THE 1983 MEETING OF THE POPULATION ASSOCIATION OF AMERICA

The 52nd Annual Meeting of the Population Association of America was held in Pittsburgh, Pennsylvania, at the Pittsburgh Hilton Hotel, April 14 to 16, 1983. The program included 58 sessions of papers, 1 panel session, and approximately 26 round table luncheons. Abstracts of the papers are provided in the following pages in order of the session at which the paper was presented. Several abstracts have been revised and updated since their publication in the booklet distributed at the conference, and others are included that were not available at the conference. Addresses to which requests for copies of papers should be sent are also given. An index to authors of these papers is included at the end of this issue.

MACROECONOMIC-DEMOGRAPHIC INTERRELATIONS
Organized and Chaired by
Richard E. Bilsborrow, University of North Carolina

Fertility Decline: How Important is Economic Development?
Andrew Mason, East-West Population Institute, East-West Center, 1777 East-West Road, Honolulu, HI 96848; Daniel B. Suits, Michigan State University; and Mathana Phananiramai, Thamassat University.

Estimates of the effect of urbanization, income, education, and child mortality on the total fertility rate are presented based on analysis of 1970 data from approximately 70 countries. Results are compared with actual trends in fertility in Indonesia, the Republic of Korea, Japan, and Thailand. The estimated equation satisfactorily predicts 1970 fertility rates in each country; however, actual fertility decline has been substantially faster in most cases than that implied by the estimated fertility relationship. Approximately one-half of the additional decline in Japanese and Korean fertility can be attributed to their unusually high rates of social and economic development. The remainder in the Republic of Korea and Japan and the additional decline in Thai fertility are accounted for by other factors.

Demographic Effects of Changes in the Growth and Distribution of Aggregate Income in Developing Countries
Calman R. Winegarden, Department of Economics, University of Toledo, Toledo, OH 43606.

The purpose of this paper is to measure the effects on fertility and mortality that would result from either an acceleration in the rate of economic growth or a lessening of income inequality across households. A multi-equation econometric model is designed to capture both direct and indirect relationships among the key variables. Data for a cross section of developing countries are used to test the model and to provide estimated parameters for simulation experiments. The simulations gauge the end results of complex causal processes under differing initial conditions and varying assumptions with respect to income growth and distribution. They suggest that the effects are sensitive to the level of economic development and that different economic policies may be demographically appropriate at various stages.

Basic Needs Satisfaction and Demographic Changes
Efraim Gutkind, International Labour Office, CH-1211, Geneva 22, Switzerland.

No abstract received.

Endogenous Fertility in a Neoclassical Growth Model

Zvi Eckstein, Economic Growth Center, Yale University, 27 Hillhouse Avenue, New Haven, CT 06511; and Kenneth Wolpin, Yale University.

The authors analyze the allocation of resources and the determination of fertility within a competitive neoclassical growth model in which fertility is subject to choice at the level of the individual. They first investigate the steady state of this economy and compare its characteristics with those of an equivalent social planner problem. It turns out that the competive allocation is characterized by fewer children and more savings than is the planner allocation. The possible associations between fertility (the rate of population growth) and income per capita are then characterized over the equilibrium time-series path of a particular economy and in the cross section, i.e., at the steady state of different economies. The competive growth model presented is shown to generate patterns of population and income per capita growth that are consistent with recent time-series evidence for developed countries and with cross-sectional evidence.

SUPPLY OF CHILDREN UNDER NATURAL FERTILITY
Organized and Chaired by
Jane Menken, Princeton University

Natural Fertility in Matlab, Bangladesh

Stan Becker, University Program in Demography, Vrije Universiteit, 2 Pleinlaan M128, 1050 Brussels, Belgium; Alauddin Chowdhury, International Centre for Diarrhoeal Disease Research, Bangladesh; and Sandra Huffman, Johns Hopkins University.

The authors report on a four-year prospective study of natural fertility in Matlab, Bangladesh. Approximately 2,000 women were asked each month about their reproductive status, breast-feeding practice, presence of husband, and similar questions. Nutritional measurements were taken during the first year of the study, and a question on frequency of intercourse was added in the last year. Analyses of seasonal patterns of the risks of resumption of menstruation postpartum and of conception are presented. The median waiting time to conception is 7 months, and the median duration of amenorrhea following a live birth is 15 months. Analyses of differentials in the birth interval components by socioeconomic status are also given.

Sterility in a Natural Fertility Population

Geraldine P. Mineau, Department of Human Genetics, University of Utah, 50 N. Medical Drive, Salt Lake City, UT 84112; and Douglas L. Anderton, University of Utah.

Data from a natural fertility population are investigated as an alternative approach to clinical studies in the estimation of the age-related incidence of sterility. In an analysis limited to the investigation of patterns of sterility onset, an age schedule of sterility is stratified by a number of covariates including age at marriage, age at first birth, interval to first birth, family size, and age difference with spouse. In addition, these variables are used in a discriminant analysis of women who cease childbearing prior to age 40. This research highlights the potential of historical data for elaborating patterns of sterility in relation to other population characteristics.

The Estimation of Natural Fertility: A Micro Approach
Eileen M. Crimmins, Andrus Gerontology Center, University of Southern California, Los Angeles, CA 90089-0191; and Richard A. Easterlin, University of Southern California.

The authors present a new approach to estimating natural fertility for developing countries based on micro-level data. A "proximate determinants" equation is estimated using two-stage least squares from household data for females aged 35-44 in intact marriages. The dependent variable is children ever born; the independent variables include duration of marriage, duration of fertility control, first and second birth intervals, secondary sterility, duration of breast-feeding, pregnancy wastage, and infant and child mortality. The predicted natural fertility of each household is then estimated from this regression equation by setting the value for fertility control equal to zero and entering the household's actual values of all other variables. A macro-level estimate of the population's natural fertility is obtained as the mean of the household estimates and is compared with two other macro-level estimates obtained using Bongaarts's approach and that of Srinivasan and Jejeebhoy. The analysis is based on World Fertility Survey data for Sri Lanka and Colombia.

Fertility Exposure Analysis
John N. Hobcraft, Analysis Section, World Fertility Survey, 35-37 Grosvenor Gardens, London SW1W 0BS, England; and Rod Little, American Statistical Association.

Several recent papers have addressed the problem of assessing the impact of the proximate determinants on fertility. All rely on combining a series of separately estimated aggregate-level indicators. In this paper, the authors propose an approach that uses individual-level data and thus permits regression analysis on individuals as well as aggregate analyses for subgroups. The approach overcomes several deficiences in the measurement and formation of indexes proposed elsewhere. The measurement approach used involves attributing exposure to one or more of several states, including pregnancy, lactational and non-lactational components of postpartum amenorrhea, absence of sexual relations, and contraception. Key elements are efficacies of contraception and of components of postpartum amenorrhea and the treatment of overlaps through an explicit hierarchy. Both unconditional (or additive) and conditional (or multiplicative) analyses are treated. The authors illustrate this method using World Fertility Survey data from the Dominican Republic. Intriguing findings on the age-specific pattern of fertility control emerge.

IMMIGRATION POLICIES IN INDUSTRIALIZED REGIONS
Organized and Chaired by
Monica Boyd, Carleton University

Family Reunification and Philippine Migration to the United States: The Intended Immigrants' Perspective
Gordon F. De Jong, Population Issues Research Center, Pennsylvania State University, 22 Burrowes Building, University Park, PA 16802; and Ricardo G. Abad, Ateneo de Manila University.

This paper focuses on the impact of the family reunification provision in U.S. immigration policy on legal immigration from the Philippines. First, the authors analyze official U.S. Immigration and Naturalization Service data on the changing pattern of Philippine immigration to the United States between 1970 and 1979. The data show a tripling in the number of immediate family

members not subject to numerical limitations and a doubling in the number of immigrants entering under family preference categories. Second, they analyze immigration-related knowledge, attitudes, and behavior from the potential immigrants' perspective. The data are from a 1980 household-level migration survey conducted in Illocos Norte Province. A family reunification policy-based typology is constructed to categorize intended immigrants to the United States. Based on this typology, systematic differences are reported for out- and return migration plans, family contacts, information flow, the immigration process, and characteristics of intended immigrants.

U.S. Immigration Law and Immigrant Behavior: A Longitudinal Analysis

Guillermina Jasso, Department of Sociology, University of Minnesota, 1114 Social Science, 267 19th Avenue South, Minneapolis, MN 55455; and Mark R. Rosenzweig, University of Minnesota.

In this paper, the effects of the selection criteria embodied in U.S. immigration law and legal immigrants' own characteristics on four behaviors subsequent to immigration are investigated. These behaviors include naturalization and its timing, occupational mobility, and geographic mobility. Data are drawn from U.S. Immigration and Naturalization Service (INS) immigration records for a probability sample of 3,758 individuals from the cohort of persons who became permanent resident aliens in fiscal year 1971 and from INS naturalization records for that subset of the cohort sample who had been naturalized by 1979. Preliminary results indicate that the provisions of U.S. immigration law are significantly associated with immigrant behavior in the United States. Immigrants without kin who must undergo labor certification and immigrants with prior residence in the United States are more likely to naturalize, as are natives of the Eastern Hemisphere. The latter especially exemplify the subtle incentives of U.S. law, which prior to 1978 permitted only Eastern Hemisphere natives to be sponsored for numerically limited immigration by U.S. citizen kin.

Immigration Policy in France: Recent Developments

Daniel Kubat, Department of Sociology, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada.

There were two periods in France when the government was limiting immigration: the Great Depression and the oil crisis of the mid-1970s. This paper is concerned with French immigration policies since 1974 and, specifically, with contrasting policies of the conservatives and the socialists (the latter coming to power in May 1981). The primary difference in policies identified concerns the handling of return migration. With regard to other issues, such as the accepting of refugees, making provisions for migrants' integration, and accepting family members of foreigners already in France, there is little leeway available to any government regardless of political persuasion. This is so because of supranational pressures, bilateral agreements, the obligations of decolonization, and factors related to Common Market membership. The author suggests that the conservatives were characterized by a "get tough" policy regarding return migration, whereas the socialists, at least at first, appear to be steering a more liberal course.

New Directions in Canadian Immigration Policy: The Role of Planning

Chris Taylor, Canada Employment and Immigration Commission, Ottawa, Ontario K1A 0J9, Canada.

In the past five years, Canadian immigration planning has gone through some fundamental policy changes that are a reflection of the Immigration Act of 1976. At present, current policy for permanent immigrants is reflected in the three major components--the immediate family, refugees, and the economic immigrant. The criteria for determining levels in each component are presented, and the relationship of component planning to resource deployment at posts abroad and resource support for settlement in Canada is explained. Finally, some key future policy issues are discussed.

DEMOGRAPHY OF RACIAL AND ETHNIC GROUPS
Organized and Chaired by
Michael Hout, University of Arizona

Ethnic Composition of the United States: Findings from the 1979 Current
Population Survey

Stanley Lieberson, Department of Sociology, University of Arizona, 400 Social
Science Building, Tucson, AZ   85721; and Lawrence Santi, University of
Arizona.

Until recently, nativity data on the first and second generations (the
foreign stock) have been the primary source of census information on white
ethnic groups in the United States. With the development of an ancestry item,
it is now possible to deal with all generations and in non-birthplace terms.
The 1979 Current Population Survey provides a rare opportunity to cross-
tabulate the results obtained from each system in order to determine the
degree of overlap in the populations and the extent to which inferences about
the social characteristics of ethnic groups are altered by the classification
system used.   For the first time, some conclusions can be drawn about the
probable appropriateness of using nativity data for earlier periods as a
surrogate for information on ethnic groups.

Residential Segregation and Demographic Behavior: The Black and Hispanic
Populations in New York City, 1980

Jeffrey Getis, 291 Henry Street, Apt. 1, Brooklyn, NY   11201; and Rena
Cheskis, Yale University.

In this paper, an investigation is undertaken to explore the
interrelationship between residential segregation and demographic behavior
among the black and Hispanic populations in the five boroughs of New York
City.   The authors first set out to assess the patterns of residential
distribution among the two groups. Through the use of a computer-graphics
system, a methodology is employed that identifies areas of minority
concentration by analyzing the spatial· relationships between census blocks.
The analysis shows blacks to be highly clustered but residing in few areas of
the city, while the less clustered Hispanics are more dispersed.   The
populations are then divided into the residentially segregated and dispersed,
and income, education, and family-type characteristics are explored.   The
residentially dispersed have higher income levels, more education, and more
two-parent families. Differences are more substantial among the Hispanics,
and some variation is uncovered across the five boroughs.

Racial Differences in the Fertility Process

Craig A. St. John, Department of Sociology, University of Oklahoma, Norman, OK
73019; and Harold G. Grasmick, University of Oklahoma.

The research reported on in this paper is an elaboration of the minority-
group status hypothesis as an explanation of black/white differences in
fertility.   Data from Cycle II of the U.S. National Survey of Family Growth
replicate previous findings that the tendency of blacks to have higher
cumulative fertility than whites decreases as education increases. The study
goes beyond previous studies by identifying the stages in the fertility
process at which race affects fertility outcome.   Racial differences in the
likelihood of being childless, age at first birth, birth intervals, and age at
termination of childbearing are examined at various educational levels.   The
analysis suggests that all of these factors contribute to the higher fertility
of blacks relative to whites at low and moderate levels of education. Among
college-educated women, blacks create the potential for higher total fertility
than whites by being less likely to be childless and having a younger age at
first birth.   In the subsequent stage of the fertility process, college-
educated black females offset this by having longer intervals between births
than comparably educated whites.

What do Current Estimates of Hispanic Mortality Really Tell Us?
Teresa A. Sullivan, Population Research Center, University of Texas, 1800 Main Building, Austin, TX 78712; and Francis P. Gillespie, St. Joseph's University.

The plausibility of recent estimates of Hispanic mortality is reviewed in light of recent evidence on the extent of age misreporting, differing definitions of "Hispanic" on third-party identifiers (such as death certificates), illegal immigration and census undercounts, and cause of death data. The effect of several alternative assumptions on these estimates is explored using data from the state of Texas and from the Catholic parish death record study of 1980.

