.2	1.1	1.1	1.3	1.2
WIC Benefits	20.5	24.0	33.1	42.0	47.6	53.6	50.9	47.6
Food Stamps	39.6	41.7	44.0	47.1	42.6	45.1	45.9	45.7
Child Support	10.4	10.5	9.1	8.0	8.0	9.2	9.0	9.7
Alimony	0.2	0.1	0.2	0.3	0.3	0.4	0.1	0.1
Family Covered by Private Health Insurance	35.7	35.6	33.6	32.9	43.1	38.4	36.9	37.2
Sample Size	624	713	879	1,039	1,396	1,366	1,446	1,496

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. The file includes all women with a child less than 1 year old in any wave of SIPP.

NOTE: The sample for each quarter includes women who are income eligible on the basis of their family income for that quarter. Income eligibility is defined using WIC poverty guidelines.

SD = standard deviation.

TABLE IV.5

CHARACTERISTICS OF WOMEN WHO GIVE BIRTH, BY QUARTER

Characteristics	Before Pregnancy	Pregnancy			After Birth			
		First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Age of Mother (Years)								
Under 20	13.4	13.0	11.7	11.2	10.7	10.7	9.7	8.2
20-24	24.9	24.4	24.2	24.3	23.7	23.6	23.6	24.0
25-29	32.5	32.1	33.0	32.0	31.8	31.7	31.2	30.7
30-34	22.0	23.0	22.9	23.9	24.4	23.6	24.4	24.8
35+	7.2	7.5	8.2	8.7	9.3	10.3	11.1	12.3
Mean	26.3	26.4	26.6	26.8	26.9	27.0	27.3	27.6
Race/Ethnicity								
American Indian	1.0	1.0	1.0	1.1	1.0	0.9	1.0	0.9
Asian	3.5	3.3	3.5	3.6	3.6	3.7	4.0	4.2
Black, non-Hispanic	12.0	12.0	11.7	11.8	11.8	12.5	12.9	13.2
Hispanic	13.8	14.1	14.8	15.2	15.7	15.8	15.4	15.2
White, non-Hispanic	69.7	69.7	69.0	68.3	67.9	67.1	66.7	66.6
Education of Mother								
Less than high school	21.5	21.3	21.1	21.6	22.4	21.8	22.2	21.7
High school or GED	35.1	35.3	35.8	36.2	36.2	37.2	37.8	38.0
1-3 years of college	20.7	21.3	21.7	21.6	21.2	21.3	20.8	20.6
4+ years of college	22.6	22.1	21.4	20.7	20.2	19.7	19.2	19.8
Family Composition								
Two parents	68.5	70.3	72.6	73.4	74.8	75.0	74.0	74.1
Mother only	17.4	16.9	15.7	15.4	14.6	14.7	15.4	15.0
Mother and other adult(s)	13.7	12.5	11.5	11.0	10.3	10.0	10.2	10.7
Other	0.4	0.4	0.2	0.2	0.3	0.4	0.4	0.2

TABLE IV.5 (continued)

Characteristics	Pregnancy				After Birth			
	Before Pregnancy	First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Number of Children Under Age 18 (Counts Do Not Include Infant in Postbirth Quarters)								
None	32.2	32.4	33.2	32.6	34.7	34.0	33.8	34.0
1	35.7	36.1	35.1	35.5	35.1	35.3	36.0	35.3
2	19.6	18.9	19.0	18.8	18.0	17.7	17.9	18.2
3+	12.6	12.5	12.8	13.1	12.2	12.9	12.2	12.5
Mean	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Number of Children Age 4 and Under (Counts Do Not Include Infant in Postbirth Quarters)								
None	50.4	51.1	51.7	51.6	53.4	54.7	55.0	56.4
1	37.2	37.4	37.5	37.1	36.6	35.8	36.3	35.1
2	9.7	9.3	8.7	8.8	8.3	8.1	7.8	7.6
3+	2.6	2.3	2.0	2.4	1.6	1.4	1.0	0.9
Mean	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5
Mother Employed (Based on Employment Codes)	65.9	65.9	60.2	54.1	46.6	47.4	50.3	50.4
Mother Employed (Based on Earnings)	64.2	64.7	58.9	52.7	43.3	44.9	48.5	48.5
Mother's Hours Worked (of Those Employed Based on Earnings)								
Less than 35	28.9	30.2	30.5	31.0	33.2	38.0	38.6	38.4
35+	71.1	69.8	69.5	69.0	66.8	62.0	61.4	61.6
Mean (in months worked)	35.8	35.4	35.5	35.0	34.2	33.5	33.4	33.7
Mother's Earnings (Average Monthly over All Months in Quarter; of Those with Earnings)								
Mean	1,417	1,364	1,417	1,389	1,110	1,273	1,265	1,293
SD	1,091	1,039	1,109	1,126	1,119	1,063	1,096	1,074
Mother's Earnings (Average Monthly over Months with Income; of Those with Earnings)								
Mean	1,438	1,407	1,469	1,469	1,338	1,370	1,326	1,349
SD	1,079	1,035	1,112	1,108	1,125	1,096	1,091	1,075
Family Contains Other Adults with Earned Income	76.8	79.1	79.7	80.0	80.1	79.3	78.4	78.6

TABLE IV.5 (continued)

Characteristics	Pregnancy				After Birth			
	Before Pregnancy	First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Family with the Following Types of Income or Benefits:								
Earnings	89.5	90.8	88.9	87.5	85.9	85.5	85.9	86.3
Social security	5.0	5.0	5.2	5.1	5.2	5.2	5.4	5.4
Railroad retirement	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.1
Veterans' benefits	0.9	0.7	0.7	0.8	0.9	0.9	0.9	1.0
Unemployment compensation	5.0	6.0	6.5	6.6	6.6	6.4	6.3	6.3
Employment sickness benefits	0.4	0.3	0.4	0.8	2.7	0.5	0.3	0.3
Aid to Families with Dependent Children	9.6	10.4	10.8	12.5	14.9	15.8	16.1	16.3
Supplemental Security Income	2.6	2.6	2.5	2.7	2.9	3.0	3.1	2.8
General Assistance	1.2	1.1	1.5	1.7	1.5	1.4	1.4	1.3
Other Welfare	0.8	0.7	0.8	0.8	0.9	0.8	0.9	0.9
WIC Benefits	7.4	9.4	13.5	19.0	25.8	28.3	27.5	25.2
Food Stamps	13.6	15.1	16.4	18.4	21.1	22.1	22.2	22.1
Child Support	6.8	6.9	6.1	6.1	6.4	6.7	7.2	7.3
Alimony	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.2
Family Covered by Private Health Insurance	73.4	73.6	72.6	70.9	70.2	68.3	68.0	68.2
Sample Size	1,974	2,192	2,621	2,909	3,019	3,074	3,290	3,457

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. The file includes all women with a child less than 1 year old in any wave of SIPP.

