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Panel Study of Income Dynamics, 1968–1999: Supplemental Files

Part 6: Relationship History File, 1968–1985 (Waves 1–18)

Sandra Hofferth, Frank P. Stafford, Wei-Jun J. Yeung,
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and James N. Morgan

ICPSR 3202

PANEL STUDY OF INCOME DYNAMICS, 1968-1999: SUPPLEMENTAL FILES

(ICPSR 3202)

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PANEL STUDY OF INCOME DYNAMICS, 1968-1999: SUPPLEMENTAL FILES (ICPSR 3202)

SUMMARY: The Panel Study of Income Dynamics (PSID) is an ongoing data collection effort begun in 1968 in an attempt to fill the need for a better understanding of the determinants of family income and its changes. The PSID has continued to trace individuals from the original national sample of approximately 4,800 households, whether those individuals are living in the same dwelling or with the same people. The investigators hoped to discover whether most short-term changes in economic status are due to forces outside the family or if they can be traced to something in the individual's own background or in the pattern of his or her thinking and behavior. The data can shed light on what causes family income to rise above or fall below the poverty line. In line with the theoretical model, the questions asked fall generally under the headings of economic status, economic behavior, demographics, and attitudes. Specifically, they deal with topics such as employment, income sources and amounts, housing, car ownership, food expenditures, transportation, do-it-yourself home maintenance and car repairs, education, disability, time use, family background, family composition changes, and residential location. In the early years, respondents were asked supplemental questions about their housing and neighborhood characteristics, child care, achievement motivation, job training, and retirement plans. In more recent years, special topics have included extensive supplements on education, military combat experience, health, kinship networks, and wealth. Supplemental datasets, each with detailed information about a particular topic collected over the years, are released separately from the core files (PANEL STUDY OF INCOME DYNAMICS, 1968-1999: ANNUAL CORE DATA [ICPSR 7439]). Supplemental information on additional topics, such as flows of time and money, help among families and their friends, and motivation and efficacy, is gathered on an intermittent basis. Part 1, the 1985 Ego-Alter File, presents information on retrospective histories of marriage, childbirth, adoption, and substitute parenting. Part 2, the 1984-1987 Work History Supplement File, contains more detailed information on individual employment histories than is presented in the core files, including multiple job changes. Part 3, the Validation Study, was designed to assess the quality of cross-sectional and over-time economic data obtained in the PSID. The first wave of the Validation Study was conducted in 1983 and a second wave was conducted in 1987. For the Validation Study, the

standard PSID questionnaire was administered to a sample drawn from a single large manufacturing firm. Questionnaire results were compared to company records to verify respondents' answers to questions such as hours worked, sick time taken, periods of unemployment, and changes of position within the company. Part 4, the Time and Money Transfers Supplement File, 1988, was designed to facilitate access to the detailed information collected in the 1988 wave of the PSID regarding transfers, in the form of time and money, between a PSID family unit and other persons during the 1987 calendar year. Part 5, the Marriage History File, 1985-1999 (Waves 18-31), was designed to facilitate access to detailed information collected in the 1985 through 1999 waves of the PSID regarding retrospective marriage histories. This file contains detailed information about marriages of people of marriage-eligible ages living in a PSID family at the time of the interview in any wave between 1985 and 1999. Each record contains all past-year and most-recent-year details about the timing and circumstances of a marriage for a specified individual. Variables in this file include the identifiers for each individual and his/her spouse, month and year of marriage/divorce/widowhood, order of the specific marriage, total number of marriages, and the most recent year wave when data were collected. Part 6, Relationship History File, 1968-1985 (Waves 1-18), presents information on pairs of individuals who were members of family units descended from a common, original family in the 1968 sample. The Relationship History File was designed to identify relationships that might not be evident using traditional data collection methods, which often define relationships in terms of the relationship of the individual to the head of household. There are two records for each pair (one record per individual). Variables include relationship, age, gender, and a set of residential status variables. This file is designed for use with Appendix C for Relationship History File (Part 7). Part 8, Childbirth and Adoption History File, 1985-1999 (Waves 18-31), was designed to facilitate access to detailed information collected in the 1985 through 1999 waves of the PSID regarding retrospective histories of childbirth and adoption. This file contains detailed information about any individual living with a PSID family at the time of the interview in any wave from 1985 through 1999 and his/her biological or adopted children. Each record contains all present-year and past-year details about the timing and circumstances of childbirth and adoption for an individual. Variables in this file include the identifiers for each parent and child, month and year of birth for both parent and child, birth order, birth weight and date of death for a child, year of most recent report, number of births/adoptions, etc. Data in this file are structured in a one-record-per-event format, with each record representing a specific childbirth or adoption event. Part 9, the Self-Administered Questionnaire Supplemental File, 1990 (Wave 23),

provides information about the health care needs of older panel members in the core (but not Latino) sample. Each household head and wife aged 50 or older was mailed a self-administered questionnaire. Questions focused on the respondent's health, health care coverage, and long-term care coverage. Part 10, Telephone Health Care Cost Questionnaire Supplemental File, 1990 (Wave 23), was administered by telephone at the time of the main interview to heads and wives aged 65 or older. The questions in this supplement focused on detailed health care costs for eligible heads and wives. Data include separate cost and payment source information associated with every hospitalization or nursing home stay during the 12 months prior to the 1990 interview. Similar cost and payment data about outpatient surgery, other office visits, oral surgery, prescription medication, eyeglasses and hearing aids, and professional and nonprofessional home care were also collected. Some additional questions were included about help with domestic duties, both paid and unpaid, help with financial planning, and cash and noncash gifts. Part 11, the Parent Health Supplement, 1991 (Wave 24), is a subset of the Wave 24 data that supplies supplemental information concerning the health of the parents of the household head and wife. Parts 12-14 comprise the wealth supplemental files for 1984, 1989, and 1994. Part 12, Family Wealth Supplement Data, 1984 (Wave 17), and Part 13, Family Wealth Supplement Data, 1989 (Wave 22), were derived, respectively, from the Public Release II versions (final release versions) of Parts 18 and 19 of ICPSR study 7439, and Part 14, Family Wealth Supplement Data, 1994 (Wave 27), was derived from Part 202, Family File, 1994 (Wave 27), an early release version. The components of wealth were collected at the family level. Part 15, Estimating Risk Tolerance from the 1996 PSID, asked how willing employed respondents were to take jobs with different income prospects. Parts 16 and 17 focus on active saving and cover the time periods 1984-1989 and 1989-1994, respectively. Sequences in these files are intended to measure flows of money into and out of different assets such as putting money into or taking it out of the stock market, putting money into annuities or cashing them in. In combination with changes in the companion wealth components these measures can be used to study savings versus capital gains.

UNIVERSE: Households that had at least one member of the noninstitutionalized population of the 48 contiguous states and the District of Columbia. The portion of the sample called the SRC subsample, when taken by itself, was representative of the households in the coterminous United States in 1968. The second subsample consisted of the low-income nonelderly households sampled by the Census Bureau for the 1966-1967 Survey of Economic Opportunity. These households, drawn with unequal probabilities of selection that depended on geographic location, age, race, and

income, were added to the sample to ensure that there would be a sufficient number of low-income and, especially, Black low-income households to permit separate analyses of these populations.

SAMPLING: The sample is a combination of a representative cross-section of nearly 3,000 families selected from the University of Michigan Survey Research Center's (SRC's) master sampling frame and a subsample of about 1,900 low-income families previously interviewed by the Census Bureau for the Office of Economic Opportunity. The combined sample is appropriately weighted to be representative of all people in the United States. Heads of the same families have been interviewed each year since 1968, as have the heads of families containing members who were part of a 1968 household and later left to start households of their own or to join another household. Panel losses have been more than offset by the addition of these newly formed families, bringing the present sample size to near 7,000. The sample for Part 3, the Validation Study, was drawn from a single large manufacturing firm in the Detroit area.

NOTE: (1) The files in this data collection were originally included in PANEL STUDY OF INCOME DYNAMICS (ICPSR 7439), which has been broken out by ICPSR into three separate data collections: PANEL STUDY OF INCOME DYNAMICS, 1968-1999: ANNUAL CORE DATA (ICPSR 7439), PANEL STUDY OF INCOME DYNAMICS, 1968-1999: SUPPLEMENTAL FILES (ICPSR 3202), and PANEL STUDY OF INCOME DYNAMICS, 1989-1990: LATINO SAMPLE (ICPSR 3203). (2) Weights are provided for analysis. The weights for individuals are different from those for families. (3) The codebooks and data collection instruments are provided as Portable Document Format (PDF) files. The PDF file format was developed by Adobe Systems Incorporated and can be accessed using PDF reader software, such as the Adobe Acrobat Reader. Information on how to obtain a copy of the Acrobat Reader is provided on the ICPSR Web site. (4) Users are encouraged to check the PSID Web site at http://www.isr.umich.edu/src/~psid/ for updates to this collection. A complete bibliography of publications can also be accessed at the site.

EXTENT OF COLLECTION: 16 data files + machine-readable documentation (PDF) + SAS data definition statements + SPSS data definition statements

EXTENT OF PROCESSING: UNDOCCHK.PR/ CONCHK.PR/ SCAN/ REFORM.DOC

DATA FORMAT: Logical Record Length with SAS and SPSS data definition statements

Part 1: Ego-Alter File, 1985 (Wave 18)
File Structure: rectangular
Cases: 41,368
Variables: 81
Record Length: 82
Records Per Case: 1

Part 2: Work History Supplement File, 1984-1987 (Waves 17-20)
File Structure: rectangular
Cases: 12,620
Variables: approx. 5,093
Record Length: 9,566
Records Per Case: 1

Part 3: Validation Study, 1983 and 1987 (Waves 16 and 20)
File Structure: rectangular
Cases: 603
Variables: 642
Record Length: 1,427
Records Per Case: 1

Part 4: Time and Money Transfers Supplement File, 1988 (Wave 21)
File Structure: rectangular
Cases: 32,850
Variables: 14
Record Length: 31
Records Per Case: 1

Part 5: Marriage History File, 1985-1999 (Waves 18-31)
File Structure: rectangular
Cases: 43,220
Variables: 20
Record Length: 51
Records Per Case: 1

Part 6: Relationship History File, 1968-1985 (Waves 1-18)
File Structure: rectangular
Cases: 426,608
Variables: 137
Record Length: 552
Records Per Case: 1

Part 7: Appendix C for Relationship History File
Record Length: 120

Part 8: Childbirth and Adoption History File, 1985-1999 (Waves 18-31)
File Structure: rectangular
Cases: 75,693
Variables: 23
Record Length: 49
Records Per Case: 1

Part 9: Self-Administered Questionnaire Supplemental File, 1990 (Wave 23)
File Structure: rectangular
Cases: 2,429
Variables: 201
Record Length: 260
Records Per Case: 1

Part 10: Telephone Health Care Cost Questionnaire Supplemental File, 1990 (Wave 23)
File Structure: rectangular
Cases: 1,178
Variables: 1,181
Record Length: 3,286
Records Per Case: 1

Part 11: Parent Health Supplement, 1991 (Wave 24)
File Structure: rectangular
Cases: 2,910
Variables: 1,411
Record Length: 2,659
Records Per Case: 1

Part 12: Family Wealth Supplement Data, 1984 (Wave 17)
File Structure: rectangular
Cases: 6,918
Variables: 19
Record Length: 74
Records Per Case: 1

Part 13: Family Wealth Supplement Data, 1989 (Wave 22)
File Structure: rectangular
Cases: 7,114
Variables: 19
Record Length: 79
Records Per Case: 1

Part 14: Family Wealth Supplement Data, 1994 (Wave 27)
File Structure: rectangular
Cases: 8,628
Variables: 19
Record Length: 84
Records Per Case: 1

Part 15: Estimating Risk Tolerance From the 1996 PSID (Wave 29)
File Structure: rectangular
Cases: 8,517
Variables: 3
Record Length: 13
Records Per Case: 1

Part 16: Active Savings, 1984-1989 (Wave 22)
File Structure: rectangular
Cases: 7,114
Variables: 15
Record Length: 103
Records Per Case: 1

Part 17: Active Savings, 1989-1994 (Wave 27)
File Structure: rectangular
Cases: 8,628
Variables: 17
Record Length: 117
Records Per Case: 1

A Panel Study of Income Dynamics 1968-1985 Relationship File: Procedures and Tape Codes (Documentation)

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1992

Contents

Preface v

Part 1 --1968-1985 Relationship File Procedures

1. Introduction 1

2. The Nature of the Problem 3

3. Theoretical Foundations for a Solution 8

4. Building Blocks of Relationships 13

5. Building the Algorithm 17

7. Constructing a Manageable Set of Less Detailed Relationship Codes 21

6. Other Key Variables 30

8. Summary and Conclusion 33

References 35

Preface

This volume documents the 1968-1985 relationship file of the Panel Study of Income Dynamics (PSID). This documentation and the data it describes are available from the Inter-university Consortium for Political and Social Research, P. O. Box 1248, Ann Arbor, Mi, 48106. Users who wish to communicate with the study staff regarding questions about the content of this file should contact Marita Servais at (313) 936-0073 or via E-mail: Servais@umich.edu

The 1968-1985 relationship file consists of a total of 426,608 records, two records for each pair of individuals who were members of family units that descended from a common, original 1968 family -- one record with one person designated as person X and the other person designated as person Y and a second record with these designations reversed. The records include variables that describe the relationship, blood, marital, or cohabitational, of the pair in each of the eighteen years 1968 through 1985, as well as set of coresidence and PSID status variables (designating whether the individual was present in a responding household in year-l) for each of these years. Also included are of a modest number of variables serving as identifiers and basic demographic measures -- age and gender. The file format is efficient for indicating relationships but not desirable for most types of research which require specifying individuals or whole families as the units of analysis. Typically, the analyst will wish to merge additional information about the persons and their families from the PSID's 1968-1985 family-individual response and non-response file containing information at both the family and individual level for all individuals ever in the PSID study. Note that the 1968-1985 relationship file should be matched only with the 1968-1985 main file, not the main file from other years. The authors wish to acknowledge funding assistance from the National Science Foundation and valuable assistance in file design by Chad McDaniel. Most of the material included in the Procedures section of this documentation is based on the paper "Tangled Webs of Family Relationships: Untangling Them with Survey Data" by Martha S. Hill, Marita A. Servais and Peter Solenberger which was presented at the International Conference on Social Science Methodology, Trento, Italy, June 1992.

Significant portions of the data computation upon which this paper is based employed the OSIRIS IV computer software package, which was developed by the Institute for Social Research, The University of Michigan, using funds from the Survey Research Center, Inter-university Consortium of Political Research, National Science Foundation and other sources. Information about the OSIRIS IV software package can be obtained from the Survey Research Center, University of Michigan, P. O Box 1248, Ann Arbor, Ml 48106-1248; phone, 313-7644418; FAX, 313-747-4575.

Part 1 --1968-1985 Relationship File Procedures

1. Introduction

Social scientists in many fields--demography, sociology, economics, anthropology, and social psychology--are interested in the causes and consequences of family formation, dissolution, and ties between family members living together or apart. However, conventional approaches to the collection and processing of demographic data relating individuals by blood, marriage, or co-residence can hinder examination of issues relating to these topics.

Surveys usually collect data on family relationships in one or both of two forms: as relationships of co-residing individuals to the head of the household and as marital, fertility and adoption histories. The problem with these methods is that they may not yield a full accounting of relationships between all relevant pairs of individuals in the family, including those present in the household but also family members not co-residing.

Knowing only the relationship of two individuals A and B to a third individual C does not always reveal the relationship between A and B. Take, for example, relationship-to-head data that indicates that A is the daughter and B is the granddaughter of C. Based on this information alone, it is unclear whether A is the mother or aunt of B. yet this can be a very important distinction for analysts interested in studying young mothers, some of whom co-reside with sisters in their parents' home. Studies of this type depend on clear identification of relationships between pairs of individuals other than the household head, yet survey data about blood and marital relationships between co-residents are most typically based on a household listing that relates each co-resident to only one household member--the head of household--rather than on a pair-wise basis across all pairs of household members.

Data confined to relationships between co-residents, as are relationship-to-head data, may be insufficient for many research purposes for another reason: they provide little insight into relationships with family members living elsewhere. Relationships between persons living apart are focal to issues such as child support by non-custodial parents or support of frail parents in nursing homes. Marital, fertility and adoption histories can help clarify relationships between persons living apart but important information of a relationship nature may be missing from an individual's histories as well. Information from two or more individuals' histories may be needed to determine relationships of interest, a case in point being identification of both biological parents of a given child. Fertility histories of the current spouse or ax-spouses may be needed to determine the full parentage of children.

The 1968-1985 relationship file, built from Panel Study of Income Dynamics (PSID) data, addresses the important problem in panel data management and analysis of how to identify fully relationships between family members living together or apart in a given interview year. The PSID Relationship File Project worked with two major sources of data: (1) an 18-year (1968-1985) span of annual indicators of relationship to head of all individuals who were members of a family unit and (2) comprehensive marital, fertility, and adoption histories gathered in the 18th year of the observation span (1985) and, hence, after some attrition had occurred. The goal was to create a data file that identified as clearly as possible the relationship

between pairs of related individuals. The file was designed to facilitate access to data about relatives living in different family units as well as clarify the relationships between individuals co-residing. The 1 8-year observation period provided a wide span of years for relationships to develop and change, and the PSID Relationship File Project attempted to provide information on the full multi-year character of those relationships. Ambiguities in relationships, especially prominent in the early years of the PSID, were clarified using the subsequent data collected in the retrospective demographic histories gathered at the end of the observation period along with all (18) waves of PSID data concerning relationship to head.

The relationship file uses all of this information to relate, on a pair-wise basis, individuals who were ever part of, or have derived from, the same original household. Each record on the file contains variables indicating relationship in each of the eighteen years 1968-1985. The relationship variables have been computer-derived by first devising a set of basic building blocks, or "primitives," that are the components from which complex relationships can be built and then designing a computer algorithm with which to build the relationships. Basic building blocks include relationships such as "biological child." Say that the relationship between person A and person B is unknown, but it is known that person A is the "biological child" of a person C, who is the "biological child" of person B. The algorithm would generate the relationship "biological child of biological child"--in more common usage "grandchild"--for the relationship of A to B. On the file the type of relationship, if indirect via another person (e.g., mother of mother, or grandmother on mother's side), is indicated in full detail when enough information is available to do so.

Each record on the file pertains to a pair of individuals and consists of a modest number of variables for identifiers, relationship measures, co-residence indicators, and basic demographic measures. The file format is efficient for indicating relationships but not desirable for most types of research which require specifying individuals or whole families as the units of analysis. Hence, the file is designed, not as a stand-alone file, but to be used in conjunction with the PSID's 1968-1985 main file containing information at both the family and individual level for all individuals ever in the PSID study. Some types of analysis, such as tracing changing living arrangements over time, are possible with the relationship file alone; however, more typical use of the file is to identify people related in a particular way and then access their family and individual data from the PSlD's 1968-1985 main file.[1]

This documentation begins with a detailed description of the process developed for the file construction, as well as its theoretical roots and compromises imposed by the real world of less-than-ideal data. Included are sections which describe: the nature of the problem; theoretical foundations for a solution; building blocks of relationships -- the transformation of demographic data usually collected in surveys; building the algorithm for inferring unknown relationships;

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[1] Analysts should match it only with the 1968-1985 main PSID file, not PSID files covering other years because the unique identifiers for individuals, 1968 Family Number and Person Number, are occasionally changed when errors are spotted, and a reassignment of person numbers of non-sample individuals age 65 or older was undertaken in 1990 to facilitate the subsequent tracking of these individuals (their "new" person numbers are in the range of 400-499, their previous person numbers were in the range of 170-226). Hence some individuals would not be properly matched with the correct set of data from the PSID main file.

constructing a manageable set of less detailed relationship codes; other key variables; an example of using the file and implications for collecting and processing demographic survey data. This is followed by the tape codes -- a listing and description of the code values for all of the variables in the data file.

2. The Nature of the Problem

The Panel Study of Income Dynamics has been following a sizable sample of the American population and its progeny now for over two decades, conducting annual interviews on economic status, family composition and a wide range of other topics of interest to social scientists. The PSID has been instrumental in documenting the importance of family structure, even though family structure was not anticipated to be of major importance at the study's start. This lack of anticipation of an important role for family structure resulted in the study's initial measures of relationships between family members lacking in precision and breadth of coverage (the measures were drawn entirely from information about family members' relationship to head and coded into less than ten categories). The precision and breadth of relationship information was enhanced by subsequent revisions in the way PSID's annual relationship to-head data were coded. Well into the study, the PSID took further steps to clarify relationships by introducing, in addition to its annual relationship-to-head measures, comprehensive fertility, marital and adoption histories. However, by that time small attrition across the waves had cumulated, leaving a non-trivial number of earlier-observed persons (observed but lost to attrition) without comprehensive reports of fertility, marital and adoption histories.

Central to the problem is the fact that the PSID's data collection and structure is organized around the concept of a family head (who, in husband-wife families is taken to be the husband). Each year, the head of each family in the sample is identified and then all other individuals in the family are classified according to their relationship to head. For the PSID's main data file family information is gathered together in the family portion of each individual's data record each year, and the more limited information about the given individual is assembled into the individual portion of that record. The public-release version of the main file is a rectangular family-individual file with one record per individual that contains data across all waves.[2] This provides a comprehensive history of the families an individual has lived with but only while he or she is living with them. This main data file is not designed optimally to accommodate all of the kinds of analyses that involve family structure, either as an analysis topic or for selection of a sub-sample for analysis.

A. Examples of the problem. Consider the data implications of the following possible analyses:

1. The decision of unmarried mothers to live either with their parents or independently has been found by Ellwood and Bane (1984) to be quite sensitive to the level of AFDC benefits

[2] This description of the PSID's main file holds until the 1990 wave was added. At that time, constraints of record length forced the use of a different format for the public release distribution file. In 1990 the main PSID data files consisted of a single 1968-1990 cross-year individual file and 23 single-year family files.

in the state of residence. PSID follows unmarried mothers, but during its first 15 years it did not identify very well the complicated relationships or living arrangements within extended families such as those in which the mothers live with their parents. It was impossible to tell with certainty in the early years of the study whether an unmarried woman living with her daughter and parents is the unmarried mother of that child, particularly if other sisters are present in the household; it was also impossible in most years to tell whether a daughter who had become an unmarried mother while in her own household had moved back to her parents' household.

2. Living arrangements of young children are thought to be crucial aspects of the child's early environment. Some children experience fluctuating patterns of arrangements, living with parents sometimes and with grandparents, other relatives, or family friends at other times. In constructing useful summary measures such as for how long a child has lived with either or both of his or her parents, conventional relationship-to-head measures usually fall considerably short of providing essential information. What is needed is the addition of a comprehensive identification of the child's relationship to all members of the households in which he or she has resided during the panel period.

3. Links between individuals who were part of the same household but are no longer living in the same household are also important. Suppose that an analyst is interested in modeling the payment of child support by the ax-husband to the ex-wife following a divorce that occurs during the panel period, or that an analyst wants to know what proportion of men have children from both a current marriage and a prior one who could require financial support. The analyst would need to be able to link up the new household of the ax-husband with the new household of the ex-wife and, ideally, to establish which of the children living with the ex-wife are the ax-husband's own children. The PSID's main file is in a form that makes the needed matches across separate households difficult, and correct identification of the parentage of children was not possible until the addition of the fertility, marriage, and adoption histories.

4. Patterns of cohabitation prior to marriage can be identified in PSID data because cohabitors can clearly be distinguished. However, relatives (e.g., children) of cohabitors also need to be clearly identifiable in the data for a complete accounting of the cohabitation-marriage process, and this cannot be done unambiguously with the PSID's main file.

What are the crucial data structure elements implicit in these examples? First, it is important to distinguish between blood and step-relations. Second, it is crucial to know who is living with whom and when, and if individuals are alive or dead. Third, cohabitors and their relatives need to be as carefully identified in the data as spouses and their relatives. And fourth, it is crucial to be able to link together individuals who have descended from the same original household but who may not currently be living in the same household. The main PSID file has important deficiencies in each of these areas.

While the main data file is useful for a wide variety of analyses, it does not always enable the analyst to link together individuals who once shared the same dwelling but no longer do so. Thus, analyses of the comparative economic status of ax-spouses are difficult, as are analyses of siblings as a group if those siblings have left the parental household and have formed their own families. PSID's main data file also does a poor job of identifying individuals who have left

home but have returned to it, as with a daughter who leaves home, marries and has a child, is divorced and then returns to the parental home with the child. PSID procedures call for separate interviews with individuals who at some point in the past have been head or wife in their own household even if they have moved back into a parental family, and for years prior to 1982 the needed information to enable an analyst to identify such cases originally was not coded.

More generally, the PSID's main file does a rather poor job of specifying the family relationships among all pairs of related individuals and in identifying the residential histories of related individuals. Prior to 1985, certain family relationship information (e.g., adoptions, parentage of children living elsewhere, sharing a household but not family unit) was simply not available in the PSID because the necessary questions had never been asked or because the needed data had not been assembled. Given the importance of living arrangements for family economic status, welfare recipiency, and a host of other outcomes, the deficiencies in this regard were particularly unfortunate.

B. Treatment for the problem. The advent of the addition to the PSID of comprehensive fertility, marital and adoption histories offered the opportunity to overcome some of these deficiencies. Support from NICHD enabled the study in 1985 to interview both household heads and wives (instead of one person per family as usual) and obtain the necessary demographic information to properly code complex sets of familial relationships that analysts would like to have. These data assisted in cleaning up a great many of the ambiguities surrounding family relationships, establishing important links among related individuals and describing residential histories of those individuals.

Accomplishing this meant constructing a new data file linking together related individuals in the PSID, showing how each pair of individuals was related in each year of the study and whether the pair shared the same dwelling in each of the years of the study. The new file, termed "relationship filed was not intended to replace the PSID's main file, but to supplement that file, and analysts could use it in conjunction with the main file to better meet their needs.

The relationship file links up identifying information on all persons in the same household when the PSID began, persons born to or moving in with someone who was part of that original household, or persons they reported as relatives in demographic histories. The identifying information includes a detailed pair-wise specification of the relationship of each individual to all other individuals in the study that they are related to. It is not sufficient to link all individuals ever part of the same original household to a common "head. or "householder" since a pair of individuals who share a given relationship to a householder (e.g., stepson) can be related to one another in any of a variety of ways (e.g., siblings or step-siblings). Crucial to the data structure, then is information on the relationship between each pair of individuals who share the same household ancestry as well as information on whether each such pair of individuals shared the same dwelling and family unit in each year of the panel period, and if they are not sharing the same dwelling, whether they are still living, but in different locations.

A crucial parameter for determining the file design was the wide variation in the number of known relatives of PSID panel members. As shown in Table 1, the total number of persons with the same original (1968) family ID ranged from 1 to 50. Across the 4,802 distinct original

family groupings, there were 512 consisting of only a single person each and 1 consisting of 50 persons reported as relatives, co-residers, or co-residers of a relative at some time during the 18-year time span. A family grouping comprised of only one person produces no pairs of related persons, and a family grouping containing 50 persons produces 1,225 pairs of related persons (2,450 pairs when the order of individuals in the pair is reversed). This wide variation ruled out the possibility of having a file structure that was one-person-per-record with the record consisting of the full string of the person's relatives. A structure consisting of records reflecting the relationship between a pair of individuals offered much more efficient storage possibilities.

Table 1
Numbers of Pairs, Records, Relationship-years in Relationship File

A # of people in family	B # of pairs per family A*A-A	C # 1968 families	D # of people A*C	E # pairs B*C	F # of relationship years E*18*2
1	-	512	512	-	-
2	2	770	1,540	1,540	55,440
3	6	401	1,203	2,406	86,616
4	12	449	1,796	5,388	193,968
5	20	372	1,860	7,440	267,840
6	30	361	2,166	10,830	389,880
7	42	274	1,918	11,508	414,288
8	56	236	1,888	13,216	475,776
9	72	195	1,755	14,040	505,440
10	90	157	1,570	14,130	508,680
11	110	163	1,793	17,930	645,480
12	132	114	1,368	15,048	541,728
13	156	119	1,547	18,564	668,304
14	182	105	1,470	19,110	687,960
15	210	70	1,050	14,700	529,200
16	240	74	1,184	17,760	639,360
17	272	55	935	14,960	538,560
18	306	51	918	15,606	561,816

19	342	47	893	16,074	578,664
20	380	38	760	14,440	519,840
21	420	33	693	13,860	498,960
22	462	27	594	12,474	449,064
23	506	24	552	12,144	437,184
24	552	16	384	8,832	317,952
25	600	22	550	13,200	475,200
26	650	16	416	10,400	374,400
27	702	16	432	11,232	404,352
28	756	11	308	8,316	299,376
29	812	6	174	4,872	175,392
30	870	11	330	9,570	344,520
31	930	8	248	7,440	267,840
32	992	6	192	5,952	214,272
33	1,056	4	132	4,224	152,064
34	1,122	4	136	4,488	161,568
35	1,190	5	175	5,950	214,200
36	1,260	2	72	2,520	90,720
37	1,332	6	222	7,992	287,712
38	1,406	1	38	1,406	50,616
39	1,482	4	156	5,928	213,408
40	1,560	5	200	7,800	280,800
41	1,640	1	41	1,640	59,040
42	1,722	2	84	3,444	123,984
43	1,806	3	129	5,418	195,048
44	1,892	2	88	3,784	136,224
45	1,980	-	-	-	-
46	2,070	1	46	2,070	74,520
47	2,162	-	-	-	-
48	2,256	2	96	4,512	162,432
49	2,352	-	-	-	-

50	2,450	1	50	2,450	88,200
		4,802	34,664	426,608	15,357,888

As noted earlier, the relationship variables are indicators of the ties between a given pair of individuals sharing the same 1968 family ID. The relationship between two individuals can be defined in several ways: blood ties (which remain fixed over time), and ties of marriage, adoption, or co-residency (more changeable bonds). To allow for variability in relationships over time, we created separate year-by-year relationship variables over the eighteen-year period of the PSID (1968-1985).

The approach we have taken is to produce separate records for each person in any given pair, code the relationship variables in one record from one person's perspective, and code the relationship variables in the other record from the other person's perspective. This format facilitates identifying both relationships and persons in the relationships. Take the example of a father/son relationship. Call the father "Ozzie" and the son "Ricky." The relationship between them is represented from both the father's (Ozzie's) perspective and from the son's (Ricky's) perspective. This means the file contains both: (a) one record with Ozzie as person X, Ricky as person Y. and the relationship of X to Y as "father" and (b) one record with Ricky as person X, Ozzie as person Y. and the relationship of X to Y as "son." Coding a father-son relationship separately from the father's viewpoint and from the son's perspective in separate records helps distinguish both father-son relationships from other types of relationships and fathers from sons.

3. Theoretical Foundations for a Solution

The PSID Relationship File Project loosely followed the methodology of the "ethnogenealogical approach" to the analysis of kinship systems used by some anthropologists. Chad McDaniel suggested this method and provided references explaining it. The procedure applied by the authors in the PSID Relationship File Project, abstracting from problems with the data. was the following:

1. Describe immediate family relationships among individuals in terms of a relatively small number of "primitive" relationships based on the eight relationships of the traditional nuclear family: wife, husband, mother, father, daughter, son, sister, brother.

2. Describe other family relationships in terms of combinations or chains of these "primitive" relationships, for example, "sister of mother" to describe one variety of "aunt."

3. Reduce the large set of relationships derived in 1 and 2 to a smaller, more manageable, analytically meaningful set of relationships based on conventional American-English definitions of kinship.

The eight nuclear-family relationships can be represented as codes as shown, for example, in Table 2.

Table 2
Nuclear Family Relationships

"Primitive" Code	Meaning
W	Wife of
H	Husband of
M	Mother of
F	Father of
D	Daughter of
S	Son of
Z	Sister of
B	Brother of

These codes then can be chained to form non-nuclear-family relationships as shown in Table 3. Table 3 includes 34 of the possible 64 combinations of the eight "primitive" codes. The other 30 mathematically possible combinations are either socially and legally impossible in the society of the PSID, such as wife of husband (WH), or less conventional and analytically useful in describing a relationship, such as mother of sister (MZ), which can be described better as wife of father (WF), or stepmother (assuming the relationship is not mother, since it would have been specified directly in that case). The incidence of relationships that can be defined in more than one way increases geometrically with the number links in the "primitive" chain.

Table 3
Non-Nuclear-Family Relationships

"Chained" Code	Meaning
WF	Stepmother of
HM	Stepfather of
MM, MF	Grandmother of
FM, FF	Grandfather of
MW, MH	Mother-in-law of
FW, FH	Father-in-law of
DW, DH	Stepdaughter of

SW, SH	Stepson of
DD, DS	Granddaughter of
SD, SS	Grandson of
WS	Daughter-in-law of
HD	Son-in-law of
WB, ZW, ZH	Sister-in-law of
HZ, BW, BH	Brother-in-law of
DZ, DB	Niece
SZ, SB	Nephew
ZM, ZF	Aunt
BM, BF	Uncle

The genealogical method of describing family relationships in terms of "primitive" codes and chains of codes provides an elegant way to determine relationships among people when only some of these relationships are given. For example, let us assume that we know that Harriet and Ozzie Nelson are married and have a son David and that David and Janet are married and have a daughter Kate. What other relationships can we determine from this information? Table 4 summarizes what we know about relationships in the Nelson family. Notice the symmetry in the relationships. If Harriet is the wife of Ozzie, then Ozzie is the husband of Harriet. Every relationship has a reciprocal relationship. If we know the relationship of A to B and the sex of B. we can determine the reciprocal relationship of B to A.

Table 4
"Primitive" Relationships in the Nelson Family

	Harriet	Ozzie	David	Janet	Kate
Harriet	.	W	M		
Ozzie	H	.	F		
David	S	S	.	H	F
Janet			W	.	M
Kate			D	D	.

Using what we know from Table 4, we can fill in the missing relationships. For example, we do not know the relationship of Janet to Harriet, but we do know the relationships of Janet to David (W) and David to Harriet (S). From this we can determine the relationship of Janet to Harriet by chaining the two other relationships to get wife of son (WS), or daughter-in-law. We can determine the relationship of Harriet to Janet by chaining the relationship of Harriet to David (M) and the relationship of David to Janet (H) to get mother of husband (MH), or mother-in-law. Again, notice the symmetry of relationships. If Janet is the daughter-in-law of Harriet, then Harriet is the mother-in-law of Janet. If we know the relationship chain from one person to another and the sexes of the people involved, we can determine the reciprocal chain by chaining the reciprocal elements in the reverse order: WS becomes MH. Table 5 summarizes what we can determine about the relationships in the Nelson family.

Table 5
"Chained" Relationships in the Nelson Family

	Harriet	Ozzie	David	Janet	Kate
Harriet	.	W	M	MH	MF
Ozzie	H	.	F	FH	FF
David	S	S	.	H	F
Janet	WS	WS	W	.	M
Kate	DS	DS	D	D	.

We have determined the relationship of Janet to Harriet as wife of son (WS). Another possible way we might describe their relationship is through Kate and then David: mother of daughter of son (MDS). We have rejected this because it is a more indirect relationship. In general, the procedure followed in the PSID Relationship File Project was to choose the "shortest" possible relationship chain, the one with the fewest and closest links. Conceptually that is, abstracting from data problems this meant the following steps:

1. Build a table of "primitive" relationships among family members.

2. Identify missing relationships.

3. Find all third persons to whom both people in the missing relationship are related.

4. Determine the shortest chain of the known relationships.

5. Fill in the missing relationship.

6. Repeat steps 2 through 5 until no more unknown relationships can be filled in or the relationship chain is too long to be of analytical interest.

Step 4 requires special attention. Often two people with an undetermined relationship are both related to more than one other person, which means we must choose the "shortest" chain. We saw this in Table 3, where we preferred wife of father (WF) over mother of sister (MZ) to describe stepmother. Our iterative procedure adds one link at a time, so that the "shortness" of the alternative chains will not be the number of links but rather the combined "distance" of the links. We must assign a distance to each "primitive" relationship and sum the distances of the links to determine the shortest chain.

Table 3 illustrates both the process of chaining relationship codes and the process of reducing the chained codes to a smaller, analytically meaningful set of relationships, steps 2 and 3 of our overall procedure. The chaining process can produce large numbers of mathematically possible codes. Our eight nuclear-family "primitives" in combinations of O to 4 "primitive" codes (that is, from no relationship to, for example, mother of mother of mother of mother) could produce the numbers of chained codes shown in Table 6.