HEALTH-MORBIDITY-MORTALITY INTERRELATIONS
Organized and Chaired by
Harry M. Rosenberg, U.S. National Center for Health Statistics

Health Consequences of Mortality Decline among Older Americans
Eileen M. Crimmins, Andrus Gerontology Center, University of Southern California, Los Angeles, CA 90089-0191.

The central question asked in this paper is whether the reduction in mortality among older Americans has been accompanied by an improvement in the health of the surviving population or whether the mortality decline has resulted in increases in the proportion of the older population with poor health and/or disabling conditions. In order to answer the question, death rates by cause, age, and sex are related to measures of disease incidence and prevalence for the same age-sex groups. These cause-specific morbidity measures are then related to measures of disability and restricted activity. Data from the National Health Interview Survey for 1970 and 1977 are used as the source of data on morbidity, disability, and restricted activity.

Longer Life but Worsening Health? Trends in Health and Mortality of Middle-aged and Older Persons
Lois M. Verbrugge, Institute for Social Research, University of Michigan, P.O. Box 1248, Ann Arbor, MI 48106.

This paper is concerned with trends in health for middle-aged (45-64) and older (65+) persons in the United States since 1957. Health indicators include acute condition incidence, restricted activity and bed days, chronic condition prevalence, and long-term limitations from chronic conditions. Many of the indicators suggest a worsening health profile for middle-aged and older people, yet mortality for them has declined markedly in the 1970s. The most plausible reasons for increased morbidity since 1957 are: earlier diagnosis of chronic diseases (so people are more aware of their health problems), lower mortality rates (which retain ill people in the living population), and, possibly, earlier accommodations to disease (which boost behavioral indicators such as bed disability). The paper ends with comments about the future health profile of middle-aged and elderly persons--in particular, how future cohorts will fare with regard to daily symptoms, long-term disability, morbidity just before death, and mortality rates. The principal data source for the paper is the National Health Interview Survey for the years 1957 through 1981.

Factors Shaping the Morbidity-Mortality Expectations of Youth: A Socialization Model
Charles B. Nam, Center for the Study of Population, Institution for Social Research, Florida State University, Tallahassee, FL 32306; and Thomas M. Harrington, Florida State University.

It is generally recognized that morbidity and mortality arise from processes that are both biological and social but that develop over the

individual's lifetime. Yet, little research has been undertaken to discover early lifetime influences on these processes. A socialization framework is adopted to examine the influence of parents (especially mothers) on young people's perceptions of future morbidity and mortality states. Data collected in a small-scale study are used to test some of the predicted relationships, and suggestions are offered for designing a larger study to test the fuller model.

The Influence of Physical Stature and Smoking Behavior on Socioeconomic Differentials in Pregnancy Outcome

Joel C. Kleinman, U.S. National Center for Health Statistics, FCB#2, Room 2-27, 3700 East-West Highway, Hyattsville, MD 20782; and Jennifer H. Madans, U.S. National Center for Health Statistics.

Socioeconomic differentials in perinatal mortality and morbidity have been documented since the early part of the twentieth century. In particular, mother's educational level has been found to be an important determinant of perinatal mortality and low birth weight (the best available indicator of perinatal morbidity). Physical stature and smoking behavior have been shown to be important determinants of pregnancy outcome as well. Furthermore, there are strong associations among physical stature, smoking behavior, and educational attainment. The U.S. National Natality and Fetal Mortality Survey of 1980 provides a unique source of national data on live births and fetal deaths and contains information about all these factors for each respondent. The aim of this analysis is to determine how much of the relationship between birth weight and education can be attributed to differences in height, pre-pregnancy weight, and cigarette smoking during pregnancy.

Proportional Mortality by Causes of Death among Farm Workers in Utah, 1968-1978

Stephen Hau-Wah Kan, Pacific/Asian American Mental Health Research Center, University of Illinois, 1001 West Van Buren, Chicago, IL 60607; John E. Brockert, Utah Department of Health; and Marvin I. Levy, Utah Department of Health.

Occupational mortality data for the period 1968-1978 for Utah are used to document the patterns of causes of death for farmers and farm managers and for farm laborers and foremen. The proportional mortality ratios (PMR) and the approximated standardized mortality ratios (SMR) are employed. The PMR of mental disorder due to alcoholism is found to be the lowest among the former group but the second highest among the latter group. For farmers and farm managers, the PMRs of most site-specific malignant neoplasms are substantially below unity, whereas for farm laborers and foremen, a reversed pattern is observed. Both groups have low PMRs for diseases of the nervous system and sense organs; for diseases of the digestive system, particularly cirrhosis of the liver; and for suicides and self-inflicted injury. Both groups also have high PMRs for non-vehicular farm-related accidents.

THE ECOLOGY OF HAWLEY: CRITIQUED BY HAWLEY
Organized and Chaired by
David F. Sly, Florida State University

The Metropolitan Community and Changing Spatial Orientation

Basil G. Zimmer, Department of Sociology, Brown University, Providence, RI 02912.

In the more widespread patterns of settlement developing in the United States today, the increases in the outer zones are at the expense not only of the central city but of the close-in suburban areas as well. The close-in suburbs are experiencing population losses similar to those that occurred in

the central city in a much earlier stage of metropolitan development. In terms of the more general hypotheses of this study, there is considerable evidence to show that segments of the metropolitan community are moving in the direction of self-sufficiency. This is particularly evident in the close-in suburban areas and on the fringes of the metropolitan area. The lack of focus on the central city for a range of activities is of particular interest. Even the central city residents are increasingly turning to the close-in suburbs to satisfy many of their daily needs. In the more distant zones the needs that are not satisfied within the zone are obtained disproportionately in the close-in suburbs and not in the central city as was the case in the early stages of suburbanization.

Contributions of Ecological Theory to Understanding Change in Nonmetropolitan America
John M. Wardwell, Department of Sociology and Rural Sociology, Washington State University, Pullman, WA 99164.

No abstract received.

A Dynamic Ecological Model of the System of Cities
David R. Meyer, Department of Sociology, Box 1916, Brown University, Providence, RI 02912.

Metropolises are differentiated on the vertical dimension in a hierarchy of dominance/subdominance. Interdependence occurs within the territory of the dominant metropolis and among metropolises at the national scale. This widely accepted description has not been elaborated conceptually; thus, understanding of the system of metropolises has made few advances since the completion of the classic studies. Building on Hawley's notion of the key function, the author stresses the role of economic intermediaries, which include financiers, wholesalers, and corporate headquarters, among others. They are the pivotal actors in metropolises. As economic growth and development occur, the intermediaries undergo a process of differentiation, involving variable power to control and coordinate interaction, and increased interdependence. Linkages among intermediaries are based on this differential specialization. Based on these ideas, a dynamic model of the system of metropolises is proposed.

LEADING ISSUES IN HISTORICAL DEMOGRAPHY
Organized and Chaired by
Susan C. Watkins, University of Pennsylvania

Contraception, Infant Mortality, and Breast-Feeding in Rural France, 1740-1829: Statistical Inferences from Family Reconstitution Data
David Weir, Department of Economics, Yale University, Box 1297 Yale Station, New Haven, CT 06520.

No abstract received.

Birth Spacing and Fertility Limitation
Douglas L. Anderton, Department of Sociology, University of Utah, Salt Lake City, UT 84112; and Lee L. Bean, University of Utah.

Extensive computerized genealogies for a nineteenth-century American frontier population undergoing a transition to fertility limitation are used to analyze birth interval dynamics. It is argued that previous historical demographic operationalizations of "spacing" and "truncation" behavior are often inadequate. Elaborations made possible by a large number of individual-

level records demonstrate that the study population was characterized by a diffuse increase in inter-birth intervals and that this fertility transition was largely due to inter-birth delays associated with smaller achieved family sizes.

Fertility Regulation in "Natural Fertility" Populations

Paul A. David, Department of Economics, Stanford University, Encing Hall, Stanford, CA 94305; Thomas A. Mroz, Stanford University; and Kenneth W. Wachter, University of California at Berkley.

Estimation of the parameters of a statistical model for the rank-specific distribution of live birth intervals achieves the main virtues of life table analysis and is less data-intensive. This approach is implemented in this study using maximum likelihood methods to fit parameters of the Weibull distribution as functions of interval-specific characteristics of individual married women. The study is based on reproductive histories for the Hutterite brethren and on family reconstitutions pertaining to women marrying at ages 20-24 in the period 1740-1769 in 40 villages in rural France. Both populations are generally described as exhibiting "natural fertility", in the sense of Henry and Coale. Nevertheless, in each population sample there appear clear indications of fertility regulation in the form of child spacing. More positive measures, in extension of and in addition to the deliberate variation of the duration of lactational amenorrhea, are indicated in the case of the rural French population. Such "spacing" behavior tended to be localized in certain villages and regions.

NEW DIRECTIONS IN FERTILITY RESEARCH
Organized and Chaired by
Donald J. Bogue, University of Chicago

Determinants of Contraceptive Use and Choice of Method in Peninsular Malaysia

Julie DaVanzo, Economics Department, Rand Corporation, 1700 Main Street, Santa Monica, CA 90406; William P. Butz, U.S. Bureau of the Census; Tan Boon Ann, National Family Planning Board, Malaysia; and Ramli Othman, National Family Planning Board, Malaysia.

Increases in the use of contraceptives, especially effective modern methods, have been a major factor contributing to the dramatic fertility decline in Malaysia since World War II. The authors use dichotomous and polytomous logit estimation techniques to explain variations in contraceptive practice and choice of contraceptive method following pregnancies in this time period. The findings indicate that women who do not want more children are much more likely to practice contraception and to do so with effective methods, compared with women who have not yet reached their family size goal. Education increases the likelihood of contraceptive use and is strongly associated with the likelihood that safe time (rhythm) is used. Higher income is associated with greater use of sterilization, the pill, and condoms. Longer postpartum amenorrhea or a recent child death are found to discourage contraceptive use.

Recent Research on the Availability of Family Planning Methods in Developing Countries

Richard M. Cornelius, U.S. Agency for International Development, Office of Population. Mailing address: 6022 N. 22nd Road, Arlington, VA 22205; and John A. Novak, Westinghouse Health Systems.

After reviewing some of the recent literature on the relationship between contraceptive availability and use, the authors present an analysis of recent Contraceptive Prevalence Survey (CPS) data from Costa Rica, Thailand, Colombia, Honduras, and Nepal. Multiple classification analysis (MCA) is used

to test the relative strength of the relationship between contraceptive use and availability when selected socioeconomic status variables are taken into account. The findings suggest that contraceptive availability has a particularly strong relationship with differential use in countries where availability is not universally high, in rural areas, and among users and potential users of supply methods. Implications of these findings for future research needs are discussed.

The Use of Contraception for Delaying and Spacing Births in Colombia, Costa Rica, and the Republic of Korea
Jill S. Grigsby, Heller School, Brandeis University, Waltham, MA 02154.

The author examines the use of contraception for delaying and spacing births in Colombia, Costa Rica, and the Republic of Korea. Log-linear analyses of current use and first use show that women who deliberately delay or space births tend to have more modern characteristics than women who are not using contraception or who wait until after completing their desired family size to begin use. Of the three countries studied, Costa Rica has the greatest proportion of women using contraception for delaying or spacing purposes, followed by Colombia and then Korea.

Religion and Fertility Reexamined
William D. Mosher, National Survey of Family Growth, U.S. National Center for Health Statistics, 3700 East-West Highway, Room 1-44, Hyattsville, MD 20782; and Gerry E. Hendershot, U.S. National Center for Health Statistics.

Using the 1973 and 1976 U.S. National Surveys of Family Growth, which included nationally representative samples totalling 14,000 married women, the authors present a wide range of national estimates of the fertility of religious groups in the United States. The study indicates that the difference in the current fertility of white Protestant and white Catholic couples continued until at least 1975. This difference persists even after controlling for age, education, and residence. The fertility of Jewish couples is lower than that of Protestant and Catholic couples, before and after adjustment. The fertility of black Catholic wives is much lower than that of black Protestant wives, but the difference disappears after adjustment. The fertility of wives with no religious affiliation is much lower than for Protestants, for both white and black couples, both before and after adjustment. In sum, religion continues to be an indispensable datum for understanding fertility differences in the United States.

INTERDISCIPLINARY PERSPECTIVES IN MIGRATION/MOBILITY RESEARCH
Organized and Chaired by
Peter A. Morrison, Rand Corporation

Linking Housing Choice and Residential Mobility Paradigms
William A. V. Clark, Department of Geography, University of California, Los Angeles, CA 90024.

Economists, demographers, and geographers have been interested in providing an explanation of housing choices and residential mobility. In the past, there have been two distinct streams of research: that by economists, which has focused on housing choice, and that by geographers and demographers, which has emphasized the relocation process itself. There is some evidence that these two research streams can now be brought together into a combined research paradigm. In this paper, the author examines the two research streams and discusses attempts to bring the research streams together. In the most recent of these attempts, a joint housing choice-residential mobility model is outlined using the multinomial logit technique.

A Dissaggregation of the Returns to Migration: An Empirical Analysis
Nan L. Maxwell, Department of Economics, Denison University, Granville, OH 43023; and David Shapiro, Pennsylvania State University.

The authors examine the extent to which economic returns to migration differ over time and by sex, number of moves, and marital status. Data from the young men's and young women's cohorts of the U.S. National Longitudinal Surveys for both migrants and a random group of nonmigrants provide support for the hypothesis that economic returns to migration are not uniform. Young women who had separated from their husbands show evidence of investing in migration as a form of human capital. For men, it appears that migration gains are outweighed by the loss of specific human capital, while for women the act of migration is damaging, especially for married women who are chronic movers. Because these women appear to be moving with their husbands (tied movers), their earnings suffer and continue to suffer over time.

Incorporating Constraints into an Attitude-Based Model of Migration Intentions
Kevin E. McHugh, Department of Geography, University of Illinois, 220 Davenport Hall, 607 South Mathews Avenue, Urbana, IL 61801-3671.