NOTE: The sample for each quarter includes all women with valid data for that quarter.

SD = standard deviation.

Demographic Characteristics

Because even the full sample includes different women from quarter to quarter, some changes in sample characteristics over time may result from changes in the composition of the full sample; after careful examination, no systematic patterns to such variations were found.⁹

Both the income-eligible samples and the samples of all women with a birth get older from quarter to quarter, in a pattern roughly consistent with longitudinal aging. Income-eligible women are younger by about 2 years on average than the full sample of women.

Income-eligible women are much more likely than the full sample to be members of a minority group. The proportion of income-eligible women who are white, non-Hispanic grows slightly after the birth, from about 50 to 51 percent during pregnancy to 52 to 54 percent after the birth. This appears to be a shift in who is income eligible, since the composition of the full sample shifts in the other direction very slightly (most likely due to sampling error).

Similarly, income-eligible women have much less education than women who give birth in general; roughly 40 percent have not completed high school, compared with less than a quarter of all women. The group income eligible after the birth is notably better educated than the group eligible during pregnancy. In contrast, the women in the full postbirth sample are slightly less educated than the women in the full sample during pregnancy.

Among both income-eligible women and all women, the percentage living with the baby's father increases during pregnancy and then levels off during the year after the birth, reflecting to some extent increases in marriage or cohabitation associated with having a child. However, the increase at birth is

⁹One piece of evidence that no systematic compositional problem exists is that age of the sample grows very close to linearly from quarter to quarter. A slight distortion is caused by inclusion of more than one observation for women with more than one birth during the SIPP panel. (Appendix H presents alternate versions of several key tables when only one observation for these women (randomly selected) is included--there is no major effect on trends.) In addition, apparent trends in sample composition over time (for example, in race) may reflect sampling variability only, since the sample is largely carried over from quarter to quarter, so a random shift in sample composition in one quarter is reflected to some extent in all subsequent quarters.

much more dramatic in income-eligible families (from 48 percent two-parent families to 57 percent), which probably reflects the fact that two-parent families are more common among those newly income eligible after birth.

Income-eligible women, on average, have two children prior to the new baby. The number of previous children is somewhat lower among those income eligible after the birth, again due to the influx of new individuals into the income-eligible population--the overall sample shows no change over time.

Employment and Income Sources

Employment is measured in two ways: (1) quarters in which the woman reports any weeks being employed, and (2) quarters with nonzero earnings. Around a birth, a woman might take leave without pay and (correctly) report herself still employed, resulting in a larger than usual difference in the two measures; the difference in the two measures remains modest, however. Furthermore, overall trends for the two measures are similar; thus, the discussion here focuses on the first measure--reported employment.

Among women income eligible for WIC before pregnancy or in the first trimester, about 40 percent are employed. This percentage falls to 25 percent in the third trimester, rises to 29 percent in the quarter after the birth, and stays at 28 to 31 percent in the year after the birth. In contrast, among the population of women with births as a whole, nearly two-thirds are employed before the pregnancy. Employment reaches its lowest level in the quarter after birth (47 percent) and stays below its prebirth level for the remaining quarters (reaching 50 percent in the last quarter). The pattern for income-eligible persons no doubt reflects compositional shifts in who is income eligible for WIC. During pregnancy, women are most likely to become income eligible by leaving work. Therefore, as the eligible pool expands, the employment rate falls. At the time of birth, however, a group of families becomes income eligible due to the change in family size, and this group tends to include more working women. The slight upward shift in the employment rate suggests that the compositional effect is larger than the movement out of employment at the time of the birth.¹⁰

The increase in the proportion of income-eligible women with other earners in the family during pregnancy and especially after the birth also seems to be

¹⁰There is no upward shift in employment rates at the time of birth in Table G.3, in which family size does not change at birth; that table shows employment at its lowest point in the second quarter after birth.

primarily a change in the composition of the income-eligible group, since no such trend occurs in the population as a whole. The trend is consistent with the particularly large increase in two-parent households after the birth among income-eligible families; while a portion of this change reflects marriages (as women in the full sample are also more likely to live in two-parent households after the birth), another portion most likely reflects two-parent families who are newly eligible for WIC.

More than two-thirds of income-eligible women live in families with some earned income (compared with 90 percent for the full sample). Substantial proportions of income-eligible women are in families that receive income or benefits from a range of public assistance programs, particularly AFDC, FSP, and WIC. (Chapter V considers the program participation of the income-eligible pregnant/postpartum woman and her family in more detail.)

Finally, Table IV.4 shows that the proportion of income-eligible families with private health insurance is around 35 percent before the birth and slightly higher most of the period after the birth, but it spikes at 43 percent in the quarter after the birth. This spike may reflect a compositional change in the sample due to the inclusion of women who are income eligible for WIC only in that quarter and who normally have higher incomes. In the full sample (Table IV.5), there is a modest decline in the proportion of women with private health insurance over the eight quarters (from 73 percent before pregnancy to 68 percent at the end of the year after birth), perhaps reflecting that some women lose their health insurance when they leave the workforce.

SUMMARY OF FINDINGS

This analysis examined trends in family income, income eligibility, and other characteristics during the year before and the year after a birth, for all women who gave birth during or just before the SIPP panel. Since not all women were in the SIPP panel for the entire 2-year period, data for each quarter were presented for the maximum sample available during that quarter. The key findings were:

- Holding family size constant, the proportion of women income eligible for WIC increases gradually during pregnancy, takes an abrupt jump at birth, and then declines gradually during the year after birth. On average, the proportion of women income eligible during pregnancy was 91 percent of the proportion income eligible during the year after birth.

- The trends in income eligibility were consistent with trends in employment rates. The decline in employment after birth is in keeping with studies that show that many women stop working or reduce their hours of work around the time of a birth and that those who do not go back to work right away tend to stay away for some time.
- During the years covered by this study, when the pregnant woman was counted as one family member during pregnancy, the increase in the proportion of women who were income eligible for WIC from the quarter before pregnancy to the quarter after the birth was due, roughly equally, to the increase in family size and the decline in family income.
- If the pregnant woman had been counted as two when determining WIC eligibility in this period (as is now the program rule), the proportion of pregnant women income eligible for WIC would have increased by about 7 percentage points. This implies an increase of about 20 percent in the number of income-eligible pregnant women.
- Income-eligible women are more disadvantaged than average women in many respects. For example, they are more likely to live in single-parent households, less likely to work, and more likely to depend on public assistance. They also tend to be less educated.
- The characteristics of income-eligible women and their families changed around the birth largely because the composition of the group changed. In particular, women who were income eligible after the birth, on average, were more educated, more likely to live with the father, more likely to be white, and had fewer children than those who were income eligible during pregnancy.