Table 6
Mathematically Possible Numbers of Chained Codes

Number of Codes Chained	Number of Codes Generated
0	1
1	64
2	512
3	4,096
4	32,768
Total	37,441

Even assuming half these codes are impossible or redundant, the codes must be grouped in some way to be comprehend or analyzed. The problem is made more difficult by the fact that the eight "primitive" codes of the traditional nuclear family are quite inadequate to describe the social reality of families in the PSID and the society of which it is part. For example, even apart from ambiguities in the data, the category "wife" should broken down into wife, separated wife, divorced wife, widowed wife, deceased wife, female domestic partner, and possibly other categories.

The formula for the number of mathematically possible relationship codes is

$$1 + n + n2 + n3 + n4 + ...$$

where n is the number of "primitive" codes. With a realistic n, the number of possible codes is in the billions and the number that will appear in a relatively large study like the PSID is in the thousands.

Anthropologists studying kinship systems attempt to develop principles for combining the chained codes that allow them both to reproduce the conventional folk descriptions of the society they are studying and to analyze underlying social patterns and processes. We had to do the same with the PSID Relationship File Project, grouping the chained codes so that they were manageable but also so that they were intelligible to members of the US society of which the PSID families and individuals are part and useful to analysts of that society. Since we could not be sure that our grouping would suit every analyst, we included our "field notes" the original "primitive" chains in the relationship file to allow others to group the chained codes as they pleased.

4. Building Blocks of Relationships

Following the theoretical guidelines, the first step in the process of determining relationships with the PSID data involved categorizing all readily accessed relations between pairs of people into a set of basic building blocks, termed "primitives," that could be used as links to construct the chain of ties in relationships not directly observed in the data. The central idea was to (1) identify a moderate-size set of "primitives" that described relationships between pairs of individuals in ways of interest to analysts and (2) design a computer algorithm to generate unknown relationships on the basis of the "primitives" known to be linking some individuals.

The form of the demographic data and the degree of their specificity are strong determinants of what can be used as basic building blocks ("primitives"). The PSID data came in a variety of forms and levels of specificity. One source was annual data on co-residing family members' relationship to the family head (labeled "RTH"). These data varied in specificity over the course of the study, with the relationship-to-head code taking three different forms at different times: a crude 10-category code in 1968 (see 68 RTH columns in Table 7), followed by a different, but still crude, 10-category code 1969-1982 (see 69-82 RTH columns in Table 7), subsequently replaced in 1983 by an expanded 34-category code (see 8385 RTH columns of Table 7). Another source of the PSID demographic data was comprehensive fertility, marital and adoption histories (labeled "HIS") collected in 1985. The distinctions about relationships in these demographic histories were more precise, but covered fewer types of basic linkages, than the 1983-1985 relationship-to-head codes.

Table 7
Primitives and their Associated Codes and Origin

Primitive	Relationship of person X to person Y	Origin				Primitive	Relationship of person Y to person X	Origin			
		68 RTH	69-82 RTH	83-85 RTH	HIS			68 RTH	69-82 RTH	83-85 RTH	HIS
00	No further relationship					**00**	No further relationship				
00	No relationship	1-9 9				**00**	No relationship	9 1-9			
01	Self					**01**	Self				
02	Wife		1	20 10	*	**03**	Husband		9	10 90	*
04	Wife (unclear)	2	2			**05**	Husband (unclear)	1	1		
06	Separated wife				*	**07**	Separated husband				*
08	"Wife"			22		**09**	"Husband"			10	
10	"Wife" (1st year)			88 10		**11**	"Husband" (1st year)			10 88	
12	Divorced wife				*	**13**	Divorced husband				*
14	Widowed wife -- surviving wife of deceased husband				*	**17**	Deceased husband				*
16	Deceased wife					**15**	Widowed husband -- surviving husband of deceased wife				
18	Former wife				*	**19**	Former husband				*
20	Non-cohabiting wife (unclear) -- not in same FU	8 1				**21**	Non-cohabitating husband (unclear) -- not in same FU	1 8			
22	Non-cohabiting wife -- not in same FU					**23**	Non-cohabitating husband -- not in same FU				
38/39	Natural mother/father				*	**24/25**	Natural daughter/son				*
40/41	Adoptive mother/father				*	**26/27**	Adopted daughter/son				*
42/43	Mother/father (DK natural/adoptive)			10 20 20 22 88		**28/29**	Daughter/son (DK natural/adopted)			30 30 33 35 83	

44/45	Mother/father (unclear)	1 2 5	1 2	50 57 58 58	*	**30/31**	Daughter/son (unclear)	3 3 1	3 3	10 20 22 88	*
46/47	Stepmother/father			10	*	**32/33**	Stepdaughter/son			33	*
48/49	Foster mother/father			10 20	*	**34/35**	Foster daughter/son			38 38	*
50/51	Mother/father-in-law (unclear & DK them/their spouse)			10 20		**36/37**	Daughter/son-in-law (unclear & DK yours/your spouse's)			37 37	
52/53	Full sister/brother				*	**52/53**	Full sister/brother				*
54/55	Half sister/brother				*	**54/55**	Half sister/brother				*
56/57	Natural sister/brother (DK full/half)				*	**56/57**	Natural sister/brother (DK full/half)				*
58/59	Adoptive sister/brother				*	**58/59**	Adoptive sister/brother				*
60/61	Sister/brother (unclear)	4 1	4 1	40 47 48 48 10 20 22 88		**60/61**	Sister/brother (unclear)	1 4	1 4	10 20 22 88 40 47 48 48	
72/73	Grandmother/father (unclear)			66 67	*	**62/63**	Granddaughter/son (unclear)			10 20	*
74/75	Grandmother/father (unclear & DK them/their spouse)			10 20		**64/65**	Granddaughter/son (unclear & DK yours/your spouse's)			60 60	
76/77	Great-grandmother/father or grandmother/father (unclear & DK them/their spouse)		1 2			**66/67**	Great-granddaughter/son or granddaughter/son (unclear & DK yours/your spouse's)		6 6		
78/79	Great-grandmother/father (unclear)			68 69		**68/69**	Great-granddaughter/son (unclear)			10 20	

80/81	Great-grandmother/father (unclear & DK them/their spouse)			10 20		**70/71**	Great-granddaughter/son (unclear & DK yours/your spouse's)			65 65	
86/87	Aunt/uncle (unclear)			10 20		**82/83**	Niece/nephew (unclear)			70 71	
88/89	Aunt/uncle (unclear & DK them/their spouse)			72 73		**84/85**	Niece/nephew (unclear & DK yours/your spouse's)			10 20	
90/91	Female/male cousin (unclear)			74 75 10 20		**90/91**	Female/male cousin (unclear)			10 20 74 75	
92/93	Female/male relative	6 7 1 1	7 1	95 96 95 96 97 97 10 20 20 10 22 88		**92/93**	Female/male relative	1 1 6 7	1 7	10 20 20 10 22 88 95 96 95 96 97 97	
94/95	Female/male non-relative		8 1	98 98 10 20		**94/95**	Female/male non-relative		1 8	10 20 98 98	

The wide variation in PSID relationship classification systems complicated the designation of the "primitives" because our goal was to develop a set of primitives that maintained as much precision in the designation of relationship as possible, while also keeping the number of code elements to a manageable set (in this case approximately 100). The "primitives" reflect these differences in form and specificity. The "primitives" based on the fertility, marital and adoption histories represent the highest level of precision in linkages, those based on the 1 983-1 985 relationship-to-head information represent the second highest level of precision, and those based on the 1968-1982 relationship-to-head information represent the least precise linkages. A number of assumptions had to be made all along the line in determining relationships, as will be discussed later, but attempts were made throughout the process to preserve as much specificity as possible.

The original intent was to design "primitives" to vary with the source of the relationship information in such a way as to serve as markers for the source. This idea was modified for feasibility reasons; preserving the source of the information in this way introduced conflict between designing precise "primitives" and having a small enough set of "primitives" to make the design of the computer algorithm for generating unknown relationships a manageable task. The "primitives" we developed serve as indicators, but not always unambiguous ones, of data source.

The "primitives" were designed to be gender-specific because common terms for relationships usually convey gender as well as type of tie. When the available relationship information was gender-neutral, information regarding the gender was accessed so that all primitives could be defined in gender-specific terms, e.g., "mother" instead of just "parent.

The complete set of primitives and their two-digit associated codes are listed in Table 7, along with information about their origin. A sizable number of pairs of individuals demonstrated direct linkages via one of the primitives in Table 7. A much large number of pairs of individuals did not. To identify the ties for this latter set of pairs, a computer program was developed that attempted to link all pairs of individuals via chains of primitives. The "primitive chains" consist of a chain of up to 4 two-digit "primitives." A primitive chain of 00315302, for example, represents son (31) of full brother (53) of wife (02); leading zeroes are ignored.

5. Building the Algorithm

The derivation of the "primitive" and "primitive-chain" relationships required four steps: preprocessing the relationship-to-head data, processing the relationship-to-head data, preprocessing the marital-fertility-adoption history data, and processing the marital-fertility-adoption history data. The processing is theoretically more interesting than the preprocessing, but in the real world of panel surveys, the "preprocessing" is often the more critical step. Following are descriptions of the four steps.

A. Preprocessing the relationship-to-head data. The relationship-to-head program required several types of data from the 1968-1985 PSID family-individual response and non-response file. The following variables were accessed for all individuals:

1. Individual's identifiers (1968 family number and person number)

2. Individual's sex (to make gender distinctions in relationships)

3. Individual's mother's identifiers (1968 family number and person number)

4. Individual's 1969-1985 family number (to distinguish coresident and separated spouses, as well as coresidency generally)

5. Individual's 1968-1985 PSID status (to determine attrition and death)

6. Shared dwelling unit ID 1969-1985 (to identify any other PSID family units in the individual's household)

7. Individual's relationship to head 1968-1985.

In addition, the following variables were created, based on the individual's relationship to head 1968-1985:

8. Reverse relationship (head's relationship to individual 1968-1985; the reverse of item 7)

9. Distance value for individual's relationship to head 1968-1985 (this is specific to the type of relationship).

Items 1-4 involved no restructuring. Item 5 involved restructuring of the PSID's 19681985 sequence number variables. Items 7-9 required assigning "primitive" code values and "distance" values (described below) based on the individual's 1968-1985 relationship-to-head variables.

B. Processing the relationship-to-head data. The relationship-to-head program essentially created two large three-dimensional matrices for each 1968 family: relationships over time of persons from the 1968 family and cohabitation status over time of persons from the 1968 family. The dimensions of the matrices were person numbers in two directions and time in the third direction. The number of elements in each matrix was the square of the number of persons from the 1968 family (1-50) times the number of years (18).

The relationship-to-head program filled in values for the relationship and cohabitation matrices using the following procedure:

1. Access the nine data items listed above for all persons with the same 1968 family number for all years.

2. Enter cohabitation codes for persons in the same family in each of the years, based on their 1968-1985 family number and PSID status.

3. Enter cohabitation codes for persons in the same dwelling unit but different family units in each of the years, based on their shared dwelling unit IDs.

4. Enter relationship-to-head, reverse relationship-to-head, and distance codes for persons in the same family for each year, beginning with 1968.

5. Enter mother-child relationships and distances for persons in the same 1968 family.

6. Bring forward the previous year's immediate relationships, beginning with 1969. The relationships carried forward were parent-child, sibling, spouse, and ex-spouse. A spouse tie was

carried forward only from one year to the next, whereas the other three types of relationship were carried forward indefinitely.

7. Generate the sibling, parent-child and other "primitive" relationships implied by the information available through steps 4-6.

8. Iterate to derive relationship chains linking persons in more complex ways.

9. Repeat steps 4-8 for each year 1968-1985.

10. Output the relationship and cohabitation matrices with two records for each pair of related persons for each year.

Step 8 is the "algorithm," properly speaking. It involves the following procedure:

1. Examine the relationship matrices for each year to locate undetermined relationships between pairs of 1968 family members.

2. For each undetermined relationship, check to see whether both persons have one or more determined relationship with another person from the 1968 family.

3. Select the "closest" relationship between the two persons with a previously undetermined relationship through a third, intermediary person.

4. Repeat steps 1-3 for all pairs of persons.

5. Repeat steps 1-4 until no more relationships can be determined or the relationships are too distant to be of interest (in our case, mediated through more than three other persons).

Step 3 requires a measure of relationship "distance." The algorithm we used always favored a more direct relationship, one involving fewer other people. It also favored indirect relationships mediated by parent-child relationships over those mediated by spousal relationships and indirect relationships mediated by spousal relationships over those mediated by sibling relationships.

C. Preprocessing the marital-fertility-adoption history data. The marital-fertility-adoption history program required several types of data from the 1985 Ego-Alter File. The records in that file present the marital, fertility, adoptive or substitute-parenting occurrences linking a person X to a person Y reported for individuals in responding family units in the 1985 wave. The following variables were accessed from the 1985 Ego-Alter File:

1. 1968 family number of person X and person Y

2. Person numbers of person X and person Y

3. Sex of person X and person Y

4. Relationship of person X to person Y (this can include step and adoptive parent-child relationships, because substitute-parenting and adoption information was available)

5. Beginning date for relationship between person X and person Y (e.g., birth date, marriage date)

6. Ending date for relationship between person X and person Y (e.g., date of death, divorce, separation).

In addition, the following variables were created, based on the relationship of person X to person Y:

7. Reverse-relationship (relationship of person Y to person X; reverse of item 4)

8. Distance value for relationship between person X and person Y (based on item 4)

9. Relationship of person X to person Y after the ending date for the relationship in item 4 (former spouses only)

10. Reverse-relationship (relationship of person Y to person X; reverse of item 9)

11. Distance value for relationship between person X and person Y (based on item 9).

Items 1-3 were obtained directly from 1985 Ego-Alter File information. Items 5 and 6 were restructured variables based on the dates for marital, fertility, adoptive or substitute-parenting events available on the 1985 Ego-Alter File. Items 4 and 7-11 involved assignment of "primitive" codes and "distance" values based on the type of tie between person X and person Y indicated on the 1985 Ego-Alter File.

D. Processing the marital-fertility-adoption history data. The marital-fertility-adoption history program created a large three-dimensional matrix for each 1968 family: relationships over time of persons from the 1968 family. The dimensions of the matrix were person numbers in two directions and time in the third direction. The number of elements in the matrix was the square of the number of persons from the 1968 family (1-50) times the number of years (18).

The marital-fertility-adoption history program filled in values for the relationship matrix for each 1968 family using the following procedure:

1. Access the eleven data items listed above for all persons with the same 1968 family number for all years.

2. Use the beginning and ending date variables to enter the relationships in each year.

3. Generate the sibling (full, half, adoptive, step), step-parent and other "primitive" relationships implied by the information available through step 2.

4. Iterate to derive relationship chains linking persons in more complex ways.

5. Repeat steps 3-4 for each year 1968- 1985.

6. Output the relationship matrix with two records for each pair of related persons for each year.

Step 4, the "algorithm," properly speaking, is the same as step 8 of the relationship-to-head program described above.

E. Merged file. After two separate files were generated by the processes just described, the two files were merged using the person identifiers (1968 family and person number) as the matching variables. The resulting file contained 426,608 records representing the relationship of person X to person Y and the relationship of person Y to person X -- two records for each pair of people who were associated with a single 1968 family. In each record there were 36 relationship variables (18 years times two methods of deriving a relationship). In total, across all records, these 36 variables contained 10,190 unique primitive chains.

7. Constructing a Manageable Set of Less Detailed Relationship Codes

Building the primitive chains was a challenging task, but there were still further obstacles to producing a product that could be considered useful to most analysts. These obstacles centered around the very large number of unique primitive chains representing different types of relationships. Having produced 10,190 unique primitive chains, it was imperative to find some method of classifying them into a manageable number of relationship categories. Not only was this much too large a number of relationships for a sane human being to evaluate (indeed, just listing all the primitive chains requires over 150 printed pages), most of the relationships are not of interest for any particular type of analysis. For instance, if parent-child relationships are of interest, sibling, cousin, etc., relationships need not be considered at all. It was essential that this vast number of disparate relationships be reduced to a much smaller number. This involved a number of separate steps to classify the types of relationships.

As a first step, a separate data file was constructed containing just three variables -- the primitive chain, e.g., "00000002", the source of the relationship, e.g., "HIS" and the number of times the relationship occurred from the specified source, e.g., 60,505. Records in this file looked like this:

Primitive chain	Source	Frequency
00000002	HIS	60,505
00004531	83-85	923
00003832	HIS	236
00000059	HIS	5,680

57321346	HIS	3
00614230	83-85	9

To clarify the meaning of the primitive chains, a program was written to translate the primitive chain into words, e.g., "Wife". Records in the new file looked like this:

Primitive chain	Source	Frequency	Chain in words
00000002	HIS	60,505	Wife
00004531	83-85	923	Father (unclear) of Son (unclear)
00003832	HIS	236	Natural mother of Stepdaughter
00000059	HIS	5,680	Adoptive brother
57321346	HIS	3	Natural brother (DK full/half) of Stepdaughter of Divorced husband of Stepmother
00614230	83-85	9	Brother (unclear) of Mother (DK natural/adoptive of Daughter (unclear)

This file of the 10,190 unique primitive chains proved a critical tool as we struggled with the daunting task of classifying these primitive chains in a meaningful and manageable way.

A. Reducing the number of unique relationships. We first attempted to classify the primitive chains by inspection of the primitive chains translated into words. This proved not feasible. It was not possible to consistently classify similar primitive chains in an identical way, e.g., "Natural mother of Stepdaughter" had to be classified the same way as "Natural father of Stepdaughter". And the reverse relationships, the relationship from the other person's point-of-view, also had to be classified in a consistent way, e.g., "Stepfather of Natural daughter".

We were ultimately successful in classifying the primitive chains using a series of machine algorithms to recode them. The final five-digit code was obtained using a combination of two methods. The first method resulted in the classification of the 10,190 primitive chains into just 58 types of relationships. The second method, retaining more detailed information, resulted in the classification of the 10,190 primitive chains into 1,432 types of relationships. However, since some of the 1,432 relationships obtained by the second method occurred infrequently, the primitive chains representing an uncommon relationship (one that occurred fewer than 100 times across all 15,357,888 possible relationship-years) were, ultimately, classified according the first, less detailed, method. This resulted in a five-digit code with 438 unique categories which provides an efficient way of identifying the relationships of interest and discarding those that are not.

Method 1. The first method classified the primitive chains using a multi-step process: first, the primitive chains were transformed by translating their component primitives into new

elements; second, some of these new elements were converted into more basic elements; third, the resulting chains of elements were inspected for certain sub-chains of elements and converted into more concise notation; and finally, duplicate chains were eliminated and the resulting unique chains were assigned code values.

* *Recoding of primitives into new elements.* First, the primitives listed in Table 7 which were the basic building blocks for the primitive chains were recoded into a new set of elements. For example, the primitives in Table 7 "02" (Wife), "03" (Husband), and so forth through "23" (Non-cohabitating husband (unclear) -- not in same FU), were recoded into a single element, "sp" (spouse). This set of elements is shown in the third column of Table 8. (These abbreviations, all in small letters, are used in the relationship file documentation of the five-digit relationship variables to reference these elements.) The primitive chains were translated into chains of these new elements.

* *Conversion of elements to most basic elements {~expansion").* Some of the elements listed in the third column of Table 8 can be expressed using more basic elements. For example, "cl" (child-in-law) may also be expressed as "sp-ch" (spouse of child). Elements of this type are noted in the third column of Table 8 with a "-->". The replacement chain for each is shown in the fourth column. The chains were inspected for these elements and changed to express the relationship using the more basic elements. Changes of this type are summarized below:

child-in-law -- > spouse of child
niece/nephew --> child of sibling
cousin --> child of sibling of parent
parent-in-law -- > parent of spouse
aunt/uncle--> sibling of parent
grandchild --> child of child
great-grandchild --> child of child of child
grandparent --> parent of parent
great-grandparent --> parent of parent of parent

This resulted in chains consisting of only four basic elements -- parent, child, sibling, and spouse (in addition to other relative and non-relative).

Table 8
Basic Elements for Five-digit Codes

Relationships indicated by element	"Primitives" included in element	Element	Method 1		Method 2
			Replacement chain using most basic elements (expansion)	Sub-chains included in element (contraction)	Element
Spouse or Spouse?	02-07	sp	.	<-- pt-ch	SP
.	.	.	.	<-- sp-sp	.
"Spouse"	08-09	.	.	.	SQ
"Spouse"-1st year	10-11	.	.	.	S1
Former spouse	12-23	.	.	.	SX
Child or Child?	24-31	ch	.	<-- ch-sp	CH
Stepchild	32-33	.	.	<-- sb-ch	CS
Foster child	34-35	.	.	.	CF
Child-in-law	36-37	cl -->	sp-ch	.	CL
Sibling	52-61	sb	.	<-- ch-pt	SB
.	.	.	.	<-- sb-sb	.
Niece or nephew	82-85	nn -->	ch-sb	.	NN
Cousin	90-91	cz -->	ch-sb-pt	.	CZ
Parent or Parent?	38-45	pt	.	<-- sp-pt	PT
Stepparent	46-47	.		<-- pt-sb	PS
Foster parent	48-49	.	.	.	PF
Parent-in-law	50-51	pl -->	pt-sp	.	PL
Aunt or uncle	86-89	au -->	sb-pt	.	AU
Grandchild or Grandchild?	62-67	gc -->	ch-ch	.	GC
Great-grandchild	68-71	xc -->	ch-ch-ch	.	XC
Grandparent or Grandparent?	72-77	gp -->	pt-pt	.	GP
Great-grandparent	78-81	xp -->	pt-pt-pt	.	XP
Other relative	92-93	or	.	.	OR
Non-relative	94-95	nr	.	.	NR

* *Reassignment of extended relationship chains {"contraction").* Some sub-chains of elements could be more concisely expressed. For example, "pt-ch" (parent of child) can reasonably be expressed as "sp" (spouse) if it is assumed that both parent-child ties are blood ties rather than ties by adoption or marriage (step-relations). Sub-chains of this type are noted in the fifth column of Table 8 with a " <--". The replacement element for each sub-chain is shown in the third column. The chains were inspected for these sub-chains and changed to express the relationship using the more concise notation. Changes of this type are summarized below:

parent of child --> spouse
spouse of spouse -- > spouse
child of spouse--> child
sibling of child --> child
child of parent --> sibling
sibling of sibling --> sibling
spouse of parent -- > parent
parent of sibling -- > parent

These transformations involved making assumptions to compensate for not knowing the relationships between all persons. Some of these transformations are relatively self-evident --child of spouse translates quite naturally into step-child (or child). Others are self-evident if a more direct relationship link is assumed to be missing -- child of parent translates pretty well into sibling. While others, such as spouse of spouse, involve much more tenuous assumptions. But in an attempt to reduce as much as possible the number of unique relationship strings, we made these assumptions feeling that in most cases they were the most likely true (or at least plausible) relationships.

* *Elimination of duplicate chains and numbering of unique chains.* Duplicate chains resulting from the above three sets of transformations were eliminated. This allowed the classification of the original 10,190 unique primitive chains into just 58 types of relationships! These 58 relationships are shown in Table 9. Each of these 58 relationships was assigned a unique code.[3] Three-digit integer numbers were assigned within generation beginning with the following numbers for the designated generations:

001	own generation
101	one generation removed, parents and others
151	one generation removed, children and others
201	two (or more) generations removed, grandparents and others
251	two (or more) generations removed, grandchildren and others
997	generation unknown

[3] In a few instances, the same code was assigned to two different strings, e.g., "sp-sb" (spouse of sibling) and "sb-sp" (sibling of spouse) were both assigned 003. Codes which were assigned to more than one string are identified in Table 9 with a *.

Massive simplification had been achieved by relying on a number of plausible, simplifying assumptions.[4]

Table 9
Results of Reclassification of Primitive Chains Using the Less Detailed Method (Method 1)

Number of		Chain of elements	Code	Relationship	Number of		Chain of elements	Code	Relationship
Primi- tive chains	Relation- ship years				Primi- tive chains	Relation- ship years			
Own generation relationships									
437	376,138	sp	001	Spouse	.	.	.	.	.
276	1,403,650	sb	002	Sibling	.	.	.	.	.
364	216,613	sp-sb	003*	Sibling-in-law: spouse of sibling	576	216,613	sb-sp	003*	Sibling-in-law: sibling of spouse
850	83,488	sp-sb-sp	004	Sibling-in-law: spouse of sibling of spouse	.	.	.	.	.
.	.	---	005+	Sibling or Cousin	.	.	.	.	.
854	307,374	ch-sb-pt	006	Cousin	.	.	.	.	.
80	3,258	sb-sp-sb	007	Sibling of sibling-in-law: sibling of spouse of sibling	.	.	.	.	.
45	501	sp-sb-sp-sb	008*	Sibling-in-law of sibling-in-law: spouse of sibling of spouse of sibling	64	501	sb-sp-sb-sp	008*	Sibling-in-law of sibling-in-law: sibling of spouse of sibling of spouse
76	566	sp-ch-sb-pt	009*	Spouse of cousin	109	566	ch-sb-pt-sp	009*	Cousin of spouse
68	1,090	pt-sp-ch	010	Parent of child-in-law	.	.	.	.	.
One generation removed relationships									
270	834,990	pt	101	Parent	.	.	.	.	.
373	834,990	ch	151	Child	.	.	.	.	.
537	114,522	pt-sp	102	Parent-in-law	448	114,522	sp-ch	152	Child-in-law
.	.	---	103+	Parent or Aunt/ uncle	.	.	---	153+	Child or Niece/ nephew
433	408,514	sb-pt	104	Aunt/ uncle	422	408,514	ch-sb	154	Niece/ nephew

[4] While these assumptions for the most part resulted in reasonable, unambiguous, classifications of the original primitive-chains, occasional ambiguities did result. Consider the following. If the original relationship was changed to "gc-gp" (grandchild of grandparent), using the expansion rules ("go" -- > "ch-ch" and "gp" -- > "pt-pt") this was "expanded" to "ch-ch-pt-pt" Then using the contraction rules ("ch-pt" --> "sb") this was in turn "contracted" to "ch-sb-pt" (cousin), while a human intelligence might have categorized the relationship grandchild of grandparent as either cousin or sibling (if the parent of both of the grandchildren in question were one-and-the-same person).

688	141,757	sp-sb-pt	105	Spouse of aunt/ uncle	1,145	141,757	ch-sb-sp	155	Nephew of spouse
128	1,634	sb-pt-sp	106	Aunt/ uncle of spouse	88	1,634	sp-ch-sb	156	Spouse of niece/ nephew
45	181	sp-sb-pt-sp	107	Spouse of aunt/ uncle of spouse	45	181	sp-ch-sb-sp	157	Spouse of niece/ nephew of spouse
161	1,847	ch-sb-pt-pt	108	Cousin of parent	145	1,847	ch-ch-sb-pt	158	Child of cousin
46	966	sb-sp-sb-pt	109	Sibling of spouse of aunt/ uncle	49	966	ch-sb-sp-sb	159	Niece/ nephew of spouse of sibling
64	1,883	pt-sp-sb	110	Parent-in-law of sibling	76	1,883	sb-sp-ch	160	Sibling of child-in-law
66	544	pt-sp-sb-sp	111	Parent-in-law of sibling of spouse	45	544	sp-sb-sp-ch	161	Spouse of sibling of child-in-law
7	30	pt-pt-sp-ch	112	Grandparent of child-in-law	10	30	pt-sp-ch-ch	162	Parent-in-law of grandchild
Two (or more) generations removed relationships									
400	193,227	pt-pt	201	Grandparent	518	193,227	ch-ch	251	Grandchild
187	3,326	pt-pt-sp	202	Grandparent of spouse	136	3,326	sp-ch-ch	252	Spouse of grandchild
.	.	---	203+	Grandparent or Grandaunt/ uncle	.	.	---	253+	Grandchild or Grandniece/ nephew
134	4,542	sb-pt-pt	204	Grandaunt/ uncle	146	4,542	ch-ch-sb	254	Grandniece/ nephew
.	.	---	205+	Grandparent or Great-grandparent	.	.	---	255+	Grandchild or Great-grand-child
153	5,927	pt-pt-pt	206	Great-grand-parent	183	5,927	ch-ch-ch	256	Great-grand-child
9	20	pt-pt-pt-pt	207	Great-great-grand-parent	9	20	ch-ch-ch-ch	257	Great-great-grand-child
8	26	sb-pt-pt-pt	208	Great-grandaunt/ uncle	9	26	ch-ch-ch-sb	258	Great-grand-niece/ nephew
81	511	sp-sb-pt-pt	209*	Spouse of grandaunt/ uncle	117	511	ch-ch-sb-sp	259*	Grandniece/ nephew of spouse
49	938	pt-sp-sb-pt	209*	Parent-in-law of aunt/ uncle	60	938	ch-sb-sp-ch	259*	Niece/ nephew of child-in-law
9	46	pt-pt-sp-sb	210	Grandparent of spouse	11	46	sb-sp-ch-ch	260	Sibling of spouse of grandchild
4	6	pt-pt-pt-sp	211	Great-grand-parent of spouse	2	6	sp-ch-ch-ch	261	Spouse of great-grandchild
9	17	sb-pt-pt-sp	212	Grandaunt/ uncle of spouse	9	17	sp-ch-ch-sb	262	Spouse of grandniece/ nephew
Generation unknown relationships									
6	11,664	or	997	Other relative	.	.	.	.	.
2	274	nr	998	Non-relative	.	.	.	.	.
4	9,304,684	..	000	No relationship or more distant relationship	.	.	.	.	.

Method 2. While the initial task of classifying the 10,190 primitive chains had been realized, it was felt that too much useful detail had been eliminated. Thus a second classification of the original primitive chains was undertaken.

* *Recoding of primitives into new elements.* The primitives which were the basic building blocks for the original primitive chains were again recoded, this time using a second set of new elements. This second set of elements is shown in the sixth column of Table 8. For example, the primitives in Table 7 "02" (Wife), "03" (Husband), and so forth through "07" (Separated husband) were all combined into a single element "SP" (spouse). (These abbreviations, all in capital letters, are used in the relationship file documentation of the five-digit relationship variables to reference these elements.) The primitive chains were translated into this second set of elements.

* *Elimination of duplicate chains and numbering of unique chains.* Duplicate chains using these elements were eliminated. This resulted in the classification of the original 10,190 unique primitive chains into 1,432 types of relationships. These 1,432 chains of elements (and the five-digit code they were assigned, the number of original primitive chains included in the chain of elements and their frequencies) are listed in Appendix B of the documentation of the relationship file.

B. Assignment of five-digit relationship codes. The final five-digit code was obtained using a combination of the above two methods of classification. The first three digits of the code are, for the most part, the code listed in Table 9 which the primitive chain was assigned as a result of the first method of classification.[5] The final two digits, the decimal values, are a sequential number beginning with .01 for more common types of relationships which were classified according the second, more detailed, method and .99 for uncommon types of relationships which were classified according to the first, less detailed, method. This reduced the number of unique code categories without severely limiting what analysts could do with the data; if the relationship was very rare it was likely to be of little analytical value.

* *Common types of relationships.* Types of relationships that occurred 100 times or more (across all 15,357,888 relationship-years) using the second, more detailed, method of classification were assigned a unique five-digit code. The first three digits of the code are the ones listed in Table 9 which were assigned to the primitive chain as a result of the first method of classification; the decimal values of the code were assigned sequentially within the three-digit number.

* *Uncommon types of relationships.* Primitive chains that resulted in a type of relationship that occurred fewer than 100 times using the second, more detailed, method of classification were assigned a five-digit code whose the first three digits are those assigned to the primitive chain as a result of the first, less detailed, method of reclassification and a decimal value of ".99".

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[5] A few strings which identify certain common ambiguous relationships, for instance, “GC-GP” (grandchild of grandparent) which might be either a sibling or a cousin, were assigned a unique three-digit number. These are identified in Table 9 with a “ +”.

Our re-coding scheme thus reduces the 10,190 unique primitive chains to just unique 438 codes for all 36 five-digit relationship variables. These 438 code categories are listed in the Tape Codes portion of the relationship file documentation which describes the RTH and HIS five-digit variables. The five-digit RTH relationship variables have a total of 288 code categories and the five-digit HIS relationship variables have a total of 346 code categories.

C. Integration of relationships from two sources. The original intent of this project was to integrate the relationships derived from the two sources into a single relationship for each year; that goal proved to be beyond the scope of the project. However, some preliminary checking was done to determine the consistency of the relationships derived from the two sources. As shown in Table 10, for the relationship-years when a relationship was derived from both sources (some 2,216,372 relationship-years),[6] 84% had in the same five-digit relationship, 12% had the same three-digit relationship, 3% had an inconsistent relationship in the same generation, and 1 % had an inconsistent relationship in a different generation. That there was this relatively small inconsistent number of relationships derived independently from the two different data sources gave us confidence in the procedures we used.

Table 10
Comparison of relationships derived from two sources:
RTH and HIS

	Number of relationship years	Percentage
Identical 5-digit relationship	1,868,388	84
Identical 3-digit relationship	273,224	12
3-digit relationship inconsistent, same generation	59,410	3
3-digit relationship inconsistent, different generation	15,350	1
Total	2,216,372	100

In working with the relationship file, the analyst typically will need to examine both the HIS and RTH relationship variables for a given year. In doing this certain facts should be kept in mind.

[6] Over the 7,678,944 relationship-years, for 50% of the relationship-years no relationship was found between the pair of individuals; for another 21 % of the relationship-years, a relationship between the pair was obtained from only just one source; for 29% of the relationship-years, a relationship was obtained from two sources. In evaluating the many relationship-years when no relationship was obtained, it should be noted that no relationship would be expected to be derived for the early years for, for example, a person who married into the sample in later years of the panel.

The later, 1983-1985, RTH variables provide more detailed relationship information that the early, 1968-1982, RTH variables. Going forward in time may provide more detail on the relationship between the pair

In general, the HIS variable provides more detailed information about a relationship because it makes distinctions that the RTH variable does not, e.g., the distinction between natural and adopted children. However, the HIS information is available only for persons still in a responding family in 1985 when the marital-fertility information was obtained.

Since the RTH and HIS variables are derived from independent sources of information, they may not be consistent. The analyst may want to examine both, e.g., to inspect a bivariate table, to determine how to resolve such inconsistencies.

6. Other Key Variables

In addition to the two types of annual relationship variables described in the previous section several other types of key variables are included in the data file. These include: four summary variables describing the modal relationship of the pair, three sets of annual variables -- PSID status of person X, PSID status of person Y. and coresidence status -- which can be used to determine whether the pair cohabited in any given year, and the identification variables which can be used to merge information from the 1968-1985 main PSID file.

A. Modal relationships. As a further means of helping the analyst efficiently select only the relationship records of interest, four summary variables were added to each record in the relationship file -- "Modal three-digit relationship," "More than one three-digit relationship," "Modal five-digit relationship," and "More than one five-digit relationship."

The "Modal three-digit relationship" is the most frequently occurring relationship of person X to person Y. It was obtained by inspecting the code values of all 36 five-digit relationship of person-X-to-person-Y variables (18 relationship of person-X-to-person-Y variables based on annual relationship to head and 18 relationship of person-X-to-person-Y variables based on the 1985 marital and fertility histories.) The decimal values of these five-digit code values were ignored. The most frequently occurring three-digit value was selected. If two (or more) three-digit values occurred with equal frequency, the "first" was selected, i.e., the first obtained from the list of variables inspected (where the list contained, in order, the 1968 -1985 RTH variables, followed by 1968 - 1985 HIS variables).

The "More than one three-digit relationship" variable designates whether more than one three-digit relationship of person-X-to-person-Y (the five-digit relationship of person-X-to-person-Y code value disregarding the decimal values) was derived in any of the 18 years from either of the two sources -- relationship to head or history. It contains three codes:

0 No relationship of person-X-to-person-Y was derived in any of the 18 years from either of the two sources

1 Only one three-digit relationship of person-X-to-person-Y was derived in any of the 18 years from either of the two sources -- the modal three-digit relationship of person-X-to-person-Y

2 More than one three-digit relationship of person-X-to-person-Y was derived during the 18 years from either of the two sources

The "Modal five-digit relationship" is the most frequently occurring relationship of person-X-to-person-Y. It was obtained by inspecting the code values of the 36 five-digit relationship of person-X-to-person-Y variables. The most frequently occurring five-digit value was selected. If two (or more) five-digit values occurred with equal frequency, the ~first" was selected, i.e., the first obtained from the list of variables inspected.

The More than one five-digit relationship" variable designates whether more than one five-digit relationship of person-X-to-person-Y was derived in any of the 18 years from either of the two sources -- relationship to head or history. It has three codes analogous to those of the "More than one three-digit relationship" variable.