A model is advanced that explains migration intentions in terms of social-psychological and situational determinants. The model incorporates an attitude element and a normative influence factor, both of which are determined by underlying beliefs and values concerning migration. The model also incorporates an index of anticipated constraints that captures situationally determined contingencies to moving. An empirical test of the path model illustrates that anticipated constraints influence migration intentions indirectly through the attitudinal and normative components but also exert an even stronger direct effect on moving intentions. The results highlight the importance of viewing the migration decision process within a broad situational context. Ongoing research is addressing the role of constraints in mediating the causal link between migration intentions and subsequent behavior.

Logit Models of Migration and Inter-Metropolitan Migration Streams
John Brennan, Southern California Edison Company. Mailing address: 2244 Walnut Grove Avenue, P. O. Box 800, Rosemead, CA 91770.

The processes underlying mobility and migration are contrasted with those pertaining to distributional preferences for separate regional migration streams. Life cycle factors are reaffirmed as being both conceptually and empirically important in distinguishing movement within a central city-suburban regional system. Logit models are decomposed and fitted in procedures analogous to stepwise regression for all migrants and two separate migration streams using data from a representative sample of the U.S. population for the period from 1975 to 1977. Life cycle effects are further contrasted with those for age. Results are supportive of a sequential decision-making model where specific alternative destination locations are determined after the general decision to move or migrate is made.

DEMOGRAPHIC CHANGE AND SOCIOECONOMIC INEQUALITY
Organized and Chaired by
Robert Repetto, Harvard University

Schooling Inequality between and within the Sexes in the Philippines
Elizabeth M. King, Rand Corporation, 1700 Main Street, Santa Monica, CA 90406; and Lee A. Lillard, Rand Corporation.

The authors address issues related to inequality in schooling, both with regard to enrollment rates and final attainment. The paper is concerned with

(1) schooling differences among demographic groups, especially between males and females, (2) inequality between and within families, (3) cohort trends in schooling, (4) the effects of development policies, such as school-building programs, on schooling attainment, and (5) other important determinants of schooling. The statistical model used is one in which individuals choose a schooling level based on an underlying regression equation for a desired level of human capital. Schooling attainment is treated as a discrete variable, and censored observations are fully accounted for. The model is applied to family survey data collected in the Philippines in 1978. The effects of birth cohort, sibling order, parents' education, land ownership and use, rural or urban residence, and distance to school on schooling choice are considered. Estimated parameters are found to be different for males and females. The authors also find strong significant correlation among siblings. The correlation is almost identical for brothers, sisters, and brother-sister pairs, indicating a family component unrelated to sex.

Migration, Mobility, and Income Distribution
Rafiqul Huda Chaudhury, Department of Geography, Boston University, 48 Cummington Street, Boston, MA 02215.

It is hypothesized that intra-rural inequality is both the main cause and a serious consequence of rural out-migration. Deficit farmers and landless laborers who find it difficult to be absorbed in the local economy tend to be pushed out and wander in search of wages. These people, defined here as "push migrants", are likely to end up in low-paid, insecure, marginal urban employment, given their low education, lack of resources, and fewer contacts. But the children of prosperous farmers, defined as "pull migrants", are attracted to urban areas in order to acquire capital and skills and to further their economic position. Data employed in this study from places of origin and destination of migrants in Bangladesh show that upward educational, occupational, and economic mobility from pre- to post-migration occurs primarily among pull migrants. Education is the most important human capital factor determining urban income. Higher income on the part of pull migrants helps them to remit more money to their wealthy rural kin, purchase new land, and acquire other assets in rural and urban areas. These actions have the effect of further widening the income and productivity gap between the pull and push migrants and reinforce polarization in rural areas.

Income Inequality and Changing Population Composition
John J. Hedderson, Department of Sociology, University of Texas, El Paso, TX 79968; and Richard J. Harris, University of Texas at San Antonio.

The aging of the baby boom generation and the large pre-1920s cohorts have resulted in an increased proportion of young and old unmarried adults in the U.S. population. A recent increase in Theil's overall coefficient of inequality for family and unrelated individual income is predominantly attributable to these demographic and life-style compositional changes. The authors use measures of inter- and intra-group inequality to demonstrate that the overall intra-group coefficient of inequality has changed very little, but the inter-group coefficient has increased markedly in recent years. Changes in the proportions of old and young females and one-income couples aged 31-59 are the major factors behind the shifts in the overall coefficient of income inequality.

Social Class Inequality in Mortality from 1921 to 1972 in England and Wales
Elsie R. Pamuk, Population Studies Center, University of Pennsylvania, 3718 Locust Walk CR, Philadelphia, PA 19104.

The author uses data on occupational and social class mortality published decennially for England and Wales to examine the trend in the magnitude of class differentials in mortality from 1921 to 1972 for adult males, married women, and infants. Summary measures that take into account changes in the relative sizes of the social classes over time are used to show that absolute

inequality in mortality increased among adult males and married women during the 1950s and 1960s, and relative inequality increased for all three groups. An investigation of potential sources of bias in the data base confirms these initial findings. Finally, the causes and implications of rising levels of mortality inequality in a developed society are considered.

DEMOGRAPHY OF UNDERCLASS POPULATION
Organized and Chaired by
Reynolds Farley, University of Michigan

Possible Approaches for Social Science Research on the Underclass
Emmett D. Carson, Princeton Urban and Regional Research Center, Woodrow Wilson School, Princeton University, Princeton, NJ 08544.

A review of the literature is presented that indicates that the underclass concept has not been well defined. Its members are generally poor, but poverty alone does not define the underclass condition. Members have often been described in the qualitative literature as being alienated and isolated from the larger society. To date, the most ambitious quantitative researchers have defined the underclass using a two-dimensional method based on negative attitudes and demographic characteristics. The author suggests that a better approach to the study of the underclass would be a three-dimensional one in which the underclass was defined on the basis of negative attitudes, demographic characteristics, and asocial behavior. It is proposed that underclass research concentrate on able-bodied persons of working age who do not participate in the labor market and who exhibit asocial behavior. In addition, the national supported work demonstration data set is examined for its suitability for research on the criminal and long-term dependent underclass using this three-dimensional framework.

The Black Underclass: Demographic Evidence and Implications for Public Policy
Douglas G. Glasgow, School of Social Work, Howard University, Washington, DC 20059; and John Reid, Howard University.

The term "underclass" has gained broad public use to describe a relatively new social configuration most often found in the urban and minority communities of the United States. Yet, debate continues regarding the characteristics, etiology, demographics, and/or permanency of this population. Over the past decade, variations in black stratification patterns, population demographics, and current structural changes in the market economy have provided new insights into underclass developments. The authors examine important new realities that point to a significantly altered constellation typifying the class status of black America. New public policy strategies to address effectively these new factors are suggested.

Poverty across Generations: Is Welfare Dependency a Pathology Passed from One Generation to the Next?
Martha S. Hill, Institute for Social Research, University of Michigan, Room 3252, Ann Arbor, MI 48105; and Michael Ponza, University of Michigan.

This paper focuses on the intergenerational links in welfare dependency in the United States. A nationally representative sample of young adults observed for 14 years is used. For some of these years the young adults were in their parental family, and for some years they were on their own. The study design allows the examination of relationships between parents' status as measured by parents' report and offspring's status as a young adult as measured by the offspring's report. These data are used to investigate the class-related intergenerational pathology hypothesis about welfare dependency. The findings suggest that parental attitudes have little effect on offspring's welfare dependency. In addition, it is shown that intergenerational

transmission of welfare dependency does not occur for blacks and at most occurs for a very limited portion of whites with parents who were welfare dependents.

Psychological and Demographic Aspects of the Underclass

Mary Corcoran, Institute for Social Research, University of Michigan, Room 3266, Ann Arbor, MI 48105; Greg Duncan, University of Michigan; and Patricia Gurin, University of Michigan.

This paper begins with a review of the "culture of poverty", "underclass", and "welfare dependency" debates. The authors suggest that the key to these debates is the question: "Should poverty be viewed as a problem of insufficient resources or as a cultural issue?" Those who favor the cultural approach typically emphasize psychological deficits and/or behavioral deficiencies. National longitudinal data for the United States are used to describe resource poverty over the short and long run. These data indicate that about 25 percent of the population experience poverty at some point, and a much smaller group is poor for a very long time. The authors then describe the demographic characteristics of the long-term poor. This is followed by an analysis of whether there is an identifiable group of people who fit the cultural syndromes of the culture of poverty, underclass, and welfare dependency arguments. The authors also examine demographic characteristics, the incidence of multiple problems, the extent to which motivational traits affect economic well-being, and the intergenerational transmission of poverty and welfare status. They conclude by considering the images of the poor that should be used to develop policy guidelines.

The Youth Entitlement Demonstration: Subsidized Employment with a Schooling Requirement

George Farkas, School of Social Sciences, University of Texas at Dallas, Box 688 (GR 31), Richardson, TX 75080; D. A. Smith, Bentley College; and Ernst Stromsdorfer, Abt Associates.

The Youth Incentive Entitlement Pilot Projects offered a minimum wage job, part-time during the school year and full-time during the summer, to 16-19-year-olds who were from low-income households, had not yet graduated from high school, and were enrolled in school. The authors' finding of large positive employment effects for this population is strong evidence that the unemployment of these youths is largely involuntary and is due to demand deficiency at the minimum wage. Small positive school enrollment effects are also indicated, together with an employment displacement rate of 31.6 percent. In other words, the study suggests that 31.6 percent of subsidized employment would have been available for the target population even in the absence of the program.

POLITICAL-DEMOGRAPHIC INTERRELATIONS IN THIRD WORLD AREAS
Organized and Chaired by
Jason Finkle, University of Michigan

The Political Ecology of Population Change in Developing Areas

Gayl D. Ness, Center for Population Planning, School of Public Health, University of Michigan, Ann Arbor, MI 48109.

A political-ecological perspective is developed to explain the distinctive demographic conditions of our era. These conditions are identified as rapid population growth, widespread anti-natalist government policies, and pervasive government intervention into marital fertility. A combination of population density and political strength is used to explain Asia's leadership in anti-

natalism, the greater progress toward lowered fertility in China than in India, and the variance among Asian states in policy development, family planning program strength, and fertility decline. Political strength is defined as the inclusion of a strong central ruling group, a commitment to modern national economic development, and the capacity both to monitor social and economic change and to translate perceptions into official programs. Comparative analyses that employ a combination of historical case studies and path analytic techniques are used.

Viet Nam's Population

Judith Banister, Foreign Demographic Analysis Division, U.S. Bureau of the Census, Room 707, Scuderi Building, Washington, DC 20233.

This paper is a compilation and analysis of available information on the population of Viet Nam to date. In assessing the quality of reported demographic data or making estimates where data are unavailable, the author uses reports on the status of health and family planning separately for the north and the south. The paper includes sections on the distribution and density of the population, urbanization and ruralization trends, population redistribution within Viet Nam, the demography of minority groups, and international migration. A computer reconstruction of population trends in Viet Nam for the period 1960-1983 models the separate demographic experiences of the north and the south, combines the two parts into estimates for all Viet Nam, and also takes into account internal migration from north to south and emigration from Viet Nam for each year since 1975. In assessing demographic trends in Viet Nam up to 1983 as well as likely future trends, the author incorporates relevant information on Viet Nam's economy and political system.

International Relations and Domestic Political Consequences of International Labor Migrations

Myron Weiner, Department of Political Science, Massachusetts Institute of Technology, Cambridge, MA 02146.

The domestic political role and consequences for international relations of the migration of foreign workers into Western Europe and into the Middle East are compared. In both groups of countries and among their "temporary" migrants an illusion of impermanence and a myth of return persist in spite of growing evidence that many foreign workers are there to stay. There are, however, fundamental differences in the allocation of political rights and social and economic benefits by European and Middle Eastern governments to their foreign workers. These policy differences may not have significantly affected the rate of return migration, but they do influence the role played by foreign workers in the politics of their host countries and the relationship between sending and receiving countries.

MORTALITY TRENDS AND PROSPECTS IN DEVELOPING REGIONS
Organized by Leon Tabah, United Nations
Chaired by Larry Heligman, United Nations

Comparative Patterns of Child Mortality Differentials in Developing Countries

Barbara S. Mensch, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton, NJ 08544; H. Lentzner, University of Pennsylvania; S. Taber, University of Pennsylvania; M. Strong, University of Pennsylvania; and Nancy A. Denton, University of Pennsylvania.

The authors examine child mortality differentials in 15 developing countries using mainly the reverse-Brass procedure developed by Trussell and

Preston. They find that when controls are introduced for other variables, mother's education is a very important predictor of child mortality in virtually all countries and that the impact of her education on mortality is essentially independent of a country's level of mortality or region and of whether the mother lives in an urban or rural area. An additional year of mother's schooling reduces child mortality by 2 to 4.5 percent in most countries. Ethnic and religious differences are large, particularly in rural areas. Groups of Chinese extraction tend to have low child mortality wherever they live. Urban or rural residence and features of the housing structure are not closely associated with child mortality.

Health Conditions in Latin America and Policies for Mortality Change
Alberto Palloni, Center for Demography and Ecology, University of Wisconsin, 1180 Observatory Drive, Madison, WI 53706.

Evaluation of the potential impact of health policies aimed at diminishing death risks in Latin America would benefit if it were possible to determine (a) the exact role of past interventions in the rapid reductions of mortality that Latin American countries experienced after 1940 and (b) the magnitude of possible gains given the current state of mechanisms explaining mortality differentials across subgroups in these countries. In this paper, some heretofore unexplored evidence on the dynamic evolution of causes of death during the period 1940-1980 is reviewed. Some lessons drawn from this evidence are set forth, and their implications for population policies are summarized. In addition, based on some partial but quite representative evidence on mortality differentials in infancy, potential gains in survivorship are evaluated and linked to selected health policy interventions.

A Reevaluation of Levels and Trends of Mortality in East Africa
Douglas C. Ewbank, Population Studies Center, University of Pennsylvania, 3718 Locust Walk CR, Philadelphia, PA 19104; and John Kekovole, University of Pennsylvania.