V. PROGRAM PARTICIPATION PATTERNS AMONG WIC ELIGIBLES AND PARTICIPANTS

This chapter examines the patterns of participation in WIC and other programs among women, infants, and children who are income eligible for WIC over various periods. It also examines the characteristics of reported WIC participants in SIPP, focusing particularly on the percentage who appear income eligible or adjunct eligible. Interpretation of these analyses is complicated by the fact that WIC and other public assistance programs are underreported in surveys such as SIPP. Furthermore, the level of underreporting (when assessed using comparisons with administrative data) often is substantial. This is a concern, not just because participation rates are almost certainly understated, but also because those who report participation in SIPP may not be representative of actual participants.

To provide background for assessing the analyses of program participation presented in the rest of the chapter, the first section of this chapter discusses the extent of underreporting of WIC and other programs in SIPP, possible reasons for this underreporting, and the effects of underreporting on the analysis. The second section presents analyses of program participation and of the characteristics of WIC participants in various eligibility groups; the third section presents analyses of trends in participation and trends in the characteristics of WIC participants before and after birth.

REPORTING OF PROGRAM PARTICIPATION IN SIPP

WIC participation is reported in SIPP for many fewer persons than would be expected on the basis of administrative data. For example, Table V.1 shows estimates of the number of infants and children participating in WIC in an average month in 1992 from FCS administrative data and from the first SIPP analysis file developed for this report. The administrative numbers are an average of the 12 monthly participation counts reported to FCS by WIC state agencies. The estimates from the SIPP count all reported WIC participants without regard for income eligibility. Participation rates shown are defined as the ratio of the number of participants (from each respective source) to the number of income eligibles as estimated from the SIPP (the latter estimate is the average monthly number of eligibles from Table III.7).

The SIPP estimate of infant WIC participants is substantially lower than the number of infant participants in administrative records (only 56.6 percent of the administrative estimate). The estimate for children is also low, but much closer to the administrative data (88.5 percent).

TABLE V.1

ESTIMATES OF WIC PARTICIPANTS AND WIC PARTICIPATION RATES
IN 1992 FROM FCS PROGRAM DATA AND SIPP
(Standard Errors in Parentheses)

Participant Category	FCS Program Data	SIPP Data	SIPP Relative to FCS Data (Percentage)
Infants			
Number of participants	1,647,553	932,209 (166,988)	56.6
Participation rate	99.9	56.5	
Children			
Number of participants	2,496,347	2,209,427 (257,482)	88.5
Participation rate	35.3	31.2	
Infants and Children			
Number of participants	4,143,900	3,141,636 (305,199)	75.8
Participation rate	47.5	36.0	

SOURCES: SIPP estimates are from the first analysis database created from the 1990 and 1991 SIPP panels.

NOTES: All estimates of participants and eligible persons are monthly estimates, averaged over 12 months. FCS program totals exclude participants in U.S. territories, to be comparable to SIPP. Participation rates use as their denominator the average monthly number of eligibles shown in Table III.7.

Data from the second analysis file (presented in detail below) also indicate that participation is substantially underreported for pregnant women; among income-eligible pregnant women, reported WIC participation varies from 13 percent in the first trimester to 34 percent in the third trimester. Among income-eligible infants, reported participation rates are around 50 percent. However, FCS administrative data suggest participation rates for pregnant women of 50 to 60 percent in 1992 and 1993 and participation rates for infants of close to 100 percent (U.S. Department of Agriculture 1995; and 1996).¹ Thus, the estimated participation rates for eligible pregnant women and infants based on the second SIPP file are only about half of the FCS estimates.²

Two factors seem most likely to be responsible for the discrepancy between SIPP data on WIC participation and administrative data:

1. ***Underreporting.*** Persons in the SIPP sample may fail to report that they receive WIC due to recall error, stigma, or confusion between WIC and other programs.³

¹FCS participation rates are based on an estimate of the eligible population that includes an adjustment for the incidence of nutritional risk. If this adjustment were omitted and the FCS rates were calculated solely on the basis of income eligibility, the 1993 participation rates for pregnant women would be approximately 50 percent and the rates for infants would be slightly below 100 percent.

²These estimates count only participants who are income eligible during the quarter. When participation rates are calculated using only those estimated to be eligible at a point in time (as in the estimates cited from the second analysis file), they are understated more than rates that count all reported participants, because some participants appear ineligible (most likely because they were eligible when originally certified, but their income has changed).

³It is also possible that those who receive WIC food instruments every other month may not report participation in the months that they do not actually pick up benefits. About half of WIC state agencies in 1992 allowed at least some participants to pick up food instruments less often than once a month (Randall and Boast 1994).

2. *Undercoverage.* Some types of individuals who may receive WIC benefits (particularly homeless individuals or those living in institutions) are not included in the SIPP universe.

Underestimates of program participation from SIPP are not unique to WIC. SIPP estimates of program participants in AFDC and FSP are also low relative to administrative records (Jabine et al. 1990; and Ohls and Beebout 1993). In particular, FSP participation was underreported in SIPP by 28 percent in January 1994 and by 22 percent in January 1992 (Stavrianos, forthcoming). AFDC was underreported in SIPP by 22 percent in January 1994.

The discrepancy between SIPP and administrative counts of participants is somewhat higher for WIC than for food stamps and AFDC, at least for women and infants. Some plausible reasons that WIC may be reported less well than other programs include the following: (1) WIC benefits are small relative to food stamp and AFDC benefits, and thus may not be remembered as well; and (2) there appear to be errors in reporting the timing of births in SIPP. The second problem merits more explanation. In particular, one reason that participation for infants may be understated more than for older children is that data on infants sometimes do not appear in the reported birth month, but 1 to 4 months earlier or later (see Appendix B). Problems with reporting of births may also affect the estimates for pregnant women, since a woman is assumed to be pregnant for the nine months before the child's birth date. If the months in which the woman is considered to be pregnant are not the correct ones, her period of participation in WIC may be missed.⁴

The underreporting of WIC participation in SIPP raises the following questions:

- Does underreporting of WIC participation distort patterns of joint program participation?

⁴SIPP also appears to undercount all infants and young children in the years used here. This can occur because SIPP does not set weights to meet population control totals specifically for children under age 5. However, this undercount of young children does not explain the low estimated participation rate.

- How do those who report WIC participation in SIPP differ from the full population of WIC participants? Are conclusions based on analyses of the characteristics of reported WIC participants likely to be biased?