If only specific types of relationships are of interest for a particular analysis, these variables can be used efficiently to reduce the number of relationship records to be looked at in more detail. For instance, if an analyst were interested in parental relationships, she could select only relationship records with a modal relation of parent and in which the modal relation was the only relationship or records in which there was more than one relationship.

B. Coresidence and PSID status variables. Used in combination, the coresidence status variables, the PSID status of X variables and the PSID status of Y variables provide a clear indication of the living arrangement of person Y relative to person X in each of the 18 years.

The coresidence status variables indicate whether person X and person Y were associated with the same family unit or with the same household (if not family unit) in each of the 18 years. These variables are based, in large part, on the annual variables labeled "Family Number" in the PSID documentation. What needs to be kept in mind is that all persons in the PSID (including those born or moving into the study after it started) have a full "history" of "Family Numbers" dating from the beginning of the study (1968) until the time they drop out of the study. This means that mover-in or born-in individuals have PSID "Family Numbers" even in the years prior to when they first entered the study.

The PSID status of X variables indicate whether person X was present in a responding family unit, was institutionalized, became a mover-out non-response, died, or was continuing non-response or a member of a non-response family in each of the 18 years. The PSID status of Y variables indicate similar information for person Y. These PSID status variables are based on the annual variables labeled "Sequence Number" in the PSID documentation.

Hence, to assure that both persons X and Y were actually present in a responding family unit in the year the coresidence variable shows them "sharing" a family or dwelling unit, the information about the PSID status of X and PSID status of Y variables must be checked. For

instance if each had a PSID status of "response" and a coresidence status of "same family unit" or "same dwelling unit, different family unit" the pair did actually cohabit that year.[7]

C. Identification variables and matching relationship file records with main file records. Records in the relationship file are uniquely identified by three variables -- the 1968 Family ID (V1), the Person Number of X (V2) and the Person Number of Y (V3). There are 426,608 records in this file. Records in the PSID main data file are uniquely identified by two variables -- the 1968 Interview Number (V30001) and Person Number (V30002). There are 34,664 records in this file.

To merge data from the main file for person X onto the relationship pair record, 1968 Interview Number (V30001) and Person Number (V30002) from the main file should be matched with the 1968 Interview Number (V1) and Person Number of X (V2) from the relationship file. To merge data from the main file for person Y onto the relationship pair record, 1968 Interview Number (V30001) and Person Number (V30002) from the main file should be matched with the 1968 Interview Number (V1) and Person Number of Y (V3) from the relationship file. These matches will involve a one-to-many match. One record in the main file may match many records in the relationship file.

For example, consider a 1968 family with just three persons associated with in over the 18 years. Three family-person records for this family would be present in the main file. As can be seen from Table 1, six relationship pair records would be present in the relationship file. As illustrated below, for this family, merging data for person X from the main file to the relationship records would require that one record from the main file match two records from the relationship file.

Main File			Relationship File			
Record Number	1968 Family V30001	1968 Person Number V30002	Record Number	1968 Family V1	Person X V2	Person Y V3
1	5001	01	1	5001	01	02
			2	5001	01	03
2	5001	02	3	5001	02	01
			4	5001	02	03
3	5001	03	5	5001	03	01
			6	5001	03	02

[7] PSID tracking rules stipulate that some individuals who set up independent households during the panel period and subsequently return to their original households, e.g., a child who leaves he parental household and in a-subsequent year returns to the parental household, continue to be interviewed as a separate family after they return to their original household -- two interviews would be taken, one with the parent and one with the returned child. The different family numbers would result in the code "same dwelling but not family unit" being assigned to persons living in such households.

8. Summary and Conclusion

A. An illustrative example of using the file. To illustrate the logistics of using the relationship file in conjunction with the main PSID file, we take the situation of determining whether individuals under age 18 living in low-income households in 1975 are step-children. In order to determine this, the following steps would be needed.

1. First, create a subset from relationship file containing the person X identifiers (V1 and V2) and the 1975-1985 co-residence status (V508-V518), PSID status (V308-V318, V408-V418), and RTH and HIS 5-digit relationship (V808-V818, V908-V918) variables for the records that satisfy all of the following:

a. Person X and person Y were co-residing in 1975 (PSID status of X code 1, PSID status of Y code 1 and Coresidence stats codes 1 or 2)

b. Person X was ever a step-child of person Y in any of the 1975-1985 RTH or HIS 5-digit relationship variables (codes 151.05-151.07).

Create a new variable, "whether stepchild in 1975", with a value of "1" if person X was a stepchild in 1975 and a value of "2" if person X not a stepchild in 1975 but was a stepchild at some time during the period 1976-1985.

Inspect this subset to determine if there is more than one record for the same person X. In such cases, if any, the analyst should look at the multiple records for person X to decide which seems to be the most appropriate one to use. Records for person X that seem inappropriate should be dropped from the subset, creating a new subset with just one record for each person X.

While it is unlikely that a person X was the stepchild of more than one person Y in a given year, it is at least hypothetically possible that a person X might have been a stepchild to more than one person Y in the eleven year period, 1975-1985. In the particular example being described, this did not happen.

2. Next, create a subset from 1968-1985 PSID main file containing the person identifiers of all individuals identified as a child of the 1975 head under age 18 and in responding family units in 1975 with family income of less than $7,500. Sort this file by the person identifiers, V30001 and V30002.

3. Finally, match the two subsets matching on person X's identifiers (V1 and V2) for the subset of stepchildren from the relationship file and the person identifiers (V30001 and V30002) for the subset of children from the PSID main file. Each record in the stepchild file should have a matching record in the child file. However records in the child file may not match a record in the stepchild file. If there is no match, have the new variable "whether stepchild in 1975" take on a value of 0 .

Some of those classified as "2" stepchild but not in 1975 on "whether stepchild in 1975" may be found to have had relationships at other times that suggest whether they should or should not be classified stepchildren in 1975.

Examine the records in the merged file with code "2" for "whether stepchild in 1975" looking at all of the relationship variables that were subsetted (1975-1985 RTH and HIS 5-digit variables). Reclassify these cases to "0" not stepchild in 1975 or "1" stepchild in 1975.

B. Implications for collecting and processing demographic survey data. The complexities of designing a system to make up for shortcomings in the available demographic survey data spurred considerable thought about better ways to collect and process the data from the beginning (and hence avoid the shortcomings necessitating re-constructive work). Collecting or coding relationships in crude detail clearly poses problems for many types of analysis. Even with highly detailed codes, though, there are major problems with the approach of gathering a household listing that relates each household member to only one household member (e.g., the household head). Take the case of a household containing a household head, two daughters of that head, and one grandson of the head. If that is all we know about the relationships, we cannot identify who, if anyone, in the household is the mother of the head's grandson. We also cannot identify sub-family units within that household because we do not know if the grandson and one of the daughters comprise a distinct sub-family.

Identification of the pair-wise relationships between all individuals in the household is a substantial improvement over just relationship-to-head information. However, directly collecting such information is tedious and time-consuming in large and complex households. An alternative, which yields more comprehensive and flexible information, is to identify, for each household member, who (if anyone) in the household is their parent or their spouse. This provides important basic building blocks for constructing relationships with household members.

Relationships are not confined to co-residing individuals, though. There are important inter-household relationships, such as the links between adult children and their parents or an absent father and a child living with his former spouse. Extending questions about parents and spouses of household members to relatives living elsewhere would add considerably to the analytical potential of the demographic survey data. (A note of caution, though, is that asking about relatives living outside the household poses a potential problem in that the consent of those relatives has not necessarily been obtained.) Comprehensive retrospective marital, fertility, and adoption histories are quite helpful in identifying blood and legal ties between persons, regardless of where they are currently living. They are most useful if collected right at the start of the panel study and then updated as the panel study progresses through time. If they are gathered for the first time several waves into the study, attrition poses problems; the information would be totally missing for study members leaving the study before the comprehensive histories were first collected.

C. Conclusion. In conclusion, to circumvent problems with information about relationships having been collected and/or processed in insufficient detail to satisfy the needs of analysts, we designed and implemented a process for generating the needed detail. This process involved designating basic building blocks of relationship ties from which a computer algorithm

used the known relationships to generate unknown relationships between pairs of individuals. Given the large size of the sample and the diversity in the fragments of data about relationships, a further problem arose. This problem was one of having generated a vast number of unique relationships. There were so many unique relationship codes that analysts could become lost in them. Hence, an additional important step in the process was to devise a system of recoding the vast number of relationships to a more manageable number of analytically meaningful codes. This entire process is described in the paper with the hope of it proving useful to the survey research community. It is also our hope that others will benefit from the lessons we learned about improved methods of collecting and processing demographic data from the start, rather than having to rely on complex post-processing methods of deriving needed information.

References

Ellwood, David and Bane, Mary Jo. 1984. "The Impact of AFDC on Family Structure and Living Arrangements." Mimeographed. Cambridge: Harvard University.

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4/1/1998

Final version of the 1968-1985 Relationship file, reissued

The final version of the 1968-1985 Relationship file has been reissued.

Two problems were discovered with the assumptions made in classifying relationships in the original file. These both affect stepchild relationships. The classifications based on the 1983-1985 relationship-to-head codes resulted in no stepchildren and the classifications based on the demographic history information resulted in too many stepchildren.

1. For relationships based on the 1983-1985 relationship-to-head codes, originally a "stepchild of head" relationship was changed to "child of spouse". This resulted in no "stepchildren" for these years. In the reissued file a "stepchild of head" is kept as a "stepchild".
2. For relationships based on the demographic history information, originally a "natural child of spouse" was changed to "stepchild". Consider the case where, for example, Mary and Joe, a married couple in the study in 1978 had a child, Oscar. If in 1985 when we asked the demographic history questions, Joe was no longer in a responding family and Mary was, Mary would have reported her marriage to Joe and giving birth to Oscar. The derived relationship between little Oscar and Joe would have been "child of spouse" which was reclassified as "stepchild". In the reissued file we've reclassified the relationship "child of spouse" as "child, unclear".

For the final 1968-1985 Relationship data file:

* Values have been changed for V4 (RV MODAL 3-DIGIT RELATIO), V5 (RV >ONE 3-DIGIT RELATION), V6 (RV MODAL 5-DIGIT RELATIO), V7 (RV >ONE 5-DIGIT RELATION), V601 (RV 8-DIGIT REL 1968) through V618 (RV 8-DIGIT REL 1985), V701 (RV 8-DIGIT HIS 1968) through V718 (RV 8-DIGIT HIS 1985), V801 (RV 5-DIGIT REL 1968) through V818 (RV 5-DIGIT REL 1985), and V901 (RV 5-DIGIT HIS 1968) through V918 (RV 5-DIGIT HIS 1985). The number of values changed for these variables ranged from .2% to 2.6%. See table below for the number of values that were not changed.

Variables	Frequency	Percent
V4	425,674	99.8
V5	425,594	99.8
V6	415,548	97.4
V7	418,310	98.1
V601-V618	7,658,702	99.7
V701-V718	7,533,834	98.1
V801-V818	7,658,834	99.7
V901-V918	7,535,596	98.1

A summary of the key changes in these variables is provided below. See the file "change.txt" for a complete listing of all changed values.

Listing of Selected Changes Based on 1983-1985 Relationship-to-Head Codes

V801 - V818 (5-DIGIT REL)

CHANGE	Frequency
151.01 (child) to 151.05 (stepchild)	1,564
101.01 (parent) to 101.05 (stepparent)	1,564

V601 - V618 (8-DIGIT REL)

CHANGE	Frequency
30 (daughter, unclear) to 32 (stepdaughter)	773
31 (son, unclear) to 33 (stepson)	783
44 (mother, unclear)to 46 (stepmother)	9
45 (father, unclear) to 47 (stepfather)	1,547

Listing of Selected Changes Based on Demographic History Information

V901 - V918 (5-DIGIT HIS)

CHANGE	Frequency
151.05 (stepchild) to151.01 (child)	36,125
101.05 (stepparent) to 101.01 (parent)	36,125

V701 - V718 (8-DIGIT HIS)

CHANGE	Frequency
32 (stepdaughter) to 30 (daughter, unclear)	17,949
33 (stepson) to 31 (son, unclear)	18,176
46 (stepmother) to 44 (mother, unclear)	10,888
47 (stepfather) to 45 (father, unclear)	25,237

Once these relationships were changed, relationships derived from them were also changed. For instance a relationship based on the 1983-1985 relationship-to-head code originally classified as “spouse of child of spouse” would be classified as “spouse of stepchild” in the reissued file.

* The 1968-1985 Relationship codebook (codebk2.txt) has been revised to reflect these changes and re-issued.

Tape Codes for 1968-1985 Relationship File

V1 '1968 FAMILY ID ' TLOC= 001-004 WIDTH= 4 NDEC= 0 MD= 0

1968 Interview Number (1968 ID Number)

This variable, the 1968 ID number, when used in combination with V2, person number of X, and V3, person number of Y, provides unique identification for each record in the data file.

This variable corresponds to V30001 on the 1985 cross-year family-individual response-nonresponse file.

165,632 61.2%	0001-2930	The pair of individuals were members of or moved into a family from the SRC cross-section sample in 1968
260,976 38.8%	5001-6872	The pair of individuals were members of or moved into a family from the Census sample

V2 'PERSON NUMBER OF X ' TLOC= 005-007 WIDTH= 3 NDEC= 0 MD= 0

1968 Person Number of person X

This variable corresponds to V30002 on the 1985 cross-year family-individual response-nonresponse file.

These people are sample members:

172,198 40.4%	001-019	Individuals who were living in original sample families at the time of the 1968 interview
119 0.0%	020	Husband of the 1968 Head who was living in an institution at the time of the 1968 interview
4,281 1.0%	021-026	Children or stepchildren of the Head who were under 25 and who were living in institutions at the time of the 1968 interview
110,232 25.8%	030-169	Individuals who were born into the sample since the 1968 interview and who have at least one sample parent

These people are not sample members:

139,475	32.7%	170-226	Individuals who moved into the sample for the first time after the 1968 interview or who do not have a sample parent
172	0.0%	227	Husband or wife who moved out in the year prior to the 1968 interview
131	0.0%	228	Husband or wife who died in the year prior to the 1968 interview

V3 'PERSON NUMBER OF Y ' TLOC= 008-010 WIDTH= 3 NDEC= 0 MD= 0

1968 Person Number of person Y

This variable corresponds to V30002 on the 1985 cross-year family-individual response-nonresponse file.

These people are sample members:

172,198	40.4%	001-019	Individuals who were living in original sample families at the time of the 1968 interview
119	0.0%	020	Husband of the 1968 Head who was living in an institution at the time of the 1968 interview
4,281	1.0%	021-026	Children or stepchildren of the Head who were under 25 and who were living in institutions at the time of the 1968 interview
110,232	25.8%	030-169	Individuals who were born into the sample since the 1968 interview and who have at least one sample parent

These people are not sample members:

139,475	32.7%	170-226	Individuals who moved into the sample for the first time after the 1968 interview or who do not have a sample parent
172	0.0%	227	Husband or wife who moved out in the year prior to the 1968 interview
131	0.0%	228	Husband or wife who died in the year prior to the 1968 interview

V4 'MODAL 3-DIGIT RELATION ' TLOC= 011-013 WIDTH= 3 NDEC= 0 MD= 0

Most common 3-digit relationship of person X to person Y

The modal 3-digit relationship of person X to person Y (the 5-digit relationship of person X to person Y disregarding the decimal values) for all 18 years from either of the two sources -- relationship to head (V801-V818) or history (V901-V918).

This is the most frequently occurring relationship of person X to person Y. It was obtained by inspecting the code values of the 36 5-digit relationship of person X to person Y variables (18 relationship of person X to person Y variables based on annual relationship to head, V801-V818, and 18 relationship of person X to person Y variables based on the 1985 marital and fertility histories, V901-V918). The decimal values of these 5-digit code values were disregarded. The most frequently occurring 3-digit value was selected. If two (or more) 3-digit values occurred with equal frequency, the "first" was selected, i.e., the first obtained from the list of variables V801-V818 and V901-V918.

No Relationship

40,474	9.5%	000	No relationship or more distant relationship

Own Generation Relationships

19,378	4.5%	001	Spouse, etc.
58,810	13.8%	002	Sibling, etc.
32,388	7.6%	003	Sibling-in-law, etc.
8,832	2.1%	004	Spouse of sibling-in-law, etc.
4,794	1.1%	005	Sibling or cousin
29,310	6.9%	006	Cousin, etc.
418	0.1%	007	Sibling of sibling-in-law
176	0.0%	008	Sibling-in-law of sibling-in-law
300	0.1%	009	Cousin of spouse
136	0.0%	010	Parent of child-in-law

One Generation Removed Relationships

38,611	9.1%	101	Parent, etc.	38,611	9.1%	151	Child, etc.
8,494	2.0%	102	Parent-in-law, etc.	8,494	2.0%	152	Child-in-law, etc.
3,560	0.8%	103	Parent or Aunt/uncle, etc.	3,560	0.8%	153	Child or Niece/nephew, etc.
29,405	6.9%	104	Aunt/uncle, etc.	29,405	6.9%	154	Niece/nephew, etc.
14,905	3.5%	105	Spouse of Aunt/uncle, etc.	14,905	3.5%	155	Niece/nephew of spouse. etc.
288	0.1%	106	Aunt/uncle of spouse, etc.	288	0.1%	156	Spouse of niece/nephew, etc.
43	0.0%	107	Spouse of aunt/uncle of spouse	43	0.0%	157	Spouse of niece/nephew of spouse
391	0.1%	108	Cousin of parent	391	0.1%	158	Child of cousin

164	0.0%	109	Sibling of spouse of aunt/uncle	164	0.0%	159	Niece/nephew of spouse of sibling
235	0.1%	110	Parent-in-law of sibling	235	0.1%	160	Sibling of child-in-law
91	0.0%	111	Parent-in-law of sibling of spouse	91	0.0%	161	Spouse of sibling of child-in-law
10	0.0%	112	Grandparent of child-in-law	10	0.0%	162	Parent-in-law of grandchild

Two (or more) Generations Removed Relationships

7	0.0%	200	Other (see Appendix C)	7	0.0%	250	Other (see Appendix C)
13,705	3.2%	201	Grandparent, etc.	13,705	3.2%	251	Grandchild, etc.
501	0.1%	202	Grandparent of spouse	501	0.1%	252	Spouse of grandchild
43	0.0%	203	Grandparent or grandaunt/uncle	43	0.0%	253	Grandchild or grandniece/nephew
751	0.2%	204	Grandaunt/uncle	751	0.2%	254	Grandniece/nephew
1,631	0.4%	205	Grandparent or Great-grandparent, etc.	1,631	0.4%	255	Grandchild or Great-grandchild, etc.
967	0.2%	206	Great-grandparent, etc.	967	0.2%	256	Great-grandchild, etc.
10	0.0%	207	Great-great-grandparent	10	0.0%	257	Great-great-grandchild
11	0.0%	208	Great-grandaunt/uncle	11	0.0%	258	Great-grandniece/nephew
268	0.1%	209	Grandaunt/uncle by marriage or Parent of aunt/uncle by marriage	268	0.1%	259	Grandniece/nephew by marriage or Niece/nephew by marriage of child
19	0.0%	210	Grandparent of spouse of sibling	19	0.0%	260	Sibling or spouse of grandchild
2	0.0%	211	Great-grandparent of spouse	2	0.0%	261	Spouse of great-grandchild
6	0.0%	212	Grandaunt/uncle of spouse	6	0.0%	262	Spouse of grandniece/nephew

Generation-unknown Relationships

3,250	0.8%	997	Other relative
106	0.0%	998	Non-relative

V5 '>ONE 3-DIGIT RELATION? ' TLOC= 014 WIDTH= 1 NDEC= 0 MD= 0

More than one 3-digit relationship of person X to person Y?

This variable designates whether more than one 3-digit relationship of person X to person Y (the 5-digit relationship of person X to person Y code value disregarding the decimal values) was derived in any of the 18 years from either of the two sources -- relationship to head (V801-V818) or history (V901-V918).

40,474	9.5%	0	No relationship of person X to person Y was derived in any of the 18 years from either of the two sources
361,448	84.7%	1	Only one 3-digit relationship of person X to person Y was derived in any of the 18 years from either of the two sources -- the modal 3-digit relationship of person X to person Y (V4)

24,686 5.8% 2 More than one 3-digit relationship of person X to person Y was derived during the 18 years from either of the two sources

V6 'MODAL 5-DIGIT RELATION ' TLOC= 015-019 WIDTH= 5 NDEC= 2 MD= 0

Most common 5-digit relationship of person X to person Y

The modal 5-digit relationship of person X to person Y for all 18 years from either of the two sources -- relationship to head (V801-V818) or history (V901-V918).

This is the most frequently occurring relationship of person X to person Y. It was obtained by inspecting the code values of the 36 5-digit relationship of person X to person Y variables (18 relationship of person X to person Y variables based on annual relationship to head, V801-V818, and 18 relationship of person X to person Y variables based on the 1985 marital and fertility histories, V901-V918). The most frequently occurring 5-digit value was selected. If two (or more) 5-digit values occurred with equal frequency, the "first" was selected, i.e., the first obtained from the list of variables V801-V818 and V901-V918.

The descriptions of the codes given below use the abbreviations listed in Table 5 (the upper case abbreviations) and Table 4 (the lower case abbreviations) in the introductory section. For easy reference, a summary of the information in Table 5 is provided below. The primitives listed in this summary information are documented in Table 2 in the introductory section.

Up to four of these relationships were strung together to build up more complex or extended relationships. The "-" is to be interpreted as "of". Thus the string of abbreviations "xx-xx-xx-xx" may be interpreted as "relation of relation of relation of relation". For example "CH-SB-PT-PT" would be "(Child or Child?) of (Sibling) of (Parent or Parent?) of (Parent or Parent?)" i.e., cousin of parent.

Ab-brevi-ation	Description	Primi-tive	Ab-brevi-ation	Description	Primitive
..	No relationship or no further relationship	00			
SP	Spouse or Spouse?	02-07			
SQ	"Spouse"	08-09			
S1	"Spouse" first year	10-11			
SX	Former spouse	12-23			
PT	Parent or Parent?	38-45	CH	Child or Child?	24-31
PS	Stepparent	46-47	CS	Stepchild	32-33
PF	Foster parent	48-49	CF	Foster child	34-35
PL	Parent-in-law	50-51	CL	Child-in-law	36-37

SB	Sibling	52-61			
GP	Grandparent or Grandparent?	72-77	GC	Grandchild or Grandchild?	62-67
XP	Great-grandparent	78-81	XC	Great-grandchild	68-71
AU	Aunt/uncle	86-89	NN	Niece/nephew	82-85
CZ	Cousin	90-91			
OR	Other relative	92-93			
NR	Non-relative	94-95			

No Relationship

No relationship or more distant relationship

40,474	9.5%	000.00	.. ..

Own Generation Relationships

Spouse, etc.

11,360	2.7%	001.31	.. .. .. SP
1,342	0.3%	001.32	.. .. PT-CH
3,988	0.9%	001.33	.. .. .. SX
166	0.0%	001.34	.. .. .. SQ
492	0.1%	001.35	.. .. .. S1
0	0.0%	001.36	.. .. PS-CS
24	0.0%	001.37	.. .. SP-SP
18	0.0%	001.38	.. SP-SX-SP
82	0.0%	001.39	.. .. SX-SX
675	0.2%	001.51	.. .. SX-SP
7	0.0%	001.53	.. PT-CH-SX
33	0.0%	0e01.55	.. .. SX-SQ
86	0.0%	001.57	.. .. SX-S1
28	0.0%	001.59	.. .. PS-CH
1	0.0%	001.61	.. PS-CH-SX
39	0.0%	001.63	.. .. PF-CH
168	0.0%	001.99	.. .. .. sp
675	0.2%	001.52	.. .. SP-SX
7	0.0%	001.54	.. SX-PT-CH
33	0.0%	001.56	.. .. SQ-SX
86	0.0%	001.58	.. .. S1-SX
28	0.0%	001.60	.. .. PT-CS
1	0.0%	001.62	.. SX-PT-CS
39	0.0%	001.64	.. .. PT-CF

Sibling, etc.

55,350	13.0	002.31	.. .. .. SB
1,078	0.3%	002.32	.. .. SB-SB
4	0.0%	002.33	.. SB-SB-SB
868	0.2%	002.34	.. .. CH-PT
72	0.0%	002.35	.. CH-SX-PT
58	0.0%	002.36	.. .. CS-PS
10	0.0%	002.37	.. CH-SQ-PT

152	0.0%	002.38	.. .. CF-PF				
132	0.0%	002.51	.. .. CS-PT	132	0.0%	002.52	.. .. CH-PS
2	0.0%	002.53	.. SB-CH-PS	2	0.0%	002.54	.. CS-PT-SB
6	0.0%	002.55	.. SB-CS-PT	6	0.0%	002.56	.. CH-PS-SB
2	0.0%	002.57	.. CS-SX-PT	2	0.0%	002.58	.. CH-SX-PS
421	0.1%	002.59	.. .. CF-PT	421	0.1%	002.60	.. .. CH-PF
17	0.0%	002.61	.. SB-CF-PT	17	0.0%	002.62	.. CH-PF-SB
11	0.0%	002.63	.. .. CF-PS	11	0.0%	002.64	.. .. CS-PF
50	0.0%	002.99	.. .. .. sb				

Sibling-in-law, etc.

11,055	2.6%	003.51	.. .. SB-SP	11,055	2.6%	003.52	.. .. SP-SB
101	0.0%	003.53	.. SB-SB-SP	101	0.0%	003.54	.. SP-SB-SB
54	0.0%	003.55	.. .. CL-PT	54	0.0%	003.56	.. .. CH-PL
336	0.1%	003.57	.. SB-PT-CH	336	0.1%	003.58	.. PT-CH-SB
10	0.0%	003.59	SB-SB-PT-CH	10	0.0%	003.60	PT-CH-SB-SB
20	0.0%	003.61	.. CS-PT-SP	20	0.0%	003.62	.. SP-CH-PS
8	0.0%	003.63	.. SB-PT-CS	8	0.0%	003.64	.. PS-CH-SB
2	0.0%	003.65	.. CH-PS-SP	2	0.0%	003.66	.. SP-CS-PT
3	0.0%	003.67	.. SB-PS-CH	3	0.0%	003.68	.. PT-CS-SB
12	0.0%	003.69	.. CS-PS-SP	12	0.0%	003.70	.. SP-CS-PS
2,802	0.7%	003.71	.. .. SB-SX	2,802	0.7%	003.72	.. .. SX-SB
49	0.0%	003.73	.. SB-SB-SX	49	0.0%	003.74	.. SX-SB-SB
5	0.0%	003.75	.. CS-PT-SX	5	0.0%	003.76	.. SX-CH-PS
282	0.1%	003.77	.. .. SB-SQ	282	0.1%	003.78	.. .. SQ-SB
1,003	0.2%	003.79	.. .. SB-S1	1,003	0.2%	003.80	.. .. S1-SB
11	0.0%	003.81	.. PT-GC-PT	11	0.0%	003.82	.. CH-GP-CH
50	0.0%	003.83	.. CF-PT-SP	50	0.0%	003.84	.. SP-CH-PF
52	0.0%	003.85	.. SB-PF-CH	52	0.0%	003.86	.. PT-CF-SB
20	0.0%	003.87	.. SB-PT-CF	20	0.0%	003.88	.. PF-CH-SB
602	0.1%	003.99	.. .. sb-sp				

Spouse of sibling in-law, etc.

4,326	1.0%	004.31	.. SP-SB-SP				
16	0.0%	004.32	SP-SB-SB-SP				
578	0.1%	004.33	.. SX-SB-SX				
12	0.0%	004.34	SX-SB-SB-SX				
68	0.0%	004.51	PT-CH-SB-SP	68	0.0%	004.52	SP-SB-PT-CH
4	0.0%	004.53	PS-CH-SB-SP	4	0.0%	004.54	SP-SB-PT-CS
1,158	0.3%	004.55	.. SX-SB-SP	1,158	0.3%	004.56	.. SP-SB-SX
17	0.0%	004.57	PT-CH-SB-SX	17	0.0%	004.58	SX-SB-PT-CH
82	0.0%	004.59	.. SQ-SB-SP	82	0.0%	004.60	.. SP-SB-SQ
256	0.1%	004.61	.. S1-SB-SP	256	0.1%	004.62	.. SP-SB-S1
54	0.0%	004.63	.. SX-SB-SQ	54	0.0%	004.64	.. SQ-SB-SX
183	0.0%	004.65	.. SX-SB-S1	183	0.0%	004.66	.. S1-SB-SX
252	0.1%	004.99	.. sp-sb-sp				

Sibling or Cousin

24	0.0%	005.31	.. .. NN-AU				
1,602	0.4%	005.32	.. .. GC-GP				
1,579	0.4%	005.51	.. GC-PT-PT	1,579	0.4%	005.52	.. CH-CH-GP

Cousin, etc.

26,518	6.2%	006.31	.. CH-SB-PT				
226	0.1%	006.32	CH-SB-SB-PT				
14	0.0%	006.33	.. CS-SB-PS				
38	0.0%	006.34	CH-CS-PS-PT				
36	0.0%	006.35	CH-CF-PF-PT				
63	0.0%	006.51	SB-CH-SB-PT	63	0.0%	006.52	CH-SB-PT-SB
87	0.0%	006.53	.. .. NN-PT	87	0.0%	006.54	.. .. CH-AU
44	0.0%	006.55	.. NN-SB-PT	44	0.0%	006.56	.. CH-SB-AU
95	0.0%	006.57	.. .. CZ-SB	95	0.0%	006.58	.. .. SB-CZ
486	0.1%	006.59	.. CS-SB-PT	486	0.1%	006.60	.. CH-SB-PS
30	0.0%	006.61	CH-CS-PT-PT	30	0.0%	006.62	CH-CH-PS-PT
274	0.1%	006.63	.. CF-SB-PT	274	0.1%	006.64	.. CH-SB-PF
4	0.0%	006.65	.. CF-SB-PS	4	0.0%	006.66	.. CS-SB-PF
324	0.1%	006.99	.. ch-sb-pt				

Sibling of sibling-in-law

338	0.1%	007.31	.. SB-SP-SB
56	0.0%	007.32	.. SB-SX-SB
24	0.0%	007.99	.. sb-sp-sb

Sibling-in-law of sibling-in-law

47	0.0%	008.51	SB-SP-SB-SP	47	0.0%	008.52	SP-SB-SP-SB
22	0.0%	008.53	SB-SP-SB-SX	22	0.0%	008.54	SX-SB-SP-SB
38	0.0%	008.99	sb-sp-sb-sp				

Cousin of spouse

79	0.0%	009.51	CH-SB-PT-SP	79	0.0%	009.52	SP-CH-SB-PT
142	0.0%	009.99	ch-sb-pt-sp				

Parent of child-in-law

108	0.0%	010.31	.. PT-SP-CH
18	0.0%	010.32	.. PT-SX-CH
10	0.0%	010.99	.. pt-sp-ch

One Generation Removed Relationships

Parent, etc.				Child, etc.			
35,197	8.3%	101.01	.. .. .. PT	35,197	8.3%	151.01	.. .. .. CH
865	0.2%	101.02	.. .. PT-SB	865	0.2%	151.02	.. .. SB-CH

830	0.2%	101.03	.. .. SX-PT
3	0.0%	101.04	.. SX-PT-SB
548	0.1%	101.05	.. .. .. PS
19	0.0%	101.06	.. .. PS-SB
57	0.0%	101.07	.. .. SP-PT
40	0.0%	101.08	.. .. SP-PS
119	0.0%	101.09	.. .. SX-PS
2	0.0%	101.10	.. PS-CH-PS
6	0.0%	101.11	.. PT-CS-PT
31	0.0%	101.12	.. SP-SX-PT
70	0.0%	101.13	.. .. SQ-PT
254	0.1%	101.14	.. .. S1-PT
323	0.1%	101.15	.. .. .. PF
54	0.0%	101.16	.. .. SP-PF
38	0.0%	101.17	.. .. SX-PF
22	0.0%	101.18	.. PT-CF-PT
9	0.0%	101.19	.. .. PF-SB
129	0.0%	101.99	.. .. .. pt

Parent-in-law, etc.

5,800	1.4%	102.01	.. .. PT-SP
21	0.0%	102.02	.. .. .. PL
15	0.0%	102.03	.. SP-PT-SP
42	0.0%	102.04	.. PT-SB-SP
195	0.0%	102.05	.. PT-PT-CH
57	0.0%	102.06	.. .. GP-CH
2	0.0%	102.07	.. PT-PS-CH
3	0.0%	102.08	.. PS-PT-CH
3	0.0%	102.09	.. PT-PT-CS
17	0.0%	102.10	.. .. PS-SP
163	0.0%	102.11	.. SX-PT-SP
9	0.0%	102.12	.. SX-PT-SX
1,420	0.3%	102.13	.. .. PT-SX
3	0.0%	102.14	.. .. PS-SX
19	0.0%	102.15	.. PT-SB-SX
132	0.0%	102.16	.. .. PT-SQ
443	0.1%	102.17	.. .. PT-S1
146	0.0%	102.99	.. .. pt-sp

Parent or Aunt/uncle, etc.

88	0.0%	103.01	.. .. SB-AU
2,659	0.6%	103.02	.. .. CH-GP
107	0.0%	103.03	.. SB-CH-GP
4	0.0%	103.04	.. .. CS-GP
15	0.0%	103.05	.. .. CF-GP
463	0.1%	103.06	.. SP-CH-GP
249	0.1%	103.07	.. SX-CH-GP

830	0.2%	151.03	.. .. CH-SX
3	0.0%	151.04	.. SB-CH-SX
548	0.1%	151.05	.. .. .. CS
19	0.0%	151.06	.. .. SB-CS
57	0.0%	151.07	.. .. CH-SP
40	0.0%	151.08	.. .. CS-SP
119	0.0%	151.09	.. .. CS-SX
2	0.0%	151.10	.. CS-PT-CS
6	0.0%	151.11	.. CH-PS-CH
31	0.0%	151.12	.. CH-SX-SP
70	0.0%	151.13	.. .. CH-SQ
254	0.1%	151.14	.. .. CH-S1
323	0.1%	151.15	.. .. .. CF
54	0.0%	151.16	.. .. CF-SP
38	0.0%	151.17	.. .. CF-SX
22	0.0%	151.18	.. CH-PF-CH
9	0.0%	151.19	.. .. SB-CF
129	0.0%	151.99	.. .. .. ch

Child-in-law, etc.

5,800	1.4%	152.01	.. .. SP-CH
21	0.0%	152.02	 CL
15	0.0%	152.03	.. SP-CH-SP
42	0.0%	152.04	.. SP-SB-CH
195	0.0%	152.05	.. PT-CH-CH
57	0.0%	152.06	.. .. PT-GC
2	0.0%	152.07	.. PT-CS-CH
3	0.0%	152.08	.. PT-CH-CS
3	0.0%	152.09	.. PS-CH-CH
17	0.0%	152.10	.. .. SP-CS
163	0.0%	152.11	.. SP-CH-SX
9	0.0%	152.12	.. SX-CH-SX
1,420	0.3%	152.13	.. .. SX-CH
3	0.0%	152.14	.. .. SX-CS
19	0.0%	152.15	.. SX-SB-CH
132	0.0%	152.16	.. .. SQ-CH
443	0.1%	152.17	.. .. S1-CH
146	0.0%	152.99	.. .. sp-ch

Child or Niece/nephew, etc.

88	0.0%	153.01	.. .. NN-SB
2,659	0.6%	153.02	.. .. GC-PT
107	0.0%	153.03	.. GC-PT-SB
4	0.0%	153.04	.. .. GC-PS
15	0.0%	153.05	.. .. GC-PF
463	0.1%	153.06	.. GC-PT-SP
249	0.1%	153.07	.. GC-PT-SX

Aunt/uncle, etc.

27,345	6.4%	104.01	.. .. SB-PT
53	0.0%	104.02	.. .. .. AU
360	0.1%	104.03	.. SB-SB-PT
8	0.0%	104.04	SB-SB-SB-PT
82	0.0%	104.05	.. SB-PT-SB
90	0.0%	104.06	.. .. AU-SB
535	0.1%	104.07	.. .. SB-PS
66	0.0%	104.08	.. CS-PT-PT
6	0.0%	104.09	.. CH-PS-PT
0	0.0%	104.10	.. CS-PT-PS
24	0.0%	104.11	.. CS-PS-PT
6	0.0%	104.12	SB-PT-CS-PT
329	0.1%	104.13	.. .. SB-PF
114	0.0%	104.14	.. CF-PT-PT
6	0.0%	104.15	.. CH-PF-PT
6	0.0%	104.16	.. CS-PF-PT
17	0.0%	104.17	.. CF-PF-PT
365	0.1%	104.99	.. .. sb-pt

Niece/nephew, etc.