Evaluation of the child survival data from the 1962, 1969, and 1979 censuses of Kenya allows selection of a pattern of mortality that produces the most consistent set of mortality estimates for the years 1950-1978. Similarly, new methods of estimating adult mortality are applied to data on orphanhood to provide estimates of trends in adult mortality. The result is improved estimates of mortality levels and trends for each of the 41 districts of Kenya. The improved estimates of the age pattern of mortality for Kenya are used to make assumptions about similar patterns in Uganda and Tanzania, thus leading to improved estimates of mortality for these two countries.

The Determinants of Excess Female Mortality
Eduardo E. Arriaga, U.S. Bureau of the Census. Mailing address: 4621 Wakefield Chapel Road, Annandale, VA 22003; and Peter O. Way, U.S. Bureau of the Census.

Typically, males experience higher levels of mortality than do females in a given society. Several countries, most notably in South Asia, have mortality patterns that are the reverse of this. That is, the expectation of life for females is lower than that for males. In this paper, the authors examine data for Sri Lanka on the causes of death by age. An analysis of the data on deaths in estate and non-estate areas by cause for the 1962-1964 period suggests that causes of death most closely related to nutritional levels are the main contributors to a differentially higher mortality of females relative to males in estate areas than in non-estate areas. It seems that causes of death related to childbearing do not significantly contribute to the higher female mortality. Sex differentials in mortality by cause and age are examined and discussed.

Causes of Death to Women of Reproductive Age in Egypt
Judith A. Fortney, Family Health International, 1 Triangle Drive, Research
Triangle Park, NC 27709; S. Saleh, American University in Cairo; S. Gadalla,
American University in Cairo; and S. M. Rogers, American University in Cairo.

Data on the causes of death of married women of reproductive age are
collected for one Egyptian governorate. The cause of death is diagnosed by a
panel of local physicians, who are able to determine the cause with reasonable
certainty in a majority of cases. In a small proportion of cases no estimate
of cause can be made. The leading cause of death in this population is found
to be heart disease (of which rheumatic heart disease is the main
contributor). The second cause is complications of pregnancy and childbirth.
Trauma is the third cause (of which burns are the main contributor). No other
cause contributes more than 10 percent of all deaths. Methodological
difficulties and problems of implementing such a study in a developing country
are also discussed.

NEW DIRECTIONS IN LABOR FORCE ANALYSIS
Organized and Chaired by
Ross M. Stolzenberg, Rand Corporation

Men's Labor Market Position and Age at Marriage
Valerie K. Oppenheimer, University of California at Los Angeles. Mailing
address: 10345 Strathmore Drive, Los Angeles, CA 90024.

No abstract received.

Timing, Stability, and Effects of Labor Force Entry: Assessing Implications
of Alternative First Job Indicators
Bruce A. Christenson, Center for Demography and Ecology, University of
Wisconsin, 3224 Social Science Building, Madison, WI 53706.

Labor force entry is a critical transition period in peoples' lives that
has important consequences for later career outcomes. Researchers use a
variety of "first job" indicators to represent labor force entry. Yet
discussion of this concept is limited, and the current literature does not
provide an evaluation of the empirical implications of alternative indicators.
The need for such evaluation increases when research seeks to compare labor
force entry across historical time. In this paper, retrospective life history
data on three distinct male Norwegian cohorts are used to assess the
implications of alternative first job indicators for inter-cohort comparisons
of (a) the timing of labor force entry, (b) the instability or stability of
early labor force experiences, and (c) the significance of early labor force
experience in the socioeconomic achievement process.

Changing Age-Sex Composition and Underemployment: Evidence from the United
States, 1969-1980
Clifford C. Clogg, Department of Sociology, Pennsylvania State University,
University Park, PA 16802; and James W. Shockey, Pennsylvania State
University.

The authors examine the effect of changing age and sex composition on
underemployment levels for the United States in the period from 1969 to 1980.
The data were obtained from 12 contiguous files of the March Current
Population Survey. The types of underemployment considered include (a)
discouraged workers, (b) unemployment, (c) part-time unemployment, (d) low-
income ("working poor"), and (e) occupational mismatch ("overeducation"). The

importance of compositional changes is established by log-linear models and chi-square comparisons. Two rate adjustment methods based on the log-linear model are used to calculate the magnitude of compositional effects on underemployment rates. The authors find that changing age and sex composition during this interval had little effect on underemployment (e.g., unemployment) either in absolute or relative terms.

Women's Gainful Employment in Los Angeles, California, 1880-1900, and Essex County, Massachusetts, 1880: How Domestic Norms and Industrial Development Influenced the Structure of Female Employment
Karen Oppenheim Mason, Population Studies Center, University of Michigan, 1225 South University Avenue, Ann Arbor, MI 48109; and Barbara Laslett, University of Southern California.

U.S. census data from 1880 and 1900 are analyzed in order to ascertain how women's gainful employment rates varied according to age, family position, and ethnicity under distinct economic and social conditions. Despite cross-sectional and inter-temporal variation in macroeconomic and social conditions, the age and family status correlates of women's gainful employment were remarkably stable. Macroeconomic and social conditions influenced employment rates and the occupations at which women worked, as did family economic status. However, women's life cycle patterns of employment were influenced little by macro conditions, a finding that suggests that social norms about women's roles--not just economic considerations--were a major determinant of women's employment in this period of history.

Youth Employment: Does Life Begin at 16?
Robert T. Michael, Economics Research Center, NORC, Chicago, IL 60637; and Nancy Brandon Tuma, University of Chicago.

Theoretical economic models, official labor force statistics, and most empirical studies of young workers in the United States disregard employment experience of students under age 16. Evidence from several sources, however, suggests that students aged 14 and 15 acquire substantial employment experience. Moreover, that experience is vastly different for black and white youths. Several policy-related issues, including causes of black-white differences in adult earnings, may need to be interpreted differently in light of these differentials in early employment experience. The authors suggest that the employment experience of 14- and 15-year-olds in general, and its racial pattern in particular, should not continue to be ignored.

RECENT RESEARCH IN MATHEMATICAL DEMOGRAPHY
Organized and Chaired by
Nathan Keyfitz, Harvard University

The Projection of Age-Specific Mortality Rates in Less Developed Countries
Neil G. Bennett, Population Studies Center, University of Michigan, 1225 South University Avenue, Ann Arbor MI 48109; and Robert Kleinbaum, University of Michigan.

In this paper, the authors explore the use of various statistical procedures intended to improve the accuracy of the projection of age-specific mortality rates. In one approach, for example, they examine the effectiveness of employing the Brass logit model (with varying standard mortality schedules) in conjunction with time-series methods. They test the forecasting techniques by using historical data and forecasting out of sample. The Brass parameters

are derived not only from period trends in mortality but also from age patterns of cohort mortality. This particular method would be invoked in the situation in which life tables pertaining to two or more time periods for the population under study are available. Furthermore, the authors determine which projection technique proves superior under different conditions (e.g., different pace of decline, level, or age structure of mortality).

Changes in Divorce and Widowhood Rates and Expected Duration of Marriages

Noreen Goldman, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton, NJ 08544.

Period mortality and divorce rates and life table methods are used to calculate the expected duration of marriages in the United States. The resulting life table values indicate a dramatic decline since the early 1960s in the proportion of marriages that remain intact: e.g., from 1960-1966 to 1976-1977, the proportion of marriages that lasted 25 years dropped from 73 to 46 percent. The associated H value for 1976-1977 of 0.7 is almost double that for 1960-1966 and indicates that a reduction of dissolution rates of about 10 percent at all durations would increase marriage duration by as much as 7 percent. This is in marked contrast to H values for mortality, which indicate that a current reduction of death rates in the United States by 10 percent at all ages would increase life expectancy by only 1.6 percent.

An extension of mathematical formulas developed by Keyfitz is used to show why H values often do a poor job of approximating the increase in $\overset{\circ}{e}_0$ due to the elimination of a decrement. Data for Colombia are presented that show empirically that although divorce and widowhood are associated with the same H values, the elimination of mortality would have twice the impact on marriage duration as would the elimination of divorce.

Dynamics of Populations with Changing Vital Rates: Generalization of Stable Population Theory

Young J. Kim, Department of Population Dynamics, Johns Hopkins University, 615 North Wolfe Street, Baltimore, MD 21205; and Zenas M. Sykes, Johns Hopkins University.

Results in weak ergodicity that are stronger than Lopez's are proven in this paper. The authors give a general and complete exposition of the dynamics of populations with changing vital rates. In earlier work, some of these results were discussed empirically, and proofs were given for the special case of populations in two age groups. The forward product of n x n population projection matrices yields an explicit expression for age distribution, whereas the backward product provides an expression for reproductive values. Forward and backward characteristic equations summarize the different growth rates and net reproduction functions involved in each case.

Interpolation of Transition Matrices by Variable Power Method

Kao-Lee Liaw, Department of Geography, McMaster University, 1280 Main Street W., Hamilton, Ontario L8S 4K1, Canada.

In this paper, the author introduces the variable power method, which can be used to interpolate age-specific transition matrices of a quinquennial multi-regional model of population change into those of an annual model. Besides being able to maintain consistency and nonnegativity, this method is better than the well-known fifth root method, because the former allows the mortality and mobility levels to change with age, whereas the latter does not. The variable power method is applied to the bi-regional model of Vancouver CMA and the rest of Canada based on 1971-1976 data. The empirical results suggest that the method may work equally well for multi-regional models of other population systems.

Multistate Mortality by Cause of Death: A Life Table Analysis

El-Sayed E. Nour, Department of Biostatistics, University of North Carolina, Chapel Hill, NC 27514; and C. M. Suchindran, University of North Carolina.

In this paper, a description of the life table in a general form is presented. The underlying probability structure is that of a discontinuous Markov process with M absorbing and N nonabsorbing states such that $M \geq 1$ and $N \geq 1$. Computational formulas for the various life table functions are derived. An analysis of marital status mortality by cause of death in North Carolina is given as an illustrative application.

Population Growth and the Birth Squeeze

Robert Schoen, Department of Sociology, University of Illinois, Urbana, IL 61801.

Birth squeezes result from an imbalance in the number of males and females in the childbearing ages and can have a significant impact on the level and distribution of births. To measure the effects of a birth squeeze, the observed male and female age-specific birth rates need to be distinguished from the underlying fertility preferences, which are independent of the age-sex composition of the population. The two-sex total fertility rate (TFR2), the average of the male and female TFRs, is advanced as a summary measure of fertility independent of the birth squeeze, and a simple index (z) is defined to measure the severity of the squeeze. Analyses involving stable population models, alternative population projections, and the birth squeezes found in contemporary populations are used to document the importance of the birth squeeze for studies of fertility. In particular, it is shown that in high-fertility populations, the birth squeeze depresses observed female age-specific birth rates, and thus conventional measures can significantly underestimate the fertility reduction needed to end population growth.

Organizational and National Labor Markets: Demand-Side Demography

Shelby Stewman, School of Urban and Public Affairs, Carnegie-Mellon University, Pittsburgh, PA 15213.

The importance of demographic theory for the supply of labor is well known, but where is the demographic theory of labor demand? An expanded class of models treating both populations of jobs and of workers is needed to address the demand-side gaps. Initial modeling in this direction exists, and this paper adds to this modeling. Questions asked relate to the following topics: the hiring and staffing practice of employers; the effects of the distribution of jobs and relative effects of exits and growth/decline within this job distribution; the effects of job redistributions from relative growth rates, due to shifts in direct demand and/or technological change; and how job opportunities are filtered through the labor market's populations of jobs, workers, and employers. Applications are to both nations and organizations, and thus treat both national labor markets and "internal" or organizationally administered labor markets.

Lotka's Roots under Rescalings

Kenneth W. Wachter, Graduate Group in Demography, University of California, 2234 Piedmont Avenue, Berkeley, CA 94720.

When the net maternity function is scaled by a constant divisor, changing its level without changing its shape, the rates of attrition of transient waves in the age structure of the population as it converges toward stability are altered. The attrition rates are specified by the real parts of the complex roots of Lotka's equation. Counterexamples are given to the longstanding claim that there always exists some rescaling to make the real part of the complex root governing the lowest frequency wave equal to zero. A

new account of the behavior of Lotka's roots under rescaling follows; this account is particularly complete for the discrete-age, Leslie formulation of the approach to stability.

ECONOMIC MODELS OF MIGRATION, HUMAN CAPITAL, AND DEVELOPMENT
Organized and Chaired by
Oded Stark, Harvard University

Human Capital and the Labor Market Adjustment of Immigrants: Testing Alternative Hypotheses
Barry R. Chiswick, Department of Economics and Survey Research Laboratory, University of Illinois, Chicago, IL 60680.

In previous research on the economic adjustment of immigrants, hypotheses were generated based on the degree of the transferability of skill and the self-selection of immigrants for labor market ability. These hypotheses were found to be consistent with cross-sectional data for the United States and other countries. In this paper, alternative hypotheses are developed based on the selective return migration of immigrants and the migration of those who anticipate high earnings for reasons other than ability. To compare the original and alternative models various tests are made using cross-sectional and longitudinal data on earnings, occupation, and schooling from both the population census and the National Longitudinal Survey. The original model, based on skill transferability and immigrant self-selection, is shown to be consistent with these new tests, while the alternative hypotheses are not.

City Growth and Urban Public Services in India
Charles M. Becker, Department of Economics, Vanderbilt University, Nashville, TN 37235; and Edwin S. Mills, Princeton University.

The authors examine the effects of public service provision on city population growth employing data from the central Indian state of Madhya Pradesh. They relate town and city characteristics, including infrastructure, social services, and industrial type, to inter-censal town population growth rates. The estimations derive from a model of city growth that formally links urbanization to a city's industrial character, infrastructural base, and geographic location. Estimation of the city growth response is of critical importance to Indian planners concerned with promoting small city growth and discouraging further growth in major urban areas. Little theoretical or empirical basis is found for the widespread notion that large cities tend to undergo runaway growth. Data are taken from the 1971 and 1981 Indian censuses. This work extends the authors' earlier study of trends in India's city size distribution statistics and preliminary efforts to explain Indian city growth.

Migrant Behavior and the Effects of Regional Prices: Aspects of Migrant Selection
T. Paul Schultz, Economics Department, Yale University, Yale Station, Box 1987, New Haven, CT 06520.