Administrative data are not available to determine whether or to what extent patterns of joint participation in WIC and other programs are distorted by underreporting in SIPP.⁵ The results for FSP indicate that, since all programs are underreported, joint program participation among FSP participants is not strongly distorted.⁶ More research on this issue is needed, however.

The limited number of background characteristics tracked in WIC administrative data make it difficult to assess whether the characteristics of reported WIC participants in SIPP are biased because of underreporting. However, a comparison of data on age and race or ethnicity on all persons certified for WIC in April 1992 and 1994 with all persons reporting WIC in SIPP in January of those years is possible (see Table V.2).⁷ These tabulations suggest that, among reported WIC participants in SIPP, whites are

⁵WIC administrative data captured in the WIC Participant Characteristics databases (known as PC92 and PC94) provide a near census of records on WIC participants in April of those years (Randall and Boast 1994; and Randall et al. 1995). They include reported program participation at the time of certification. These data are not comparable to survey data, however, since they will not capture programs enrolled in after WIC.

⁶For example, according to unpublished tabulations prepared by MPR, the percentage of FSP households with AFDC is the same in SIPP (40 percent) in the January 1993 SIPP and in the 1992 Integrated Quality Control System file (IQCS--FSP administrative data). The percentage of FSP households with SSI is higher in the SIPP (25 percent) than in the IQCS (19 percent), likely due to lower rates of underreporting of food stamps among SSI recipients. The percentage of FSP households with general assistance is lower in the SIPP (5 percent) than in the IQCS (8 percent), but there is considerable sampling error in the SIPP estimate due to small sample sizes.

⁷The administrative data are from the PC92 and PC94 databases referenced in footnote 4. The SIPP data are from January, because that is the month used in MPR's food stamp microsimulation models. The January 1992 data are from waves 4 and 7 of the 1990 and 1991 panels; the January 1994 data are from waves 4 and 7 of the 1992 and 1993 panels.

TABLE V.2
 CHARACTERISTICS OF WIC PARTICIPANTS IN SIPP
 VERSUS ADMINISTRATIVE DATA
 (Percentages)

	1992		1994	
	SIPP	Administrative Data	SIPP	Administrative Data
Women				
Age				
Under 18	4.7	10.8	8.4	10.4
18 to 34	90.0	84.0	80.5	83.8
35 +	5.3	5.3	11.1	5.9
Race/Ethnicity				
Hispanic	15.8	26.4	25.3	28.3
White	57.8	45.6	52.1	44.9
Black	23.1	24.5	19.7	22.6
American Indian or Alaskan Native	1.8	1.7	1.6	1.5
Asian or Pacific Islander	1.5	1.9	1.3	2.7
Number of Cases	224		247	
Infants				
Race/Ethnicity				
Hispanic	24.4	26.7	23.3	28.1
White	48.8	41.0	49.9	41.1
Black	23.7	28.5	24.8	26.5
American Indian or Alaskan Native	1.8	1.4	0.6	1.5
Asian or Pacific Islander	1.4	2.3	1.3	2.8
Number of Cases	356		378	
Children				
Age				
1 year old	37.6	44.7	36.4	37.0
2 year old	26.6	24.6	28.3	25.8
3 year old	20.4	18.8	19.8	20.9
4 year old	15.5	11.7	15.5	13.3

TABLE V.2 (continued)

	1992		1994	
	SIPP	Administrative Data	SIPP	Administrative Data
Race/Ethnicity				
Hispanic	16.3	19.6	21.1	24.8
White	54.0	46.9	48.2	43.8
Black	23.8	29.5	27.3	26.9
American Indian or Alaskan Native	3.2	2.1	0.8	1.9
Asian or Pacific Islander	2.7	1.7	2.6	2.5
Number of Cases	686		764	

SOURCES: SIPP data for January 1992 are from waves 7 and 4 of the 1990 and 1991 SIPP panels, respectively. SIPP data for January 1994 are from waves 7 and 4 of the 1992 and 1993 panels.

WIC administrative data are from the WIC Participant Characteristics databases, near-censuses of program records on individuals certified for WIC in April of the reference year. Results for 1992 are from Randall and Boast (1994); results for 1994 are from Randall et al. (1995). (Results from both reports were adjusted to show percentages of nonmissing data; this adjustment was quite small.)

overrepresented relative to racial and ethnic minorities. However, the minority groups missed differ by category and, to some extent, by year. In 1992, younger children were underrepresented in SIPP relative to their older counterparts; this pattern is much weaker in 1994, however. In both years, women who report participation in SIPP appear somewhat older than the full population of participants, but this could largely reflect sampling variability, as there are very small samples in the upper and lower age groups in SIPP.

The underrepresentation of black and Hispanic WIC participants in SIPP is of concern. It may indicate that SIPP underrepresents the most disadvantaged WIC participants and, thus, overstates the number of participants who appear income ineligible. It is premature to draw conclusions about the direction of any bias in results concerning income and program participation of WIC participants on the basis of this result alone. Nonetheless, it is important to keep in mind that the results presented in the rest of this chapter refer to reported participants and may not generalize to the full population of participants.

**PROGRAM
PARTICIPATION
AMONG CHILDREN
IN VARIOUS
ELIGIBILITY
GROUPS**

This section addresses two questions concerning the relationship between WIC eligibility and program participation:

- What are the patterns of participation in WIC and other public assistance programs among children eligible for WIC at various times during the year?
- Among those who report WIC participation during a year, what are the patterns of eligibility and participation in programs that may confer adjunct eligibility?

These analyses use the same framework (and the same data files) as the analyses of the characteristics of children eligible for WIC at various times during the year presented in Chapter III. Specifically, the four eligibility groups of children are those children:

1. Income eligible on an annual basis and in every month
2. Income eligible on an annual basis but not in every month

3. Not income eligible on an annual basis but eligible in at least 1 month
4. Not income eligible on an annual basis or in any month

(Appendix F presents these tabulations in more detail.)

**Program Participation
Among Children
with Varying
Patterns of Eligibility**

Table V.3 summarizes patterns of reported program participation among children in each eligibility group in the FSP, AFDC, and Medicaid (all of which confer adjunct eligibility for WIC) and in WIC itself. Differences in reported patterns and levels of participation in WIC, Medicaid, AFDC, and the FSP across the four WIC eligibility groups are clearly related to the differences in average income and in income variability across the four groups described in Chapter III. For each of the four programs, reported participation is highest among those in Group 1, lower for those in Group 2, and lowest (and relatively close to zero) for those in Groups 3 and 4.