27,345	6.4%	154.01	.. .. CH-SB
53	0.0%	154.02	.. .. .. NN
360	0.1%	154.03	.. CH-SB-SB
8	0.0%	154.04	CH-SB-SB-SB
82	0.0%	154.05	.. SB-CH-SB
90	0.0%	154.06	.. .. SB-NN
535	0.1%	154.07	.. .. CS-SB
66	0.0%	154.08	.. CH-CH-PS
6	0.0%	154.09	.. CH-CS-PT
0	0.0%	154.10	.. CS-CH-PS
24	0.0%	154.11	.. CH-CS-PS
6	0.0%	154.12	CH-PS-CH-SB
329	0.1%	154.13	.. .. CF-SB
114	0.0%	154.14	.. CH-CH-PF
6	0.0%	154.15	.. CH-CF-PT
6	0.0%	154.16	.. CH-CF-PS
17	0.0%	154.17	.. CH-CF-PF
365	0.1%	154.99	.. .. ch-sb

Spouse of aunt/uncle, etc.

9,382	2.2%	105.01	.. SP-SB-PT
58	0.0%	105.02	SP-SB-SB-PT
16	0.0%	105.03	SP-SB-PT-SB
250	0.1%	105.04	PT-CH-SB-PT
24	0.0%	105.05	.. CL-PT-PT
38	0.0%	105.06	SX-SB-SB-PT
211	0.0%	105.07	.. SP-SB-PS
0	0.0%	105.08	SP-CH-PS-PT
8	0.0%	105.09	SP-CS-PT-PT
6	0.0%	105.10	PS-CH-SB-PT
11	0.0%	105.11	SP-CS-PS-PT
0	0.0%	105.12	SX-CH-PS-PT
3,198	0.7%	105.13	.. SX-SB-PT
58	0.0%	105.14	.. SX-SB-PS
246	0.1%	105.15	.. SQ-SB-PT
819	0.2%	105.16	.. S1-SB-PT
114	0.0%	105.19	.. SP-SB-PF
37	0.0%	105.20	PT-CF-SB-PT
395	0.1%	105.99	.. sp-sb-pt

Niece/nephew of spouse, etc.

9,382	2.2%	155.01	.. CH-SB-SP
58	0.0%	155.02	CH-SB-SB-SP
16	0.0%	155.03	SB-CH-SB-SP
250	0.1%	155.04	CH-SB-PT-CH
24	0.0%	155.05	.. CH-CH-PL
38	0.0%	155.06	CH-SB-SB-SX
211	0.0%	155.07	.. CS-SB-SP
0	0.0%	155.08	CH-CS-PT-SP
8	0.0%	155.09	CH-CH-PS-SP
6	0.0%	155.10	CH-SB-PT-CS
11	0.0%	155.11	CH-CS-PS-SP
0	0.0%	155.12	CH-CS-PT-SX
3,198	0.7%	155.13	.. CH-SB-SX
58	0.0%	155.14	.. CS-SB-SX
246	0.1%	155.15	.. CH-SB-SQ
819	0.2%	155.16	.. CH-SB-S1
114	0.0%	155.19	.. CF-SB-SP
37	0.0%	155.20	CH-SB-PF-CH
395	0.1%	155.99	.. ch-sb-sp

Aunt/uncle of spouse, etc.

163	0.0%	106.01	.. SB-PT-SP
27	0.0%	106.02	.. SB-PT-SX
16	0.0%	106.03	.. CH-GP-SP
82	0.0%	106.99	.. sb-pt-sp

Spouse of niece/nephew, etc.

163	0.0%	156.01	.. SP-CH-SB
27	0.0%	156.02	.. SX-CH-SB
16	0.0%	156.03	.. SP-GC-PT
82	0.0%	156.99	.. sp-ch-sb

Spouse of aunt/uncle of spouse

23	0.0%	107.01	SP-SB-PT-SP
20	0.0%	107.99	sp-sb-pt-sp

Spouse of niece/nephew of spouse

23	0.0%	157.01	SP-CH-SB-SP
20	0.0%	157.99	sp-ch-sb-sp

Cousin of parent

217	0.1%	108.01	CH-SB-PT-PT
97	0.0%	108.02	.. CH-SB-GP
77	0.0%	108.99	ch-sb-pt-pt

Child of cousin

217	0.1%	158.01	CH-CH-SB-PT
97	0.0%	158.02	.. GC-SB-PT
77	0.0%	158.99	ch-ch-sb-pt

Sibling or spouse of aunt/uncle

132	0.0%	109.01	SB-SP-SB-PT
17	0.0%	109.02	SB-SX-SB-PT
15	0.0%	109.99	sb-sp-sb-pt

Niece/nephew of spouse of sibling

132	0.0%	159.01	CH-SB-SP-SB
17	0.0%	159.02	CH-SB-SX-SB
15	0.0%	159.99	ch-sb-sp-sb

Parent-in-law of sibling

196	0.0%	110.01	.. PT-SP-SB
23	0.0%	110.02	.. PT-SX-SB
16	0.0%	110.99	.. pt-sp-sb

Sibling of child-in-law

196	0.0%	160.01	.. SB-SP-CH
23	0.0%	160.02	.. SB-SX-CH
16	0.0%	160.99	.. sb-sp-ch

Parent-in-law of sibling of spouse

51	0.0%	111.01	PT-SP-SB-SP
27	0.0%	111.02	PT-SP-SB-SX
13	0.0%	111.99	pt-sp-sb-sp

Spouse of sibling of child-in-law

51	0.0%	161.01	SP-SB-SP-CH
27	0.0%	161.02	SX-SB-SP-CH
13	0.0%	161.99	sp-sb-sp-ch

Grandparent of child-in-law

10	0.0%	112.99	pt-pt-sp-ch

Parent-in-law of grandchild

10	0.0%	162.99	pt-sp-ch-ch

Two (or more) Generations Removed Relationships

Grandparent, etc.

7	0.0%	200.98	PT-SP-PT-SB
12,424	2.9%	201.01	.. .. PT-PT
164	0.0%	201.02	.. PT-SB-PT
49	0.0%	201.03	.. .. PT-AU
67	0.0%	201.04	.. PT-PT-SB
45	0.0%	201.05	.. SP-PT-PT
352	0.1%	201.06	.. SX-PT-PT
39	0.0%	201.07	.. .. PS-PT
286	0.1%	201.08	.. .. PT-PS
3	0.0%	201.09	.. .. PS-PS
12	0.0%	201.10	.. SX-PT-PS
6	0.0%	201.11	.. SX-PS-PT
104	0.0%	201.12	.. .. PT-PF
12	0.0%	201.13	.. .. PF-PT
6	0.0%	201.14	.. SP-PF-PT
148	0.0%	201.99	.. .. pt-pt

Grandchild, etc.

7	0.0%	250.98	SB-CH-SP-CH
12,424	2.9%	251.01	.. .. CH-CH
164	0.0%	251.02	.. CH-SB-CH
49	0.0%	251.03	.. .. NN-CH
67	0.0%	251.04	.. SB-CH-CH
45	0.0%	251.05	.. CH-CH-SP
352	0.1%	251.06	.. CH-CH-SX
39	0.0%	251.07	.. .. CH-CS
286	0.1%	251.08	.. .. CS-CH
3	0.0%	251.09	.. .. CS-CS
12	0.0%	251.10	.. CS-CH-SX
6	0.0%	251.11	.. CH-CS-SX
104	0.0%	251.12	.. .. CF-CH
12	0.0%	251.13	.. .. CH-CF
6	0.0%	251.14	.. CH-CF-SP
148	0.0%	251.99	.. .. ch-ch

Grandparent of spouse

309	0.1%	202.01	.. PT-PT-SP
70	0.0%	202.02	.. PT-PT-SX
15	0.0%	202.03	.. .. GP-SP
107	0.0%	202.99	.. pt-pt-sp

Spouse of grandchild

309	0.1%	252.01	.. SP-CH-CH
70	0.0%	252.02	.. SX-CH-CH
15	0.0%	252.03	.. .. SP-GC
107	0.0%	252.99	.. sp-ch-ch

Grandparent or Grandaunt/uncle

43	0.0%	203.01	.. CH-GP-PT

Grandchild or Grandniece/nephew

43	0.0%	253.01	.. CH-GC-PT

Grandaunt/uncle

431	0.1%	204.01	.. SB-PT-PT
162	0.0%	204.02	.. .. SB-GP
158	0.0%	204.99	.. sb-pt-pt

Grandniece/nephew

431	0.1%	254.01	.. CH-CH-SB
162	0.0%	254.02	.. .. GC-SB
158	0.0%	254.99	.. ch-ch-sb

Grandparent or Great-grandparent, etc.

1,295	0.3%	205.01	.. .. .. GP
110	0.0%	205.02	.. .. GP-SB
63	0.0%	205.03	.. PT-CH-GP
40	0.0%	205.04	.. .. SP-GP
115	0.0%	205.05	.. .. SX-GP

Grandchild or Great-grandchild, etc.

1,295	0.3%	255.01	.. .. .. GC
110	0.0%	255.02	.. .. SB-GC
63	0.0%	255.03	.. GC-PT-CH
40	0.0%	255.04	.. .. GC-SP
115	0.0%	255.05	.. .. GC-SX

Great-grandparent, etc.

641	0.2%	206.01	.. PT-PT-PT
133	0.0%	206.02	.. .. PT-GP
58	0.0%	206.03	.. .. GP-PT
83	0.0%	206.04	.. GP-SB-PT
52	0.0%	206.99	.. pt-pt-pt

Great-grandchild, etc.

641	0.2%	256.01	.. CH-CH-CH
133	0.0%	256.02	.. .. GC-CH
58	0.0%	256.03	.. .. CH-GC
83	0.0%	256.04	.. CH-SB-GC
52	0.0%	256.99	.. ch-ch-ch

Great-great-grandparent

10	0.0%	207.99	pt-pt-pt-pt

Great-great-grandchild

10	0.0%	257.99	ch-ch-ch-ch

Great-grandaunt/uncle

11	0.0%	208.99	sb-pt-pt-pt

Great-grandniece/nephew

11	0.0%	258.99	ch-ch-ch-sb

Grandaunt/uncle by marriage
or Parent of aunt/uncle by marriage

46	0.0%	209.01	SP-SB-PT-PT
23	0.0%	209.02	.. SP-SB-GP
135	0.0%	209.03	PT-SP-SB-PT
15	0.0%	209.04	PT-SX-SB-PT
49	0.0%	209.99	sp-sb-pt-pt

Grandniece/nephew by marriage
or Niece/nephew by marriage of child

46	0.0%	259.01	CH-CH-SB-SP
23	0.0%	259.02	.. GC-SB-SP
135	0.0%	259.03	CH-SB-SP-CH
15	0.0%	259.04	CH-SB-SX-CH
49	0.0%	259.99	ch-ch-sb-sp

Grandparent of spouse of sibling

19 0.0% 210.99 pt-pt-sp-sb

Great-grandparent of spouse

2 0.0% 211.99 pt-pt-pt-sp

Grandaunt/uncle of spouse

6 0.0% 212.99 sb-pt-pt-sp

Sibling-in-law of grandchild

19 0.0% 260.99 sb-sp-ch-ch

Spouse of great-grandchild

2 0.0% 261.99 sp-ch-ch-ch

Spouse of grandniece/nephew

6 0.0% 262.99 sp-ch-ch-sb

Generation-unknown Relationships

Other relative

3,266 0.8% 997.31 .. .. .. OR

Other non-relative

108 0.0% 998.31 .. .. .. NR

V7 '>ONE 5-DIGIT RELATION? ' TLOC= 020 WIDTH= 1 NDEC= 0 MD= 0

More than one 5-digit relationship of person X to person Y?

This variable designates whether more than one 5-digit relationship of person X to person Y was derived in any of the 18 years from either of the two sources -- relationship to head (V801-V818) or history (V901-V918).

40,474	9.5%	0	No relationship of person X to person Y was derived in any of the 18 years from either of the two sources
288,176	67.6%	1	Only one 5-digit relationship of person X to person Y was derived in any of the 18 years from either of the two sources -- the modal 5-digit relationship of person X to person Y (V6)
97,958	23.0%	2	More than one 5-digit relationship of person X to person Y was derived during the 18 years from either of the two sources

V100 'YEAR OF BIRTH OF X ' TLOC= 021-024 WIDTH= 4 NDEC= 0 MD= 0

Approximate year of birth of person X

The year of birth was first sought from the 1985, 1984, or 1983 year of birth variable for person X

(in that order). If it was not obtained from any of those three variables, it was then sought from the age variable from the years 1985 through 1968 (in that order); the value obtained from this source was subtracted from the year of interview to obtain the year of birth. The subtraction did not take into account either month of birth or month of interview. Thus the year of birth provided in this file may be off by a year due to the procedure used. It should, however, be adequate to distinguish approximate age.

411	0.1%	0000	Year of birth or age not available in any of the 18 years 1968 to 1985
86	0.0%	1873-1879	
585	0.1%	1880-1889	
2,323	0.5%	1890-1899	
4,832	1.1%	1900-1909	
10,872	2.5%	1910-1919	
22,268	5.2%	1920-1929	
21,847	5.1%	1930-1939	
41,599	9.8%	1940-1949	
116,471	27.3%	1950-1959	
78,203	18.3%	1960-1969	
84,345	19.8%	1970-1979	
42,766	10.0%	1980-1985	

V101 'SEX OF PERSON X ' TLOC= 025 WIDTH= 1 NDEC= 0 MD= 0

The sex of person X was obtained from inspection of the annual sex of individual variables. The maximum valid value of these variables was used. These variables are carefully checked during routine annual processing so that any year-to-year inconsistencies are resolved.

211,745	49.6%	1	Male
214,854	50.4%	2	Female

V200 'YEAR OF BIRTH OF Y ' TLOC= 026-029 WIDTH= 4 NDEC= 0 MD= 0

Approximate year of birth of person Y

The year of birth was first sought from the 1985, 1984, or 1983 year of birth variable for person Y (in that order). If it was not obtained from any of those three variables, it was then sought from the age variable from the years 1985 through 1968 (in that order); the value obtained from this source was subtracted from the year of interview to obtain the year of birth. The subtraction did not take into account either month of birth or month of interview. Thus the year of birth provided

in this file may be off by a year due to the procedure used. It should, however, be adequate to distinguish approximate age.

411	0.1%	0000	Year of birth or age not available in any of the 18 years 1968 to 1985
86	0.0%	1873-1879	
585	0.1%	1880-1889	
2,323	0.5%	1890-1899	
4,832	1.1%	1900-1909	
10,872	2.5%	1910-1919	
22,268	5.2%	1920-1929	
21,847	5.1%	1930-1939	
41,599	9.8%	1940-1949	
116,471	27.3%	1950-1959	
78,203	18.3%	1960-1969	
84,345	19.8%	1970-1979	
42,766	10.0%	1980-1985	

V201 'SEX OF PERSON Y ' TLOC= 030 WIDTH= 1 NDEC= 0 MD= 0

The sex of person Y was obtained from inspection of the annual sex of individual variables. The maximum valid value of these variables was used. These variables are carefully checked during routine annual processing so that any year-to-year inconsistencies are resolved.

211,745	49.6%	1	Male
214,854	50.4%	2	Female

V301	'PSID STATUS OF X 1968 '	TLOC= 031	WIDTH= 1	NDEC= 0	MD= 0
V302	'PSID STATUS OF X 1969 '	TLOC= 032	WIDTH= 1	NDEC= 0	MD= 0
V303	'PSID STATUS OF X 1970 '	TLOC= 033	WIDTH= 1	NDEC= 0	MD= 0
V304	'PSID STATUS OF X 1971 '	TLOC= 034	WIDTH= 1	NDEC= 0	MD= 0
V305	'PSID STATUS OF X 1972 '	TLOC= 035	WIDTH= 1	NDEC= 0	MD= 0
V306	'PSID STATUS OF X 1973 '	TLOC= 036	WIDTH= 1	NDEC= 0	MD= 0
V307	'PSID STATUS OF X 1974 '	TLOC= 037	WIDTH= 1	NDEC= 0	MD= 0
V308	'PSID STATUS OF X 1975 '	TLOC= 038	WIDTH= 1	NDEC= 0	MD= 0
V309	'PSID STATUS OF X 1976 '	TLOC= 039	WIDTH= 1	NDEC= 0	MD= 0
V310	'PSID STATUS OF X 1977 '	TLOC= 040	WIDTH= 1	NDEC= 0	MD= 0
V311	'PSID STATUS OF X 1978 '	TLOC= 041	WIDTH= 1	NDEC= 0	MD= 0
V312	'PSID STATUS OF X 1979 '	TLOC= 042	WIDTH= 1	NDEC= 0	MD= 0
V313	'PSID STATUS OF X 1980 '	TLOC= 043	WIDTH= 1	NDEC= 0	MD= 0
V314	'PSID STATUS OF X 1981 '	TLOC= 044	WIDTH= 1	NDEC= 0	MD= 0

```
V315  'PSID STATUS OF X 1982   ' TLOC= 045          WIDTH= 1   NDEC= 0   MD= 0
V316  'PSID STATUS OF X 1983   ' TLOC= 046          WIDTH= 1   NDEC= 0   MD= 0
V317  'PSID STATUS OF X 1984   ' TLOC= 047          WIDTH= 1   NDEC= 0   MD= 0
V318  'PSID STATUS OF X 1985   ' TLOC= 048          WIDTH= 1   NDEC= 0   MD= 0
```

PSID status of person X in year t

These variables are based on the annual variables labeled "Sequence Number" in the PSID documentation. The frequencies and percentages given below are the combined frequencies and percentages of all 18 PSID STATUS OF X variables, V301-V318.

Used with other variables in this file, the PSID status of Y variables (V401-V418) and the coresidence status variables (V501-V518), they provide a clear indication of the living arrangement of person X relative to person Y. The combined frequencies and percentages of these variables in combination are given in Appendix A.

3,955,928	51.5%	1	RESPONSE: Residing in a family unit that responds in year t (Sequence Number equal to 1-20)
69,635	0.9%	2	INSTITUTIONAL: Living in an institution, with last family unit of residence responding in year t (Sequence Number equal to 51-59)
105,234	1.4%	3	BECAME MOVER-OUT NONRESPONSE: Between year t-1 and year t, moved out of an institution or a year-t responding family unit and became nonresponse (Sequence Number equal to 71-80)
10,226	0.1%	4	DIED: In a responding family unit in year t-1 but died between year t-1 and year t and there was a responding family unit in year t to report the death (Sequence Number equal to 81-89)
3,537,921	46.1%	5	CONTINUING NONRESPONSE OR FAMILY NONRESPONSE: Family unit became nonresponse between year t-1 and year t; or the individual was known to have died in some year t-1 or earlier; or the individual continued to be nonresponse; or the individual had not yet entered a PSID family unit by year t (Sequence Number equal to 0)

```
V401  'PSID STATUS OF Y 1968   ' TLOC= 049          WIDTH= 1   NDEC= 0   MD= 0
V402  'PSID STATUS OF Y 1969   ' TLOC= 050          WIDTH= 1   NDEC= 0   MD= 0
V403  'PSID STATUS OF Y 1970   ' TLOC= 051          WIDTH= 1   NDEC= 0   MD= 0
V404  'PSID STATUS OF Y 1971   ' TLOC= 052          WIDTH= 1   NDEC= 0   MD= 0
V405  'PSID STATUS OF Y 1972   ' TLOC= 053          WIDTH= 1   NDEC= 0   MD= 0
V406  'PSID STATUS OF Y 1973   ' TLOC= 054          WIDTH= 1   NDEC= 0   MD= 0
V407  'PSID STATUS OF Y 1974   ' TLOC= 055          WIDTH= 1   NDEC= 0   MD= 0
V408  'PSID STATUS OF Y 1975   ' TLOC= 056          WIDTH= 1   NDEC= 0   MD= 0
V409  'PSID STATUS OF Y 1976   ' TLOC= 057          WIDTH= 1   NDEC= 0   MD= 0
V410  'PSID STATUS OF Y 1977   ' TLOC= 058          WIDTH= 1   NDEC= 0   MD= 0
V411  'PSID STATUS OF Y 1978   ' TLOC= 059          WIDTH= 1   NDEC= 0   MD= 0
V412  'PSID STATUS OF Y 1979   ' TLOC= 060          WIDTH= 1   NDEC= 0   MD= 0
V413  'PSID STATUS OF Y 1980   ' TLOC= 061          WIDTH= 1   NDEC= 0   MD= 0
V414  'PSID STATUS OF Y 1981   ' TLOC= 062          WIDTH= 1   NDEC= 0   MD= 0
```

```
V415  'PSID STATUS OF Y 1982   ' TLOC= 063          WIDTH= 1   NDEC= 0   MD= 0
V416  'PSID STATUS OF Y 1983   ' TLOC= 064          WIDTH= 1   NDEC= 0   MD= 0
V417  'PSID STATUS OF Y 1984   ' TLOC= 065          WIDTH= 1   NDEC= 0   MD= 0
V418  'PSID STATUS OF Y 1985   ' TLOC= 066          WIDTH= 1   NDEC= 0   MD= 0
```

PSID status of person Y in year t

These variables are based on the annual variables labeled "Sequence Number" in the PSID documentation. The frequencies and percentages given below are the combined frequencies and percentages of all 18 PSID STATUS OF Y variables, V401-V418.

Used with other variables in this file, the PSID status of X variables (V301-V318) and the coresidence status variables (V501-V518), they provide a clear indication of the living arrangement of person Y relative to person X. The combined frequencies and percentages of these variables in combination are given in Appendix A.

3,955,928	51.5%	1	RESPONSE: Residing in a family unit that responds in year t (Sequence Number equal to 1-20)
69,635	0.9%	2	INSTITUTIONAL: Living in an institution, with last family unit of residence responding in year t (Sequence Number equal to 51-59)
105,234	1.4%	3	BECAME MOVER-OUT NONRESPONSE: Between year t-1 and year t, moved out of an institution or a year-t responding family unit and became nonresponse (Sequence Number equal to 71-80)
10,226	0.1%	4	DIED: In a responding family unit in year t-1 but died between year t-1 and year t and there was a responding family unit in year t to report the death (Sequence Number equal to 81-89)
3,537,921	46.1%	5	CONTINUING NONRESPONSE OR FAMILY NONRESPONSE: Family unit became nonresponse between year t-1 and year t; or the individual was known to have died in some year t-1 or earlier; or the individual continued to be nonresponse; or the individual had not yet entered a PSID family unit by year t (Sequence Number equal to 0)

```
V501  'CORESIDENCE STATUS 1968 ' TLOC= 067          WIDTH= 1   NDEC= 0   MD= 0
V502  'CORESIDENCE STATUS 1969 ' TLOC= 068          WIDTH= 1   NDEC= 0   MD= 0
V503  'CORESIDENCE STATUS 1970 ' TLOC= 069          WIDTH= 1   NDEC= 0   MD= 0
V504  'CORESIDENCE STATUS 1971 ' TLOC= 070          WIDTH= 1   NDEC= 0   MD= 0
V505  'CORESIDENCE STATUS 1972 ' TLOC= 071          WIDTH= 1   NDEC= 0   MD= 0
V506  'CORESIDENCE STATUS 1973 ' TLOC= 072          WIDTH= 1   NDEC= 0   MD= 0
V507  'CORESIDENCE STATUS 1974 ' TLOC= 073          WIDTH= 1   NDEC= 0   MD= 0
V508  'CORESIDENCE STATUS 1975 ' TLOC= 074          WIDTH= 1   NDEC= 0   MD= 0
V509  'CORESIDENCE STATUS 1976 ' TLOC= 075          WIDTH= 1   NDEC= 0   MD= 0
V510  'CORESIDENCE STATUS 1977 ' TLOC= 076          WIDTH= 1   NDEC= 0   MD= 0
V511  'CORESIDENCE STATUS 1978 ' TLOC= 077          WIDTH= 1   NDEC= 0   MD= 0
V512  'CORESIDENCE STATUS 1979 ' TLOC= 078          WIDTH= 1   NDEC= 0   MD= 0
V513  'CORESIDENCE STATUS 1980 ' TLOC= 079          WIDTH= 1   NDEC= 0   MD= 0
V514  'CORESIDENCE STATUS 1981 ' TLOC= 080          WIDTH= 1   NDEC= 0   MD= 0
```

```
V515  'CORESIDENCE STATUS 1982 ' TLOC= 081          WIDTH= 1   NDEC= 0   MD= 0
V516  'CORESIDENCE STATUS 1983 ' TLOC= 082          WIDTH= 1   NDEC= 0   MD= 0
V517  'CORESIDENCE STATUS 1984 ' TLOC= 083          WIDTH= 1   NDEC= 0   MD= 0
V518  'CORESIDENCE STATUS 1985 ' TLOC= 084          WIDTH= 1   NDEC= 0   MD= 0
```

Coresidence status of person X and person Y at time of interview in year t

These variables are based on the annual variables labeled "Family Number" in the PSID documentation. These are the identifiers for a family unit in a specific year. What needs to be kept in mind is that all persons in the PSID (including those born or moving into the study after it started) have a full "history" of "Family Number"s dating from the beginning of the study (1968) until the time they drop out of the study. The historical string of "Family Number"s assigned an individual entering the study is that of the Head of the family unit they first move into or are born into. This means that mover-in or born-in individuals have PSID "Family Numbers" even in the years prior to when they first entered the study. The frequencies and percentages given below are the combined frequencies and percentages of all 18 CORESIDENCE STATUS variables, V501-V518.

Used with other variables in this file, the PSID status of X variables (V301-V318) and the PSID status of Y variables (V401-V418), they provide a clear indication of the living arrangement of person Y relative to person X. The combined frequencies and percentages of these variables in combination are given in Appendix A.

3,503,010	45.6%	1	SAME FAMILY UNIT: Person X and person Y have same Family Number
145,318	1.9%	2	SAME DWELLING UNIT BUT NOT FAMILY UNIT: Person X and person Y do not have same Family Number but the Family Numbers that they have share the same dwelling unit
2,304,032	30.0%	3	DIFFERENT DWELLING UNIT AND FAMILY UNIT: Person X and person Y do not have same Family Number and the Family numbers that they have do not share the same dwelling unit
1,726,584	22.5%	4	ONE OR BOTH HAVE NO FAMILY UNIT: Either person X, or person Y, or both have year-t Family Number equal to 0000 (not part of any interviewed family unit)

```
V601  'PRIMITIVE CHAIN RTH 1968' TLOC= 085-092      WIDTH= 8   NDEC= 0   MD= 0
V602  'PRIMITIVE CHAIN RTH 1969' TLOC= 093-100      WIDTH= 8   NDEC= 0   MD= 0
V603  'PRIMITIVE CHAIN RTH 1970' TLOC= 101-108      WIDTH= 8   NDEC= 0   MD= 0
V604  'PRIMITIVE CHAIN RTH 1971' TLOC= 109-116      WIDTH= 8   NDEC= 0   MD= 0
V605  'PRIMITIVE CHAIN RTH 1972' TLOC= 117-124      WIDTH= 8   NDEC= 0   MD= 0
V606  'PRIMITIVE CHAIN RTH 1973' TLOC= 125-132      WIDTH= 8   NDEC= 0   MD= 0
V607  'PRIMITIVE CHAIN RTH 1974' TLOC= 133-140      WIDTH= 8   NDEC= 0   MD= 0
V608  'PRIMITIVE CHAIN RTH 1975' TLOC= 141-142      WIDTH= 8   NDEC= 0   MD= 0
V609  'PRIMITIVE CHAIN RTH 1976' TLOC= 149-156      WIDTH= 8   NDEC= 0   MD= 0
V610  'PRIMITIVE CHAIN RTH 1977' TLOC= 157-164      WIDTH= 8   NDEC= 0   MD= 0
V611  'PRIMITIVE CHAIN RTH 1978' TLOC= 165-172      WIDTH= 8   NDEC= 0   MD= 0
V612  'PRIMITIVE CHAIN RTH 1979' TLOC= 173-180      WIDTH= 8   NDEC= 0   MD= 0
V613  'PRIMITIVE CHAIN RTH 1980' TLOC= 181-188      WIDTH= 8   NDEC= 0   MD= 0
```

```
V614  'PRIMITIVE CHAIN RTH 1981' TLOC= 189-196      WIDTH= 8   NDEC= 0   MD= 0
V615  'PRIMITIVE CHAIN RTH 1982' TLOC= 197-204      WIDTH= 8   NDEC= 0   MD= 0
V616  'PRIMITIVE CHAIN RTH 1983' TLOC= 205-212      WIDTH= 8   NDEC= 0   MD= 0
V617  'PRIMITIVE CHAIN RTH 1984' TLOC= 213-220      WIDTH= 8   NDEC= 0   MD= 0
V618  'PRIMITIVE CHAIN RTH 1985' TLOC= 221-228      WIDTH= 8   NDEC= 0   MD= 0
```

Primitive chain relationship of person X to person Y in year t based on information derived from annual relationship-to-head

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See V701-V718 below for description of code categories.

```
V701  'PRIMITIVE CHAIN HIS 1968' TLOC= 229-236      WIDTH= 8   NDEC= 0   MD= 0
V702  'PRIMITIVE CHAIN HIS 1969' TLOC= 237-244      WIDTH= 8   NDEC= 0   MD= 0
V703  'PRIMITIVE CHAIN HIS 1970' TLOC= 245-252      WIDTH= 8   NDEC= 0   MD= 0
V704  'PRIMITIVE CHAIN HIS 1971' TLOC= 253-260      WIDTH= 8   NDEC= 0   MD= 0
V705  'PRIMITIVE CHAIN HIS 1972' TLOC= 261-268      WIDTH= 8   NDEC= 0   MD= 0
V706  'PRIMITIVE CHAIN HIS 1973' TLOC= 269-276      WIDTH= 8   NDEC= 0   MD= 0
V707  'PRIMITIVE CHAIN HIS 1974' TLOC= 277-284      WIDTH= 8   NDEC= 0   MD= 0
V708  'PRIMITIVE CHAIN HIS 1975' TLOC= 285-292      WIDTH= 8   NDEC= 0   MD= 0
V709  'PRIMITIVE CHAIN HIS 1976' TLOC= 293-300      WIDTH= 8   NDEC= 0   MD= 0
V710  'PRIMITIVE CHAIN HIS 1977' TLOC= 301-308      WIDTH= 8   NDEC= 0   MD= 0
V711  'PRIMITIVE CHAIN HIS 1978' TLOC= 309-316      WIDTH= 8   NDEC= 0   MD= 0
V712  'PRIMITIVE CHAIN HIS 1979' TLOC= 317-324      WIDTH= 8   NDEC= 0   MD= 0
V713  'PRIMITIVE CHAIN HIS 1980' TLOC= 325-332      WIDTH= 8   NDEC= 0   MD= 0
V714  'PRIMITIVE CHAIN HIS 1981' TLOC= 333-340      WIDTH= 8   NDEC= 0   MD= 0
V715  'PRIMITIVE CHAIN HIS 1982' TLOC= 341-348      WIDTH= 8   NDEC= 0   MD= 0
V716  'PRIMITIVE CHAIN HIS 1983' TLOC= 349-356      WIDTH= 8   NDEC= 0   MD= 0
V717  'PRIMITIVE CHAIN HIS 1984' TLOC= 357-364      WIDTH= 8   NDEC= 0   MD= 0
V718  'PRIMITIVE CHAIN HIS 1985' TLOC= 365-372      WIDTH= 8   NDEC= 0   MD= 0
```

Primitive chain relationship of person X to person Y in year t based on information derived from the 1985 marital and fertility histories

---

Up to four of the primitives listed below were strung together to build the primitive chain relationship of person X to person Y. For example "25523838" ("25 52 38 38" when divided into components) would be "Natural son (25) of Full sister (52) of Natural mother (38) of Natural mother (38)" (or mother's cousin). A description of the source of these primitives is provided in Table 2 in the introductory section.

These chains include an embedded 00 elements when a primitive in the chain implies one or more "missing persons". For example, "grandmother" implies a "missing" "mother" or "father", i.e., "grandmother" would be "mother of mother" or "mother of father" if we had information about the "missing" parent.

```
00 11 00 74  "Husband" (1st yr) of .. of Grandmother (uncl & DK t-ts)
80 00 00 31  Great-grandmother (uncl & DK t-ts) of .. of .. of Son (uncl)
```

An * in the list below designates primitives that use these embedded 00 elements.

00	No relationship or no further relationship	00	No relationship or no further relationship
02	Wife	03	Husband
04	Wife (unclear)	05	Husband (unclear)
06	Separated wife	07	Separated husband
08	"Wife"	09	"Husband"
10	"Wife" (1st year)	11	"Husband" (1st year)
12	Divorced wife	13	Divorced husband
14	Widowed wife (surviving wife of deceased husband)	17	Deceased husband
16	Deceased wife	15	Widowed husband (surviving husband of deceased wife)
18	Former wife	19	Former husband
20	Non-cohabitating wife (unclear)	21	Non-cohabitating husband (unclear)
22	Non-cohabitating wife	23	Non-cohabitating husband
38-39	Natural mother-father	24-25	Natural daughter-son
40-41	Adoptive mother-father	26-27	Adopted daughter-son
42-43	Mother-father (DK natural-adoptive)	28-29	Daughter-son (DK natural-adopted)
44-45	Mother-father (unclear)	30-31	Daughter-son (unclear)
46-47	Stepmother-father	32-33	Stepdaughter-son
48-49	Foster mother-father	34-35	Foster daughter-son
50-51*	Mother-father-in-law (unclear & DK them-their spouse)	36-37*	Daughter-son-in-law (unclear & DK yours-your spouse's)
52-53	Full sister-brother	52-53	Full sister-brother
54-55	Half sister-brother	54-55	Half sister-brother
56-57	Natural sister-brother (DK full-half)	56-57	Natural sister-brother (DK full-half)
58-59	Adoptive sister-brother	58-59	Adoptive sister-brother
60-61	Sister-brother (unclear)	60-61	Sister-brother (unclear)
72-73*	Grandmother-father (unclear)	62-63*	Granddaughter-son (unclear)
74-75*	Grandmother-father (unclear & DK them-their spouse)	64-65*	Granddaughter-son (unclear & DK yours-your spouse's)
76-77*	Great-grandmother-father or grandmother-father (unclear & DK them-their spouse)	66-67*	Great-granddaughter-son or granddaughter-son (unclear & DK yours-your spouse's)
78-79**	Great-grandmother-father (unclear)	68-69**	Great-granddaughter-son (unclear)
80-81**	Great-grandmother-father (unclear & DK them-their spouse)	70-71**	Great-granddaughter-son (unclear & DK yours-your spouse's)

86-87*	Aunt/uncle (unclear)	82-83*	Niece/nephew (unclear)
88-89*	Aunt/uncle (unclear & DK them-their spouse)	84-85*	Niece/nephew (unclear & DK yours-your spouse's)
90-91**	Female-male cousin (unclear)	90-91**	Female-male cousin (unclear)
92-93	Female-male relative	92-93	Female-male relative
94-95	Female-male non-relative	94-95	Female-male non-relative

A complete listing of all the primitive chains of the relationship of person X to person Y, their corresponding 5-digit relationship of person X to person Y code, the frequency of occurrence (across all 36 primitive chain relationship of person X to person Y variables), the source of their derivation and a description of the code in words is available in files on the data tape. For more information about their contents and complete listings of these files, see Appendix C.

```
V801  '5-DIGIT RTH  1968       ' TLOC= 373-377      WIDTH= 5   NDEC= 2   MD= 0
V802  '5-DIGIT RTH  1969       ' TLOC= 378-382      WIDTH= 5   NDEC= 2   MD= 0
V803  '5-DIGIT RTH  1970       ' TLOC= 383-387      WIDTH= 5   NDEC= 2   MD= 0
V804  '5-DIGIT RTH  1971       ' TLOC= 388-392      WIDTH= 5   NDEC= 2   MD= 0
V805  '5-DIGIT RTH  1972       ' TLOC= 393-397      WIDTH= 5   NDEC= 2   MD= 0
V806  '5-DIGIT RTH  1973       ' TLOC= 398-402      WIDTH= 5   NDEC= 2   MD= 0
V807  '5-DIGIT RTH  1974       ' TLOC= 403-407      WIDTH= 5   NDEC= 2   MD= 0
V808  '5-DIGIT RTH  1975       ' TLOC= 408-412      WIDTH= 5   NDEC= 2   MD= 0
V809  '5-DIGIT RTH  1976       ' TLOC= 413-417      WIDTH= 5   NDEC= 2   MD= 0
V810  '5-DIGIT RTH  1977       ' TLOC= 418-422      WIDTH= 5   NDEC= 2   MD= 0
V811  '5-DIGIT RTH  1978       ' TLOC= 423-427      WIDTH= 5   NDEC= 2   MD= 0
V812  '5-DIGIT RTH  1979       ' TLOC= 428-432      WIDTH= 5   NDEC= 2   MD= 0
V813  '5-DIGIT RTH  1980       ' TLOC= 433-437      WIDTH= 5   NDEC= 2   MD= 0
V814  '5-DIGIT RTH  1981       ' TLOC= 438-442      WIDTH= 5   NDEC= 2   MD= 0
V815  '5-DIGIT RTH  1982       ' TLOC= 443-447      WIDTH= 5   NDEC= 2   MD= 0
V816  '5-DIGIT RTH  1983       ' TLOC= 448-452      WIDTH= 5   NDEC= 2   MD= 0
V817  '5-DIGIT RTH  1984       ' TLOC= 453-457      WIDTH= 5   NDEC= 2   MD= 0
V818  '5-DIGIT RTH  1985       ' TLOC= 458-462      WIDTH= 5   NDEC= 2   MD= 0
```

5-digit relationship of person X to person Y in year t based on information derived from annual relationship-to-head

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See V901-V918 below for description of code categories.

```
V901  '5-DIGIT HIS  1968       ' TLOC= 463-467      WIDTH= 5   NDEC= 2   MD= 0
V902  '5-DIGIT HIS  1969       ' TLOC= 468-472      WIDTH= 5   NDEC= 2   MD= 0
V903  '5-DIGIT HIS  1970       ' TLOC= 473-477      WIDTH= 5   NDEC= 2   MD= 0
```

```
V904  '5-DIGIT HIS  1971       ' TLOC= 478-482      WIDTH= 5   NDEC= 2   MD= 0
V905  '5-DIGIT HIS  1972       ' TLOC= 483-487      WIDTH= 5   NDEC= 2   MD= 0
V906  '5-DIGIT HIS  1973       ' TLOC= 488-492      WIDTH= 5   NDEC= 2   MD= 0
V907  '5-DIGIT HIS  1974       ' TLOC= 493-497      WIDTH= 5   NDEC= 2   MD= 0
V908  '5-DIGIT HIS  1975       ' TLOC= 498-502      WIDTH= 5   NDEC= 2   MD= 0
V909  '5-DIGIT HIS  1976       ' TLOC= 503-507      WIDTH= 5   NDEC= 2   MD= 0
V910  '5-DIGIT HIS  1977       ' TLOC= 508-512      WIDTH= 5   NDEC= 2   MD= 0
V911  '5-DIGIT HIS  1978       ' TLOC= 513-517      WIDTH= 5   NDEC= 2   MD= 0
V912  '5-DIGIT HIS  1979       ' TLOC= 518-522      WIDTH= 5   NDEC= 2   MD= 0
V913  '5-DIGIT HIS  1980       ' TLOC= 523-527      WIDTH= 5   NDEC= 2   MD= 0
V914  '5-DIGIT HIS  1981       ' TLOC= 528-532      WIDTH= 5   NDEC= 2   MD= 0
V915  '5-DIGIT HIS  1982       ' TLOC= 533-537      WIDTH= 5   NDEC= 2   MD= 0
V916  '5-DIGIT HIS  1983       ' TLOC= 538-542      WIDTH= 5   NDEC= 2   MD= 0
V917  '5-DIGIT HIS  1984       ' TLOC= 543-547      WIDTH= 5   NDEC= 2   MD= 0
V918  '5-DIGIT HIS  1985       ' TLOC= 548-552      WIDTH= 5   NDEC= 2   MD= 0
```

5-digit relationship of person X to person Y in year t based on information derived from the 1985 marital and fertility histories

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The descriptions of the codes given below use the abbreviations listed in Table 5 (the upper case abbreviations) and Table 4 (the lower case abbreviations) in the introductory section. For easy reference, a summary of the information in Table 5 is provided below. The primitives listed in this summary information are documented in Table 2 in the introductory section.