If the preferences of potential migrants differ for activities and the structure of prices of these activities differs across regions, price variation may help to explain both who migrates and to where. It may also explain the systematic behavioral differences observed between migrants and nonmigrants in consumption and investment, particularly as reflected in family size, child schooling, and child health. Colombia is considered in this empirical analysis because this country contains traditional and dynamic frontier rural areas as well as urban centers where relative prices discourage high fertility and encourage schooling and health investments.

DELAYED CHILDBEARING IN THE UNITED STATES
Organized and Chaired by
Wendy Baldwin, U.S. National Institute of Child Health
and Human Development

Age and Fecundity: How Late Can You Wait?
Jane A. Menken, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton, NJ 08544; and Ulla Larsen, Princeton University.

In 1982, a French study published in the New England Journal of Medicine reported a sharp decline in female fecundity over age 30. An accompanying editorial suggested that women who are now planning to delay childbearing beyond age 30 may want to reconsider their decision rather than "compromise their reproductive capacity". In this paper, the authors examine just how great a risk delaying childbearing involves. Data from historical populations in which a significant proportion of women postponed marriage and childbearing to ages over 30 are examined, and proportions childless by age at marriage are compared. The results suggest that there is a decline of approximately 10 percent in the proportion of women having at least one child as age group at marriage increases from 25-29 to 30-34. Possible explanations for a greater decline in fecundity with age in contemporary compared with historical populations are considered. Evidence regarding the effects of contraceptive use and sexually transmitted diseases is also reviewed.

A Dynamic Model of the Expectations and Fertility of Childless Women
Roberta Ott Barnes, Department of Textiles and Consumer Economics, University of Maryland, 2100 Marie Mount, College Park, MD 20742; and Robert Moffitt, University of Wisconsin.

Since the early 1960s, birth expectations in the population have been consistently higher than subsequent fertility rates, raising questions regarding the usefulness of such data on expectations in forecasting fertility. The recent increase in delayed childbearing has heightened the concern with these data because it seems as though many women who delay childbearing will not be able to meet their fertility goals. The authors formulate a dynamic structure in which fertility expectations and behavior follow a partial stock adjustment model. Whenever behavior is not in line with stated goals, a fertility gap is said to exist. Women respond to a positive gap by raising fertility behavior, by lowering expectations, or by a combination of both.
The results suggest that the concept of a fertility gap is a powerful tool in explaining changes in fertility and expectations. Specifically, expectations adjust more than fertility when only the effect of this gap is considered. However, when period effects, which may be partially captured by differences in income, education, and work patterns, are taken into account, the relative adjustment patterns become more weighted toward changes in fertility behavior.

Determinants of Delayed Childbearing in the United States
Ronald R. Rindfuss, Carolina Population Center, University of North Carolina, 123 W. Franklin Street, Chapel Hill, NC 27514; S. Philip Morgan, University of North Carolina; and C. Gray Swicegood, University of North Carolina.

Prior work on the determinants of the first birth process can be divided into three analytic approaches: (1) time-series analysis focusing on description and determinants of these trends, (2) cross-sectional studies examining childlessness or adolescent fertility and their determinants, and (3) life course studies dealing with the timing of the first birth and the length of time spent childless. The authors draw on each of these traditions to develop a conceptual framework that places the first birth process within an aggregate time dimension indicated by period, an individual time dimension indicated by the respondent's age, and a social-structural dimension indicated by the respondent's ascribed or achieved characteristics. By pooling data

from six fertility surveys spanning the 1955-1976 period and by examining a series of conditional birth probabilities, the authors are able to incorporate each of these dimensions in their analysis. Findings show that each dimension is important. Aggregate time/period exerts powerful and pervasive effects. Social-structural variables have non-proportional effects—that is, their effects vary with individual time/age. For instance, highly educated women have the highest first birth probabilities at later ages and the lowest probabilities at earliest ages. Thus education, like other social-structural variables, primarily affects the timing of motherhood but not whether women become mothers. Finally, it is noted that the predictive power of the models generally declines with individual time.

Some Long-Term Economic Consequences of Delayed Childbearing and Family Size
Sandra L. Hofferth, Urban Institute, 2100 M Street NW, Washington, DC 20037.

Data from the U.S. Panel Study of Income Dynamics are used to explore the association among delayed childbearing, completed family size, and several measures of the economic well-being of women aged 60 and older in 1976. By retirement age, women who bore their first child at age 30 or older are significantly better off economically than either average-age childbearers or the childless. There are also differences in economic well-being by family size among late childbearers. At retirement age, the delayed childbearer with only one child or with two children appears to be better off than all other women, including those with children as well as the childless. Thus, late childbearing and small family size appear to be associated with the highest standard of living for these women. The relationship of the experience of this cohort of women to that of more recent birth cohorts is discussed.

POPULATION-RESOURCE INTERACTIONS IN DEVELOPING COUNTRIES
Organized and Chaired by
Ronald G. Ridker, International Bank for Reconstruction
and Development (World Bank)

The Role of Population Growth in Environmental and Resource Depletion in Developing Countries
Robert C. Repetto, Department of Population Sciences, School of Public Health, Harvard University, 665 Huntington Avenue, Boston, MA 02115; and Thomas Holmes, Harvard University.

Resource and environmental depletion is taking place in developing countries much more rapidly than the pressure of population growth would determine. In this paper, the other factors that modify and amplify the effects of demographic change are discussed, including commercialization of resources, the breakdown of traditional systems, and unequal access to resources. Their effects on resource stocks are compared with those of population growth in a simple model of renewable resource management.

Population-Land Interactions in Developing Countries
Mead Cain, Population Council, 1 Dag Hammarskjold Plaza, New York, NY 10017.

No abstract received.

Population and Forest Resources in Tanzania and Sudan
Douglas F. Barnes, Resources for the Future, 1755 Massachusetts Avenue NW, Washington, DC 20036; and Julia C. Allen, Resources for the Future.

Deforestation has caused real problems for specific regions such as the African Sahel and many parts of Asia. In this paper, the authors consider the

dynamic relationship between population growth and forest resources using the examples provided by Tanzania and Sudan. The analysis is based on the theory that developing countries are moving from low population densities and the consequent low forest and land use to high population densities, which require more intensive land management. In Sudan, fuelwood demand due to recent population growth and the lure of cash income from charcoal production have resulted in villagers cutting down trees at a rate higher than the natural regrowth cycle. In Tanzania, population growth has been accompanied by a government policy to resettle villagers from dispersed farms to "ujamma" villages, and in certain dry regions there have been serious shortages of fuelwood because of the dramatic retreat of the natural forests. Both Tanzania and Sudan have followed supply-oriented strategies to meet the increasing demand for wood caused by population growth and forest resource depletion.

NEW DIRECTIONS IN MORTALITY RESEARCH
Organized and Chaired by
Samuel H. Preston, University of Pennsylvania

The Deviant Dynamics of Death in Heterogeneous Populations
James W. Vaupel, Duke University, 4875 Duke University Station, Durham, NC 27706; and Anatoli I. Yashin, International Institute for Applied Systems Analysis.

The members of most populations gradually die off or drop out: people die, machines wear out, residents move out, etc. In many such "aging" populations, some members are more likely to "die" than others. Standard analytical methods largely ignore this heterogeneity; the methods assume that all members of a population cohort at a given age face the same probability of death. In this paper, some mathematical methods are presented for studying how the behavior over time of a heterogeneous cohort deviates from the behavior of the individuals that make up the cohort. The methods yield some startling results. It is found that individuals age faster than cohorts, eliminating a cause of death can decrease life expectancy, a cohort can suffer a higher death rate than another cohort even though its members have lower death rates, and cohort death rates can be increasing even though its members' death rates are decreasing.

Age Patterns of Mortality for Older Women: An Analysis Using Age-Specific Rate of Mortality Change with Age
Shiro Horiuchi, Population Division, United Nations, New York, NY 10017; and Ansley J. Coale, Princeton University.

The age-specific rate of mortality change with age, defined by $k(x) = d \ln\mu(x)/dx$, where $\mu(x)$ is the age-specific death rate at exact age x, is estimated for middle and old ages in 10 selected populations that are considered to have relatively accurate age data. For females in each of the study populations, $k(x)$ follows a quite symmetric bell-shaped curve that usually peaks around age 75. In some of the populations, the age pattern of $k(x)$ for males seems to be confounded with substantial cohort variations, perhaps reflecting some direct and indirect long-term impacts of the men's World War I experience. Among the mathematical models proposed by Gompertz, Makeham, Perks, and Beard, only the Perks model agrees with the bell-shaped pattern of $k(x)$. It is shown that if the risk of death for every individual follows the Makeham equation and if the individual "frailty" is gamma-distributed, then age-specific death rates follow the Perks equation.

Child-Spacing Effects on Infant and Early Child Mortality
John N. Hobcraft, Analysis Section, World Fertility Survey, 35-37 Grosvenor
Gardens, London SW1W OBS, England; John McDonald, World Fertility Survey; and
Shea Rutstein, World Fertility Survey.

Recent work with data from a number of countries participating in the
World Fertility Survey documents the very substantial increase in the risk of
infant and early child mortality for children with their nearby siblings
closely spaced. In this paper, the authors explore the magnitude of such
effects using a novel approach for a large number of countries. It is also
shown that child-spacing effects usually persist after introduction of
socioeconomic controls. These findings are of considerable policy relevance
to those who are responsible for maternal and child health and family planning
programs.

Covariates of Child Mortality in the Philippines, Indonesia, and Pakistan: A
Comparative Analysis
Linda G. Martin, East-West Population Institute, East-West Center, 1777 East-
West Road, Honolulu, HI 96848; James Trussell, Princeton University;
Florentina Reyes Salvail, East-West Population Institute; and Nasra M. Shah,
East-West Population Institute.

The covariates of child mortality in the Philippines, Indonesia, and
Pakistan are compared using data from the World Fertility Survey. The
analysis employs hazards models to estimate the effects of demographic and
socioeconomic variables on the risk of death in childhood. The importance of
multivariate analysis is substantiated by the finding that the effect of most
factors on mortality changes considerably when other influences are
simultaneously controlled. For example, the apparently beneficial aspects of
urban residence for survival are reduced. Education of parents is shown to be
the most important correlate of child mortality. When other proxies for
socioeconomic status, such as type of sanitary facilities, are added to the
analysis of the Philippines, the only country for which such data are
available, the effects of education are reduced, but mother's education
remains the most important covariate of mortality.

POPULATION PROGRAMS AND SOCIOECONOMIC DEVELOPMENT AS FACTORS
AFFECTING FERTILITY CHANGE IN DEVELOPING COUNTRIES
Organized and Chaired by
Dudley Kirk, Stanford University

Program, Development, and the Mexican Fertility Transition
Joseph E. Potter, Department of Population Sciences, School of Public Health,
Harvard University, 665 Huntington Avenue, Boston, MA 02115; and Francisco
Alba, Colegio de México.

Mexico was until recently a conspicuous outlier in statistical exercises
that related fertility levels to conventional indicators of social and
economic progress. However, in the last decade Mexican fertility has declined
precipitously, and that decline might be interpreted as a large and rapid
response to the implementation of a national family planning program launched
in the mid-1970s. The premise adopted in this paper is that in analyzing
Mexico's recent and not so recent demographic experience, there is much to be
gained from looking at the elements and processes underlying such determinants
as the population program and socioeconomic development and from examining the
various ways in which these two broad factors got through (or failed to get
through) to affect fertility. The methodological approach used relies on
counterfactual speculation, in that the authors ask what would have happened
if a different style of development had predominated between 1940 and 1970 and
if there had not been a dramatic change in population policy in the 1970s.

Social Development and 1960 to 1980 Fertility Declines

Phillips Cutright, Department of Sociology, Indiana University, Ballantine Hall (744), Bloomington, IN 47405.

Analyses of change in crude birth rates between 1960 and 1980 in Asian, Latin American, and less developed countries in all regions are presented. The results show a significant impact of social development (literacy and life expectancy) but no significant effect of economic development (GNP and energy consumption per capita, and urbanization) net of family planning program efforts. Implications for policies to reduce birth rates in developing countries are discussed.

Family Planning and Fertility Change in the Developing World

Donald J. Hernandez, Center for Population Research, Kennedy Institution, Georgetown University, Washington, DC 20057.

This paper addresses questions raised in the recent debate about the adequacy of theoretical and methodological underpinnings for cross-national estimates of the family planning program effect, independent of the socioeconomic setting, on fertility in developing countries. First, the theoretical argument points out that the macro socioeconomic effect refers to infrastructural and sociopolitical factors, while the macro-program effect refers to the proactive actions of government leaders and their response to extra-national factors, such as international donor agencies. Second, several plausible analytical strategies for estimating the independent program effect are evaluated methodologically. Third, these analytical strategies are implemented with two data sets and reevaluated. The result is an independent program effect estimate of 3-10 percent of the cross-national variation in fertility change for 83 developing countries during the late 1960s and early 1970s, an estimate--possibly too large--that is substantially smaller than previous estimates, which range from 15-20 percent.

Contraceptive Accessibility and Knowledge of Method Sources

Elise F. Jones, World Fertility Survey. Mailing address: Box 326-A, R.D. No. 1, Newtown, PA 18940.

Data from World Fertility Survey interviews with individual women are used to develop an indirect measure of travel time to a contraceptive source that makes it possible to study the relationship of service accessibility to knowledge of method sources. The analysis covers five developing countries and is set at the aggregate level with the local area as the unit of observation. The proportion of women who knew where a given method could be obtained is found to decline as travel time increases in Paraguay, the Philippines, Sudan, and Venezuela, but not in Ghana. Mean number of years of education shows a strong positive association with awareness of method sources, while the effects of region are variable.

HOUSEHOLDS AND FAMILIES: COMPARATIVE RESEARCH
Organized and Chaired by
James A. Sweet, University of Wisconsin

Mortality Decline and Japanese Family Structure

Linda G. Martin, East-West Population Institute, East-West Center, 1777 East-West Road, Honolulu, HI 96848; and Suzanne Culter, East-West Population Institute.