About two-thirds of Group 1 families report that they participate in the FSP, and about half of the families report receiving AFDC and WIC. Medicaid covered nearly three-quarters of Group 1 children. Reported participation in these programs is substantially higher for Group 1 than for any of the other groups. Reported participation among Group 2 members is much lower; less than a quarter reported receiving food stamps, and about one-eighth reported AFDC. However, among Group 2 children, 31 percent were reported to participate in Medicaid (a program that in the early 1990s had expanded to serve young children above the poverty line in many states, sometimes covering children up to the WIC eligibility threshold or even above it). In addition, 31 percent of Group 2 children were reported as receiving WIC. Few children in either Groups 3 or 4 are in families that reported receiving AFDC or food stamps (as would be expected, given the low-income eligibility thresholds of these two programs). Nine percent of Group 3 children and 4 percent of Group 4 children were reported to be on Medicaid; these children may have been covered through programs for those with extraordinary medical expenses (medically needy), and some may have become WIC-eligible through such coverage. About 10 percent of Group 3 children and 2 percent of Group 4 children were reported to be WIC participants. Those in Group 3 may have been certified for WIC during their brief periods of income eligibility, or they may have been adjunct eligible through Medicaid; those in Group 4 could have been WIC eligible through Medicaid or have inconsistent

TABLE V.3

**PROGRAM PARTICIPATION PATTERNS, BY WIC ELIGIBILITY GROUP
(POOLED DATA FOR 1990 TO 1992 FOR ALL CHILDREN UNDER AGE 5)
(Percentages)**

	Full Sample	Annually Eligible and Eligible in		Not Annually Eligible and Eligible in	
		All Months	Some Months	Some Months	No Months
Family Received Food Stamps in Past Year	22.2 %	68.3 %	21.7 %	4.4 %	0.9 %
Family Received AFDC in Past Year	15.0	47.0	12.4	2.9	1.2
Child on Medicaid in Past Year	26.8	73.0	30.7	9.1	3.7
Child on WIC in Past Year	20.2	49.6	30.7	9.5	2.2
Sample Size (unweighted)	11,098	2,730	1,712	1,869	4,787

SOURCE: Weighted estimates from the first analysis database created from the 1990 and 1991 SIPP panels.

NOTE: Annual and monthly income eligibility were estimated using the family income from the mother's record. See Appendix F for additional details.

data due to reporting or program errors. The next section investigates the characteristics of WIC participants in each of these groups in more detail.

**Eligibility and
Participation
Patterns of Reported
WIC Participants**

The last section showed that small proportions of children not eligible for WIC on the basis of annual income were reported to participate. This section investigates the proportion of reported WIC participants who appear ineligible on the basis of annual income; it also examines how many of those who appear ineligible on the basis of annual income are eligible in some months and how many may be adjunct eligible.

Table V.4 provides two different perspectives on apparently ineligible participants. The first line is based on the population of children who *ever* participated in WIC during the reference calendar year and examines how those children were allocated across the four eligibility groups. The second line is based on participants in each calendar month and their allocation across the four groups. The results were then averaged across the 12 months of the year.

Among children on WIC at any time during the year, 12.3 percent are ineligible on the basis of annual income; more than 60 percent of them (7.4 percent overall) have some months of eligibility. In a typical month, 10 percent of WIC participants are ineligible on the basis of annual income; 64 percent of them (6.4 percent overall) are eligible in some months of the year. Under either measurement, most children who appear ineligible on the basis of annual income may well have been eligible on the basis of monthly income at the time of certification.⁸

Table V.5 presents data on program participation rates among reported WIC participants in each of the four eligibility groups. Substantial proportions of WIC participants in Groups 3 and 4 report participating in AFDC, FSP, and, especially, Medicaid. More than 40 percent of those in Group 4 report being on Medicaid and, thus, would be considered adjunct eligible for WIC. The WIC participants in Groups 3 and 4 who are also reported to receive AFDC or food stamps may in fact have lower incomes than recorded in SIPP (for example, because of errors in Census Bureau imputations).

⁸It is also possible that these measures are biased due to underreporting of WIC participation. However, as discussed earlier in this chapter, there is no clear evidence of the direction of any bias.

TABLE V.4
 DISTRIBUTION OF WIC PARTICIPANTS, BY WIC ELIGIBILITY GROUP
 (Row Percentages)

	Full Sample	Annually Eligible and Eligible in		Not Annually Eligible and Eligible in	
		All Months	Some Months	Some Months	No Months
Percentage of Population that Participated in WIC at Any Time During the Year in Each Eligibility Group	100.0	62.8	24.9	7.4	4.9
Percentage of Monthly Participants in Each Eligibility Group (12-Month Average)	100.0	67.9	22.1	6.4	3.6
Sample Sizes (unweighted)					
Participated at Any Time	2,069	1,322	490	158	99
Participated in Average Month	1,350	922	290	89	49

SOURCE: Weighted estimates from the first analysis database created from the 1990 and 1991 SIPP panels.

NOTE: Annual and monthly income eligibility were estimated using the family income from the mother's record. See Appendix F for additional details.

TABLE V.5
PARTICIPATION IN OTHER PROGRAMS AMONG WIC PARTICIPANTS,
BY WIC ELIGIBILITY GROUP

	Full Sample	Annually Eligible and Eligible in		Not Annually Eligible and Eligible in	
		All Months	Some Months	Some Months	No Months
Percentage of Children Ever in WIC					
During the Year Who					
Participate in Medicaid for 1 or more months	72.7	86.4	55.7	32.5	43.6
Participate in FSP for 1 or more months	61.6	79.6	37.2	17.3	21.9
Participate in AFDC for 1 or more months	37.9	51.1	17.7	6.9	18.4
Number of Children Participating in WIC During the Year (unweighted)	2,069	1,322	490	158	99

SOURCE: Weighted estimates from the first analysis database created from the 1990 and 1991 SIPP panels.

NOTE: Annual and monthly income eligibility were estimated using the family income from the mother's record. See Appendix F for additional details.

TRENDS IN PARTICIPATION AMONG WOMEN AND THEIR FAMILIES

This section examines the following questions:

- What are the trends in program participation among persons in families eligible for WIC in the year before and the year after a birth? To what extent is program participation reported among families not income eligible for WIC?
- Among reported WIC participants, what proportions are income eligible in the quarter they report participation? What proportions are adjunct eligible but not income eligible? What proportions appear to be neither income eligible nor adjunct eligible?

These analyses add a more dynamic dimension to the analysis of program participation among WIC eligibles.

Trends in Program Participation Before and After a Birth

This section discusses patterns of participation in WIC and other assistance programs among families income eligible for WIC and among families apparently not income eligible for WIC.

a. Patterns of Program Participation Among Income-Eligible Families

This section considers patterns of participation around a birth in WIC, Medicaid, AFDC, and the FSP among persons in families income eligible for WIC. Income eligibility is assessed on the basis of quarterly family income; thus, the sample of income-eligible families varies from quarter to quarter.