Up to four of these relationships were strung together to build up more complex or extended relationships. The "-" is to be interpreted as "of". Thus the string of abbreviations "xx-xx-xx-xx" may be interpreted as "relation of relation of relation of relation". For example "CH-SB-PT-PT" would be "(Child or Child?) of (Sibling) of (Parent or Parent?) of (Parent or Parent?)" i.e., cousin of parent.

Ab-brevi-ation	Description	Primi-tive	Ab-brevi-ation	Description	Primitive
..	No relationship or no further relationship	00			
SP	Spouse or Spouse?	02-07			
SQ	"Spouse"	08-09			
S1	"Spouse" first year	10-11			
SX	Former spouse	12-23			
PT	Parent or Parent?	38-45	CH	Child or Child?	24-31
PS	Stepparent	46-47	CS	Stepchild	32-33
PF	Foster parent	48-49	CF	Foster child	34-35
PL	Parent-in-law	50-51	CL	Child-in-law	36-37
SB	Sibling	52-61			
GP	Grandparent or Grandparent?	72-77	GC	Grandchild or Grandchild?	62-67

XP	Great-grandparent	78-81	XC	Great-grandchild	68-71
AU	Aunt/uncle	86-89	NN	Niece/nephew	82-85
CZ	Cousin	90-91			
OR	Other relative	92-93			
NR	Non-relative	94-95			

The frequencies given below are the combined frequencies of all 36 5-digit relationship of person X to person Y variables, V801-V818 and V901-V918.

No Relationship

No relationship or more distant relationship

9,297,630	60.5%	000.00	.. ..

Own Generation Relationships

Other

6	0.0%	000.98	SP-SP-SB-SB SB-SB-SP-SP

Spouse, etc.

253,434	1.7%	001.31	.. .. .. SP
21,958	0.1%	001.32	.. .. PT-CH
77,494	0.5%	001.33	.. .. .. SX
1,034	0.0%	001.34	.. .. .. SQ
772	0.0%	001.35	.. .. .. S1
348	0.0%	001.37	.. .. SP-SP
150	0.0%	001.38	.. SP-SX-SP
1,728	0.0%	001.39	.. .. SX-SX
7,527	0.0%	001.51	.. .. SX-SP
218	0.0%	001.53	.. PT-CH-SX
126	0.0%	001.55	.. .. SX-SQ
123	0.0%	001.57	.. .. SX-S1
760	0.0%	001.59	.. .. PS-CH
54	0.0%	001.61	.. PS-CH-SX
315	0.0%	001.63	.. .. PF-CH
1,162	0.0%	001.99	.. .. .. sp
7,527	0.0%	001.52	.. .. SP-SX
218	0.0%	001.54	.. SX-PT-CH
126	0.0%	001.56	.. .. SQ-SX
123	0.0%	001.58	.. .. S1-SX
760	0.0%	001.60	.. .. PT-CS
54	0.0%	001.62	.. SX-PT-CS
315	0.0%	001.64	.. .. PT-CF

Sibling, etc.

1,354,856	8.8%	002.31	.. .. .. SB
17,026	0.1%	002.32	.. .. SB-SB

198	0.0%	002.33	.. SB-SB-SB				
11,996	0.1%	002.34	.. .. CH-PT				
882	0.0%	002.35	.. CH-SX-PT				
2,016	0.0%	002.36	.. .. CS-PS				
98	0.0%	002.37	.. CH-SQ-PT				
1,358	0.0%	002.38	.. .. CF-PF				
3,632	0.0%	002.51	.. .. CS-PT	3,632	0.0%	002.52	.. .. CH-PS
44	0.0%	002.53	.. SB-CH-PS	44	0.0%	002.54	.. CS-PT-SB
132	0.0%	002.55	.. SB-CS-PT	132	0.0%	002.56	.. CH-PS-SB
52	0.0%	002.57	.. CS-SX-PT	52	0.0%	002.58	.. CH-SX-PS
3,635	0.0%	002.59	.. .. CF-PT	3,635	0.0%	002.60	.. .. CH-PF
185	0.0%	002.61	.. SB-CF-PT	185	0.0%	002.62	.. CH-PF-SB
199	0.0%	002.63	.. .. CF-PS	199	0.0%	002.64	.. .. CS-PF
726	0.0%	002.99	.. .. .. sb				

Sibling-in-law, etc.

160,999	1.0%	003.51	.. .. SB-SP	160,999	1.0%	003.52	.. .. SP-SB
1,183	0.0%	003.53	.. SB-SB-SP	1,183	0.0%	003.54	.. SP-SB-SB
248	0.0%	003.55	.. .. CL-PT	248	0.0%	003.56	.. .. CH-PL
4,674	0.0%	003.57	.. SB-PT-CH	4,674	0.0%	003.58	.. PT-CH-SB
109	0.0%	003.59	SB-SB-PT-CH	109	0.0%	003.60	PT-CH-SB-SB
335	0.0%	003.61	.. CS-PT-SP	335	0.0%	003.62	.. SP-CH-PS
555	0.0%	003.63	.. SB-PT-CS	555	0.0%	003.64	.. PS-CH-SB
33	0.0%	003.65	.. CH-PS-SP	33	0.0%	003.66	.. SP-CS-PT
258	0.0%	003.67	.. SB-PS-CH	258	0.0%	003.68	.. PT-CS-SB
144	0.0%	003.69	.. CS-PS-SP	144	0.0%	003.70	.. SP-CS-PS
40,916	0.3%	003.71	.. .. SB-SX	40,916	0.3%	003.72	.. .. SX-SB
494	0.0%	003.73	.. SB-SB-SX	494	0.0%	003.74	.. SX-SB-SB
98	0.0%	003.75	.. CS-PT-SX	98	0.0%	003.76	.. SX-CH-PS
1,525	0.0%	003.77	.. .. SB-SQ	1,525	0.0%	003.78	.. .. SQ-SB
1,433	0.0%	003.79	.. .. SB-S1	1,433	0.0%	003.80	.. .. S1-SB
211	0.0%	003.81	.. PT-GC-PT	211	0.0%	003.82	.. CH-GP-CH
379	0.0%	003.83	.. CF-PT-SP	379	0.0%	003.84	.. SP-CH-PF
185	0.0%	003.85	.. SB-PF-CH	185	0.0%	003.86	.. PT-CF-SB
161	0.0%	003.87	.. SB-PT-CF	161	0.0%	003.88	.. PF-CH-SB
5,012	0.0%	003.99	.. .. sb-sp				

Spouse of sibling in-law, etc.

48,122	0.3%	004.31	.. SP-SB-SP				
162	0.0%	004.32	SP-SB-SB-SP				
6,114	0.0%	004.33	.. SX-SB-SX				
118	0.0%	004.34	SX-SB-SB-SX				
817	0.0%	004.51	PT-CH-SB-SP	817	0.0%	004.52	SP-SB-PT-CH
99	0.0%	004.53	PS-CH-SB-SP	99	0.0%	004.54	SP-SB-PT-CS
11,451	0.1%	004.55	.. SX-SB-SP	11,451	0.1%	004.56	.. SP-SB-SX
149	0.0%	004.57	PT-CH-SB-SX	149	0.0%	004.58	SX-SB-PT-CH
395	0.0%	004.59	.. SQ-SB-SP	395	0.0%	004.60	.. SP-SB-SQ
360	0.0%	004.61	.. S1-SB-SP	360	0.0%	004.62	.. SP-SB-S1

240	0.0%	004.63	.. SX-SB-SQ	240	0.0%	004.64	.. SQ-SB-SX
228	0.0%	004.65	.. SX-SB-S1	228	0.0%	004.66	.. S1-SB-SX
1,242	0.0%	004.99	.. sp-sb-sp				

Sibling or Cousin

144	0.0%	005.31	.. .. NN-AU				
14,340	0.1%	005.32	.. .. GC-GP				
13,973	0.1%	005.51	.. GC-PT-PT	13,973	0.1%	005.52	.. CH-CH-GP

Cousin, etc.

246,014	1.6%	006.31	.. CH-SB-PT				
2,222	0.0%	006.32	CH-SB-SB-PT				
96	0.0%	006.33	.. CS-SB-PS				
364	0.0%	006.34	CH-CS-PS-PT				
232	0.0%	006.35	CH-CF-PF-PT				
525	0.0%	006.51	SB-CH-SB-PT	525	0.0%	006.52	CH-SB-PT-SB
302	0.0%	006.53	.. .. NN-PT	302	0.0%	006.54	.. .. CH-AU
200	0.0%	006.55	.. NN-SB-PT	200	0.0%	006.56	.. CH-SB-AU
177	0.0%	006.57	.. .. CZ-SB	177	0.0%	006.58	.. .. SB-CZ
4,461	0.0%	006.59	.. CS-SB-PT	4,461	0.0%	006.60	.. CH-SB-PS
248	0.0%	006.61	CH-CS-PT-PT	248	0.0%	006.62	CH-CH-PS-PT
1,467	0.0%	006.63	.. CF-SB-PT	1,467	0.0%	006.64	.. CH-SB-PF
37	0.0%	006.65	.. CF-SB-PS	37	0.0%	006.66	.. CS-SB-PF
2,258	0.0%	006.99	.. ch-sb-pt				

Sibling of sibling-in-law

2,592	0.0%	007.31	.. SB-SP-SB
484	0.0%	007.32	.. SB-SX-SB
182	0.0%	007.99	.. sb-sp-sb

Sibling-in-law of sibling-in-law

291	0.0%	008.51	SB-SP-SB-SP	291	0.0%	008.52	SP-SB-SP-SB
126	0.0%	008.53	SB-SP-SB-SX	126	0.0%	008.54	SX-SB-SP-SB
168	0.0%	008.99	sb-sp-sb-sp				

Cousin of spouse

356	0.0%	009.51	CH-SB-PT-SP	356	0.0%	009.52	SP-CH-SB-PT
420	0.0%	009.99	ch-sb-pt-sp				

Parent of child-in-law

824	0.0%	010.31	.. PT-SP-CH
166	0.0%	010.32	.. PT-SX-CH
100	0.0%	010.99	.. pt-sp-ch

One Generation Removed Relationships

Other

9	0.0%	100.98	SP-SP-SB-PT PT-SB-SP-SP	9	0.0%	150.98	SP-SP-SB-CH CH-SB-SP-SP

Parent, etc.				Child, etc.			
776,650	5.1%	101.01	.. .. .. PT	776,650	5.1%	151.01	.. .. .. CH
11,508	0.1%	101.02	.. .. PT-SB	11,508	0.1%	151.02	.. .. SB-CH
24,544	0.2%	101.03	.. .. SX-PT	24,544	0.2%	151.03	.. .. CH-SX
164	0.0%	101.04	.. SX-PT-SB	164	0.0%	151.04	.. SB-CH-SX
9,689	0.1%	101.05	.. .. .. PS	9,689	0.1%	151.05	.. .. .. CS
403	0.0%	101.06	.. .. PS-SB	403	0.0%	151.06	.. .. SB-CS
3,292	0.0%	101.07	.. .. SP-PT	3,292	0.0%	151.07	.. .. CH-SP
1,189	0.0%	101.08	.. .. SP-PS	1,189	0.0%	151.08	.. .. CS-SP
1,528	0.0%	101.09	.. .. SX-PS	1,528	0.0%	151.09	.. .. CS-SX
19	0.0%	101.10	.. PS-CH-PS	19	0.0%	151.10	.. CS-PT-CS
256	0.0%	101.11	.. PT-CS-PT	256	0.0%	151.11	.. CH-PS-CH
280	0.0%	101.12	.. SP-SX-PT	280	0.0%	151.12	.. CH-SX-SP
308	0.0%	101.13	.. .. SQ-PT	308	0.0%	151.13	.. .. CH-SQ
397	0.0%	101.14	.. .. S1-PT	397	0.0%	151.14	.. .. CH-S1
3,259	0.0%	101.15	.. .. .. PF	3,259	0.0%	151.15	.. .. .. CF
642	0.0%	101.16	.. .. SP-PF	642	0.0%	151.16	.. .. CF-SP
263	0.0%	101.17	.. .. SX-PF	263	0.0%	151.17	.. .. CF-SX
227	0.0%	101.18	.. PT-CF-PT	227	0.0%	151.18	.. CH-PF-CH
168	0.0%	101.19	.. .. PF-SB	168	0.0%	151.19	.. .. SB-CF
1,158	0.0%	101.99	.. .. .. pt	1,158	0.0%	151.99	.. .. .. ch

Parent-in-law, etc.				Child-in-law, etc.			
84,331	0.5%	102.01	.. .. PT-SP	84,331	0.5%	152.01	.. .. SP-CH
127	0.0%	102.02	.. .. .. PL	127	0.0%	152.02	 CL
232	0.0%	102.03	.. SP-PT-SP	232	0.0%	152.03	.. SP-CH-SP
467	0.0%	102.04	.. PT-SB-SP	467	0.0%	152.04	.. SP-SB-CH
2,388	0.0%	102.05	.. PT-PT-CH	2,388	0.0%	152.05	.. PT-CH-CH
241	0.0%	102.06	.. .. GP-CH	241	0.0%	152.06	.. .. PT-GC
139	0.0%	102.07	.. PT-PS-CH	139	0.0%	152.07	.. PT-CS-CH
27	0.0%	102.08	.. PS-PT-CH	27	0.0%	152.08	.. PT-CH-CS
188	0.0%	102.09	.. PT-PT-CS	188	0.0%	152.09	.. PS-CH-CH
257	0.0%	102.10	.. .. PS-SP	257	0.0%	152.10	.. .. SP-CS
2,623	0.0%	102.11	.. SX-PT-SP	2,623	0.0%	152.11	.. SP-CH-SX
449	0.0%	102.12	.. SX-PT-SX	449	0.0%	152.12	.. SX-CH-SX
20,594	0.1%	102.13	.. .. PT-SX	20,594	0.1%	152.13	.. .. SX-CH
50	0.0%	102.14	.. .. PS-SX	50	0.0%	152.14	.. .. SX-CS
177	0.0%	102.15	.. PT-SB-SX	177	0.0%	152.15	.. SX-SB-CH
731	0.0%	102.16	.. .. PT-SQ	731	0.0%	152.16	.. .. SQ-CH
647	0.0%	102.17	.. .. PT-S1	647	0.0%	152.17	.. .. S1-CH
877	0.0%	102.99	.. .. pt-sp	877	0.0%	152.99	.. .. sp-ch

Parent or Aunt/uncle, etc.

338	0.0%	103.01	.. .. SB-AU
31,766	0.2%	103.02	.. .. CH-GP
534	0.0%	103.03	.. SB-CH-GP
38	0.0%	103.04	.. .. CS-GP
165	0.0%	103.05	.. .. CF-GP
4,574	0.0%	103.06	.. SP-CH-GP
1,669	0.0%	103.07	.. SX-CH-GP

Aunt/uncle, etc.

355,673	2.3%	104.01	.. .. SB-PT
232	0.0%	104.02	.. .. .. AU
4,069	0.0%	104.03	.. SB-SB-PT
140	0.0%	104.04	SB-SB-SB-PT
761	0.0%	104.05	.. SB-PT-SB
130	0.0%	104.06	.. .. AU-SB
6,740	0.0%	104.07	.. .. SB-PS
831	0.0%	104.08	.. CS-PT-PT
102	0.0%	104.09	.. CH-PS-PT
0	0.0%	104.10	.. CS-PT-PS
344	0.0%	104.11	.. CS-PS-PT
143	0.0%	104.12	SB-PT-CS-PT
2,081	0.0%	104.13	.. .. SB-PF
968	0.0%	104.14	.. CF-PT-PT
133	0.0%	104.15	.. CH-PF-PT
114	0.0%	104.16	.. CS-PF-PT
228	0.0%	104.17	.. CF-PF-PT
3,807	0.0%	104.99	.. .. sb-pt

Spouse of aunt/uncle, etc.

94,306	0.6%	105.01	.. SP-SB-PT
541	0.0%	105.02	SP-SB-SB-PT
114	0.0%	105.03	SP-SB-PT-SB
2,460	0.0%	105.04	PT-CH-SB-PT
132	0.0%	105.05	.. CL-PT-PT
354	0.0%	105.06	SX-SB-SB-PT
1,975	0.0%	105.07	.. SP-SB-PS
0	0.0%	105.08	SP-CH-PS-PT
68	0.0%	105.09	SP-CS-PT-PT
234	0.0%	105.10	PS-CH-SB-PT
112	0.0%	105.11	SP-CS-PS-PT
0	0.0%	105.12	SX-CH-PS-PT
29,769	0.2%	105.13	.. SX-SB-PT
482	0.0%	105.14	.. SX-SB-PS
1,314	0.0%	105.15	.. SQ-SB-PT
1,083	0.0%	105.16	.. S1-SB-PT
632	0.0%	105.19	.. SP-SB-PF
154	0.0%	105.20	PT-CF-SB-PT
1,865	0.0%	105.99	.. sp-sb-pt

Child or Niece/nephew, etc.

338	0.0%	153.01	.. .. NN-SB
31,766	0.2%	153.02	.. .. GC-PT
534	0.0%	153.03	.. GC-PT-SB
38	0.0%	153.04	.. .. GC-PS
165	0.0%	153.05	.. .. GC-PF
4,574	0.0%	153.06	.. GC-PT-SP
1,669	0.0%	153.07	.. GC-PT-SX

Niece/nephew, etc.

355,673	2.3%	154.01	.. .. CH-SB
232	0.0%	154.02	.. .. .. NN
4,069	0.0%	154.03	.. CH-SB-SB
140	0.0%	154.04	CH-SB-SB-SB
761	0.0%	154.05	.. SB-CH-SB
130	0.0%	154.06	.. .. SB-NN
6,740	0.0%	154.07	.. .. CS-SB
831	0.0%	154.08	.. CH-CH-PS
102	0.0%	154.09	.. CH-CS-PT
0	0.0%	154.10	.. CS-CH-PS
344	0.0%	154.11	.. CH-CS-PS
143	0.0%	154.12	CH-PS-CH-SB
2,081	0.0%	154.13	.. .. CF-SB
968	0.0%	154.14	.. CH-CH-PF
133	0.0%	154.15	.. CH-CF-PT
114	0.0%	154.16	.. CH-CF-PS
228	0.0%	154.17	.. CH-CF-PF
3,807	0.0%	154.99	.. .. ch-sb

Niece/nephew of spouse, etc.

94,306	0.6%	155.01	.. CH-SB-SP
541	0.0%	155.02	CH-SB-SB-SP
114	0.0%	155.03	SB-CH-SB-SP
2,460	0.0%	155.04	CH-SB-PT-CH
132	0.0%	155.05	.. CH-CH-PL
354	0.0%	155.06	CH-SB-SB-SX
1,975	0.0%	155.07	.. CS-SB-SP
0	0.0%	155.08	CH-CS-PT-SP
68	0.0%	155.09	CH-CH-PS-SP
234	0.0%	155.10	CH-SB-PT-CS
112	0.0%	155.11	CH-CS-PS-SP
0	0.0%	155.12	CH-CS-PT-SX
29,769	0.2%	155.13	.. CH-SB-SX
482	0.0%	155.14	.. CS-SB-SX
1,314	0.0%	155.15	.. CH-SB-SQ
1,083	0.0%	155.16	.. CH-SB-S1
632	0.0%	155.19	.. CF-SB-SP
154	0.0%	155.20	CH-SB-PF-CH
1,865	0.0%	155.99	.. ch-sb-sp

Aunt/uncle of spouse, etc.

1,003	0.0%	106.01	.. SB-PT-SP
287	0.0%	106.02	.. SB-PT-SX
122	0.0%	106.03	.. CH-GP-SP
222	0.0%	106.99	.. sb-pt-sp

Spouse of aunt/uncle of spouse

117	0.0%	107.01	SP-SB-PT-SP
64	0.0%	107.99	sp-sb-pt-sp

Cousin of parent

1,136	0.0%	108.01	CH-SB-PT-PT
532	0.0%	108.02	.. CH-SB-GP
183	0.0%	108.99	ch-sb-pt-pt

Sibling of spouse of aunt/uncle

798	0.0%	109.01	SB-SP-SB-PT
119	0.0%	109.02	SB-SX-SB-PT
53	0.0%	109.99	sb-sp-sb-pt

Parent-in-law of sibling

1,533	0.0%	110.01	.. PT-SP-SB
218	0.0%	110.02	.. PT-SX-SB
132	0.0%	110.99	.. pt-sp-sb

Parent-in-law of sibling of spouse

295	0.0%	111.01	PT-SP-SB-SP
146	0.0%	111.02	PT-SP-SB-SX
103	0.0%	111.99	pt-sp-sb-sp

Grandparent of child-in-law

30	0.0%	112.99	pt-pt-sp-ch

Spouse of niece/nephew, etc.

1,003	0.0%	156.01	.. SP-CH-SB
287	0.0%	156.02	.. SX-CH-SB
122	0.0%	156.03	.. SP-GC-PT
222	0.0%	156.99	.. sp-ch-sb

Spouse of niece/nephew of spouse

117	0.0%	157.01	SP-CH-SB-SP
64	0.0%	157.99	sp-ch-sb-sp

Child of cousin

1,136	0.0%	158.01	CH-CH-SB-PT
532	0.0%	158.02	.. GC-SB-PT
183	0.0%	158.99	ch-ch-sb-pt

Niece/nephew of spouse of sibling

798	0.0%	159.01	CH-SB-SP-SB
119	0.0%	159.02	CH-SB-SX-SB
53	0.0%	159.99	ch-sb-sp-sb

Sibling of child-in-law

1,533	0.0%	160.01	.. SB-SP-CH
218	0.0%	160.02	.. SB-SX-CH
132	0.0%	160.99	.. sb-sp-ch

Spouse of sibling of child-in-law

295	0.0%	161.01	SP-SB-SP-CH
146	0.0%	161.02	SX-SB-SP-CH
103	0.0%	161.99	sp-sb-sp-ch

Parent-in-law of grandchild

30	0.0%	162.99	pt-sp-ch-ch

Two (or more) Generations Removed Relationships

Grandparent, etc.

7	0.0%	200.98	PT-SP-PT-SB
161,136	1.0%	201.01	.. .. PT-PT
1,399	0.0%	201.02	.. PT-SB-PT
150	0.0%	201.03	.. .. PT-AU
551	0.0%	201.04	.. PT-PT-SB
554	0.0%	201.05	.. SP-PT-PT

Grandchild, etc.

7	0.0%	250.98	SB-CH-SP-CH
161,136	1.0%	251.01	.. .. CH-CH
1,399	0.0%	251.02	.. CH-SB-CH
150	0.0%	251.03	.. .. NN-CH
551	0.0%	251.04	.. SB-CH-CH
554	0.0%	251.05	.. CH-CH-SP

5,206	0.0%	201.06	.. SX-PT-PT
471	0.0%	201.07	.. .. PS-PT
3,458	0.0%	201.08	.. .. PT-PS
38	0.0%	201.09	.. .. PS-PS
251	0.0%	201.10	.. SX-PT-PS
147	0.0%	201.11	.. SX-PS-PT
626	0.0%	201.12	.. .. PT-PF
176	0.0%	201.13	.. .. PF-PT
125	0.0%	201.14	.. SP-PF-PT
835	0.0%	201.99	.. .. pt-pt

Grandparent of spouse

2,241	0.0%	202.01	.. PT-PT-SP
672	0.0%	202.02	.. PT-PT-SX
100	0.0%	202.03	.. .. GP-SP
313	0.0%	202.99	.. pt-pt-sp

Grandparent or Grandaunt/uncle

360	0.0%	203.01	.. CH-GP-PT

Grandaunt/uncle

2,801	0.0%	204.01	.. SB-PT-PT
1,089	0.0%	204.02	.. .. SB-GP
314	0.0%	204.99	.. sb-pt-pt

Grandparent or Great-grandparent, etc.

16,366	0.1%	205.01	.. .. .. GP
272	0.0%	205.02	.. .. GP-SB
401	0.0%	205.03	.. PT-CH-GP
601	0.0%	205.04	.. .. SP-GP
1,078	0.0%	205.05	.. .. SX-GP

Great-grandparent, etc.

4,443	0.0%	206.01	.. PT-PT-PT
678	0.0%	206.02	.. .. PT-GP
378	0.0%	206.03	.. .. GP-PT
198	0.0%	206.04	.. GP-SB-PT
250	0.0%	206.99	.. pt-pt-pt

Great-great-grandparent

20	0.0%	207.99	pt-pt-pt-pt

Great-grandaunt/uncle

26	0.0%	208.99	sb-pt-pt-pt

5,206	0.0%	251.06	.. CH-CH-SX
471	0.0%	251.07	.. .. CH-CS
3,458	0.0%	251.08	.. .. CS-CH
38	0.0%	251.09	.. .. CS-CS
251	0.0%	251.10	.. CS-CH-SX
147	0.0%	251.11	.. CH-CS-SX
626	0.0%	251.12	.. .. CF-CH
176	0.0%	251.13	.. .. CH-CF
125	0.0%	251.14	.. CH-CF-SP
835	0.0%	251.99	.. .. ch-ch

Spouse of grandchild

2,241	0.0%	252.01	.. SP-CH-CH
672	0.0%	252.02	.. SX-CH-CH
100	0.0%	252.03	.. .. SP-GC
313	0.0%	252.99	.. sp-ch-ch

Grandchild or Grandniece/nephew

360	0.0%	253.01	.. CH-GC-PT

Grandniece/nephew

2,801	0.0%	254.01	.. CH-CH-SB
1,089	0.0%	254.02	.. .. GC-SB
314	0.0%	254.99	.. ch-ch-sb

Grandchild or Great-grandchild, etc.

16,366	0.1%	255.01	.. .. .. GC
272	0.0%	255.02	.. .. SB-GC
401	0.0%	255.03	.. GC-PT-CH
601	0.0%	255.04	.. .. GC-SP
1,078	0.0%	255.05	.. .. GC-SX

Great-grandchild, etc.

4,443	0.0%	256.01	.. CH-CH-CH
678	0.0%	256.02	.. .. GC-CH
378	0.0%	256.03	.. .. CH-GC
198	0.0%	256.04	.. CH-SB-GC
250	0.0%	256.99	.. ch-ch-ch

Great-great-grandchild

20	0.0%	257.99	ch-ch-ch-ch

Great-grandniece/nephew

26	0.0%	258.99	ch-ch-ch-sb

Grandaunt/uncle by marriage
or Parent of aunt/uncle by marriage

251	0.0%	209.01	SP-SB-PT-PT
124	0.0%	209.02	.. SP-SB-GP
748	0.0%	209.03	PT-SP-SB-PT
150	0.0%	209.04	PT-SX-SB-PT
168	0.0%	209.99	sp-sb-pt-pt

Grandniece/nephew by marriage
or Niece/nephew by marriage of child

251	0.0%	259.01	CH-CH-SB-SP
124	0.0%	259.02	.. GC-SB-SP
748	0.0%	259.03	CH-SB-SP-CH
150	0.0%	259.04	CH-SB-SX-CH
168	0.0%	259.99	ch-ch-sb-sp

Grandparent of spouse of sibling

46	0.0%	210.99	pt-pt-sp-sb

Sibling of spouse of grandchild

46	0.0%	260.99	sb-sp-ch-ch

Great-grandparent of spouse

6	0.0%	211.99	pt-pt-pt-sp

Spouse of great-grandchild

6	0.0%	261.99	sp-ch-ch-ch

Grandaunt/uncle of spouse

17	0.0%	212.99	sb-pt-pt-sp

Spouse of grandniece/nephew

17	0.0%	262.99	sp-ch-ch-sb

Generation-unknown Relationships

Other relative

11,664	0.1%	997.31	.. .. .. OR

Other non-relative

274	0.0%	998.31	.. .. .. NR

Appendix A
PSID and Coresidence Status

Used in combination, the PSID status of X variable (V301-V318 for years 1968 through 1985, respectively), the PSID status of Y variable (V401-V418 for years 1968 through 1985, respectively) and the coresidence status variable (V501-V518 for years 1968 through 1985, respectively), provide a clear indication of the living arrangement of person X relative to person Y in any given year.

These three variables were combined for each year to produce 18 annual variables where the first digit was the PSID status of X, the second digit was the PSID status of Y and the third digit was the coresidence status of the pair. The combined frequencies and percentages of these 18 "synthetic" variables are given below. The code combinations are listed in order of their frequency. The abbreviation "DU" refers to "dwelling unit", and the abbreviation "FU" refers to "family unit".

The frequencies noted with a * denote a few minor problems caused by errors in the data, e.g., there should be as many code combinations "1 5 3" as "5 1 3" and as many code combinations "5 1 2" as there are "1 5 2". The error occurred when in the input data one family was reported to be sharing quarters with another while the other family was not reported to be sharing quarters. All indications are that this affects only two families for a single year.