Family structure and living arrangements in Japan have changed considerably in the twentieth century. Increasing proportions of households are composed of nuclear families or single individuals, rather than the traditionally ideal stem families of two married couples of different

generations. These changes are quite dramatic when one considers that rapid mortality decline in Japan has had the effect of increasing the probability of survival, so that such ideal living arrangements could be achieved more often.

This paper documents the effects of mortality change in the twentieth century on the probabilities of survival for various family members in Japan. Information from Japanese life tables from 1899 to 1980 is used to calculate the probabilities of a child's survival to age 15, of parents' survival to the child's fifteenth birthday, of grandparents' survival, and of the survival of the family as a whole.

Modeling the Economics of Adult Household Composition, with Evidence from Guatemala

David A. Lam, Graduate Group in Demography, University of California, 2234 Piedmont Avenue, Berkeley, CA 94720.

As economists have recognized the importance of variations in the number of adults living in households in studies of income distribution, rural-urban migration, and labor supply, the typical assumption that adult household composition is exogenous has become unsatisfactory. In this paper, adult household composition is modeled as the outcome of choices based on potential cost-sharing economies in consumption, productivity differences between household and hired labor, and negative effects of "congestion". Conditions for optimal household structure are derived under various assumptions about decision-making authority and bargaining power. Comparative static results are derived to show the effects of such variables as income, land ownership, and demographic characteristics of the nuclear family. Specific hypotheses are tested using the 1974 Rand-INCAP (Institute of Nutrition of Central America and Panama) survey of households in six Guatemalan villages.

The Life Course and Household Structure, Sri Lanka

Susan M. De Vos, Center for Demography and Ecology, University of Wisconsin, 3224 Social Science Building, 1180 Observatory Drive, Madison, WI 53706; and K. R. Murty, University of Wisconsin.

The relationship between individual life course characteristics and household type is examined using data from the Sri Lanka World Fertility Survey of 1975. The authors are aware of common approaches to the study of the household but, unlike most others, treat the individual as the unit of analysis. A number of hypotheses are formulated and tested using log-linear techniques. By and large, the findings are consistent with what is expected of a stem family system. For instance, among young people the tendency to live in an extended household is greater for the currently married than the never married because many of the newly married continue to live with parents. On the other hand, there is no consistent relationship between urban residence and the likelihood of living in an extended household. Also, older females are much more likely than older males to live in incomplete households despite the stem family ideal.

Metropolitan Differences in the Level of Non-Family Households: A Cross-Sectional Look at the United States in 1970

Kenneth S. Chew, Graduate Group in Demography, University of California, 2234 Piedmont Avenue, Berkeley, CA 94720.

The author examines the local correlates of the unequal distribution of non-family households across U.S. metropolitan populations. Non-family household rates for young adults and for the old in 50 SMSAs are regressed on other SMSA characteristics, and a complementary individual-level analysis is performed using data from the 1970 Public Use Sample. Household status rates and individual probabilities for young adults are shown to vary more with ecological characteristics than do rates and probabilities for the old. Net of migrant status, education is the strongest positive influence for the young, whereas income is the strongest positive influence for the old.

Changes in Fathering among U.S. Men: 1960-1980
David Eggebeen, Department of Sociology, University of North Carolina, Chapel Hill, NC 27514; and Peter Uhlenberg, University of North Carolina.

    U.S. census data from 1960 and 1970 and Current Population Survey data for 1980 are used to study recent changes in the organization of men's lives. Large changes are found, with much less time being spent living in families with children present and more time being spent outside of marriage. These changes are pervasive across educational levels, racial categories, and geographic areas, although the rates of change are not uniform. Several implications of these changes for individuals, families, and society are discussed.

PREHISTORIC DEMOGRAPHY
Organized and Chaired by
A. J. Jaffe, Columbia University

Length of Life among Prehistoric North Americans
A. J. Jaffe, Columbia University. Mailing address: 314 Allaire Avenue, Leonia, NJ 07605.

    Estimated life tables are constructed on the basis of the reported age and sex distribution of skeletal remains of prehistoric North Americans. The methodology is the familiar one based on a stationary population but modified to correct for the underreporting of the skeletal remains of young children and to permit combining of data from many different sites. Separate tables are constructed by sex and for populations that did and did not have agriculture. The resulting life expectancies at birth are estimated to be 16 to 17 years for males and 14 to 15 years for females in nonagricultural populations, and 18 to 19 years for males and 17 to 18 years for females in agricultural populations. The author suggests that the increase in life expectancy, small though it was, could have permitted considerable population growth.

A Demographic Perspective on Australopithecus: Problems and Perspectives
Carlos M. Medina, Columbia University. Mailing address: 716 Lafayette Avenue, Uniondale, NY 11553.

    Using the life table as a methodological tool, the author has determined that the life expectancy for our earliest ancestors, the South African Australopithecus populations, was most probably between 11 and 12 years once the age class 10-14 years was attained. A consideration of the methods of age determination used indicates that a paleodemographic framework is valuable for the analysis of mortality experience in paleontology. A review of the paleodemographic method reveals that even though there are some factors that are uncertain, the method can be used to elicit much more information of a demographic nature than mere population estimates.

Paleopathology and Life Expectancy in the Pre-Columbian City of Teotihuacan
Rebecca Storey, Department of Anthropology, Pennsylvania State University, 409 Carpenter Building, University Park, PA 16802.

    This is a report on the first paleodemographic study of an apartment compound in Teotihuacan. The study of the Tlajinga 33 compound reveals that life expectancy was low and juvenile mortality very high. Investigation of markers of systemic stress on the bones indicates that the late prenatal months and the time of weaning which occurred at around 2-3 years of age, were the most vulnerable in the life span for ill-health and death. In addition, there is some evidence of chronic episodes of infectious disease and malnutrition throughout the life span. The evidence is that these conditions

probably arose from infections and parasites thriving in a dense population living in a city with poor public sanitation and a limited water supply. Thus, Tlajinga 33 indicates that Teotihuacan may have had a typical preindustrial-city health pattern, in spite of being in an arid highland environment and in the New World, where the lower epidemic disease load has been presumed to be less damaging to the indigenous pre-Columbian populations than was the case elsewhere.

RECENT DIRECTIONS IN NUPTIALITY RESEARCH
Organized and Chaired by
Norman B. Ryder, Princeton University

The Age Difference between Union Partners: Cross-National and Sub-National Patterns

John B. Casterline, World Fertility Survey, 35-37 Grosvenor Gardens, London SW1W OBS, England; and Peter C. McDonald, Australian National University.

The age difference between union partners is examined in 22 countries using World Fertility Survey data. Cross-national variation conforms with expectations that the age difference is associated with the relative status of women in the family system: the difference is large in societies characterized by patrilineage and/or patrilocality and small in societies where bilateral kinship structure and neolocality are the rule. The data suggest that relative age is taken into account in the marriage market: the ages at union of the male and female partners are strongly associated in all societies, with avoidance of unions in which the woman would be older especially marked. The authors also examine variation in the age difference by socioeconomic characteristics of the two partners and by type of union (first or higher-order, formal or common-law, and monogamous or polygamous).

Assessing Cultural Influences on the Timing of Marriage: Data from Four Asian Societies

Mehtab S. Karim, East-West Population Institute, East-West Center, 1777 East-West Road, Honolulu, HI 96848; Aphichat Chamratrithirong, Mahidol University; Mercedes B. Concepcion, University of the Philippines; Peter C. McDonald, Australian National University; Sabiha S. Syed, Women's Division, Government of Pakistan; and Peter C. Smith, East-West Population Institute.

The Asian Marriage Survey (AMS), conducted during 1979 in Indonesia, Thailand, Pakistan, and the Philippines, provides a wealth of fine-grained information on prevailing cultural practices related to marriage in each of these four societies. In an effort to define the "culture of marriage" in each society, the authors describe courtship patterns, the frequency and nature of social contacts before marriage, mate selection and the engagement process, the timing of marriage consummation, the observance of various marriage rituals and exchanges, patterns of postnuptial residence, and the frequency of religious observances. The interplay of these cultural and religious factors within each country is examined in detail, and their influences on the timing of marriage are assessed.

Marriage and Divorce in Five Western Countries

Robert Schoen, Department of Sociology, University of Illinois, Urbana, IL 61801; and John Baj, University of Illinois.

Marital status life tables, which follow a birth cohort through life and the marital statuses of never married, presently married, widowed, and divorced, reflect observed marriage, divorce, and mortality behavior and provide a detailed record of a cohort's experience. To compare twentieth-

century family formation and dissolution patterns in the West, marital status life tables are constructed for the United States, Belgium, England and Wales, Sweden, and Switzerland for male and female cohorts born from 1888 through 1945. The tables show substantial similarities in cohort trends across the five countries and a high degree of consistency in the male and female proportions ever marrying, mean ages at first marriage, and proportions of marriages ending in divorce. The marriage patterns of recent cohorts suggest an end to the long-term trend toward higher proportions ever marrying, but no change in the strong, almost uninterrupted, upward trend in divorce.

Black-White Differences in Marriage, Separation, Divorce, and Remarriage
Thomas J. Espenshade, Urban Institute, 2100 M Street NW, Washington, DC 20037.

The author uses data from the marital history supplement to the June 1980 U.S. Current Population Survey to examine differences between black and white females in patterns of marriage, separation, divorce, and remarriage over the period 1940-1980. He inquires into such behaviors as the mean age at first marriage, life time proportions ever marrying, the probability that a first marriage or remarriage ends in divorce (or separation), the probability that a separation ends in divorce, the probability of remarriage following widowhood or divorce, and the disaggregation of life expectancy at age x into the marital status categories in which that remaining lifetime is expected to be lived. A multiple increment-decrement marital status life table framework is used to measure the frequency of these numerous events. Previous constructions of marital status life tables have typically not examined black-white differences, nor have they paid attention to differences between first marriages and subsequent marriages or to periods of separation.

ISSUES IN STATE AND LOCAL DEMOGRAPHY
Organized and Chaired by
Glenn V. Fuguitt, University of Wisconsin

Municipal Population Estimation: Practical and Conceptual Features of the Housing Unit Method
Barbara Baker, Alaska Department of Labor; David A. Swanson, Research and Analysis Section, Alaska Department of Labor, P.O. Box 1149, Juneau, AK 99811; and Jo Van Patten, Alaska Department of Labor.

The housing unit method has received support recently as an accurate, cost-effective means of municipal population estimation, especially at the state-municipal level of interaction. In further support of this technique, some of its conceptual and practical features are described and compared with those of other methods of municipal population estimation. In particular, the logical relationship between the housing unit method and a headcount census program is shown to be one of the method's strongest features. The method, in itself, also generates many benefits. The most important one is that it provides a cost-effective, standardized system that encourages the empirical resolution of the disputes over population estimates that can occur between a state demographic center and a municipality.

Can the Death Certificate Be Used to Assess Occupational Hazards Experienced by Women? The Reliability of Rhode Island Data
John P. Fulton, Section of Community Health, Brown University, Box G, Providence, RI 02912; and David M. Gute, Rhode Island Department of Health.

Several states analyze death certificate occupational data to assess women's occupational hazards. The authors test the reliability of these data for a cohort of Rhode Island women using a social survey and city directories.

They focus on the occupational category "housewife", because it is frequently and perhaps overused on death certificates, possibly masking occupational exposures outside the home. Data are assessed as indicators of both major lifetime occupation (MLO) and occupational exposures outside the home (OOH). For MLO, use of housewife is corroborated 91 percent by other data and non-housewife 35 percent. For OOH, housewife is corroborated 56 percent and non-housewife 87 percent. The authors conclude that the housewife category is not overused on the death certificates of this cohort of women, while non-housewife categories are. Housewife appears to be a good indicator of MLO but masks many short-term OOHs, and non-housewife appears to be a good indicator of OOH but not MLO.

Graphics in Applied Demographic Publications: Design Guide
Stephen J. Tordella, Applied Population Laboratory, University of Wisconsin, Madison, WI 53706.

Demographic publications whose intended audience is the general public benefit greatly from the use of graphs and maps. In this paper, the steps an analyst must take to design charts for maximum clarity are outlined. Common pitfalls in design are explored, as well as methods of ensuring uniformity within and across publications. Finally, the advantages and disadvantages of producing charts in-house by hand, through computer graphics, or through a professional artist are considered.

Suburbs and Central Cities: A Misleading Dichotomy?
Roy C. Treadway, Department of Sociology, Anthropology, and Social Work, Illinois State University, Normal, IL 61761.

Much of the research on metropolitan areas, both for theoretical and policy purposes, continues to use the traditional suburban-central city dichotomy. Not only does such analysis often confuse the urban or suburban fringe with the rural fringe, but it erroneously treats the central city as distinct from the suburbs surrounding the central city. Population and housing characteristics from Summary Tape File 1 of the 1980 census are analyzed for 337 urbanized areas in the United States with urban fringe population and no rural central city population. The differences noted between central cities and the urban fringe, while in the expected direction, are small for most characteristics. Variation between the characteristics of central cities and the urban fringe is small compared with variation within both the urban fringe and central cities for most characteristics, even when urbanized areas are controlled for size and geographical region, and percent population in the central city.

INDIRECT ESTIMATION TECHNIQUES
Organized and Chaired by
Kenneth H. Hill, National Research Council

The Use of Current Status Data to Estimate Mean Duration of Status
A. Meredith John, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton, NJ 08544.

Using simulation models, the author shows that both current status and retrospective breast-feeding history data for the open interval constitute a length-biased sample of durations and so yield systematically biased distributions. Unbiased distributions of durations are recovered from both types of data if parity-specific rather than open interval data are used. The severity of the bias in the open interval data is shown to depend upon the

maximum duration of breast-feeding in the underlying distribution. Fitting logit models to standard breast-feeding schedules is shown to perform well in recovering the true distribution from the current status data. The author also explores methods for assessing changes in breast-feeding behavior over time.

An Integrated Method for Demographic Estimation from Two Censuses

Samuel H. Preston, Population Studies Center, University of Pennsylvania, 3718 Locust Walk CR, Philadelphia, PA 19104.