WIC Participation. From the first trimester of pregnancy through the third trimester of pregnancy, the percentage of income-eligible pregnant women reporting participation in WIC (for themselves) rises from 13 to 34 percent (Table V.6). Six percent reported participating pre-pregnancy, most likely as postpartum mothers.⁹ This trend suggests that women are more likely to participate in WIC as their pregnancy progresses; this is logical, given the time lags involved in discovering the pregnancy, learning about the WIC program, and becoming certified for benefits. The participation rate for new

⁹For Table V.6, income eligibility for pregnant women is determined counting the pregnant woman as one.

TABLE V.6

PROGRAM PARTICIPATION AMONG WOMEN INCOME ELIGIBLE FOR WIC AND THEIR FAMILIES, BY QUARTER

Characteristics	Before Pregnancy	Pregnancy			After Birth			
		First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Participating in WIC for								
Pregnant woman/mother	5.8	13.0	24.2	33.9	33.7	23.9	13.3	11.2
Infant	11.2	9.1	8.1	5.8	42.8	52.0	50.0	45.8
Other family member(s)	13.5	14.9	17.2	20.4	18.7	19.5	18.3	16.8
Any family member	20.4	24.0	32.9	41.9	47.6	53.5	50.8	47.5
Receiving								
AFDC	26.6	26.9	27.8	29.4	27.9	30.4	31.3	30.9
Food Stamps	37.8	39.7	41.9	45.7	41.3	43.9	45.1	44.7
Covered by Medicaid	36.4	44.2	54.5	62.1	55.7	51.1	46.8	45.7
Combinations of AFDC, Food Stamps, and Medicaid								
AFDC, Food Stamps, and Medicaid	25.2	25.4	25.1	25.9	24.4	27.2	29.0	28.6
AFDC and Food Stamps only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AFDC and Medicaid only	1.4	1.5	2.6	3.5	3.6	3.1	2.3	2.3
Food Stamps and Medicaid only	4.3	7.4	11.5	15.2	13.5	10.4	7.1	7.6
Medicaid only	5.4	9.8	15.2	17.5	14.3	10.3	8.4	7.2
Food Stamps only	8.3	6.9	5.2	4.6	3.5	6.2	8.9	8.5
AFDC only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
None	55.3	48.9	40.3	33.3	40.8	42.7	44.3	45.8
Combinations of WIC and Other Programs (Not Mutually Exclusive)								
WIC and Medicaid	12.2	17.3	25.9	34.5	37.1	36.7	31.9	28.8
WIC and AFDC	9.0	10.7	13.4	15.1	18.3	21.2	21.1	19.7
WIC and Food Stamps	13.8	16.3	21.7	25.7	28.7	32.1	31.7	29.1
WIC only	4.6	4.1	4.7	5.2	8.4	12.4	12.4	13.0
Sample Size	624	713	879	1,039	1,396	1,366	1,446	1,496

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. The file includes all women with a child less than 1 year old in any wave of SIPP.

NOTES: Participation in an assistance program for a quarter is defined as participation in that program in any month of that quarter. The sample for each quarter includes women who are income eligible on the basis of their family income for that quarter. Income eligibility is defined using the WIC poverty guidelines.

mothers remains at 34 percent in the first quarter postpartum, declines to 24 percent in the second quarter, and to 13, then 11 percent in the last two quarters postpartum (when women would only be eligible if breast-feeding or if pregnant again).

During the four quarters postpartum, the reported participation rate for infants in families income eligible for WIC rises from 43 percent in the first quarter to 52 percent in the second quarter, then falls gradually to 46 percent in the fourth quarter. The lower participation rate in the first quarter postpartum might be partially explained because of the amount of time it takes mothers who were not eligible before birth to learn about the program and to have their infants certified. It may also reflect the fact that women are more likely to breast-feed in the months immediately after the birth and thus not receive substantial WIC benefits for the infant (even if the infant is enrolled). The lower participation rate in the first quarter postpartum may also be explained by data gaps in the analysis file (as discussed in Section A). For 30.5 percent of all infants, valid data for the infant do not appear on the file until some time after the birth of the infant. During the data gap months, infants will not be flagged as WIC participants even if they report WIC when their data finally appears. Because 95 percent of all data gaps are less than 4 months long, this phenomenon principally affects the first quarter postpartum.

Throughout the period around the birth, about one-sixth of the income-eligible families report having a family member other than the mother or infant enrolled in WIC--most likely an older child. Given that 50 to 60 percent of income-eligible families report another child under age 5 (see Table IV.4), this implies a participation rate among children of around 30 percent, which is roughly consistent with the participation rates reported in Table V.1.¹⁰ Participation among other children increases somewhat during pregnancy, perhaps because the pregnancy prompts the woman to seek services and, then, the children are certified along with the mother.

Medicaid Participation. Reported Medicaid participation rises throughout pregnancy, peaks in the quarter containing the birth month, and then falls again during the postpartum months. The peak in Medicaid participation around the birth month has a number of possible explanations. First, women with incomes below 185 percent of poverty (or, in some states, a different

¹⁰It would be expected to be somewhat lower, since only income-eligible children are counted in the numerator, while Table V.1 counts all reported participants.

cutoff) but not on welfare may be newly eligible for Medicaid when they become pregnant, as they are covered under the Medicaid expansion provisions that specifically cover low-income women while pregnant. The rise in Medicaid participation probably occurs gradually, because it takes time for newly eligible women to find out about the program, and/or because motivation to enroll increases as the expense of the birth nears. The number of participants wanes postpartum, in part because women who qualify under the Medicaid expansions become ineligible 2 months postpartum (after their postpartum checkup). Finally, the peak in Medicaid participation in the quarter that contains the birth month may also be caused by better reporting of Medicaid participation in the SIPP data around the time of childbirth. As with private health insurance, the reporting of Medicaid participation plausibly increases in the months in which participants actually receive medical care.