1,175,139*	15.3%	1 1 3	Person X is response, person Y is response, different DU and FU
1,057,252	13.8%	1 1 1	Person X is response, person Y is response, same FU
855,750	11.1%	5 5 1	Person X is nonresponse, person Y is nonresponse, same FU
785,418	10.2%	5 5 4	Person X is nonresponse, person Y is nonresponse, one or both have no FU
713,212	9.3%	5 1 1	Person X is nonresponse, person Y is response, same FU
713,212	9.3%	1 5 1	Person X is response, person Y is nonresponse, same FU
446,927	5.8%	5 1 4	Person X is nonresponse, person Y is response, one or both have no FU
446,927	5.8%	1 5 4	Person X is response, person Y is nonresponse, one or both have no FU
387,381*	5.0%	1 5 3	Person X is response, person Y is nonresponse, different DU and FU
387,380*	5.0%	5 1 3	Person X is nonresponse, person Y is response, different DU and FU
223,352	2.9%	5 5 3	Person X is nonresponse, person Y is nonresponse, different DU and FU

52,189*	0.7%	1 1 2	Person X is response, person Y is response, same DU, different FU
32,835*	0.4%	3 1 3	Person X is mover-out, person Y is response, different DU and FU
32,833*	0.4%	1 3 3	Person X is response, person Y is mover-out, different DU and FU
27,360*	0.4%	5 1 2	Person X is nonresponse, person Y is response, same DU, different FU
27,359*	0.4%	1 5 2	Person X is response, person Y is nonresponse, same DU, different FU
22,150	0.3%	5 5 2	Person X is nonresponse, person Y is nonresponse, same DU, different FU
21,163	0.3%	2 1 1	Person X is institutional, person Y is response, same FU
21,163	0.3%	1 2 1	Person X is response, person Y is institutional, same FU
20,649	0.3%	5 2 1	Person X is nonresponse, person Y is institutional, same FU
20,649	0.3%	2 5 1	Person X is institutional, person Y is nonresponse, same FU
18,730	0.2%	3 1 1	Person X is mover-out, person Y is response, same FU
18,730	0.2%	1 3 1	Person X is response, person Y is mover-out, same FU
16,809	0.2%	5 3 4	Person X is nonresponse, person Y is mover-out, one or both have no FU
16,809	0.2%	3 5 4	Person X is mover-out, person Y is nonresponse, one or both have no FU
12,989	0.2%	2 1 3	Person X is institutional, person Y is response, different DU and FU
12,989	0.2%	1 2 3	Person X is response, person Y is institutional, different DU and FU
11,545	0.2%	5 3 1	Person X is nonresponse, person Y is mover-out, same FU
11,545	0.2%	3 5 1	Person X is mover-out, person Y is nonresponse, same FU
10,314	0.1%	5 3 3	Person X is nonresponse, person Y is mover-out, different DU and FU
10,314	0.1%	3 5 3	Person X is mover-out, person Y is nonresponse, different DU and FU
6,404	0.1%	3 3 1	Person X is mover-out, person Y is mover-out, same FU
5,620	0.1%	5 2 4	Person X is nonresponse, person Y is institutional, one or both have no FU
5,620	0.1%	2 5 4	Person X is institutional, person Y is nonresponse, one or both have no FU
4,904	0.1%	5 2 3	Person X is nonresponse, person Y is institutional, different DU and FU
4,904	0.1%	2 5 3	Person X is institutional, person Y is nonresponse, different DU and FU
3,856*	0.1%	1 3 2	Person X is response, person Y is mover-out, same DU, different FU

3,854*	0.1%	3 1 2	Person X is mover-out, person Y is response, same DU, different FU
3,088	0.0%	4 1 1	Person X died, person Y is response, same FU
3,088	0.0%	1 4 1	Person X is response, person Y died, same FU
2,602	0.0%	4 1 3	Person X died, person Y is response, different DU and FU
2,602	0.0%	1 4 3	Person X is response, person Y died, different DU and FU
1,977	0.0%	5 4 1	Person X is nonresponse, person Y died, same FU
1,977	0.0%	4 5 1	Person X died, person Y is nonresponse, same FU
1,833	0.0%	5 3 2	Person X is nonresponse, person Y is mover-out, same DU, different FU
1,833	0.0%	3 5 2	Person X is mover-out, person Y is nonresponse, same DU, different FU
1,640	0.0%	2 2 1	Person X is institutional, person Y is institutional, same FU
1,227	0.0%	5 4 4	Person X is nonresponse, person Y died, one or both have no FU
1,227	0.0%	4 5 4	Person X died, person Y is nonresponse, one or both have no FU
1,108	0.0%	3 3 3	Person X is mover-out, person Y is mover-out, different DU and FU
1,041	0.0%	2 1 2	Person X is institutional, person Y is response, same DU, different FU
1,041	0.0%	1 2 2	Person X is response, person Y is institutional, same DU, different FU
749	0.0%	5 4 3	Person X is nonresponse, person Y died, different DU and FU
749	0.0%	4 5 3	Person X died, person Y is nonresponse, different DU and FU
734	0.0%	3 3 2	Person X is mover-out, person Y is mover-out, same DU, different FU
651	0.0%	5 2 2	Person X is nonresponse, person Y is institutional, same DU, different FU
651	0.0%	2 5 2	Person X is institutional, person Y is nonresponse, same DU, different FU
416	0.0%	3 2 1	Person X is mover-out, person Y is institutional, same FU
416	0.0%	2 3 1	Person X is institutional, person Y is mover-out, same FU
309	0.0%	3 2 3	Person X is mover-out, person Y is institutional, different DU and FU
309	0.0%	2 3 3	Person X is institutional, person Y is mover-out, different DU and FU
167	0.0%	4 1 2	Person X died, person Y is response, same DU, different FU
167	0.0%	1 4 2	Person X is response, person Y died, same DU, different FU
117	0.0%	4 3 1	Person X died, person Y is mover-out, same FU
117	0.0%	3 4 1	Person X is mover-out, person Y died, same FU

94	0.0%	5 4 2	Person X is nonresponse, person Y died, same DU, different FU
94	0.0%	4 5 2	Person X died, person Y is nonresponse, same DU, different FU
77	0.0%	3 2 2	Person X is mover-out, person Y is institutional, same DU, different FU
77	0.0%	2 3 2	Person X is institutional, person Y is mover-out, same DU, different FU
73	0.0%	4 2 1	Person X died, person Y is institutional, same FU
73	0.0%	2 4 1	Person X is institutional, person Y died, same FU
54	0.0%	4 3 3	Person X died, person Y is mover-out, different DU and FU
54	0.0%	3 4 3	Person X is mover-out, person Y died, different DU and FU
46	0.0%	2 2 3	Person X is institutional, person Y is institutional, different DU and FU
36	0.0%	2 2 2	Person X is institutional, person Y is institutional, same DU, different FU
24	0.0%	4 4 1	Person X died, person Y died, same FU
23	0.0%	4 3 2	Person X died, person Y is mover-out, same DU, different FU
23	0.0%	3 4 2	Person X is mover-out, person Y died, same DU, different FU
18	0.0%	4 2 3	Person X died, person Y is institutional, different DU and FU
18	0.0%	2 4 3	Person X is institutional, person Y died, different DU and FU
8	0.0%	4 4 3	Person X died, person Y died, different DU and FU
3	0.0%	4 2 2	Person X died, person Y is institutional, same DU, different FU
3	0.0%	2 4 2	Person X is institutional, person Y died, same DU, different FU
2	0.0%	4 4 2	Person X died, person Y died, same DU, different FU
0	0.0%	4 4 4	Person X died, person Y died, one or both have no FU
0	0.0%	4 3 4	Person X died, person Y is mover-out, one or both have no FU
0	0.0%	3 4 4	Person X is mover-out, person Y died, one or both have no FU
0	0.0%	4 2 4	Person X died, person Y is institutional, one or both have no FU
0	0.0%	2 4 4	Person X is institutional, person Y died, one or both have no FU
0	0.0%	4 1 4	Person X died, person Y is response, one or both have no FU
0	0.0%	1 4 4	Person X is response, person Y died, one or both have no FU
0	0.0%	3 3 4	Person X is mover-out, person Y is mover-out, one or both have no FU
0	0.0%	3 2 4	Person X is mover-out, person Y is institutional, one or both have no FU

0	0.0%	2 3 4	Person X is institutional, person Y is mover-out, one or both have no FU
0	0.0%	3 1 4	Person X is mover-out, person Y is response, one or both have no FU
0	0.0%	1 3 4	Person X is response, person Y is mover-out, one or both have no FU
0	0.0%	2 2 4	Person X is institutional, person Y is institutional, one or both have no FU
0	0.0%	2 1 4	Person X is institutional, person Y is response, one or both have no FU
0	0.0%	1 2 4	Person X is response, person Y is institutional, one or both have no FU
0	0.0%	1 1 4	Person X is response, person Y is response, one or both have no FU

Appendix B
5-Digit Relationship Codes

Appendix B which provided details of the 5-digit codes (V801-V818 and V901-V918)has not been included the June 1996 release of the Tape Codes for 1968-1985 Relationship File.

Appendix C
Primitive Chain Codes

The file app_c.txt provides detailed documentation of the primitive chain variable codes, V601-V618 and V701-V718. Included is a complete listing of all the primitive chains of the relationship of person X to person Y, their corresponding 5-digit relationship of person X to person Y code, the frequency of occurrence (across all 36 primitive chain relationship of person X to person Y variables), the source of their derivation and a description of the code in words. Illustrative of the contents of this file, are the following lines:

101.01	169,052	HIS	00000038	Natural mother
101.01	6,944	68	00000038	Natural mother
101.01	97,216	69-82	00000038	Natural mother
101.01	20,832	83-85	00000038	Natural mother
101.01	108,462	HIS	00000039	Natural father
101.01	2,294	HIS	00000040	Adoptive mother
101.01	3,152	HIS	00000041	Adoptive father
101.01	4,369	83-85	00000042	Mother (DK nat/ad)
101.01	16,736	83-85	00000043	Father (DK nat/ad)
101.01	10,888	HIS	00000044	Mother (uncl)
101.01	2,693	68	00000044	Mother (uncl)
101.01	91,815	69-82	00000044	Mother (uncl)
101.01	30,635	83-85	00000044	Mother (uncl)
101.01	25,237	HIS	00000045	Father (uncl)
101.01	6,984	68	00000045	Father (uncl)
101.01	151,276	69-82	00000045	Father (uncl)
101.01	28,065	83-85	00000045	Father (uncl)
(a)	(b)	(c)	(d)	(e)

where

(a) is the 5-digit relationship code

(b) is the number of person-years (across all persons and all years) that the designated relationship occurs

(c) is the primitive chain of the relationship of person X to person Y

(d) is the source of the information used to determine the relationship, where

- HIS is a relationship based on the 1985 marital and childbirth histories
- 68 is a relationship based on the 1968 relationship to head code
- 69-82 is a relationship based on the 1969 - 1982 relationship to head code
- 83-85 is a relationship based on the 1983 - 1985 relationship to head code

(e) is a description of the relationship in words. Some of the very long descriptions have been truncated; the part that has been truncated can be determined by referring to Table 2 in the introductory section of this document.

In producing release 2 of the 1968-1985 Relationship File, some new strings were generated and others that were generated earlier did not appear. Those that did not appear were left in the codebook with a frequency of zero. Those that appeared for the first time were assigned codes ending in .98. They are detailed below.

Code	Count	Origin	String	Relationship	Abbreviation
Own Generation Relationships					
000.98	3	83-85	03226160	Husband of No cohab wife of Brother (uncl) of Sister (uncl)	SP-SP-SB-SB
000.98	3	83-85	61602302	Brother (uncl) of Sister (uncl) of No cohab husband of Wife	SB-SB-SP-SP
One Generation Removed Relationships					
100.98	3	83-85	03226144	Husband of No cohab wife of Brother (uncl) of Mother (uncl)	SP-SP-SB-PT
100.98	3	83-85	44602302	Mother (uncl) of Sister (uncl) of No cohab husband of Wife	PT-SB-SP-SP
100.98	3	83-85	45602302	Father (uncl) of Sister (uncl) of No cohab husband of Wife	PT-SB-SP-SP
150.98	6	83-85	03226130	Husband of No cohab wife of Brother (uncl) of Daughter (uncl)	SP-SP-SB-CH
150.98	3	83-85	30602302	Daughter (uncl) of Sister (uncl) of No cohab husband of Wife	CH-SB-SP-SP
Two (or more) Generations Removed Relationships					
200.98	7	83-85	44033860	Mother (uncl) of Husband of Natural mother of Sister (uncl)	PT-SP-PT-SB
250.98	2	83-85	60240231	Sister (uncl) of Natural Daughter of Wife of Son (uncl)	SB-CH-SP-CH
250.98	5	83-85	61240231	Brother (uncl) of Natural Daughter of Wife of Son (uncl)	SB-CH-SP-CH

CHANGE	Frequency	Percent
0- 2	144	0.0
0- 3	36	0.0
0- 6	92	0.0
0-101	45	0.0
0-103	1	0.0
0-104	84	0.0
0-105	50	0.0
0-108	1	0.0
0-109	2	0.0
0-151	45	0.0
0-153	1	0.0
0-154	84	0.0
0-155	50	0.0
0-158	1	0.0
0-159	2	0.0
0-201	32	0.0
0-204	5	0.0
0-206	7	0.0
0-251	32	0.0
0-254	5	0.0
0-256	7	0.0
3-101	19	0.0
3-151	19	0.0
4-102	13	0.0
4-152	13	0.0
5- 6	14	0.0
6- 0	10	0.0
6- 5	8	0.0
101- 3	1	0.0
102- 1	6	0.0
102- 4	2	0.0
103-104	1	0.0
103-105	4	0.0
105-201	25	0.0
151- 3	1	0.0
152- 1	6	0.0
152- 4	2	0.0
153-154	1	0.0

Looking at changes in V4 12:39 Wednesday, March 18, 1998 14

CHANGE	Frequency	Percent
153-155	4	0.0
155-251	25	0.0
201-105	2	0.0
201-200	7	0.0
205-201	3	0.0
206- 0	5	0.0
251-155	2	0.0
251-250	7	0.0
255-251	3	0.0
256- 0	5	0.0
No change	425674	99.8

Looking at changes in V5 12:39 Wednesday, March 18, 1998 15

CHANGE	Frequency	Percent
0-1	726	0.2
1-0	20	0.0
1-2	224	0.1
2-1	44	0.0
No change	425594	99.8

CHANGE	Frequency	Percent
No change	415548	97.4
0.00- 2.31	96	0.0
0.00- 2.32	2	0.0
0.00- 2.34	44	0.0
0.00- 2.36	2	0.0
0.00- 3.51	3	0.0
0.00- 3.52	3	0.0
0.00- 3.55	4	0.0
0.00- 3.56	4	0.0
0.00- 3.71	6	0.0
0.00- 3.72	6	0.0
0.00- 3.99	10	0.0
0.00- 6.31	10	0.0
0.00- 6.59	33	0.0
0.00- 6.60	33	0.0
0.00- 6.99	16	0.0
0.00-101.01	9	0.0
0.00-101.02	15	0.0
0.00-101.03	4	0.0
0.00-101.05	3	0.0
0.00-101.09	9	0.0
0.00-101.99	5	0.0
0.00-103.04	1	0.0
0.00-104.01	27	0.0
0.00-104.05	1	0.0
0.00-104.07	38	0.0
0.00-104.99	18	0.0
0.00-105.01	2	0.0
0.00-105.07	3	0.0
0.00-105.13	3	0.0
0.00-105.14	20	0.0
0.00-105.16	4	0.0
0.00-105.99	18	0.0
0.00-108.99	1	0.0
0.00-109.01	2	0.0
0.00-151.01	9	0.0
0.00-151.02	15	0.0
0.00-151.03	4	0.0

CHANGE	Frequency	Percent
0.00-151.05	3	0.0
0.00-151.09	9	0.0
0.00-151.99	5	0.0
0.00-153.04	1	0.0
0.00-154.01	27	0.0
0.00-154.05	1	0.0
0.00-154.07	38	0.0
0.00-154.99	18	0.0
0.00-155.01	2	0.0
0.00-155.07	3	0.0
0.00-155.13	3	0.0
0.00-155.14	20	0.0
0.00-155.16	4	0.0
0.00-155.99	18	0.0
0.00-158.99	1	0.0
0.00-159.01	2	0.0
0.00-201.01	4	0.0
0.00-201.04	5	0.0
0.00-201.08	12	0.0
0.00-201.99	11	0.0
0.00-204.01	3	0.0
0.00-204.99	2	0.0
0.00-206.01	1	0.0
0.00-206.99	6	0.0
0.00-251.01	4	0.0
0.00-251.04	5	0.0
0.00-251.08	12	0.0
0.00-251.99	11	0.0
0.00-254.01	3	0.0
0.00-254.99	2	0.0
0.00-256.01	1	0.0
0.00-256.99	6	0.0
1.32- 1.37	2	0.0
1.32- 1.39	2	0.0
1.32- 1.51	11	0.0
1.32- 1.52	11	0.0
1.32- 1.53	1	0.0
1.32- 1.54	1	0.0

CHANGE	Frequency	Percent
1.32- 1.59	3	0.0
1.32- 1.60	3	0.0
1.32- 1.99	14	0.0
1.36- 1.32	40	0.0
1.36- 1.59	12	0.0
1.36- 1.60	12	0.0
1.37- 1.32	40	0.0
1.37- 1.51	1	0.0
1.37- 1.52	1	0.0
1.51- 1.32	7	0.0
1.51- 3.99	1	0.0
1.52- 1.32	7	0.0
1.52- 3.99	1	0.0
1.59- 1.32	6	0.0
1.60- 1.32	6	0.0
1.61- 1.53	1	0.0
1.62- 1.54	1	0.0
1.99- 1.32	2	0.0
1.99- 1.57	1	0.0
1.99- 1.58	1	0.0
1.99- 1.63	7	0.0
1.99- 1.64	7	0.0
2.31- 2.34	40	0.0
2.31- 2.51	7	0.0
2.31- 2.52	7	0.0
2.32- 2.31	2	0.0
2.32- 2.99	4	0.0
2.36- 2.31	2	0.0
2.36- 2.51	2	0.0
2.36- 2.52	2	0.0
2.37- 2.51	1	0.0
2.37- 2.52	1	0.0
2.51- 2.31	89	0.0
2.51- 2.34	382	0.1
2.52- 2.31	89	0.0
2.52- 2.34	382	0.1
2.53- 2.32	1	0.0
2.53- 2.99	7	0.0

CHANGE	Frequency	Percent
2.54- 2.32	1	0.0
2.54- 2.99	7	0.0
2.55- 2.99	2	0.0
2.56- 2.99	2	0.0
2.57- 2.31	2	0.0
2.57- 2.35	10	0.0
2.58- 2.31	2	0.0
2.58- 2.35	10	0.0
2.63- 2.31	8	0.0
2.64- 2.31	8	0.0
2.99- 2.32	4	0.0
2.99- 2.35	4	0.0
3.51- 3.71	1	0.0
3.51- 3.99	17	0.0
3.51-151.02	20	0.0
3.52- 3.72	1	0.0
3.52- 3.99	17	0.0
3.52-101.02	20	0.0
3.53- 3.99	1	0.0
3.54- 3.99	1	0.0
3.57- 3.99	1	0.0
3.58- 3.99	1	0.0
3.61- 3.51	15	0.0
3.61- 3.56	1	0.0
3.61- 3.99	105	0.0
3.62- 3.52	15	0.0
3.62- 3.55	1	0.0
3.62- 3.99	105	0.0
3.63- 3.57	3	0.0
3.64- 3.58	3	0.0
3.65- 3.99	11	0.0
3.66- 3.99	11	0.0
3.71- 3.99	8	0.0
3.72- 3.99	8	0.0
3.75- 3.99	23	0.0
3.76- 3.99	23	0.0
3.79- 3.99	1	0.0
3.80- 3.99	1	0.0

CHANGE	Frequency	Percent
3.81- 2.34	1	0.0
3.82- 2.34	1	0.0
4.31- 4.55	1	0.0
4.31- 4.56	1	0.0
4.31-102.04	13	0.0
4.31-152.04	13	0.0
4.53- 4.51	1	0.0
4.54- 4.52	1	0.0
4.55-152.15	1	0.0
4.56-102.15	1	0.0
5.32- 2.31	2	0.0
5.51- 6.31	4	0.0
5.51- 6.60	3	0.0
5.52- 6.31	4	0.0
5.52- 6.59	3	0.0
6.31- 2.34	4	0.0
6.31- 2.59	2	0.0
6.31- 2.60	2	0.0
6.31- 5.51	1	0.0
6.31- 5.52	1	0.0
6.31- 6.59	99	0.0
6.31- 6.60	99	0.0
6.31- 6.63	1	0.0
6.31- 6.64	1	0.0
6.31- 6.65	2	0.0
6.31- 6.66	2	0.0
6.31- 6.99	4	0.0
6.33- 6.31	28	0.0
6.33- 6.59	12	0.0
6.33- 6.60	12	0.0
6.51- 6.59	2	0.0
6.52- 6.60	2	0.0
6.53- 6.99	5	0.0
6.54- 6.99	5	0.0
6.55- 0.00	4	0.0
6.56- 0.00	4	0.0
6.59- 2.34	1	0.0
6.59- 5.52	5	0.0

CHANGE	Frequency	Percent
6.59- 6.31	303	0.1
6.60- 2.34	1	0.0
6.60- 5.51	5	0.0
6.60- 6.31	303	0.1
6.61- 6.99	25	0.0
6.62- 6.99	25	0.0
6.65- 6.63	15	0.0
6.66- 6.64	15	0.0
6.99- 0.00	2	0.0
6.99- 5.51	2	0.0
6.99- 5.52	2	0.0
10.99- 10.31	2	0.0
101.01-101.02	1	0.0
101.01-101.03	2	0.0
101.01-101.05	73	0.0
101.01-101.15	5	0.0
101.02- 3.52	1	0.0
101.02-101.01	5	0.0
101.02-101.05	1	0.0
101.02-101.06	1	0.0
101.02-101.10	2	0.0
101.02-101.99	28	0.0
101.03-101.01	14	0.0
101.03-101.02	5	0.0
101.03-101.09	6	0.0
101.03-101.17	2	0.0
101.05-101.01	1285	0.3
101.06-101.01	1	0.0
101.06-101.02	27	0.0
101.08-101.01	3	0.0
101.08-101.02	4	0.0
101.08-101.03	2	0.0
101.08-101.07	9	0.0
101.08-101.99	5	0.0
101.09-101.01	2	0.0
101.09-101.02	8	0.0
101.09-101.03	56	0.0
101.10-101.99	28	0.0

CHANGE	Frequency	Percent
101.11-101.01	6	0.0
101.13-101.01	2	0.0
101.13-101.05	1	0.0
101.14-101.01	2	0.0
101.14-101.99	1	0.0
101.15-101.01	1	0.0
101.16-101.02	1	0.0
101.99-101.03	1	0.0
101.99-101.11	1	0.0
101.99-101.18	9	0.0
102.01- 1.32	6	0.0
102.01-102.13	2	0.0
102.03-102.01	1	0.0
102.04- 4.31	1	0.0
102.04-102.01	1	0.0
102.05-102.99	4	0.0
102.06-101.01	1	0.0
102.08-102.05	12	0.0
102.09-102.05	2	0.0
102.10- 1.32	1	0.0
102.10-102.01	320	0.1
102.10-102.13	2	0.0
102.11-102.01	8	0.0
102.12-102.01	2	0.0
102.13-102.01	10	0.0
102.14-102.13	29	0.0
102.99- 4.62	1	0.0
102.99-102.01	8	0.0
102.99-102.09	1	0.0
103.04-103.02	9	0.0
103.07-105.13	3	0.0
104.01-104.07	60	0.0
104.01-104.13	3	0.0
104.01-104.99	4	0.0
104.03-104.01	2	0.0
104.03-104.99	2	0.0
104.05-104.01	6	0.0
104.05-104.07	1	0.0

CHANGE	Frequency	Percent
104.07- 6.60	1	0.0
104.07-104.01	300	0.1
104.08-101.01	1	0.0
104.08-104.01	6	0.0
104.08-104.99	202	0.0
104.09-104.99	14	0.0
104.10-104.99	20	0.0
104.16-104.01	6	0.0
104.99-104.14	2	0.0
105.01-101.01	1	0.0
105.01-105.03	1	0.0
105.01-105.07	31	0.0
105.01-105.13	2	0.0
105.01-105.14	1	0.0
105.01-105.19	1	0.0
105.01-105.99	3	0.0
105.01-201.02	29	0.0
105.03-105.07	1	0.0
105.07-105.01	126	0.0
105.07-105.13	4	0.0
105.07-105.14	3	0.0
105.08-105.99	7	0.0
105.09-105.99	9	0.0
105.12-105.99	8	0.0
105.13-105.01	4	0.0
105.13-105.07	1	0.0
105.13-105.14	17	0.0
105.13-105.99	3	0.0
105.14-105.13	12	0.0
105.15-105.99	5	0.0
105.16-105.07	3	0.0
105.16-105.99	20	0.0
105.99-105.01	1	0.0
105.99-105.04	1	0.0
105.99-105.20	2	0.0
110.99-110.01	2	0.0
151.01-151.02	1	0.0
151.01-151.03	2	0.0

CHANGE	Frequency	Percent
151.01-151.05	73	0.0
151.01-151.15	5	0.0
151.02- 3.51	1	0.0
151.02-151.01	5	0.0
151.02-151.05	1	0.0
151.02-151.06	1	0.0
151.02-151.10	2	0.0
151.02-151.99	28	0.0
151.03-151.01	14	0.0
151.03-151.02	5	0.0
151.03-151.09	6	0.0
151.03-151.17	2	0.0
151.05-151.01	1285	0.3
151.06-151.01	1	0.0
151.06-151.02	27	0.0
151.08-151.01	3	0.0
151.08-151.02	4	0.0
151.08-151.03	2	0.0
151.08-151.07	9	0.0
151.08-151.99	5	0.0
151.09-151.01	2	0.0
151.09-151.02	8	0.0
151.09-151.03	56	0.0
151.10-151.99	28	0.0
151.11-151.01	6	0.0
151.13-151.01	2	0.0
151.13-151.05	1	0.0
151.14-151.01	2	0.0
151.14-151.99	1	0.0
151.15-151.01	1	0.0
151.16-151.02	1	0.0
151.99-151.03	1	0.0
151.99-151.11	1	0.0
151.99-151.18	9	0.0
152.01- 1.32	6	0.0
152.01-152.13	2	0.0
152.03-152.01	1	0.0
152.04- 4.31	1	0.0

CHANGE	Frequency	Percent
152.04-152.01	1	0.0
152.05-152.99	4	0.0
152.06-151.01	1	0.0
152.08-152.05	12	0.0
152.09-152.05	2	0.0
152.10- 1.32	1	0.0
152.10-152.01	320	0.1
152.10-152.13	2	0.0
152.11-152.01	8	0.0
152.12-152.01	2	0.0
152.13-152.01	10	0.0
152.14-152.13	29	0.0
152.99- 4.61	1	0.0
152.99-152.01	8	0.0
152.99-152.09	1	0.0
153.04-153.02	9	0.0
153.07-155.13	3	0.0
154.01-154.07	60	0.0
154.01-154.13	3	0.0
154.01-154.99	4	0.0
154.03-154.01	2	0.0
154.03-154.99	2	0.0
154.05-154.01	6	0.0
154.05-154.07	1	0.0
154.07- 6.59	1	0.0
154.07-154.01	300	0.1
154.08-151.01	1	0.0
154.08-154.01	6	0.0
154.08-154.99	202	0.0
154.09-154.99	14	0.0
154.10-154.99	20	0.0
154.16-154.01	6	0.0
154.99-154.14	2	0.0
155.01-151.01	1	0.0
155.01-155.03	1	0.0
155.01-155.07	31	0.0
155.01-155.13	2	0.0
155.01-155.14	1	0.0

CHANGE	Frequency	Percent
155.01-155.19	1	0.0
155.01-155.99	3	0.0
155.01-251.02	29	0.0
155.03-155.07	1	0.0
155.07-155.01	126	0.0
155.07-155.13	4	0.0
155.07-155.14	3	0.0
155.08-155.99	7	0.0
155.09-155.99	9	0.0
155.12-155.99	8	0.0
155.13-155.01	4	0.0
155.13-155.07	1	0.0
155.13-155.14	17	0.0
155.13-155.99	3	0.0
155.14-155.13	12	0.0
155.15-155.99	5	0.0
155.16-155.07	3	0.0
155.16-155.99	20	0.0
155.99-155.01	1	0.0
155.99-155.04	1	0.0
155.99-155.20	2	0.0
160.99-160.01	2	0.0
201.01-201.08	35	0.0
201.01-201.10	5	0.0
201.01-201.12	3	0.0
201.01-201.99	2	0.0
201.02-105.01	2	0.0
201.04-200.98	7	0.0
201.04-201.01	2	0.0
201.04-201.08	1	0.0
201.05-201.01	3	0.0
201.06-201.01	14	0.0
201.07-201.01	553	0.1
201.08-201.01	109	0.0
201.09-201.01	22	0.0
201.09-201.08	28	0.0
201.10-201.01	3	0.0
201.10-201.06	4	0.0

CHANGE	Frequency	Percent
201.10-201.08	8	0.0
201.99-201.01	6	0.0
201.99-201.08	1	0.0
201.99-201.12	14	0.0
204.02-204.01	5	0.0
205.01-201.01	3	0.0
205.03-201.01	1	0.0
205.05-201.01	3	0.0
206.01-206.99	1	0.0
206.02-206.01	2	0.0
206.03-206.99	1	0.0
206.04- 0.00	5	0.0
251.01-251.08	35	0.0
251.01-251.10	5	0.0
251.01-251.12	3	0.0
251.01-251.99	2	0.0
251.02-155.01	2	0.0
251.04-250.98	7	0.0
251.04-251.01	2	0.0
251.04-251.08	1	0.0
251.05-251.01	3	0.0
251.06-251.01	14	0.0
251.07-251.01	553	0.1
251.08-251.01	109	0.0
251.09-251.01	22	0.0
251.09-251.08	28	0.0
251.10-251.01	3	0.0
251.10-251.06	4	0.0
251.10-251.08	8	0.0
251.99-251.01	6	0.0
251.99-251.08	1	0.0
251.99-251.12	14	0.0
254.02-254.01	5	0.0
255.01-251.01	3	0.0
255.03-251.01	1	0.0
255.05-251.01	3	0.0
256.01-256.99	1	0.0
256.02-256.01	2	0.0

Looking at changes in V6 12:39 Wednesday, March 18, 1998 28

CHANGE	Frequency	Percent
256.03-256.99	1	0.0
256.04- 0.00	5	0.0

Looking at changes in V7 12:39 Wednesday, March 18, 1998 29

CHANGE	Frequency	Percent
0-1	374	0.1
0-2	352	0.1
1-0	20	0.0
1-2	3012	0.7
2-1	4540	1.1
No change	418310	98.1

CHANGE	Frequency	Percent
No change	7658834	99.7
0.00- 2.31	690	0.0
0.00- 2.32	4	0.0
0.00- 2.34	546	0.0
0.00- 2.36	6	0.0
0.00- 2.51	6	0.0
0.00- 2.52	6	0.0
0.00- 2.53	2	0.0
0.00- 2.54	2	0.0
0.00- 2.99	2	0.0
0.00- 3.51	10	0.0
0.00- 3.52	10	0.0
0.00- 3.55	4	0.0
0.00- 3.56	4	0.0
0.00- 3.71	14	0.0
0.00- 3.72	14	0.0
0.00- 3.75	1	0.0
0.00- 3.76	1	0.0
0.00- 3.99	34	0.0
0.00- 5.51	8	0.0
0.00- 5.52	8	0.0
0.00- 6.31	330	0.0
0.00- 6.59	462	0.0
0.00- 6.60	462	0.0
0.00- 6.99	32	0.0
0.00-101.01	282	0.0
0.00-101.02	88	0.0
0.00-101.03	18	0.0
0.00-101.05	251	0.0
0.00-101.09	43	0.0
0.00-101.99	64	0.0
0.00-103.04	1	0.0
0.00-104.01	230	0.0
0.00-104.05	2	0.0
0.00-104.07	525	0.0
0.00-104.08	3	0.0
0.00-104.99	62	0.0
0.00-105.01	41	0.0

CHANGE	Frequency	Percent
0.00-105.07	132	0.0
0.00-105.13	46	0.0
0.00-105.14	89	0.0
0.00-105.16	5	0.0
0.00-105.99	30	0.0
0.00-108.01	1	0.0
0.00-108.99	4	0.0
0.00-109.01	4	0.0
0.00-151.01	282	0.0
0.00-151.02	88	0.0
0.00-151.03	18	0.0
0.00-151.05	251	0.0
0.00-151.09	43	0.0
0.00-151.99	64	0.0
0.00-153.04	1	0.0
0.00-154.01	230	0.0
0.00-154.05	2	0.0
0.00-154.07	525	0.0
0.00-154.08	3	0.0
0.00-154.99	62	0.0
0.00-155.01	41	0.0
0.00-155.07	132	0.0
0.00-155.13	46	0.0
0.00-155.14	89	0.0
0.00-155.16	5	0.0
0.00-155.99	30	0.0
0.00-158.01	1	0.0
0.00-158.99	4	0.0
0.00-159.01	4	0.0
0.00-201.01	70	0.0
0.00-201.02	1	0.0
0.00-201.04	10	0.0
0.00-201.08	270	0.0
0.00-201.99	27	0.0
0.00-204.01	17	0.0
0.00-204.99	5	0.0
0.00-206.01	11	0.0
0.00-206.99	16	0.0

CHANGE	Frequency	Percent
0.00-209.01	1	0.0
0.00-251.01	70	0.0
0.00-251.02	1	0.0
0.00-251.04	10	0.0
0.00-251.08	270	0.0
0.00-251.99	27	0.0
0.00-254.01	17	0.0
0.00-254.99	5	0.0
0.00-256.01	11	0.0
0.00-256.99	16	0.0
0.00-259.01	1	0.0
1.32- 1.37	2	0.0
1.32- 1.39	8	0.0
1.32- 1.53	1	0.0
1.32- 1.54	1	0.0
1.32- 1.99	294	0.0
1.32-102.01	6	0.0
1.32-152.01	6	0.0
1.37- 1.32	2	0.0
2.31- 2.34	214	0.0
2.31- 2.51	3	0.0
2.31- 2.52	3	0.0
2.32- 2.31	8	0.0
2.32- 2.99	4	0.0
2.37- 2.51	1	0.0
2.37- 2.52	1	0.0
3.51- 3.99	1	0.0
3.52- 3.99	1	0.0
3.53- 3.51	1	0.0
3.54- 3.52	1	0.0
3.55- 3.99	1	0.0
3.56- 3.99	1	0.0
3.57- 3.63	3	0.0
3.57- 3.99	10	0.0
3.58- 3.64	3	0.0
3.58- 3.99	10	0.0
3.59- 0.98	3	0.0
3.60- 0.98	3	0.0

CHANGE	Frequency	Percent
3.73- 3.71	1	0.0
3.74- 3.72	1	0.0
3.79- 3.99	1	0.0
3.80- 3.99	1	0.0
4.51- 0.00	3	0.0
4.52- 0.00	3	0.0
5.51- 0.00	72	0.0
5.52- 0.00	72	0.0
6.31- 0.00	48	0.0
6.31- 6.51	2	0.0
6.31- 6.52	2	0.0
6.31- 6.59	1128	0.0
6.31- 6.60	1128	0.0
6.31- 6.99	86	0.0
6.53- 6.99	10	0.0
6.54- 6.99	10	0.0
6.55- 0.00	14	0.0
6.56- 0.00	14	0.0
6.99- 0.00	6	0.0
101.01-101.02	4	0.0
101.01-101.03	48	0.0
101.01-101.05	1564	0.0
101.02- 3.52	24	0.0
101.02-101.01	4	0.0
101.02-101.99	107	0.0
101.03-101.02	131	0.0
101.03-101.04	2	0.0
101.03-101.09	13	0.0
101.03-101.99	1	0.0
101.13-101.05	1	0.0
101.14-101.99	2	0.0
102.04- 4.31	8	0.0
102.05-102.09	3	0.0
102.05-102.99	10	0.0
102.99- 4.62	1	0.0
102.99-100.98	6	0.0
103.02-103.04	8	0.0
103.02-104.99	4	0.0

CHANGE	Frequency	Percent
104.01-104.05	6	0.0
104.01-104.07	1304	0.0
104.01-104.99	57	0.0
104.03-104.01	4	0.0
104.03-104.99	10	0.0
105.01-105.03	4	0.0
105.01-105.07	383	0.0
105.01-105.99	19	0.0
105.04- 0.00	15	0.0
105.04-100.98	3	0.0
105.05- 0.00	3	0.0
105.13-105.14	215	0.0
105.13-105.99	11	0.0
105.15-105.99	25	0.0
105.16-105.99	38	0.0
108.02- 0.00	1	0.0
151.01-151.02	4	0.0
151.01-151.03	48	0.0
151.01-151.05	1564	0.0
151.02- 3.51	24	0.0
151.02-151.01	4	0.0
151.02-151.99	107	0.0
151.03-151.02	131	0.0
151.03-151.04	2	0.0
151.03-151.09	13	0.0
151.03-151.99	1	0.0
151.13-151.05	1	0.0
151.14-151.99	2	0.0
152.04- 4.31	8	0.0
152.05-152.09	3	0.0
152.05-152.99	10	0.0
152.99- 4.61	1	0.0
152.99-150.98	6	0.0
153.02-153.04	8	0.0
153.02-154.99	4	0.0
154.01-154.05	6	0.0
154.01-154.07	1304	0.0
154.01-154.99	57	0.0

CHANGE	Frequency	Percent
154.03-154.01	4	0.0
154.03-154.99	10	0.0
155.01-155.03	4	0.0
155.01-155.07	383	0.0
155.01-155.99	19	0.0
155.04- 0.00	15	0.0
155.04-150.98	3	0.0
155.05- 0.00	3	0.0
155.13-155.14	215	0.0
155.13-155.99	11	0.0
155.15-155.99	25	0.0
155.16-155.99	38	0.0
158.02- 0.00	1	0.0
201.01-201.04	4	0.0
201.01-201.07	8	0.0
201.01-201.08	627	0.0
201.01-201.99	26	0.0
201.02-105.01	9	0.0
201.02-105.07	3	0.0
201.02-201.99	3	0.0
201.04-200.98	7	0.0
202.01-202.99	3	0.0
202.02-202.99	3	0.0
206.01-206.99	31	0.0
206.03-206.99	1	0.0
206.04- 0.00	7	0.0
209.03- 0.00	9	0.0
251.01-251.04	4	0.0
251.01-251.07	8	0.0
251.01-251.08	627	0.0
251.01-251.99	26	0.0
251.02-155.01	9	0.0
251.02-155.07	3	0.0
251.02-251.99	3	0.0
251.04-250.98	7	0.0
252.01-252.99	3	0.0
252.02-252.99	3	0.0
256.01-256.99	31	0.0

CHANGE	Frequency	Percent
256.03-256.99	1	0.0
256.04- 0.00	7	0.0
259.03- 0.00	9	0.0

CHANGE	Frequency	Percent
No change	7535596	98.1
1.36- 1.32	372	0.0
1.36- 1.59	264	0.0
1.36- 1.60	264	0.0
1.37- 1.32	816	0.0
1.59- 1.32	180	0.0
1.60- 1.32	180	0.0
1.61- 1.53	72	0.0
1.62- 1.54	72	0.0
1.99- 1.63	70	0.0
1.99- 1.64	70	0.0
2.36- 2.34	16	0.0
2.36- 2.51	24	0.0
2.36- 2.52	24	0.0
2.51- 2.34	5459	0.1
2.52- 2.34	5459	0.1
2.53- 2.99	178	0.0
2.54- 2.99	178	0.0
2.55- 2.35	28	0.0
2.55- 2.99	24	0.0
2.56- 2.35	28	0.0
2.56- 2.99	24	0.0
2.57- 2.35	132	0.0
2.58- 2.35	132	0.0
2.63- 2.59	49	0.0
2.64- 2.60	49	0.0
2.99- 2.35	52	0.0
2.99- 2.57	18	0.0
2.99- 2.58	18	0.0
3.51-151.02	234	0.0
3.52-101.02	234	0.0
3.61- 3.99	1138	0.0
3.62- 3.99	1138	0.0
3.63- 3.57	54	0.0
3.64- 3.58	54	0.0
3.65- 3.99	128	0.0
3.66- 3.99	128	0.0
3.75- 3.99	343	0.0