A simple method for estimating a birth rate and a level of mortality for an inter-censal period is presented. The birth rate is estimated from the intercept of a line fitted to data and the level of mortality from the slope of that line. The formula that is developed is based upon a recent generalization of stable population relations. An estimate of childhood mortality levels is an optional but significant piece of additional input. An important by-product of the procedure is an estimate of the true age distribution.

Census-Derived Estimates of Fertility by Duration Since First Marriage in the Republic of Korea

Robert D. Retherford, East-West Population Institute, East-West Center, 1777 East-West Road, Honolulu, HI 96848; Lee-Jay Cho, East-West Population Institute; and Nam Il Kim, East-West Population Institute.

The authors estimate ever-marital birth rates by age and duration since first marriage and ever-marital total fertility rates for the Republic of Korea. These rates are derived by applying an extension of the own-children method of fertility estimation to the 1975 and 1980 censuses. Since each census provides annual estimates for the 15-year period previous to enumeration, there is a 10-year period of overlapping estimates that facilitates checks for consistency and accuracy. The method works well, except in its application to the 1975 census where the evidence suggest considerable misreporting of age at first marriage because of the way the question was asked and coded. Ever-marital fertility declined substantially in Korea between 1961 and 1980, with a temporary resurgence in the late 1960s and early 1970s.

The Indirect Proportional Hazards Model

Minja Kim Choe, East-West Population Institute, East-West Center, 1777 East-West Road, Honolulu, HI 96848.

An adaptation of the proportional hazards model to Brass-type methods of estimating infant and childhood mortality is developed. The resulting indirect proportional hazards model uses child survivorship data as the indicator of mortality, and the estimation is done using the ordinary least squares method. No assumption is made concerning the underlying age pattern of mortality. An application to Korean data shows that the important characteristics of women that affect the survival of their children are year of first birth, the combination of maternal age and parity at the time of the last birth, level of education, and experience of induced abortion. In addition, the data suggest preferential care of male children.

Indirect Approaches to Estimate International Migration

Hania Zlotnik, Population Division, United Nations, New York, NY 10017.

Since 1977 a series of methods for estimating lifetime emigration from a given country on the basis of information on the place of residence of close relatives (surviving siblings or surviving children) has been proposed. The author reviews the evolution of these methods, discusses their strengths and limitations, and presents the results obtained by applying them to case studies of Colombia and Barbados.

LABOR MARKET IMPACTS OF THE BABY BOOM AND BUST
Organized and Chaired by
James P. Smith, Rand Corporation

Cohort Size and Economic Returns to Schooling
Mark Plant, Department of Economics, University of California, Los Angeles, CA 90024; and Finis Welch, University of California at Los Angeles.

The idea that cohort size will have an effect on the relative earnings of workers with various levels of education and experience relies on the notion that some workers are good substitutes and some are not. The authors formulate an economic model of worker growth and depreciation that permits the characterization of the substitution possibilities among various classes of workers, class being based both on schooling attainment and experience. Estimates of the behavioral parameters of the model are computed using data from the U.S. Current Population Survey from 1968 to 1982. The estimated model exhibits considerable own cohort size effects that are diminishing over time but persistent.

Leveling the Peaks and Troughs in the Demographic Cycle: An Application to School Enrollment Rates
Michael L. Wachter, Department of Economics, University of Pennsylvania, 3718 Locust Walk CR, Philadelphia, PA 19104; and William L. Wascher, University of Pennsylvania.

In this paper, the authors advance the hypothesis that individuals respond to cohort overcrowding differently depending upon whether they lead or trail the peak fertility year cohort. To maximize lifetime discounted earnings, individuals act so as to fill in the peaks and troughs of the demographic cycles exhibited by the population and, hence, improve their relative income. As a consequence, those prior to the peak increase their school enrollment rates while those trailing the peak decrease their school enrollment rates. Education thus provides a differential tracking mechanism. While individuals cannot choose the cohorts in which they are born, they are able to time their entry into the career labor market through education. This asymmetric demographic effect is tested in a time-series equation using U.S. data for the period 1948-1980. It is shown to dominate the traditional cohort hypothesis that only the size and not one's place in the cohort matters. The model helps to explain the surprisingly steep decline in school enrollment rates that occurred during the 1970s.

The Effect of Cohort Size on Earnings Growth: A Reconsideration of the Evidence
Mark C. Berger, Department of Economics, University of Kentucky, Lexington, KY 40506-0034.

The earnings profiles of U.S. white males are examined using aggregated data from the 1968-1980 March Current Population Surveys. The data are initially separated into four educational groups: 8-11, 12, 13-15, and 16+ years of schooling completed. Single earnings equations across all experience levels within each educational group are rejected by the data in favor of separate equations for older and younger worker subsamples. In all cases, increases in cohort size are associated with lower earnings, a result consistent with previous research. But contrary to the findings of past research, evidence from the younger worker subsamples indicates that earnings grow at slower rates in larger cohorts. This same result is obtained when longitudinal earnings growth equations are estimated using younger worker samples from both the Current Population Surveys and the National Longitudinal Survey of Young Men.

Forecasting the Wages of Young Men

Michael P. Ward, Department of Economics, Rand Corporation, 1700 Main Street, Santa Monica, CA 90406; and Hong W. Tan, Rand Corporation.

The authors examine whether declines in cohort size will raise the relative wages of young men over the next two decades just as large cohorts are argued to have depressed them in the 1970s. This question is addressed by formulating and estimating wage models that seek to distinguish between the wage effects of cohort size, macroeconomic conditions, and secular increases both in female labor force participation and in schooling progression rates. These regression results are used to forecast relative wages up to the year 2000 for a range of assumptions about future macroeconomic conditions and schooling attainment.

TEENAGE CONTRACEPTIVE USE, PREGNANCY, AND PARENTHOOD
Organized and Chaired by
Harriet B. Presser, University of Maryland

Teenage Fertility in the Developed Nations in the 1970s

Charles F. Westoff, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton, NJ 08544; and Gérard Calot, Institut National d'Etudes Démographiques.

The authors use data on births by single years of age assembled at the Institut National d'Etudes Démographiques to analyze trends and international variations in teenage fertility during the 1970s for 30 populations in Europe and in the rest of the developed world. Most of the Western countries show either a low or a moderate level of teenage fertility at the beginning of the 1970s and slight to moderate declines over the decade. In contrast, countries in Southern and Eastern Europe have experienced increases in teenage fertility, while their adult fertility has remained fairly stationary. The result in these countries has been a significant rise in the proportion of the total fertility rate contributed by teenagers. The extremes among the 30 populations are the blacks in the United States, with the highest rate, and Japan, with the lowest rate. Fertility under age 18 and that at ages 18-19 show very parallel trends over the decade.

Family Factors in the Fertility of Black Adolescents

Dennis P. Hogan, Population Research Center, University of Chicago, Chicago, IL 60637; and Evelyn M. Kitagawa, University of Chicago.

In this paper, the authors use a continuous-time semi-Markov model to determine the effects of selected family factors, personal characteristics, and community conditions on rates of first sexual intercourse and first pregnancy among black teenagers in Chicago. Girls growing up in homes with only one parent present, with a large number of siblings, and with a sister who has become a teenage mother experience higher rates of initial sexual intercourse and pregnancy. Teenagers whose early dating behaviors are not closely supervised by their parents have significantly higher rates of coitus and pregnancy. Aspirations for a college degree are associated with reduced rates of teenage fertility. Teenagers growing up in economically depressed and racially segregated neighborhoods are shown to have much higher rates of sexual activity and pregnancy. The authors argue that future analyses of teenage fertility must recognize the unique circumstances that condition the experiences of black teenagers, consider the effects of these and other life course variables, and use appropriately specified event history models.

Aspirations, Opportunity Structures, and Reproductive Roles as Determinants of Contraceptive Behavior among Adolescent Girls

Constance A. Nathanson, Department of Population Dynamics, Johns Hopkins University, 615 North Wolfe Street, Baltimore, MD 21205; and Marshall Becker, University of Michigan.

No abstract received.

Patterns of Contraceptive Use among Adolescent Clients in Family Planning Clinics: A Longitudinal Study

Frank F. Furstenberg, Jr., Department of Sociology, University of Pennsylvania, McNeil Building, 3718 Locust Walk CR, Philadelphia, PA 19104; Paul Allison, University of Pennsylvania; Roberta Herceg-Baron, Family Planning Council of Southeastern Pennsylvania; Judy Shea, Family Planning Council of Southeastern Pennsylvania; and David Webb, Family Planning Council of Southeastern Pennsylvania.

    The paper focuses on the substantive and methodological issues associated with measuring effective contraceptive use among sexually active teenage girls. From interviews conducted at three points in time, the contraceptive behaviors of a sample of approximately 300 adolescent girls in Pennsylvania are examined, and three different measures of effective birth control use are developed. One measure is derived directly from a single self-report of the teenager's contraceptive behavior, gathered at a final interview approximately 15 months after her initial visit to the clinic; the second, more stringent measure employs multiple responses from the final interview, as well as responses from a 6-month interim interview, in order to "filter-out" erroneous and unreliable self-reports; and the third measure defines as effective users those girls who reported at the final interview that they (or their partners) used a reliable birth control method the last time that they had had sexual intercourse. The three measures of birth control use yield widely 'varying results: 73 percent of the girls are classified as effective users according to the first measure, 43 percent according to the second, and 92 percent according to the third. The factors affecting the accuracy of these three measures are discussed, and the implications for the future evaluation of the contraceptive practices of adolescent girls are considered.

REGIONAL AND LOCAL FORECAST MODELS
Organized and Chaired by
John F. Long, U.S. Bureau of the Census

A Technique for Making More Accurate Projections of Migration Age Detail

Esther C. Schroeder, Lawrence Berkeley Laboratory, Room 3245, Building 508, Berkeley, CA 94720; and Donald B. Pittenger, Demographics Laboratory.

    Population projections are often required for many sub-state areas and must be prepared with maximal computer and minimal analytical effort. At the same time, realistic age detail forecasts require a flexible means of treating age-specific net migration. To do this, a simplified version of Pittenger's model is used. Future migration patterns are automatically assigned from characteristics of historical patterns and independent estimates of total net migration. A comparative test of age pattern accuracy at the county level indicates that this technique is superior to the commonly used plus-minus adjustment to historical rates.

An Assessment of the Accuracy of a Regional Economic-Demographic Projection Model

Steve H. Murdock, Department of Rural Sociology, Texas A & M University, College Station, TX 77843; F. Larry Leistritz, North Dakota State University; Banoo Parpia, Texas A & M University; Sean Hwang, Texas A & M University; and Rita R. Hamm, Texas A & M University.

A large number of regional economic-demographic projection models have been developed, but their accuracy has seldom been evaluated. In this paper, the authors examine the accuracy of one such model (the RED-TAMS system) in projecting total populations for 1980, using 1970 base data, for 106 counties and 553 places in 2 U.S. states. The model's projections are evaluated relative to the 1980 census counts and to the projections of the most widely used alternative models in each state. Comparisons of the model's projections with 1980 census counts reveal mean percent absolute differences of 10 percent for counties and 14 percent for places. When projections for places with a population of less than 1,000 are excluded, differences are substantially reduced. Finally, comparisons with projections from alternative demographic projection models indicate that the economic-demographic model provides projections that are as accurate as those from alternative models.

Economic-Demographic Modeling: State of the Art

David McMillen, U.S. Bureau of the Census. Mailing address: 508 First Street SE, Washington, DC 20003; and Paul M. Beaumont, Purdue University.

No abstract received.

A Land-Use Method for Projecting the Population of Census Tracts in Dade County, Florida

Oliver Kerr, Metro-Dade County. Mailing address: 6251 South West 58th Street, Miami, FL 33143.

Metro-Dade County, Florida, uses small-area population projections as part of its growth management process. These projections are derived from the middle series of a set of countywide component projections. A trend line is established for each subarea using historical decennial census data and an estimate of the residential capacity of each subarea; the projected population of subareas entirely within the urban development boundary is capped when the estimated residential capacity of the area is reached. The projected population of subareas that straddle the boundary may exceed the estimated residential capacity since a future adjustment of the boundary or the permitted land use can create additional capacity. Tract-level projections are derived by extrapolating 1970-1980 growth shares. The projections are reviewed every two years.

THE 1980 CENSUS: LESSONS AND FINDINGS
Organized and Chaired by
Jacob S. Siegel, Georgetown University

Socio-Demographic Trends and the 1980 Census

Arthur J. Norton, Population Division, U.S. Bureau of the Census, Washington, DC 20233.

The author presents an analysis of some current socio-demographic trends in the United States based on 1980 census data that have been or will shortly

be published. Consideration is also given to the implications of these trends for 1990 census planning. "Socio-demographic" is defined, for purposes of this paper, as encompassing the subjects of education, marriage and family, fertility, migration, and population distribution. The major national trends are presented, together with a discussion of the existence of trends at the sub-national level.

Changes in Income, Poverty, and Labor Force: 1970 to 1980

Gordon Green, Population Division, U.S. Bureau of the Census, Washington, DC 20233; Thomas Scopp, U.S. Bureau of the Census; and Arno Winard, U.S. Bureau of the Census.

The authors analyze changes in the composition of the U.S. population in terms of income, poverty, and the labor force. These changes are analyzed at the national level by type of family, age, and sex. Trends are also examined for regions, divisions, states, and large SMSAs and cities. Topics covered include the effects of changes in household composition and size on median household income; the combined effects of population growth and increased income on aggregate income for certain geographic areas; the dramatic increases in the labor force participation rates of women, especially for mothers with school-age children; and changes in the composition of the population below the poverty level, especially the striking increase in the proportion of poor families that are maintained by a female householder.

Coverage of the 1980 Census

Jeffrey S. Passel, Population Division, U.S. Bureau of the Census, Washington, DC 20233; Charles D. Cowan, U.S. Bureau of the Census; and Kirk M. Wolter, U.S. Bureau of the Census.