AFDC and FSP. Reported participation in AFDC and FSP increases only slightly throughout pregnancy and the first year postpartum among families income eligible for WIC. (There is a downward blip in the quarter of the birth, probably because some higher-income women are income eligible only in that quarter.) One possible interpretation of these trends is that pregnancy and birth do not substantially affect participation in AFDC and FSP. However, it seems more likely that there is an increase in participation among those income eligible initially, but that it is largely offset by the addition of newly income-eligible families to the sample, who do not qualify for AFDC or food stamps. The slight increase in AFDC and food stamp participation after the birth, though, contrasts with the decline in Medicaid participation after the birth. This difference in participation trends probably occurs because somewhat different sections of the WIC-eligible population are moving in and out of these programs. The decline in Medicaid participation most likely occurs largely among women eligible due to the Medicaid expansions; these women have incomes too high to make them eligible for AFDC and apparently outnumber those who become newly eligible for AFDC (and thus, Medicaid). Further analysis of the characteristics of women who gain or lose program eligibility during this period is needed to confirm these hypotheses.

b. Program Participation Reported by Families Not Income Eligible for WIC

As Table V.7 shows, a substantial number of families are not, on average, classified as income eligible for WIC in a quarter but, nevertheless, report receipt of WIC; this can legitimately occur in several ways. Women not income eligible on average during the quarter may have been eligible at the

TABLE V.7
PROGRAM PARTICIPATION AMONG WOMEN NOT INCOME ELIGIBLE FOR WIC, BY QUARTER

Characteristics	Pregnancy				After Birth			
	Before Pregnancy	First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Participating in WIC for								
Pregnant woman/mother	0.4	1.3	2.7	5.2	5.1	3.0	2.6	1.8
Infant	0.3	0.4	0.6	0.7	6.0	7.8	8.9	7.9
Other family member(s)	1.1	1.3	1.4	2.1	1.8	2.0	2.2	1.9
Any family member	1.4	2.4	3.7	6.2	7.0	8.1	9.2	8.2
Receiving								
AFDC	0.7	1.4	1.4	1.9	2.8	3.2	3.3	3.9
Food Stamps	1.2	1.9	2.3	2.1	2.6	3.5	3.4	3.9
Covered by Medicaid	1.8	3.7	5.8	7.6	7.3	6.6	6.0	
Combinations of AFDC, Food Stamps, and Medicaid								
AFDC, Food Stamps, and Medicaid	0.4	1.0	1.0	1.0	1.5	1.8	2.0	2.6
AFDC and Food Stamps only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AFDC and Medicaid only	0.3	0.3	0.4	0.9	1.4	1.4	1.3	1.3
Food Stamps and Medicaid only	0.2	0.3	0.7	0.8	0.8	0.9	0.7	0.9
Medicaid only	0.8	2.0	3.7	4.9	3.7	2.5	2.1	1.6
Food Stamps only	0.5	0.5	0.6	0.3	0.3	0.8	0.7	0.4
AFDC only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
None	97.7	95.8	93.6	92.1	92.4	92.6	93.3	93.2
Combinations of WIC and Other Programs (Not Mutually Exclusive)								
WIC and Medicaid	0.4	0.9	1.7	3.5	3.8	3.3	3.3	3.0
WIC and AFDC	0.2	0.4	0.2	0.9	1.8	1.3	1.5	1.8
WIC and Food Stamps	0.4	0.7	0.6	1.1	1.7	2.0	2.2	2.2
WIC only	1.0	1.3	1.9	2.6	3.0	4.4	5.4	4.9
Sample Size	1,350	1,479	1,742	1,870	1,623	1,708	1,844	1,961

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. The file includes all women with a child less than 1 year old in any wave of SIPP.

NOTES: Participation in an assistance program for a quarter is defined as participation in any month of that quarter. The sample for each quarter includes women with family incomes for that quarter that exceed 185 percent of the poverty level, using the WIC poverty guidelines.

AFDC: Aid to Families with Dependent Children.

start of their current WIC certification period, which could be as much as 12 months ago. In addition, during pregnancy, some women who were not income eligible may have been adjunct eligible for WIC through Medicaid, since Medicaid counted pregnant women as two during this period, but the WIC program did not (and, thus, these estimates do not). Some apparently ineligible women may have been adjunct eligible for other reasons: (1) because they qualified for Medicaid as medically needy, (2) because they lived in a state with Medicaid eligibility set above 185 percent of the poverty level for pregnant women (at least three states currently have this provision), or (3) because they qualified for food stamps by having a disability or living with someone with a disability. Similar considerations apply for infants and children. These data may also reflect misreporting of income or program participation or misreporting of the timing of either or both.

The percentage of women apparently not income eligible for WIC who report participating in WIC rises from less than 1 percent in the quarter before pregnancy to slightly more than 5 percent in the third trimester, then falls in the postpartum period. The percentage of infants in apparently ineligible families who are reported as participating ranges from 6 to 9 percent. For many of the same reasons as for WIC, some apparently ineligible women also report participation in Medicaid, AFDC, and FSP. From the quarter before birth through the quarters of pregnancy, the percentage of families not income eligible for WIC that participate in Medicaid rises similarly to the figures for WIC, from nearly 2 percent to nearly 8 percent. During the postpartum months, the percentage of women participating in Medicaid falls to about 6 percent. The percentages of apparently ineligible women who report receiving AFDC and food stamps rise throughout the period but stay in the range of only 1 to 4 percent.

Only about half of the apparently ineligible women who report WIC participation also report participation in one of the three programs that confers adjunct eligibility (lowest panel of Table V.7). The next section further considers the role of adjunct eligibility.

**Trends in Eligibility
Status and Other
Program Participation
Among Reported
WIC Participants**

This section considers families that contain WIC participants and investigates which family members are reported to participate, what other programs they participate in, and, most important, whether they are income eligible, adjunct eligible but not income eligible, or neither (Table V.8). During the prepregnancy period and first trimester of pregnancy, more than 60 percent of participating families are participating for an older child, and one-half to one-third are participating for an infant; the overall participation rate is quite low, however. The mother is the most common participant during the last two trimesters of pregnancy and, in most participant families, continues to participate during the quarter after the birth, but is less and less often participating in the postpartum period. Throughout the postpartum period, almost all participating families have the infant enrolled in WIC, and about one-third also have an older child enrolled.

Among families of WIC participants, the proportion that receives AFDC ranges from 31 to 38 percent. The percentage that receives food stamps ranges from 52 to 63 percent and is consistently lower after the birth than before (when WIC participation rates are higher). The percentage of WIC families in which the woman receives Medicaid is 51 percent in the quarter before pregnancy, increases to 75 percent in the third trimester of pregnancy, and then falls to 54 percent in the last quarter postpartum. The explanations for the peak of Medicaid participation around birth for WIC participants are probably much the same as for persons income eligible for WIC.

Among families reporting receipt of WIC at some time during each quarter, the percentage that are income eligible for WIC, on average during the quarter, ranges from 81 to 86 percent. Among families not income eligible, the percentage that receive Medicaid, AFDC, or food stamps and thus may be adjunct eligible ranges from 32 to 60 percent, reaching a peak around the time of the birth. In nearly all cases in which the family is adjunct eligible but not income eligible, Medicaid is the source of adjunct eligibility.