CHANGE	Frequency	Percent
3.76- 3.99	343	0.0
4.31-102.04	111	0.0
4.31-152.04	111	0.0
4.51-152.99	2	0.0
4.52-102.99	2	0.0
4.53- 4.51	5	0.0
4.54- 4.52	5	0.0
4.55-152.15	19	0.0
4.56-102.15	19	0.0
6.33- 6.31	72	0.0
6.33- 6.59	68	0.0
6.33- 6.60	68	0.0
6.59- 6.31	2054	0.0
6.60- 6.31	2054	0.0
6.61- 6.99	476	0.0
6.62- 6.99	476	0.0
6.65- 6.63	98	0.0
6.66- 6.64	98	0.0
6.99- 5.51	83	0.0
6.99- 5.52	83	0.0
6.99- 6.51	4	0.0
6.99- 6.52	4	0.0
10.99- 10.31	18	0.0
101.05-101.01	36125	0.5
101.06-101.02	458	0.0
101.08-101.02	4	0.0
101.08-101.07	120	0.0
101.09-101.03	733	0.0
101.10-101.99	346	0.0
101.16-101.02	10	0.0
101.99-101.11	38	0.0
101.99-101.12	1	0.0
101.99-101.18	83	0.0
101.99-105.13	2	0.0
102.01- 1.32	69	0.0
102.07-102.05	2	0.0
102.08-102.05	176	0.0
102.09-102.05	33	0.0

CHANGE	Frequency	Percent
102.10- 1.32	19	0.0
102.10-102.01	4442	0.1
102.11- 1.54	12	0.0
102.14-102.13	598	0.0
102.99-102.03	1	0.0
102.99-102.04	5	0.0
102.99-102.05	3	0.0
102.99-102.07	18	0.0
102.99-102.09	38	0.0
103.02-104.99	11	0.0
103.04-103.02	203	0.0
103.06-205.03	4	0.0
104.07-104.01	2395	0.0
104.08-104.99	2222	0.0
104.09-104.99	266	0.0
104.10-104.08	43	0.0
104.10-104.99	155	0.0
104.16-104.15	32	0.0
104.99-104.14	16	0.0
105.01-201.02	248	0.0
105.07-105.01	783	0.0
105.07-201.99	2	0.0
105.08-105.99	149	0.0
105.09-105.99	151	0.0
105.12-105.99	145	0.0
105.14-105.13	107	0.0
105.19-201.99	1	0.0
105.99-103.06	12	0.0
105.99-105.04	9	0.0
105.99-105.10	2	0.0
105.99-105.20	16	0.0
110.99-110.01	52	0.0
151.05-151.01	36125	0.5
151.06-151.02	458	0.0
151.08-151.02	4	0.0
151.08-151.07	120	0.0
151.09-151.03	733	0.0
151.10-151.99	346	0.0

CHANGE	Frequency	Percent
151.16-151.02	10	0.0
151.99-151.11	38	0.0
151.99-151.12	1	0.0
151.99-151.18	83	0.0
151.99-155.13	2	0.0
152.01- 1.32	69	0.0
152.07-152.05	2	0.0
152.08-152.05	176	0.0
152.09-152.05	33	0.0
152.10- 1.32	19	0.0
152.10-152.01	4442	0.1
152.11- 1.53	12	0.0
152.14-152.13	598	0.0
152.99-152.03	1	0.0
152.99-152.04	5	0.0
152.99-152.05	3	0.0
152.99-152.07	18	0.0
152.99-152.09	38	0.0
153.02-154.99	11	0.0
153.04-153.02	203	0.0
153.06-255.03	4	0.0
154.07-154.01	2395	0.0
154.08-154.99	2222	0.0
154.09-154.99	266	0.0
154.10-154.08	43	0.0
154.10-154.99	155	0.0
154.16-154.15	32	0.0
154.99-154.14	16	0.0
155.01-251.02	248	0.0
155.07-155.01	783	0.0
155.07-251.99	2	0.0
155.08-155.99	149	0.0
155.09-155.99	151	0.0
155.12-155.99	145	0.0
155.14-155.13	107	0.0
155.19-251.99	1	0.0
155.99-153.06	12	0.0
155.99-155.04	9	0.0

CHANGE	Frequency	Percent
155.99-155.10	2	0.0
155.99-155.20	16	0.0
160.99-160.01	52	0.0
201.07-201.01	7638	0.1
201.08-201.01	873	0.0
201.09-201.01	187	0.0
201.09-201.07	4	0.0
201.09-201.08	401	0.0
201.10-201.06	83	0.0
201.99-201.02	6	0.0
201.99-201.04	19	0.0
201.99-201.05	25	0.0
201.99-201.12	86	0.0
206.99-206.01	1	0.0
206.99-206.02	3	0.0
251.07-251.01	7638	0.1
251.08-251.01	873	0.0
251.09-251.01	187	0.0
251.09-251.07	4	0.0
251.09-251.08	401	0.0
251.10-251.06	83	0.0
251.99-251.02	6	0.0
251.99-251.04	19	0.0
251.99-251.05	25	0.0
251.99-251.12	86	0.0
256.99-256.01	1	0.0
256.99-256.02	3	0.0

CHANGE	Frequency	Percent
No change	7658702	99.7
0- 30	141	0.0
0- 31	141	0.0
0- 32	125	0.0
0- 33	126	0.0
0- 44	267	0.0
0- 45	15	0.0
0- 46	3	0.0
0- 47	248	0.0
0- 60	342	0.0
0- 61	348	0.0
0- 261	1	0.0
0- 360	9	0.0
0- 2045	9	0.0
0- 2061	7	0.0
0- 2160	7	0.0
0- 2344	9	0.0
0- 2860	4	0.0
0- 2960	27	0.0
0- 2961	1	0.0
0- 3021	5	0.0
0- 3022	5	0.0
0- 3024	16	0.0
0- 3025	4	0.0
0- 3028	2	0.0
0- 3030	12	0.0
0- 3031	8	0.0
0- 3044	266	0.0
0- 3056	34	0.0
0- 3060	37	0.0
0- 3061	27	0.0
0- 3121	4	0.0
0- 3122	4	0.0
0- 3124	15	0.0
0- 3125	1	0.0
0- 3128	1	0.0
0- 3130	10	0.0
0- 3131	1	0.0

CHANGE	Frequency	Percent
0- 3144	280	0.0
0- 3156	36	0.0
0- 3160	54	0.0
0- 3161	10	0.0
0- 3844	31	0.0
0- 3845	5	0.0
0- 3860	15	0.0
0- 3861	16	0.0
0- 4344	3	0.0
0- 4361	6	0.0
0- 4444	1	0.0
0- 4460	29	0.0
0- 4461	19	0.0
0- 4544	21	0.0
0- 4545	9	0.0
0- 4560	2	0.0
0- 4561	1	0.0
0- 5644	30	0.0
0- 5744	40	0.0
0- 6002	8	0.0
0- 6003	1	0.0
0- 6020	3	0.0
0- 6021	3	0.0
0- 6024	8	0.0
0- 6025	13	0.0
0- 6029	6	0.0
0- 6030	15	0.0
0- 6031	9	0.0
0- 6042	15	0.0
0- 6043	1	0.0
0- 6044	44	0.0
0- 6045	21	0.0
0- 6060	2	0.0
0- 6102	1	0.0
0- 6120	4	0.0
0- 6121	4	0.0
0- 6124	7	0.0
0- 6125	3	0.0

CHANGE	Frequency	Percent
0- 6130	16	0.0
0- 6131	11	0.0
0- 6142	16	0.0
0- 6144	47	0.0
0- 6145	16	0.0
0- 6160	2	0.0
0- 23144	1	0.0
0- 25744	12	0.0
0- 26144	6	0.0
0- 26145	2	0.0
0- 33044	5	0.0
0- 35644	13	0.0
0- 36044	6	0.0
0- 36045	2	0.0
0- 80047	4	0.0
0- 100047	2	0.0
0- 105744	1	0.0
0- 106144	1	0.0
0- 106145	2	0.0
0- 113044	1	0.0
0- 113844	2	0.0
0- 116044	1	0.0
0- 200047	43	0.0
0- 203144	6	0.0
0- 205744	1	0.0
0- 206144	12	0.0
0- 206145	13	0.0
0- 213044	4	0.0
0- 215644	3	0.0
0- 216044	4	0.0
0- 216045	8	0.0
0- 226144	1	0.0
0- 235644	1	0.0
0- 236044	2	0.0
0- 236045	1	0.0
0- 240046	2	0.0
0- 283144	2	0.0
0- 285644	4	0.0

CHANGE	Frequency	Percent
0- 285744	9	0.0
0- 286044	5	0.0
0- 286045	33	0.0
0- 286144	10	0.0
0- 286145	4	0.0
0- 293044	15	0.0
0- 295644	2	0.0
0- 295744	13	0.0
0- 296044	4	0.0
0- 296045	4	0.0
0- 296144	2	0.0
0- 296145	3	0.0
0- 300047	2	0.0
0- 300050	2	0.0
0- 302225	4	0.0
0- 302231	4	0.0
0- 302261	8	0.0
0- 302410	1	0.0
0- 302424	2	0.0
0- 302456	2	0.0
0- 302460	2	0.0
0- 302831	1	0.0
0- 303044	9	0.0
0- 303061	1	0.0
0- 303144	5	0.0
0- 304402	3	0.0
0- 304420	2	0.0
0- 304421	2	0.0
0- 304424	3	0.0
0- 304425	8	0.0
0- 304429	3	0.0
0- 304430	9	0.0
0- 304431	7	0.0
0- 304442	8	0.0
0- 304444	5	0.0
0- 304445	2	0.0
0- 304460	1	0.0
0- 305602	8	0.0

CHANGE	Frequency	Percent
0- 305603	1	0.0
0- 305611	1	0.0
0- 305621	1	0.0
0- 305622	1	0.0
0- 305642	2	0.0
0- 305643	2	0.0
0- 305644	27	0.0
0- 305645	3	0.0
0- 305744	1	0.0
0- 306002	1	0.0
0- 306003	3	0.0
0- 306010	1	0.0
0- 306011	1	0.0
0- 306020	1	0.0
0- 306022	1	0.0
0- 306042	9	0.0
0- 306043	5	0.0
0- 306044	6	0.0
0- 306045	7	0.0
0- 306111	2	0.0
0- 306120	8	0.0
0- 306121	12	0.0
0- 306142	36	0.0
0- 306144	4	0.0
0- 306145	28	0.0
0- 310047	2	0.0
0- 310050	2	0.0
0- 310261	3	0.0
0- 312225	4	0.0
0- 312231	4	0.0
0- 312261	12	0.0
0- 312410	1	0.0
0- 312430	5	0.0
0- 312460	8	0.0
0- 313031	3	0.0
0- 313044	2	0.0
0- 313061	4	0.0
0- 314402	2	0.0

CHANGE	Frequency	Percent
0- 314403	1	0.0
0- 314410	1	0.0
0- 314420	2	0.0
0- 314421	4	0.0
0- 314424	2	0.0
0- 314425	5	0.0
0- 314430	11	0.0
0- 314431	6	0.0
0- 314442	7	0.0
0- 314443	2	0.0
0- 314444	6	0.0
0- 314445	3	0.0
0- 315602	5	0.0
0- 315603	11	0.0
0- 315620	3	0.0
0- 315642	4	0.0
0- 315643	20	0.0
0- 315644	27	0.0
0- 315744	2	0.0
0- 316002	5	0.0
0- 316003	3	0.0
0- 316020	3	0.0
0- 316021	12	0.0
0- 316022	1	0.0
0- 316023	1	0.0
0- 316043	7	0.0
0- 316044	10	0.0
0- 316045	11	0.0
0- 316102	2	0.0
0- 316103	2	0.0
0- 316121	1	0.0
0- 316122	1	0.0
0- 316130	1	0.0
0- 316142	1	0.0
0- 316143	7	0.0
0- 316144	14	0.0
0- 316145	4	0.0
0- 320009	3	0.0

CHANGE	Frequency	Percent
0- 320011	2	0.0
0- 320021	24	0.0
0- 320024	2	0.0
0- 320025	54	0.0
0- 320029	1	0.0
0- 320030	4	0.0
0- 320031	60	0.0
0- 320038	2	0.0
0- 320045	2	0.0
0- 320057	39	0.0
0- 320060	8	0.0
0- 320061	198	0.0
0- 330009	1	0.0
0- 330021	19	0.0
0- 330025	80	0.0
0- 330029	8	0.0
0- 330031	61	0.0
0- 330045	2	0.0
0- 330057	65	0.0
0- 330061	215	0.0
0- 360044	4	0.0
0- 380046	2	0.0
0- 380047	134	0.0
0- 382344	8	0.0
0- 383044	5	0.0
0- 383144	13	0.0
0- 383844	2	0.0
0- 383861	10	0.0
0- 430047	9	0.0
0- 433144	3	0.0
0- 440046	1	0.0
0- 440047	14	0.0
0- 443044	19	0.0
0- 443144	12	0.0
0- 443844	2	0.0
0- 444344	1	0.0
0- 450046	3	0.0
0- 450047	107	0.0

CHANGE	Frequency	Percent
0- 452344	8	0.0
0- 453044	1	0.0
0- 453144	1	0.0
0- 453844	3	0.0
0- 454544	3	0.0
0- 456045	1	0.0
0- 560047	74	0.0
0- 570047	30	0.0
0- 573844	2	0.0
0- 600046	3	0.0
0- 600047	206	0.0
0- 602344	16	0.0
0- 602524	10	0.0
0- 602560	2	0.0
0- 603844	6	0.0
0- 603861	2	0.0
0- 610046	5	0.0
0- 610047	207	0.0
0- 610344	3	0.0
0- 612344	4	0.0
0- 613044	1	0.0
0- 613844	4	0.0
0- 614544	5	0.0
0- 2570047	14	0.0
0- 2573844	1	0.0
0- 2610047	43	0.0
0- 3443144	2	0.0
0- 3560047	7	0.0
0- 3600046	1	0.0
0- 3600047	59	0.0
0- 3602344	10	0.0
0- 5560047	4	0.0
0- 5600047	4	0.0
0- 9600047	1	0.0
0-10570047	2	0.0
0-10610047	1	0.0
0-11600047	2	0.0
0-20570047	2	0.0

CHANGE	Frequency	Percent
0-20610047	34	0.0
0-21240046	1	0.0
0-21560047	21	0.0
0-21600047	29	0.0
0-21602344	12	0.0
0-22610047	1	0.0
0-23600047	2	0.0
0-23602344	2	0.0
0-25560047	2	0.0
0-28240046	2	0.0
0-28560047	10	0.0
0-28570047	18	0.0
0-28600047	65	0.0
0-28610047	56	0.0
0-29240046	1	0.0
0-29560047	20	0.0
0-29570047	10	0.0
0-29573844	1	0.0
0-29600047	64	0.0
0-29610047	34	0.0
0-30226102	6	0.0
0-30226120	12	0.0
0-30226122	2	0.0
0-30226144	12	0.0
0-30240074	8	0.0
0-30240086	4	0.0
0-30245603	1	0.0
0-30245643	1	0.0
0-30442524	5	0.0
0-30442560	1	0.0
0-30443102	1	0.0
0-30560047	5	0.0
0-30560261	4	0.0
0-30570047	4	0.0
0-30600046	1	0.0
0-30600047	57	0.0
0-30602344	4	0.0
0-30610047	27	0.0

CHANGE	Frequency	Percent
0-31226102	4	0.0
0-31226144	4	0.0
0-31443102	1	0.0
0-31560047	17	0.0
0-31600046	1	0.0
0-31600047	59	0.0
0-31602344	12	0.0
0-31610047	12	0.0
0-32000047	5	0.0
0-32000074	1	0.0
0-32002524	3	0.0
0-32003161	3	0.0
0-32003820	1	0.0
0-32003830	2	0.0
0-32003842	3	0.0
0-32003860	2	0.0
0-32005702	2	0.0
0-32005703	4	0.0
0-32005720	7	0.0
0-32005721	2	0.0
0-32005738	2	0.0
0-32005742	6	0.0
0-32005743	6	0.0
0-32005744	10	0.0
0-32005745	4	0.0
0-32006002	1	0.0
0-32006044	2	0.0
0-32006102	29	0.0
0-32006103	18	0.0
0-32006104	3	0.0
0-32006110	1	0.0
0-32006120	19	0.0
0-32006121	15	0.0
0-32006122	1	0.0
0-32006123	1	0.0
0-32006125	3	0.0
0-32006142	100	0.0
0-32006143	32	0.0

CHANGE	Frequency	Percent
0-32006144	55	0.0
0-32006145	20	0.0
0-32006161	3	0.0
0-33000047	1	0.0
0-33002524	4	0.0
0-33002560	2	0.0
0-33003131	9	0.0
0-33005702	5	0.0
0-33005703	10	0.0
0-33005704	4	0.0
0-33005711	2	0.0
0-33005720	14	0.0
0-33005742	24	0.0
0-33005743	22	0.0
0-33005744	12	0.0
0-33006102	30	0.0
0-33006103	25	0.0
0-33006104	1	0.0
0-33006108	1	0.0
0-33006110	1	0.0
0-33006111	1	0.0
0-33006120	10	0.0
0-33006121	19	0.0
0-33006122	1	0.0
0-33006130	1	0.0
0-33006142	29	0.0
0-33006143	58	0.0
0-33006144	61	0.0
0-33006145	19	0.0
0-33006160	1	0.0
0-33006161	1	0.0
0-38380047	7	0.0
0-38383144	5	0.0
0-38610047	3	0.0
0-44240046	1	0.0
0-44600047	1	0.0
0-45240046	1	0.0
0-45450047	9	0.0

CHANGE	Frequency	Percent
0-60035644	4	0.0
0-60240046	1	0.0
0-60380047	2	0.0
0-60383144	1	0.0
0-60600047	1	0.0
0-60610047	4	0.0
0-61240046	1	0.0
0-61450047	3	0.0
0-64003844	5	0.0
0-65000046	1	0.0
0-65003844	3	0.0
0-82003844	1	0.0
0-83003844	3	0.0
28- 32	2	0.0
29- 33	6	0.0
30- 32	773	0.0
30- 2420	2	0.0
30- 2422	1	0.0
30- 3020	4	0.0
30- 3021	2	0.0
30- 3022	21	0.0
30- 6030	1	0.0
31- 33	783	0.0
31- 2522	6	0.0
31- 3120	1	0.0
31- 3122	11	0.0
31- 6128	2	0.0
31- 6130	1	0.0
43- 47	8	0.0
44- 46	9	0.0
44- 2045	2	0.0
44- 4460	1	0.0
45- 47	1547	0.0
45- 2138	2	0.0
45- 2144	5	0.0
45- 2338	7	0.0
45- 2344	32	0.0
45- 4360	2	0.0

CHANGE	Frequency	Percent
45- 4560	1	0.0
60- 2444	10	0.0
60- 2844	7	0.0
60- 3038	9	0.0
60- 3042	5	0.0
60- 3044	74	0.0
60- 280046	3	0.0
60- 320042	2	0.0
61- 2544	6	0.0
61- 2944	5	0.0
61- 2945	1	0.0
61- 3138	7	0.0
61- 3142	7	0.0
61- 3143	1	0.0
61- 3144	82	0.0
61- 330042	1	0.0
203- 4431	2	0.0
360- 32444	1	0.0
944- 47	1	0.0
1045- 104360	1	0.0
1144- 110046	1	0.0
1160- 112444	1	0.0
2045- 3860	1	0.0
2045- 3861	13	0.0
2045- 4460	43	0.0
2045- 4461	74	0.0
2045- 200047	13	0.0
2045- 204360	2	0.0
2045- 443144	1	0.0
2430- 240032	8	0.0
2825- 320025	1	0.0
2831- 320031	1	0.0
2861- 320061	1	0.0
3008- 32	1	0.0
3021- 6024	1	0.0
3021- 6025	4	0.0
3021- 6030	23	0.0
3021- 6031	40	0.0

CHANGE	Frequency	Percent
3021- 304431	1	0.0
3021- 320021	7	0.0
3025- 302225	4	0.0
3025- 320025	173	0.0
3030- 320030	4	0.0
3031- 240231	4	0.0
3031- 280231	5	0.0
3031- 300231	1	0.0
3031- 302231	6	0.0
3031- 320031	188	0.0
3045- 3044	1	0.0
3057- 320057	65	0.0
3060- 320060	16	0.0
3061- 300261	9	0.0
3061- 302261	26	0.0
3061- 320061	738	0.0
3110- 330010	1	0.0
3111- 612811	1	0.0
3121- 6125	9	0.0
3121- 6130	20	0.0
3121- 6131	34	0.0
3121- 330021	6	0.0
3121- 612821	2	0.0
3124- 330024	1	0.0
3125- 312025	1	0.0
3125- 312225	2	0.0
3125- 330025	129	0.0
3125- 612825	2	0.0
3130- 330030	4	0.0
3131- 312031	1	0.0
3131- 312231	2	0.0
3131- 330031	126	0.0
3131- 612831	2	0.0
3145- 3144	1	0.0
3157- 330057	74	0.0
3160- 330060	14	0.0
3161- 250261	4	0.0
3161- 312061	6	0.0

CHANGE	Frequency	Percent
3161- 312261	12	0.0
3161- 330061	396	0.0
3161- 612861	6	0.0
3843- 380047	1	0.0
3844- 380046	1	0.0
3845- 380047	302	0.0
3845- 382144	1	0.0
3845- 382344	6	0.0
3845- 384360	2	0.0
4331- 302	1	0.0
4430- 3802	3	0.0
4430- 4431	1	0.0
4430- 442402	28	0.0
4430- 443002	4	0.0
4431- 4430	4	0.0
4431- 442502	18	0.0
4431- 443102	10	0.0
4444- 440046	6	0.0
4445- 440047	21	0.0
4445- 440338	4	0.0
4445- 440342	2	0.0
4445- 442344	1	0.0
4460- 44	2	0.0
4460- 443044	1	0.0
4461- 443144	1	0.0
4529- 302	1	0.0
4530- 324	3	0.0
4530- 330	3	0.0
4530- 2122	4	0.0
4530- 2320	4	0.0
4530- 4331	1	0.0
4530- 4502	3	0.0
4530- 4529	1	0.0
4530- 4531	5	0.0
4530- 33830	60	0.0
4530- 34430	15	0.0
4530- 234430	1	0.0
4530- 452402	32	0.0

CHANGE	Frequency	Percent
4530- 453002	11	0.0
4530- 453022	1	0.0
4531- 4530	18	0.0
4531- 33831	46	0.0
4531- 34431	26	0.0
4531- 452502	28	0.0
4531- 453102	16	0.0
4538- 470038	8	0.0
4543- 450047	1	0.0
4544- 450046	2	0.0
4545- 450047	293	0.0
4545- 450342	3	0.0
4545- 450344	1	0.0
4545- 452144	1	0.0
4545- 452344	7	0.0
4545- 454360	2	0.0
4560- 45	2	0.0
4560- 360	24	0.0
4560- 4561	3	0.0
4560- 33860	64	0.0
4560- 34460	2	0.0
4560- 453044	1	0.0
4561- 4560	8	0.0
4561- 33861	29	0.0
4561- 34461	6	0.0
4561- 452544	1	0.0
4561- 453144	2	0.0
5645- 560047	74	0.0
5745- 570047	65	0.0
6010- 303810	1	0.0
6030- 6002	9	0.0
6030- 602402	25	0.0
6031- 6030	4	0.0
6031- 303831	1	0.0
6031- 304431	1	0.0
6031- 602502	17	0.0
6044- 600046	15	0.0
6045- 600047	562	0.0

CHANGE	Frequency	Percent
6045- 600338	2	0.0
6045- 600344	3	0.0
6045- 602144	3	0.0
6045- 602344	16	0.0
6045- 604360	2	0.0
6060- 60	4	0.0
6102- 313802	1	0.0
6130- 31	4	0.0
6130- 6102	15	0.0
6130- 6131	3	0.0
6130- 314430	2	0.0
6130- 612402	39	0.0
6130- 613002	2	0.0
6131- 6130	4	0.0
6131- 314431	2	0.0
6131- 612502	12	0.0
6131- 613102	6	0.0
6143- 610047	1	0.0
6144- 610046	15	0.0
6145- 610047	572	0.0
6145- 610338	2	0.0
6145- 610344	6	0.0
6145- 612144	3	0.0
6145- 612344	22	0.0
6145- 614360	4	0.0
6160- 61	4	0.0
6160- 314460	2	0.0
6160- 613044	2	0.0
25745- 2570047	14	0.0
26130- 26102	6	0.0
26144- 2610046	1	0.0
26145- 2610047	144	0.0
26145- 2612144	1	0.0
26145- 2612344	9	0.0
26145- 2614360	2	0.0
32430- 3240032	3	0.0
35645- 3560047	24	0.0
36030- 36002	2	0.0

CHANGE	Frequency	Percent
36044- 3600046	2	0.0
36045- 3600047	191	0.0
36045- 3602144	1	0.0
36045- 3602344	8	0.0
36045- 3604360	2	0.0
36060- 360	1	0.0
46145- 4610047	4	0.0
56045- 5600047	3	0.0
85745- 8570047	5	0.0
86145- 8610047	9	0.0
95645- 9560047	7	0.0
96045- 9600047	4	0.0
105745-10570047	2	0.0
106130- 106102	1	0.0
106145-10610047	11	0.0
112430-11240032	1	0.0
115645-11560047	2	0.0
116044-11600046	1	0.0
116045-11600047	22	0.0
205745-20570047	13	0.0
206144-20610046	12	0.0
206145-20610047	89	0.0
206145-20612144	1	0.0
206145-20612344	2	0.0
206145-20614360	4	0.0
212430-21240032	3	0.0
215645-21560047	19	0.0
216045-21600047	70	0.0
216045-21602344	4	0.0
226145-22610047	3	0.0
236045-23600047	9	0.0
236060- 2360	1	0.0
256045-25600047	6	0.0
280944- 280047	1	0.0
285645-28560047	19	0.0
285745-28570047	10	0.0
286044-28600046	13	0.0
286045-28600047	147	0.0

CHANGE	Frequency	Percent
286060- 2860	4	0.0
286130- 286102	9	0.0
286145-28610047	92	0.0
295645-29560047	22	0.0
295745-29570047	16	0.0
296044-29600046	7	0.0
296045-29600047	141	0.0
296045-29602144	1	0.0
296045-29602344	1	0.0
296145-29610047	84	0.0
296145-29612344	12	0.0
300051-32000051	1	0.0
300063-28020063	1	0.0
300075- 240074	15	0.0
300075- 300074	9	0.0
300075-30200075	4	0.0
300075-32000075	8	0.0
300087-24020087	1	0.0
300087-30020087	1	0.0
300843- 320043	1	0.0
302524-32002524	7	0.0
303131-32003131	4	0.0
305645-30560047	21	0.0
305702-32005702	14	0.0
305703-32005703	10	0.0
305708-32005708	6	0.0
305709-32005709	1	0.0
305710-32005710	2	0.0
305711-32005711	1	0.0
305720-32005720	9	0.0
305721-32005721	9	0.0
305742-32005742	18	0.0
305743-32005743	16	0.0
305744-32005744	31	0.0
305745-30570047	18	0.0
305745-32005745	8	0.0
306021-32006021	8	0.0
306042-32006042	12	0.0

CHANGE	Frequency	Percent
306044-30600046	2	0.0
306045-30600047	184	0.0
306045-30602144	1	0.0
306045-30602344	6	0.0
306045-32006045	12	0.0
306102-30226102	5	0.0
306102-32006102	129	0.0
306103-30226103	6	0.0
306103-32006103	86	0.0
306104-32006104	1	0.0
306105-32006105	4	0.0
306108-32006108	3	0.0
306109-32006109	5	0.0
306110-32006110	16	0.0
306111-32006111	8	0.0
306120-30226120	3	0.0
306120-32006120	40	0.0
306121-30226121	2	0.0
306121-32006121	59	0.0
306122-32006122	7	0.0
306130-32006102	3	0.0
306130-32006130	3	0.0
306138-32006138	6	0.0
306142-30226142	1	0.0
306142-32006142	210	0.0
306143-30226143	8	0.0
306143-32006143	108	0.0
306144- 0	4	0.0
306144-30226144	13	0.0
306144-30610046	6	0.0
306144-32006144	292	0.0
306145- 0	31	0.0
306145-30226145	6	0.0
306145-30610047	58	0.0
306145-30612144	2	0.0
306145-30612344	3	0.0
306145-32006145	78	0.0
306160-32006160	3	0.0

CHANGE	Frequency	Percent
306161-32006161	4	0.0
310075- 250074	12	0.0
310087-25020087	2	0.0
310087-31020087	6	0.0
312430-31240032	12	0.0
312524-33002524	7	0.0
312530-33002530	1	0.0
315645-31560047	21	0.0
315702-33005702	10	0.0
315703-33005703	4	0.0
315708-33005708	1	0.0
315709-33005709	4	0.0
315711-33005711	1	0.0
315720-33005720	10	0.0
315721-33005721	4	0.0
315742-33005742	23	0.0
315743-33005743	10	0.0
315744-33005744	11	0.0
315745-31570047	6	0.0
315745-33005745	16	0.0
316002-33006002	2	0.0
316003-33006003	1	0.0
316010-33006010	1	0.0
316021-33006021	4	0.0
316042-33006042	8	0.0
316044-31600046	2	0.0
316044-33006044	4	0.0
316045- 0	4	0.0
316045-31600047	185	0.0
316045-31602144	1	0.0
316045-31602344	13	0.0
316045-33006045	6	0.0
316102-31206102	1	0.0
316102-31226102	3	0.0
316102-33006102	62	0.0
316102-61286102	2	0.0
316103-31206103	1	0.0
316103-31226103	3	0.0

CHANGE	Frequency	Percent
316103-33006103	58	0.0
316103-61286103	2	0.0
316104-33006104	2	0.0
316108-33006108	1	0.0
316109-33006109	4	0.0
316110-33006110	6	0.0
316111-33006111	3	0.0
316120-31226120	1	0.0
316120-33006120	30	0.0
316121-31206121	1	0.0
316121-33006121	30	0.0
316121-61286121	4	0.0
316122-33006122	2	0.0
316123-33006123	3	0.0
316142-31206142	1	0.0
316142-33006142	78	0.0
316143-31226143	4	0.0
316143-33006143	68	0.0
316144-31206144	2	0.0
316144-31226144	6	0.0
316144-31610046	12	0.0
316144-33006144	77	0.0
316145- 0	9	0.0
316145-31206145	2	0.0
316145-31610047	56	0.0
316145-31612344	3	0.0
316145-31614360	2	0.0
316145-33006145	36	0.0
316145-61286145	2	0.0
316160-31206160	1	0.0
316160-33006160	1	0.0
316161-33006161	1	0.0
370045-37000047	1	0.0
383845-38380047	14	0.0
384530-38450032	3	0.0
443031-44240231	1	0.0
443845-44380047	1	0.0
444530- 442102	3	0.0

CHANGE	Frequency	Percent
444530-44033830	2	0.0
444531-44452502	2	0.0
444531-44453102	3	0.0
444545-44450047	4	0.0
444560-44033860	7	0.0
446045-44600047	3	0.0
453025-47003025	3	0.0
453031- 32031	3	0.0
453031-45240231	1	0.0
453057-47003057	3	0.0
453131- 3383131	2	0.0
453131- 3443131	3	0.0
453161- 32061	2	0.0
453161- 32261	3	0.0
453161- 210261	4	0.0
453161- 453061	2	0.0
453161- 3383161	1	0.0
453802-47003802	3	0.0
453810-47003810	1	0.0
453820-47003820	3	0.0
453844-47003844	12	0.0
456002- 36002	2	0.0
456003- 36003	6	0.0
456011- 36011	1	0.0
456043- 36043	9	0.0
456045- 3600047	3	0.0
574530-57450032	3	0.0
603031-60240231	2	0.0
604531- 600320	2	0.0
604531- 602102	2	0.0
604531- 602302	3	0.0
604531- 604530	2	0.0
604531-60452502	1	0.0
606045-60600047	4	0.0
606045-60602144	1	0.0
606145-60610047	5	0.0
613031-61240231	5	0.0
614531- 610320	2	0.0

CHANGE	Frequency	Percent
616002- 6102	1	0.0
616022- 6122	1	0.0
616042- 6142	4	0.0
640045- 640038	7	0.0
640045-64000047	6	0.0
640045-64002144	3	0.0
650045- 650038	20	0.0
650045- 650044	9	0.0
650045-65000047	2	0.0
650045-65002144	1	0.0
720045-72000342	1	0.0
820045-82000338	1	0.0
820045-82000344	4	0.0
830045-83000338	2	0.0
830045-83000344	3	0.0
2574530- 0	3	0.0
28095645- 0	2	0.0
28574530- 0	6	0.0
29096045- 0	1	0.0
29574530- 0	3	0.0
30250050- 0	2	0.0
30250074- 0	16	0.0
30310075- 0	40	0.0
30570231- 0	3	0.0
30570843- 0	2	0.0
30604531-30602302	3	0.0
30610062- 0	2	0.0
30610063- 0	4	0.0
30610075- 0	1	0.0
30610086- 0	6	0.0
30610087- 0	4	0.0
30610231- 0	3	0.0
30610843- 0	1	0.0
30614228- 0	1	0.0
31250050- 0	1	0.0
31250074- 0	8	0.0
31310075- 0	8	0.0
31574231- 0	2	0.0

CHANGE	Frequency	Percent
31600063- 0	1	0.0
31610086- 0	2	0.0
31610087- 0	2	0.0
31610231- 0	3	0.0
31614530- 0	3	0.0
36003845- 0	3	0.0
43286045- 0	1	0.0
44036045- 0	6	0.0
44306145- 0	3	0.0
44604531-44602302	3	0.0
45035645- 0	3	0.0
45295645- 0	2	0.0
45305703- 0	3	0.0
45305743- 0	9	0.0
45316130- 3226130	6	0.0
45316144- 3226144	3	0.0
45316160- 3226160	3	0.0
45604531-45602302	3	0.0
61604531-61602302	3	0.0
64003845- 0	11	0.0
64004545- 0	34	0.0
65003845- 0	13	0.0
65004545- 0	14	0.0
65006145- 0	1	0.0
72006045- 0	1	0.0
72006144- 0	1	0.0
72006145- 0	4	0.0
73006045- 0	1	0.0
82006045- 0	5	0.0
82006145- 0	4	0.0
83006045- 0	3	0.0
83006145- 0	2	0.0

CHANGE		Frequency	Percent
	No change	7533834	98.1
32-	30	17949	0.2
33-	31	18176	0.2
46-	44	10888	0.1
47-	45	25237	0.3
203-	3830	48	0.0
203-	3831	35	0.0
203-	4424	48	0.0
203-	4425	35	0.0
203-	4430	204	0.0
203-	4431	168	0.0
233-	231	2213	0.0
247-	245	101	0.0
247-	4457	4	0.0
249-	4457	10	0.0
302-	3930	27	0.0
302-	3931	5	0.0
302-	4130	3	0.0
302-	4131	4	0.0
302-	4524	27	0.0
302-	4525	5	0.0
302-	4526	3	0.0
302-	4527	4	0.0
302-	4530	92	0.0
302-	4531	108	0.0
324-	4526	20	0.0
324-	4527	34	0.0
326-	4527	15	0.0
332-	330	2112	0.0
332-	4531	19	0.0
346-	344	17	0.0
352-	4558	90	0.0
352-	4559	81	0.0
356-	4559	48	0.0
358-	4559	15	0.0
633-	631	40	0.0
647-	645	2	0.0
732-	730	77	0.0

CHANGE		Frequency	Percent
1233-	1231	232	0.0
1247-	1245	369	0.0
1332-	1330	362	0.0
1346-	1344	166	0.0
1633-	1631	2	0.0
1647-	1645	95	0.0
1732-	1730	2	0.0
1746-	1744	103	0.0
2432-	2430	2172	0.0
2433-	2431	1467	0.0
2446-	2444	785	0.0
2446-	3039	200	0.0
2446-	3041	1	0.0
2447-	2445	1006	0.0
2447-	3038	582	0.0
2448-	3049	10	0.0
2449-	3048	2	0.0
2532-	2530	2381	0.0
2533-	2531	1450	0.0
2546-	2544	692	0.0
2546-	3139	197	0.0
2547-	2545	1297	0.0
2547-	3138	634	0.0
2547-	3140	13	0.0
2548-	3149	54	0.0
2549-	3148	11	0.0
2632-	2630	18	0.0
2633-	2631	64	0.0
2646-	2644	6	0.0
2647-	2645	8	0.0
2732-	2730	8	0.0
2733-	2731	78	0.0
2746-	2744	19	0.0
2747-	2745	19	0.0
3202-	3002	15	0.0
3203-	3003	51	0.0
3212-	3012	72	0.0
3213-	3013	194	0.0

CHANGE		Frequency	Percent
3214-	3014	49	0.0
3215-	3015	41	0.0
3224-	3024	124	0.0
3225-	3025	240	0.0
3232-	3030	14	0.0
3232-	3230	21	0.0
3233-	3031	64	0.0
3233-	3231	141	0.0
3238-	2445	176	0.0
3238-	3038	763	0.0
3239-	2444	625	0.0
3239-	3039	1266	0.0
3241-	3041	12	0.0
3246-	3046	4	0.0
3246-	3244	6	0.0
3247-	3045	4	0.0
3247-	3047	6	0.0
3247-	3245	12	0.0
3248-	3048	8	0.0
3249-	3049	12	0.0
3252-	3052	265	0.0
3253-	3053	316	0.0
3254-	3054	1	0.0
3256-	3056	129	0.0
3257-	3057	542	0.0
3258-	3058	6	0.0
3259-	3059	6	0.0
3302-	3102	2	0.0
3303-	3103	50	0.0
3303-	5731	4	0.0
3307-	3107	2	0.0
3312-	3112	94	0.0
3313-	3113	175	0.0
3314-	3114	54	0.0
3315-	3115	54	0.0
3324-	3124	332	0.0
3325-	3125	173	0.0
3327-	3127	4	0.0

CHANGE	Frequency	Percent
3332- 3130	85	0.0
3332- 3132	1	0.0
3332- 3330	63	0.0
3333- 3131	24	0.0
3333- 3133	3	0.0
3333- 3331	176	0.0
3338- 2545	221	0.0
3338- 2745	1	0.0
3338- 3138	714	0.0
3339- 2544	591	0.0
3339- 2744	13	0.0
3339- 3139	1037	0.0
3340- 3140	25	0.0
3341- 3141	15	0.0
3346- 3146	2	0.0
3347- 3145	12	0.0
3347- 3147	12	0.0
3347- 3345	6	0.0
3348- 3148	9	0.0
3349- 3149	20	0.0
3352- 3152	320	0.0
3353- 3153	105	0.0
3354- 3154	12	0.0
3355- 3155	2	0.0
3356- 3156	239	0.0
3357- 3157	436	0.0
3358- 3158	14	0.0
3359- 3159	2	0.0
3403- 5631	10	0.0
3432- 3430	14	0.0
3433- 3431	13	0.0
3438- 3445	46	0.0
3439- 3444	3	0.0
3446- 3444	1	0.0
3447- 3445	26	0.0
3532- 3530	17	0.0
3533- 3531	42	0.0
3538- 3545	18	0.0

CHANGE	Frequency	Percent
3539- 3544	10	0.0
3546- 3544	16	0.0
3547- 3545	6	0.0
3802- 4030	10	0.0
3802- 4031	25	0.0
3832- 3830	47	0.0
3833- 3831	36	0.0
3846- 3844	278	0.0
3847- 3845	289	0.0
3902- 4130	10	0.0
3902- 4131	9	0.0
3946- 3944	178	0.0
3947- 3945	124	0.0
4002- 4031	15	0.0
4032- 4030	19	0.0
4047- 4045	2	0.0
4132- 4130	30	0.0
4133- 4131	46	0.0
4133- 4531	2	0.0
4147- 4145	2	0.0
4602- 4402	580	0.0
4603- 4403	573	0.0
4606- 4406	7	0.0
4612- 4412	90	0.0
4613- 4413	79	0.0
4624- 4424	47	0.0
4625- 4425	36	0.0
4627- 4427	13	0.0
4627- 4431	2	0.0
4632- 4430	93	0.0
4632- 4431	4	0.0
4632- 4432	85	0.0
4632- 4630	8	0.0
4633- 4430	4	0.0
4633- 4431	85	0.0
4633- 4433	96	0.0
4633- 4631	37	0.0
4634- 4434	6	0.0

CHANGE		Frequency	Percent
4635-	4435	13	0.0
4638-	4438	1042	0.0
4639-	4439	753	0.0
4640-	4440	2	0.0
4641-	4441	35	0.0
4646-	4444	25	0.0
4646-	4446	21	0.0
4647-	4445	13	0.0
4647-	4447	51	0.0
4648-	4448	8	0.0
4654-	4454	30	0.0
4655-	4455	48	0.0
4656-	4456	48	0.0
4657-	4457	74	0.0
4659-	4459	60	0.0
4702-	4502	1532	0.0
4702-	4531	19	0.0
4703-	4503	1640	0.0
4706-	4506	70	0.0
4707-	4507	40	0.0
4712-	4512	272	0.0
4713-	4513	153	0.0
4714-	4514	2	0.0
4715-	4515	2	0.0
4726-	4526	49	0.0
4727-	4527	33	0.0
4732-	4530	93	0.0
4732-	4531	4	0.0
4732-	4532	36	0.0
4732-	4730	113	0.0
4733-	4530	4	0.0
4733-	4531	85	0.0
4733-	4533	47	0.0
4733-	4731	106	0.0
4734-	4534	19	0.0
4735-	4535	32	0.0
4738-	4538	3511	0.0
4739-	4539	2164	0.0

CHANGE		Frequency	Percent
4740-	4540	24	0.0
4741-	4541	107	0.0
4746-	4544	74	0.0
4746-	4546	63	0.0
4746-	4744	1	0.0
4747-	4545	75	0.0
4747-	4547	266	0.0
4747-	4745	3	0.0
4748-	4548	23	0.0
4749-	4549	55	0.0
4754-	4554	23	0.0
4754-	4555	8	0.0
4755-	4555	22	0.0
4756-	4556	15	0.0
4757-	4557	24	0.0
4758-	4558	84	0.0
4759-	4559	22	0.0
4832-	4830	17	0.0
4833-	4831	26	0.0
4932-	4930	8	0.0
4933-	4931	19	0.0
5202-	5830	40	0.0
5202-	5831	51	0.0
5246-	5244	281	0.0
5247-	5245	172	0.0
5302-	5930	50	0.0
5302-	5931	30	0.0
5346-	5344	304	0.0
5347-	5345	249	0.0
5432-	5430	39	0.0
5432-	5431	8	0.0
5433-	5431	40	0.0
5447-	5445	2	0.0
5532-	5530	14	0.0
5533-	5531	30	0.0
5546-	5544	13	0.0
5632-	5630	10	0.0
5633-	5631	39	0.0

CHANGE	Frequency	Percent
5646- 5644	127	0.0
5647- 5645	492	0.0
5702- 5931	48	0.0
5732- 5730	53	0.0
5733- 5731	59	0.0
5746- 5744	241	0.0
5747- 5745	486	0.0
5802- 5831	15	0.0
5832- 5830	41	0.0
5833- 5831	25	0.0
5847- 5845	8	0.0
5932- 5930	43	0.0
5933- 5931	57	0.0
5946- 5944	20	0.0
20324- 383124	3	0.0
20346- 442446	6	0.0
20346- 442544	1	0.0
22546- 22544	107	0.0
22546- 23139	36	0.0
22547- 22545	360	0.0
22547- 23138	130	0.0
22548- 23149	7	0.0
23338- 23138	15	0.0
23339- 23139	38	0.0
24702- 24502	1	0.0
24757- 443338	16	0.0
25302- 25930	25	0.0
25302- 25931	1	0.0
25346- 25344	109	0.0
25347- 25345	94	0.0
25546- 25544	2	0.0
25702- 25931	17	0.0
25746- 25744	76	0.0
25747- 25745	88	0.0
25946- 25944	4	0.0
30247- 30245	6	0.0
30247- 452445	9	0.0
30247- 452447	4	0.0

CHANGE	Frequency	Percent
30247- 453038	6	0.0
30247- 453138	1	0.0
30247- 473038	4	0.0
30249- 452449	1	0.0
32414- 452714	12	0.0
32446- 32444	132	0.0
32446- 33039	46	0.0
32447- 32445	228	0.0
32447- 33038	95	0.0
32646- 32644	4	0.0
33203- 33003	1	0.0
33238- 33038	4	0.0
33239- 33039	64	0.0
33447- 33445	11	0.0
34833- 34831	8	0.0
35202- 35830	23	0.0
35202- 35831	23	0.0
35202- 455802	23	0.0
35202- 455902	23	0.0
35203- 455803	25	0.0
35203- 455903	1	0.0
35207- 455807	1	0.0
35212- 455812	1	0.0
35213- 455813	13	0.0
35238- 455838	25	0.0
35238- 455938	27	0.0
35239- 455839	61	0.0
35239- 455939	3	0.0
35241- 455841	10	0.0
35246- 35244	123	0.0
35247- 35245	52	0.0
35247- 455847	2	0.0
35248- 455948	1	0.0
35447- 35445	2	0.0
35603- 455903	17	0.0
35607- 455907	6	0.0
35613- 455913	5	0.0
35632- 35630	5	0.0

CHANGE	Frequency	Percent
35639- 455939	77	0.0
35646- 35644	41	0.0
35647- 35645	150	0.0
35802- 35831	15	0.0
35802- 455902	15	0.0
35838- 455938	45	0.0
61346- 61344	1	0.0
63339- 63139	6	0.0
63933- 63931	1	0.0
63947- 63945	24	0.0
65302- 65930	1	0.0
65346- 65344	4	0.0
65347- 65345	2	0.0
65702- 65931	6	0.0
65746- 65744	8	0.0
65747- 65745	2	0.0
73239- 73039	1	0.0
73832- 73830	2	0.0
73847- 73845	1	0.0
75246- 75244	17	0.0
75247- 75245	3	0.0
75647- 75645	6	0.0
121338- 125345	2	0.0
121346- 121344	1	0.0
122546- 122544	2	0.0
122547- 122545	108	0.0
122547- 123138	33	0.0
122548- 123149	1	0.0
123932- 123930	7	0.0
123933- 123931	15	0.0
123946- 123944	15	0.0
125302- 125930	13	0.0
125346- 125344	33	0.0
125347- 125345	16	0.0
125702- 125931	5	0.0
125747- 125745	27	0.0
131247- 131245	6	0.0
132446- 132444	16	0.0

CHANGE	Frequency	Percent
132446- 133039	2	0.0
132447- 132445	146	0.0
132447- 133038	36	0.0
133239- 133039	20	0.0
133832- 133830	16	0.0
133833- 133830	8	0.0
133833- 133831	18	0.0
133846- 133844	19	0.0
133847- 133845	2	0.0
135202- 135830	1	0.0
135246- 135244	4	0.0
135647- 135645	18	0.0
163932- 163930	5	0.0
163947- 163945	12	0.0
173802- 174031	12	0.0
173832- 173830	3	0.0
173846- 173844	9	0.0
173847- 173845	26	0.0
175646- 175644	3	0.0
175647- 175645	6	0.0
240072- 244438	2	0.0
240073- 300072	8	0.0
240233- 240231	9	0.0
241247- 241245	66	0.0
242446- 242444	91	0.0
242446- 243039	13	0.0
242447- 242445	308	0.0
242447- 243038	89	0.0
242546- 242544	112	0.0
242546- 243139	8	0.0
242547- 242545	371	0.0
242547- 243138	77	0.0
242548- 243149	8	0.0
242646- 242644	3	0.0
243239- 243039	92	0.0
243339- 243139	50	0.0
244602- 244402	4	0.0
244603- 244403	10	0.0

CHANGE	Frequency	Percent
244633- 244430	4	0.0
244633- 244431	8	0.0
244633- 244433	14	0.0
244633- 244631	2	0.0
244639- 244439	4	0.0
244657- 244457	10	0.0
244657- 301338	14	0.0
244702- 244502	24	0.0
244703- 244503	10	0.0
244712- 244512	10	0.0
244733- 244731	15	0.0
244738- 244538	61	0.0
244739- 244539	15	0.0
244832- 244830	33	0.0
245202- 245830	25	0.0
245202- 245831	20	0.0
245246- 245244	185	0.0
245247- 245245	125	0.0
245302- 245930	32	0.0
245302- 245931	3	0.0
245346- 245344	102	0.0
245347- 245345	126	0.0
245447- 245445	2	0.0
245646- 245644	46	0.0
245647- 245645	313	0.0
245702- 245931	33	0.0
245746- 245744	30	0.0
245747- 245745	128	0.0
245802- 245831	30	0.0
245946- 245944	2	0.0
250072- 313938	8	0.0
250073- 313838	1	0.0
250233- 250231	8	0.0
251213- 315313	2	0.0
251247- 251245	66	0.0
252446- 252444	93	0.0
252446- 253039	13	0.0
252446- 253041	1	0.0

CHANGE	Frequency	Percent
252447- 252445	384	0.0
252447- 253038	91	0.0
252546- 252544	42	0.0
252546- 253139	4	0.0
252547- 252545	312	0.0
252547- 253138	44	0.0
252548- 253149	8	0.0
253239- 253039	76	0.0
253338- 253138	6	0.0
253339- 253139	42	0.0
253447- 253445	32	0.0
254603- 254403	5	0.0
254633- 254431	4	0.0
254639- 254439	2	0.0
254657- 254457	14	0.0
254657- 311338	14	0.0
254702- 254502	40	0.0
254703- 254503	28	0.0
254706- 254506	1	0.0
254707- 254507	6	0.0
254712- 254512	10	0.0
254732- 254730	2	0.0
254733- 254731	1	0.0
254738- 254538	107	0.0
254739- 254539	77	0.0
254832- 254830	22	0.0
254833- 254831	24	0.0
254932- 254930	4	0.0
255202- 255831	7	0.0
255246- 255244	106	0.0
255247- 255245	111	0.0
255302- 255930	29	0.0
255346- 255344	78	0.0
255347- 255345	44	0.0
255632- 255630	6	0.0
255646- 255644	31	0.0
255647- 255645	430	0.0
255702- 255931	44	0.0

CHANGE	Frequency	Percent
255746- 255744	83	0.0
255747- 255745	84	0.0
255802- 255831	15	0.0
262446- 262444	8	0.0
262446- 263039	10	0.0
262547- 262545	16	0.0
262547- 263138	8	0.0
265302- 265930	10	0.0
265346- 265344	20	0.0
272446- 272444	6	0.0
272446- 273039	3	0.0
272546- 272544	7	0.0
272547- 272545	108	0.0
275347- 275345	2	0.0
275646- 275644	1	0.0
275747- 275745	5	0.0
320072- 300072	16	0.0
320073- 300073	94	0.0
320203- 303831	1	0.0
320203- 323830	5	0.0
320302- 244430	6	0.0
320302- 244432	4	0.0
320302- 300302	1	0.0
320302- 323930	1	0.0
321213- 301213	1	0.0
321247- 301245	24	0.0
321312- 301312	4	0.0
321338- 301338	110	0.0
321346- 301344	13	0.0
321346- 301346	8	0.0
322412- 302412	4	0.0
322413- 302413	10	0.0
322414- 302414	1	0.0
322446- 303039	12	0.0
322507- 302507	14	0.0
322512- 302512	2	0.0
322514- 302514	8	0.0
322515- 302515	2	0.0

CHANGE	Frequency	Percent
322524- 302524	1	0.0
322547- 302545	30	0.0
322547- 322545	11	0.0
322548- 302548	1	0.0
322548- 323149	1	0.0
323802- 244502	27	0.0
323802- 303802	64	0.0
323803- 244503	13	0.0
323803- 303803	45	0.0
323812- 244512	1	0.0
323812- 303812	5	0.0
323813- 303813	2	0.0
323826- 303826	30	0.0
323832- 323830	25	0.0
323833- 244531	3	0.0
323833- 303831	10	0.0
323833- 303833	7	0.0
323838- 244538	8	0.0
323838- 303838	86	0.0
323839- 303839	49	0.0
323840- 244540	11	0.0
323840- 303840	7	0.0
323846- 244544	8	0.0
323847- 244547	3	0.0
323847- 303847	20	0.0
323858- 303858	97	0.0
323902- 244402	24	0.0
323902- 303902	124	0.0
323903- 244403	100	0.0
323903- 303903	245	0.0
323912- 244412	15	0.0
323912- 303912	106	0.0
323913- 244413	33	0.0
323913- 303913	65	0.0
323924- 303924	1	0.0
323932- 244430	7	0.0
323932- 244432	9	0.0
323932- 303930	8	0.0

CHANGE	Frequency	Percent
323932- 303932	9	0.0
323932- 323930	1	0.0
323933- 244431	45	0.0
323933- 303931	32	0.0
323933- 303933	2	0.0
323933- 323931	14	0.0
323935- 244435	3	0.0
323938- 244438	39	0.0
323938- 303938	377	0.0
323939- 244439	84	0.0
323939- 303939	456	0.0
323941- 244441	8	0.0
323941- 303941	80	0.0
323947- 303945	20	0.0
323947- 303947	47	0.0
323947- 323945	10	0.0
323948- 244448	8	0.0
323954- 244454	8	0.0
323954- 303954	9	0.0
323955- 244455	12	0.0
323956- 244456	5	0.0
323956- 303956	6	0.0
324733- 324731	3	0.0
324902- 304902	3	0.0
324938- 304938	9	0.0
324948- 304948	4	0.0
325202- 305202	67	0.0
325203- 305203	50	0.0
325206- 305206	15	0.0
325207- 305207	1	0.0
325212- 305212	3	0.0
325213- 305213	14	0.0
325238- 305238	161	0.0
325239- 305239	102	0.0
325241- 305241	10	0.0
325247- 305247	17	0.0
325302- 305302	33	0.0
325303- 305303	63	0.0

CHANGE	Frequency	Percent
325306- 305306	2	0.0
325307- 305307	2	0.0
325313- 305313	8	0.0
325338- 305338	183	0.0
325339- 305339	119	0.0
325346- 305344	2	0.0
325346- 325344	22	0.0
325347- 305345	17	0.0
325347- 305347	6	0.0
325347- 325345	12	0.0
325602- 305602	12	0.0
325603- 305603	40	0.0
325614- 305614	3	0.0
325638- 305638	29	0.0
325639- 305639	51	0.0
325640- 305640	1	0.0
325649- 305649	22	0.0
325702- 305702	64	0.0
325703- 305703	38	0.0
325706- 305706	2	0.0
325712- 305712	12	0.0
325713- 305713	5	0.0
325738- 305738	561	0.0
325739- 305739	51	0.0
325741- 305741	5	0.0
325747- 305745	44	0.0
325747- 305747	17	0.0
325747- 325745	10	0.0
325748- 305748	12	0.0
330072- 310072	12	0.0
330073- 310073	81	0.0
330203- 333830	1	0.0
330302- 254431	1	0.0
330302- 310302	5	0.0
330302- 313930	9	0.0
330302- 333930	3	0.0
331207- 311207	1	0.0
331247- 311245	2	0.0

CHANGE	Frequency	Percent
331247- 331245	18	0.0
331312- 311312	2	0.0
331338- 311338	22	0.0
331346- 311344	13	0.0
331346- 311346	10	0.0
332412- 312412	15	0.0
332413- 312413	5	0.0
332414- 312414	8	0.0
332447- 332445	2	0.0
332447- 333038	5	0.0
332448- 312448	2	0.0
332506- 312506	1	0.0
332507- 312507	10	0.0
332514- 312514	18	0.0
332515- 312515	10	0.0
332546- 312544	1	0.0
332546- 312546	3	0.0
332546- 313139	3	0.0
332546- 332544	20	0.0
332546- 333139	3	0.0
332547- 312547	40	0.0
332547- 332545	56	0.0
332547- 333138	12	0.0
332548- 312548	13	0.0
333802- 254502	19	0.0
333802- 313802	68	0.0
333803- 254503	23	0.0
333803- 313803	62	0.0
333812- 254512	1	0.0
333812- 313812	11	0.0
333832- 254530	2	0.0
333832- 313830	13	0.0
333832- 333830	35	0.0
333833- 254530	2	0.0
333833- 254531	7	0.0
333833- 313831	7	0.0
333833- 333831	7	0.0
333838- 254538	18	0.0

CHANGE	Frequency	Percent
333838- 274538	1	0.0
333838- 313838	98	0.0
333839- 254539	12	0.0
333839- 313839	105	0.0
333840- 254540	2	0.0
333840- 313840	7	0.0
333841- 313841	7	0.0
333846- 254544	4	0.0
333847- 254545	3	0.0
333847- 313845	1	0.0
333847- 333845	3	0.0
333849- 254549	3	0.0
333849- 313849	2	0.0
333857- 313857	2	0.0
333902- 254402	71	0.0
333902- 313902	104	0.0
333903- 254403	30	0.0
333903- 313903	115	0.0
333912- 254412	21	0.0
333912- 313912	40	0.0
333913- 313913	43	0.0
333932- 254430	34	0.0
333932- 254432	6	0.0
333932- 313930	23	0.0
333932- 313932	11	0.0
333932- 333930	3	0.0
333933- 254431	1	0.0
333933- 313931	16	0.0
333933- 313933	2	0.0
333933- 333931	5	0.0
333935- 254435	3	0.0
333938- 254438	141	0.0
333938- 313938	315	0.0
333939- 254439	37	0.0
333939- 313939	227	0.0
333941- 313941	44	0.0
333946- 254446	5	0.0
333946- 313946	2	0.0

CHANGE	Frequency	Percent
333947- 254447	12	0.0
333947- 313945	10	0.0
333947- 313947	20	0.0
333947- 333945	30	0.0
333948- 254448	24	0.0
333954- 313954	11	0.0
333956- 254456	21	0.0
333956- 313956	3	0.0
333957- 313957	4	0.0
334002- 314002	4	0.0
334038- 314038	3	0.0
334632- 334630	2	0.0
334633- 334631	2	0.0
334725- 314725	2	0.0
334902- 314902	8	0.0
334938- 314938	23	0.0
334948- 314948	4	0.0
335202- 315202	56	0.0
335203- 315203	59	0.0
335206- 315206	2	0.0
335207- 315207	3	0.0
335212- 315212	1	0.0
335213- 315213	19	0.0
335238- 315238	130	0.0
335239- 315239	78	0.0
335241- 315241	10	0.0
335247- 315245	2	0.0
335247- 315247	14	0.0
335302- 315302	19	0.0
335302- 335930	2	0.0
335303- 315303	31	0.0
335306- 315306	1	0.0
335313- 315313	8	0.0
335338- 315338	53	0.0
335339- 315339	51	0.0
335341- 315341	2	0.0
335346- 335344	9	0.0
335347- 315345	3	0.0

CHANGE	Frequency	Percent
335347- 315347	6	0.0
335349- 315349	1	0.0
335403- 315403	2	0.0
335447- 315445	2	0.0
335502- 315502	2	0.0
335538- 315538	2	0.0
335546- 315544	2	0.0
335602- 315602	29	0.0
335603- 315603	36	0.0
335607- 315607	8	0.0
335633- 315633	6	0.0
335638- 315638	48	0.0
335639- 315639	62	0.0
335702- 315702	86	0.0
335703- 315703	50	0.0
335706- 315706	4	0.0
335707- 315707	2	0.0
335712- 315712	6	0.0
335713- 315713	22	0.0
335714- 315714	6	0.0
335738- 315738	182	0.0
335739- 315739	161	0.0
335747- 315747	8	0.0
335747- 335745	15	0.0
335749- 315749	63	0.0
335803- 315803	4	0.0
335839- 315839	2	0.0
340233- 340231	1	0.0
340249- 344457	2	0.0
340302- 343930	1	0.0
340348- 563148	2	0.0
342447- 343038	12	0.0
343447- 343445	2	0.0
343803- 344503	7	0.0
343813- 344513	1	0.0
343839- 344539	16	0.0
343847- 343845	3	0.0
343847- 344547	1	0.0

CHANGE	Frequency	Percent
343932- 343930	9	0.0
343933- 343931	1	0.0
344625- 344425	1	0.0
344833- 344831	8	0.0
345202- 345831	1	0.0
345347- 345345	1	0.0
345647- 345645	12	0.0
345747- 345745	16	0.0
352447- 353038	20	0.0
352546- 352544	2	0.0
352546- 353139	3	0.0
353447- 353445	6	0.0
353833- 353831	3	0.0
353846- 353844	2	0.0
353847- 353845	11	0.0
354833- 354831	6	0.0
354932- 354930	2	0.0
355746- 355744	22	0.0
355747- 355745	47	0.0
380203- 384425	3	0.0
382433- 382431	11	0.0
382447- 382445	1	0.0
382533- 382531	30	0.0
382633- 382631	11	0.0
382733- 382731	22	0.0
383324- 383124	2	0.0
383333- 383331	14	0.0
383347- 383345	2	0.0
383348- 383148	1	0.0
383433- 383431	2	0.0
383832- 383830	18	0.0
383833- 383831	15	0.0
383847- 383845	1	0.0
384625- 384425	2	0.0
385532- 385530	1	0.0
390233- 390231	9	0.0
392432- 392430	29	0.0
392532- 392530	55	0.0

CHANGE	Frequency	Percent
393332- 393330	4	0.0
402446- 402444	15	0.0
412432- 412430	6	0.0
412446- 412444	15	0.0
412532- 412530	12	0.0
460257- 440257	8	0.0
462406- 442406	2	0.0
462412- 442412	16	0.0
462414- 442414	3	0.0
462424- 442424	18	0.0
462446- 442444	13	0.0
462446- 442446	60	0.0
462446- 443039	2	0.0
462456- 442456	54	0.0
462512- 442412	8	0.0
462512- 442512	18	0.0
462524- 442524	15	0.0
462533- 462531	7	0.0
462546- 442544	17	0.0
462546- 442546	7	0.0
462546- 443039	2	0.0
462546- 443139	10	0.0
462546- 462544	7	0.0
462548- 442548	3	0.0
463239- 443239	2	0.0
463246- 443246	2	0.0
463338- 443338	2	0.0
463346- 443346	2	0.0
463538- 443538	24	0.0
463824- 443824	2	0.0
463827- 443827	4	0.0
463833- 443833	8	0.0
463835- 443835	1	0.0
463924- 443924	4	0.0
463925- 443925	9	0.0
463954- 443954	2	0.0
463955- 443955	6	0.0
464124- 444124	2	0.0

CHANGE	Frequency	Percent
464625- 444625	3	0.0
464725- 444725	4	0.0
465602- 445602	5	0.0
465638- 445638	6	0.0
470072- 450072	3	0.0
470257- 450257	44	0.0
470324- 450324	9	0.0
470338- 450338	17	0.0
470348- 450348	1	0.0
472413- 452413	7	0.0
472415- 452415	5	0.0
472432- 472430	14	0.0
472447- 452445	31	0.0
472447- 452447	4	0.0
472447- 453038	41	0.0
472447- 472445	20	0.0
472447- 473038	15	0.0
472449- 452449	9	0.0
472507- 452507	1	0.0
472513- 452513	15	0.0
472532- 472530	17	0.0
472547- 452545	48	0.0
472547- 452547	19	0.0
472547- 453138	46	0.0
472547- 472545	4	0.0
472549- 452549	1	0.0
473338- 453038	4	0.0
473338- 453138	12	0.0
473338- 473138	14	0.0
473339- 453339	16	0.0
473347- 453347	3	0.0
473438- 453438	55	0.0
473439- 453439	4	0.0
473449- 453449	2	0.0
473502- 453502	8	0.0
473548- 453548	14	0.0
473824- 453824	27	0.0
473825- 453825	55	0.0

CHANGE	Frequency	Percent
473826- 453826	6	0.0
473827- 453827	8	0.0
473832- 453832	14	0.0
473833- 453833	9	0.0
473834- 453834	2	0.0
473858- 453858	6	0.0
473924- 453924	7	0.0
473925- 453925	21	0.0
473933- 453933	7	0.0
473954- 453954	4	0.0
473955- 453955	1	0.0
474124- 454124	9	0.0
474125- 454125	22	0.0
474625- 454625	1	0.0
474725- 454725	10	0.0
474924- 454924	2	0.0
475425- 455425	1	0.0
475746- 475744	6	0.0
492432- 492430	2	0.0
492532- 492530	1	0.0
492547- 493138	6	0.0
542433- 542431	4	0.0
542447- 542445	20	0.0
542447- 543038	8	0.0
542533- 542531	1	0.0
542547- 543138	12	0.0
552433- 552431	2	0.0
552533- 552531	6	0.0
560332- 560330	30	0.0
562547- 562545	2	0.0
563303- 244631	16	0.0
563832- 563830	18	0.0
570332- 570330	22	0.0
572447- 572445	9	0.0
572447- 573038	26	0.0
572546- 572544	2	0.0
572547- 572545	2	0.0
573338- 251245	28	0.0

CHANGE	Frequency	Percent
573338- 573138	24	0.0
573832- 573830	36	0.0
582446- 582444	45	0.0
592432- 592430	6	0.0
592446- 592444	52	0.0
620038- 242445	2	0.0
620038- 243038	2	0.0
620047- 620045	67	0.0
630032- 630030	3	0.0
630038- 252445	6	0.0
630039- 252444	1	0.0
630039- 630044	8	0.0
630046- 630044	28	0.0
630047- 630045	108	0.0
2251247- 2251245	5	0.0
2254702- 2254502	18	0.0
2254703- 2254503	10	0.0
2254712- 2254512	10	0.0
2254738- 2254538	59	0.0
2254739- 2254539	15	0.0
2330073- 2310073	6	0.0
2333902- 2313902	10	0.0
2333903- 2313903	10	0.0
2333912- 2313912	20	0.0
2333938- 2313938	18	0.0
2333939- 2313939	57	0.0
3024725-45244725	1	0.0
3024902-45244902	1	0.0
3024938-45244938	3	0.0
3240073-45260073	4	0.0
3241247- 3241245	35	0.0
3244702- 3244502	19	0.0
3244703- 3244503	10	0.0
3244712- 3244512	10	0.0
3244738- 3244538	60	0.0
3244739- 3244539	15	0.0
3244832- 3244830	3	0.0
3320073- 3300073	2	0.0

CHANGE	Frequency	Percent
3323902- 3303902	19	0.0
3323903- 3303903	18	0.0
3323912- 3303912	34	0.0
3323938- 3303938	22	0.0
3323939- 3303939	44	0.0
3340302- 3343930	1	0.0
3343932- 3343930	9	0.0
3523924-45593924	2	0.0
3563832- 3563830	5	0.0
6330073- 6310073	3	0.0
6333939- 6313939	9	0.0
7320073- 7300073	1	0.0
7323939- 7303939	1	0.0
13244702-13244502	34	0.0
13244703-13244503	20	0.0
13244712-13244512	20	0.0
13244738-13244538	115	0.0
13244739-13244539	30	0.0
13323902-13303902	10	0.0
13323903-13303903	10	0.0
13323912-13303912	20	0.0
13323938-13303938	18	0.0
13323939-13303939	27	0.0
24022546-24022544	1	0.0
24022546-24023139	2	0.0
24123932-24123930	3	0.0
24241247-24241245	33	0.0
24244702-24244502	8	0.0
24244703-24244503	8	0.0
24244712-24244512	8	0.0
24244738-24244538	42	0.0
24244739-24244539	14	0.0
24244832-24244830	3	0.0
24254702-24254502	13	0.0
24254703-24254503	21	0.0
24254707-24254507	3	0.0
24254712-24254512	9	0.0
24254738-24254538	69	0.0

CHANGE	Frequency	Percent
24254739-24254539	53	0.0
24320073-24300073	10	0.0
24323902-24303902	31	0.0
24323903-24303903	30	0.0
24323912-24303912	58	0.0
24323938-24303938	47	0.0
24323939-24303939	106	0.0
24330073-24310073	15	0.0
24333902-24313902	6	0.0
24333903-24313903	6	0.0
24333912-24313912	12	0.0
24333938-24313938	12	0.0
24333939-24313939	79	0.0
24472532-24472530	12	0.0
24473825-24453825	6	0.0
25244702-25244502	14	0.0
25244703-25244503	10	0.0
25244712-25244512	10	0.0
25244738-25244538	54	0.0
25244739-25244539	15	0.0
25254702-25254502	31	0.0
25254703-25254503	36	0.0
25254706-25254506	1	0.0
25254707-25254507	6	0.0
25254712-25254512	18	0.0
25254738-25254538	138	0.0
25254739-25254539	91	0.0
25320072-25300072	11	0.0
25320073-25300073	13	0.0
25323902-25303902	29	0.0
25323903-25303903	29	0.0
25323912-25303912	57	0.0
25323938-25303938	49	0.0
25323939-25303939	101	0.0
25330072-25310072	2	0.0
25330073-25310073	9	0.0
25333902-25313902	9	0.0
25333903-25313903	9	0.0

CHANGE	Frequency	Percent
25333912-25313912	18	0.0
25333938-25313938	17	0.0
25333939-25313939	65	0.0
25340302-25343930	3	0.0
25343932-25343930	27	0.0
25472532-25472530	11	0.0
25473825-25453825	6	0.0
25492432-25492430	2	0.0
32133802-30133802	30	0.0
32133803-30133803	3	0.0
32133838-30133838	33	0.0
32240073-30240073	4	0.0
32250072-30250072	6	0.0
32383832-30383832	6	0.0
32390257-24440257	2	0.0
32390257-30390257	6	0.0
32392424-30392424	1	0.0
32392456-30392456	3	0.0
32393825-30393825	6	0.0
32393924-30393924	2	0.0
32393925-30393925	4	0.0
32394124-24444124	2	0.0
32394124-30394124	2	0.0
32394725-30394725	8	0.0
32472432-32472430	4	0.0
32533924-30533924	2	0.0
32533933-30533933	2	0.0
32563924-30563924	1	0.0
32573824-30573824	2	0.0
32573825-30573825	2	0.0
32573924-30573924	2	0.0
32573954-30573954	4	0.0
33133802-31133802	5	0.0
33133803-31133803	2	0.0
33240072-31240072	2	0.0
33240073-31240073	4	0.0
33250072-31250072	7	0.0
33380338-25450338	2	0.0

CHANGE	Frequency	Percent
33380338-31380338	1	0.0
33383832-31383832	6	0.0
33384125-31384125	5	0.0
33390257-25440257	18	0.0
33390257-31390257	6	0.0
33393825-31393825	12	0.0
33393833-25443833	8	0.0
33393924-31393924	2	0.0
33393925-31393925	2	0.0
33393954-31393954	2	0.0
33394124-31394124	2	0.0
33394725-31394725	4	0.0
33574925-31574925	16	0.0
33574957-31574957	6	0.0
34343932-34343930	2	0.0
35343932-35343930	3	0.0
35383832-35383830	18	0.0
38242547-38242545	4	0.0
38245302-38245931	2	0.0
38245347-38245345	2	0.0
38245746-38245744	1	0.0
38245747-38245745	2	0.0
38252547-38252545	6	0.0
38262547-38262545	4	0.0
38262547-38263138	2	0.0
38272546-38272544	5	0.0
38330302-38333930	1	0.0
38332547-38332545	12	0.0
38355747-38355745	16	0.0
38382447-38382445	1	0.0
39245647-39245645	2	0.0
39252447-39252445	18	0.0
39253239-39253039	12	0.0
39255647-39255645	2	0.0
46242448-44242448	18	0.0
46245602-44245602	5	0.0
46254835-44254835	2	0.0
46255347-46255345	2	0.0

CHANGE	Frequency	Percent
46383339-44383339	8	0.0
47241338-45241338	3	0.0
47242446-47242444	12	0.0
47244902-45244902	9	0.0
47244938-45244938	27	0.0
47244948-45244948	5	0.0
47252447-47253038	8	0.0
47343802-45343802	3	0.0
47343838-45343838	3	0.0
47383247-45383247	4	0.0
47383339-45383339	15	0.0
47383439-45383439	2	0.0
49353833-49353831	2	0.0
54245747-54245745	4	0.0
55242547-55242545	2	0.0
56032447-56032445	6	0.0
56032447-56033038	14	0.0
56382447-56382445	1	0.0
57032447-57032445	6	0.0
57032447-57033038	6	0.0
57355747-57355745	6	0.0
57382447-57382445	2	0.0
62003847-62003845	10	0.0
62004702-62004502	2	0.0
62004703-62004503	6	0.0
62004706-62004506	1	0.0
62004707-62004507	3	0.0
62004738-62004538	23	0.0
62004739-62004539	24	0.0
63003846-63003844	2	0.0
63003847-63003845	3	0.0
63003902-63004130	4	0.0
63003946-63003944	8	0.0
63004638-63004438	11	0.0
63004639-63004439	2	0.0