Those families that appear neither income eligible nor adjunct eligible (6 to 12 percent of WIC participants, depending on the quarter) may have errors in

TABLE V.8

PROGRAM PARTICIPATION AND ELIGIBILITY STATUS OF WOMEN IN FAMILIES PARTICIPATING IN WIC
(Percentage of Women in Families Participating in WIC)

Characteristics	Before Pregnancy	Pregnancy			After Birth			
		First Trimester	Second Trimester	Third Trimester	0-2 Months	3-5 Months	6-8 Months	9-11 Months
Participating in WIC for								
Pregnant woman/mother	22.6	43.7	68.3	78.1	59.5	35.9	19.6	18.9
Infant	49.6	34.1	22.8	11.0	86.0	96.2	97.0	96.6
Other family member(s)	65.0	62.3	49.7	44.4	35.9	31.6	31.4	32.8
Any family member	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Participating in								
AFDC	37.2	38.3	33.3	30.9	34.5	34.8	35.5	37.2
Food Stamps	60.6	62.9	53.2	51.6	51.6	52.0	53.2	53.3
Medicaid	51.1	59.3	68.3	75.1	70.0	60.1	54.4	53.8
Eligibility Status								
Income eligible	86.1	85.0	83.0	81.1	86.4	83.7	82.3	82.1
Income ineligible but on Medicaid, AFDC, or Food Stamps (adjunct eligible)	4.4	6.0	7.4	11.2	7.4	7.2	6.3	6.1
Income ineligible but on Medicaid (adjunct eligible)	3.6	4.8	7.1	10.6	6.9	6.2	5.5	5.6
Ineligible	9.5	9.0	9.6	7.6	6.2	9.2	11.5	11.7
Distribution of Ineligible Participants, by WIC Participant Type								
Pregnant woman/mother only	0.0	26.7	33.3	55.3	7.0	1.4	3.1	1.1
Infant only	15.4	20.0	16.7	5.3	25.6	60.8	68.0	71.3
Other family member(s) only	61.5	33.3	26.7	15.8	2.3	2.7	2.1	3.2
Other (combinations of above)	23.1	20.0	23.3	23.7	65.1	35.1	26.8	24.5
Sample Size	137	167	312	498	699	808	847	801
Among Participants Who Are Income Ineligible, Percent on Medicaid, AFDC, or Food Stamps (Adjunct Eligible)	31.6	40.0	43.4	59.6	54.7	43.9	35.3	34.3
Sample Size	19	25	53	94	95	132	150	143

SOURCE: Second analysis file from combined 1990 and 1991 SIPP panels. File includes all women with a child less than 1 year old in any wave of SIPP.

NOTES: The sample for each quarter is women in families participating in WIC in that quarter. Participation in an assistance program for a quarter is defined as participation in any month of that quarter. Income-eligible participants have quarterly family income below 185 percent of the WIC poverty guidelines. Ineligible participants have quarterly family income above 185 percent of the WIC poverty guidelines and are not participating in Medicaid, AFDC, or Food Stamps in that quarter.

AFDC: Aid to Families with Dependent Children.

their income or program participation data, or both. Alternatively, they may have been eligible when certified but have become ineligible since then.¹¹

Because they have yet to be recertified, they are still receiving benefits. For example, infants are generally certified until their first birthday, although family incomes typically rise during the year after birth. Thus, it is not surprising that the proportion of ineligible participants is highest in the third and fourth quarters after birth.

SUMMARY AND CONCLUSIONS

After an initial discussion of underreporting of program participation in sample surveys, this chapter presented analyses of the reported patterns of participation in WIC and other public assistance programs among women, infants, and children income eligible for WIC over different periods. It also examined the income eligibility of reported WIC participants, and their participation in programs that confer adjunct eligibility for WIC. Key findings are:

- The reported rates of WIC participation among pregnant women and infants are about half as large as participation rates typically estimated from administrative data. Reported participation rates for children are closer to the administrative data. Receipt of all types of government assistance typically is underreported in sample surveys. Underreporting appears to be somewhat greater for WIC than for AFDC and food stamps. Possible reasons include recall errors due to the relatively small size of the WIC benefit and errors in reporting the timing of births. The underreporting of WIC implies findings concerning the characteristics of reported WIC participants need to be interpreted with caution; however, there is no firm evidence of the direction of any bias.

¹¹SIPP data show apparently ineligible participants in the AFDC and FSP, for similar reasons. In January 1992, SIPP indicates that 11 percent of units reporting food stamps appear to be ineligible for food stamps and that 7.5 percent of units reporting AFDC are seemingly ineligible for food stamps (and thus, AFDC) (Sykes 1994). Thus, the percentage of “ineligible reporters” among reported FSP and AFDC participants is similar to that for WIC.

- A comparison of WIC participation patterns among those consistently and intermittently eligible for WIC confirms that WIC is well targeted to those in greatest economic need.
 - Table III.6 showed that infants and children who are eligible for WIC in all months of the year are poor on average. They participate at high rates in other public assistance programs. About half report WIC participation.
 - Those who are annually eligible, but not eligible in all months, are eligible for 8 months on average and have median incomes about 150 percent of poverty (see Table III.6). About 30 percent are reported to participate in Medicaid and WIC.
 - Those who are not annually eligible, but are eligible in some months, are eligible for about 3 months on average. Only about 10 percent participate in WIC and Medicaid. They make up 6.4 percent of reported WIC participants in a typical month.
 - Among those not eligible in any months, only 2 percent are reported to participate in WIC. They make up only 3.6 percent of reported WIC participants in a typical month, and about 40 percent of that group are adjunct eligible through Medicaid. Others may have been eligible when certified.
- Analysis of trends in WIC participation among income eligible women around the time of the birth shows reported participation by women increases during pregnancy (from 13 percent in the first trimester to 34 percent in the third trimester) and then declines to under 15 percent in the second six months postpartum. Income-eligible women report roughly half of their infants participate in WIC after the birth; about 15 to 20 percent had another family member participating in WIC (most likely, another child) both before and after the birth. Most families receiving WIC also received AFDC, food stamps, or Medicaid.
- After the birth, the percentage of income-eligible women who received AFDC and food stamps increased only slightly. It may be that women applying for public assistance in late pregnancy or after the birth (either because they left a job or because they were having

their first birth) were largely balanced by higher-income women who fell below the WIC eligibility threshold when they stopped working.

- Reported Medicaid receipt peaked right after the birth; most likely, the increase during pregnancy reflected women learning about the special coverage for pregnant women not on welfare, while the decline after the birth reflected women losing that coverage. Because expanded Medicaid coverage for pregnant women was new during the early part of the period covered, these data may understate current levels of participation.
- Throughout the period around birth, about 15 percent of WIC participants were not income eligible in the quarter in which their participation was measured. About one-third to one-half of this group were adjunct eligible, usually through Medicaid; some of the others probably had been income eligible when certified but were not any longer.

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