The U.S. Bureau of the Census's plan for evaluating coverage of the 1980 census relies on two basic measurement devices--demographic analysis and the Post-Enumeration Program (PEP). Demographic analysis, which involves constructing independent population estimates from aggregate demographic data, produces estimates at the national level for age, sex, and race groups. Analytic estimates for states will also be developed using state-of-birth data from the sample phase of the 1980 census. The PEP, which relies on case-by-case matching of survey data and census data, will provide national estimates for age, sex, race, and Hispanic-origin groups as well as estimates for states and selected large SMSAs and central cities. Subsequent matching of the census and survey data to administrative records is planned to improve the quality of the PEP estimates. The two methods are described briefly, and preliminary national results are presented.

1980 Census Data: The Quality of the Data and Some Anomalies

Cynthia Taeuber, Population Division, U.S. Bureau of the Census, Washington, DC 20233; John Thompson, U.S. Bureau of the Census; and Arthur F. Young, U.S. Bureau of the Census.

While some may shrug off concerns about the quality of census data with a comment that "it's the only game in town", they and others should understand the issues and problems involved in producing the results. The authors discuss the issues and problems in data collection and processing, including nonresponse follow-up, coding problems, editing, allocation, and substitution. Conceptual and definitional shifts and data differences that affect comparability between the 1980 census and earlier censuses as well as other Bureau of the Census data sources are discussed. Sources and types of biases and issues of comparability between sample and 100 percent data are also reviewed. Finally, a description of plans for content evaluation, including use of the census-Current Population Survey match, census-Annual Housing Survey match, and the content reinterview, is presented.

HOUSING AND HOUSEHOLD DECISIONS
Organized and Chaired by
Kathryn P. Nelson, U.S. Department of Housing and Urban Development

Changing Household Headship in the United States, 1900 to 1970: A Test of the Income Threshold Hypothesis

Thomas K. Burch, Department of Sociology, University of Western Ontario, London, Ontario N6A 5C2, Canada; Marilyn McQuillan, University of Western Ontario; and Pamela Loring, University of Western Ontario.

Measures of separate living in the United States for adults (primary individualship, living alone, headship) show an abrupt increase in the period 1940-1950, after half a century of virtual stability. The leading explanations offered for this rise include changing values, norms, or preferences regarding household formation; changing relative age distribution; and rising real income. A specific version of the last explanation posits a curvilinear relationship between income and living alone, and an income threshold crossed some time during the 1940s. This hypothesis is tested by examining the relationship between income and separate living (as measured by headship) in successive cross sections of states between 1900 and 1970. The expectation is that the partial coefficient of headship on income should rise gradually from near zero to strongly positive.

The Baby Boom and the Squeeze on Multigenerational Households

George S. Masnick, Center for Population Studies, Harvard University, 9 Bow Street, Cambridge, MA 02138; and John R. Pitkin, MIT/Harvard Joint Center for Urban Studies.

During the late 1960s and early 1970s, the leading edge of the baby boom generation in the United States entered their early 20s. The presence of many teenage sibling helped to squeeze the oldest of the baby boomers out of their parental home and made it difficult for the divorced and widowed in older generations to reenter families. Headship rates for unmarried adults increased at a record pace during this period. Since 1975 a new dynamic has been set in motion. The tail end of the baby boom has not had to compete for space in the parental home, and the parental home is larger than ever. The baby bust generation will also enter young adulthood with little sibling pressure to flee the nest. The divorced and widowed will now have greater opportunities to reenter families over the next two decades. The authors examine these structural changes in families and in the type of housing they occupy. Special tabulations of the 1960 and 1970 census Public Use Samples and 1975 and 1980 Annual Housing Surveys are used in this analysis.

Living Arrangements of the Formerly Married: 1968-1982

James A. Sweet, Center for Demography and Ecology, University of Wisconsin, 3224 Social Science Building, 1180 Observatory Drive, Madison, WI 53706.

Over the last half-century, or longer, the fraction of non-married persons maintaining their own households has increased. In this paper, the author examines whether there has been any reversal in this trend associated with the recent rise in housing costs and the severe economic conditions of the early 1980s. Data from the March 1968-1982 U.S. Current Population Survey files are used to examine the trend separately for the never married, the formerly married with no children, and elderly men and women. For young single men and women and formerly married men and women with no children there was a reversal in the trend beginning in about 1978; however, it does not appear to be associated with changing income composition. For the elderly, there is no reversal.

Housing Aspirations and Predicted Fertility: Some Considerations
Charles F. Hohm, Department of Sociology, San Diego State University, San
Diego, CA 92182-0383.

The author examines the effects of housing aspirations on expected
fertility in the United States. A random sample of 1,011 college students was
asked numerous questions on housing aspirations. Almost half (48 percent) of
the sample indicate that they would consider fertility limitation solely for
the purpose of buying a home. A smaller yet sizeable proportion (17 percent)
indicate that they would consider being childless for the same reason.
Marital status, race, religious preference, willingness to consider spending
less on other material items, and willingness to consider moving to a less
expensive region of the country are related to these variables. Many of the
above independent variables are also related to predicted completed family
size. Finally, age, current ownership of a home, and the importance attached
to personal homeownership are found to be related to predicted completed
family size.

The Impact of Rising Homeownership Costs on Family Change
Dowell Myers, Community and Regional Planning, University of Texas, P.O. Box
8059, Austin, TX 78712.

The latter half of the 1970s witnessed a tremendous increase in the costs
of homeownership in the United States. These costs rose far faster than the
average incomes of young married couples. Nevertheless, the paradox emerged
that the homeownership rate of young couples rose to its highest level in
history. Although motivated in part by the investment prospects stemming from
rising house prices, this increased homebuying was financed primarily through
changes in family structure. The author presents evidence that two earners
are needed to buy homes today, a higher fraction of family income must be
allocated to housing expenditures, and postponement of childbearing is
necessary both to save large down payments and to maintain wives'
contributions to high monthly mortgage payments. These changes are documented
for a national sample of married couples aged 22 to 34 during the 1974-1980
period. Policy responses are discussed that would help to reduce some of the
unintended family changes that are caused by rising homeownership costs.

NEW DIRECTIONS OF RESEARCH IN HISTORICAL DEMOGRAPHY
Organized and Chaired by
Lee L. Bean, University of Utah

Differential Child Mortality by Occupation and Social Class of Parents:
Evidence from the United States, 1900, and England and Wales, 1911
Michael R. Haines, Department of Economics, Wayne State University, Detroit,
MI 48202.

The author utilizes data from the 1900 U.S. census Public Use Sample and
the published 1911 census of England and Wales to investigate the relationship
of child mortality (measured by indirect techniques) to the occupation, social
class, and labor force status of parents. Results for England and Wales show
an expected inverse monotonic relationship of father's social class and an
inverse correlation of mother's employment with child mortality. The
relationships for the United States are less clear. The relationships are
sensitive to the class categories chosen. Comparisons between the two

countries reveal anomalies in rankings, including those for physicians, clergy, teachers, and coal miners.

Ethnic Differences in Mortality in the Nineteenth Century: A Case Study of Philadelphia, 1880-1881
Gretchen A. Condran, Philadelphia Social History Project, University of Pennsylvania, 4025 Chestnut Street, Suite 600, Philadelphia, PA 19104.

In Philadelphia in 1880, life chances varied among subgroups of the population. Compared with whites, blacks had high rates of mortality from tuberculosis, pneumonia, diarrheal diseases, and a number of causes of infant death. Irish- and German-born men had higher mortality levels than native-born men. Irish women died at higher rates than either native-born or German-born women. On the basis of individual-level data from the register of deaths in the year following the 1880 census, as well as manuscript census data, life table probabilities of dying ($_{n}q_{x}$) are calculated for blacks, Irish, and German populations by occupation and by whether they lived in areas heavily populated by their ethnic group. The objective of the study is to isolate the independent effects of race and/or immigrant status, occupation, and place of residence within the city on the mortality levels of subgroups of Philadelphia's population.

The Determinants of Infant Mortality in a German Village, 1750-1899
Hallie J. Kintner, University of Michigan. Mailing address: 1910 Hill Street, Ann Arbor, MI 48103.

The author explores how several factors influenced the probability of a child dying during infancy in a historical European population. The importance of family background characteristics, such as the family infant mortality rate and socioeconomic status, is compared with the importance of biological characteristics of the individual's birth, including gender, parity, mother's age at birth, and the length of the preceding birth interval. The data were obtained from the village genealogy of a rural village in southwestern Germany. Logistic response regression is used to estimate the parameters of the model. The biological circumstances of the birth, including mother's age, parity, and the length of the prior birth interval, have statistically significant effects on the probability of a live birth dying during infancy. The variables in the model, however, do a very poor job of accounting for individual differences in the risk of infant mortality.

The Value of Children during Industrialization: Micro-Evidence from the Connecticut River Valley
Caren A. Ginsberg, Graduate Group in Demography, University of California, 2234 Piedmont Avenue, Berkeley, CA 94720; E. A. Hammel, University of California at Berkeley; and Sheila R. Johansson, University of California at Berkeley.

The differential economic value of boys and girls affected childhood sex ratios by age in the nineteenth-century United States. State-level data for the period 1800-1860 show boys more numerous than girls in agricultural regions and the reverse in industrializing ones. County-level data for 1820-1860 show a strong correlation between the childhood masculinity ratio and degree of nonagricultural economic activity. Family-level data for as late as 1900 confirm these patterns. Family reconstitutions of two towns in western Massachusetts (1860-1890) corroborate these patterns again and show that boys had higher survival chances than girls in the agricultural community, while girls had the advantage in the industrial community. The authors hypothesize that attitudes toward child labor influenced both migration choices and child care.

FERTILITY TRENDS AND PROSPECTS IN DEVELOPING REGIONS
Organized and Chaired by
Gwendolyn J. Acsadi, United Nations

Recent Fertility Trends in Thailand
Pramote Prasartkul, Mahidol University; Richard Osborn, Department of Preventive Medicine, University of Toronto, Toronto, Ontario M5S IA8, Canada; and Yawarat Porapakkham, Mahidol University.

The role of the Accelerated Family Planning and Health Project in improving accessibility to maternal and child health and family planning services in 20 disadvantaged provinces in Thailand is examined using data from baseline and outcome surveys. Between 1979 and 1981 persistent and systematic declines are seen in cumulative fertility measures such as number of living children and children ever born. The desire for additional children is sharply reduced above age 30. Total fertility rates and the proportions pregnant declined over the period and now approach national averages. Least advantaged rural women and women of lower socioeconomic status show the largest declines over the two-year period. The success of efforts to achieve equity between these 20 provinces and national averages is discussed.

The Contribution of World Fertility Survey Data to an Understanding of Fertility Levels and Trends in Selected Developing Countries
Cynthia B. Lloyd, Population Affairs Division, United Nations, Room DC 636, New York, NY 10017.

No abstract received.

Levels, Trends, and Prospects of Fertility in Developing Countries
W. Parker Mauldin, Rockefeller Foundation, 1133 Avenue of the Americas, New York, NY 10036.

Fertility has fallen appreciably in many countries in Asia and Latin America but hardly at all in Black Africa, the Arab countries, and the Muslim countries of the Near East (except for Turkey where fertility has fallen rapidly). Population growth rates remain generally high, however, because mortality has continued to decline, although the rate of mortality decline probably has lessened in recent years. The momentum of population growth is strong because of the age structure, a function largely of recent high fertility, and also because of the total size of the population. Even if fertility continues to fall, the absolute increase in population will become larger and is likely to be above its current level for about 50 years.

ECONOMIC ADJUSTMENTS OF U.S. IMMIGRANTS
Organized and Chaired by
Barry R. Chiswick, University of Illinois at Chicago

English Language Proficiency and Earnings of Mexican-American Men
Steven D. McLaughlin, Battelle Human Affairs Research Center, 4000 NE 41st Street, P.O. Box 5395, Seattle, WA 98105.

A model of the wage attainment process of Mexican-American men in the United States is estimated with data from the 1976 Survey of Income and Education and the Dictionary of Occupational Titles. The model incorporates English language proficiency, education, experience, and immigrant status as

exogenous determinants of occupational characteristics and wages. Three separate models are estimated. They consist of a basic wage model for Mexican-American men; a proficient/non-proficient model to compare Mexican-Americans with differing language skills; and a non-Hispanic white/native-born, English-proficient model to examine the effects of ethnicity. The major findings are that language ability's impact of wages is indirect via occupational characteristics; that language ability influences rate of return to education, experience, and occupational characteristics; and that ethnicity effects are limited to differences in rates of return to occupational characteristics.

The Occupational Prestige of Women Immigrants: A Comparison of Cubans and Mexicans
Teresa A. Sullivan, Population Research Center, University of Texas, 1800 Main Building, Austin, TX 78712.

The author analyzes the occupational prestige of U.S. female labor force participants born in Cuba or Mexico who were at least 25 years of age at the time of their immigration between 1945 and 1970. The age limitation, combined with schooling, provides a proxy for social class and for complete socialization into the home culture. The data are from a one-percent 1970 census Public Use Sample, corrected for allocation. The dependent variable is NORC (National Opinion Research Center) prestige score; independent variables are age, U.S. experience, residence in the South, vocational training, weeks worked, completed schooling, and high school/college completion. Predicted prestige scores, controlled for social class, narrow the prestige score gap between Cuban and Mexican women but increase the gap between immigrant men and women. The data suggest that the social mobility process for female immigrants may differ from that for males, partly because cultural barriers to "pink collar" jobs of nominally higher status restrict women's mobility.

Labor Supply and Earnings of Immigrant Families
Ann C. Orr, U.S. Army Research Institute. Mailing address: 3143 Quebec Street NW, Washington, DC 20016.

No abstract received.

INTERNAL MIGRATION AND DEVELOPMENT INTERRELATIONSHIPS IN THIRD WORLD
AREAS
Organized and Chaired by
Lawrence A. Brown, The Ohio State University

Migrant Selectivity and Development Milieus in Rural Colombia: Differences among Three Communities
Dale W. Wimberley, Department of Sociology, The Ohio State University, 300 Administration Building, 190 North Oval Mall, Columbus, OH 43210; William L. Flinn, The Ohio State University; and E. Helen Berry, The Ohio State University.

Differences in household-level factors associated with migration from three Colombian communities are examined in this paper. Emphasizing structural explanations of migration, the authors use survey data from a longitudinal study of households in a regression analysis to discover interactions between community of residence and several independent variables including family life cycle, socioeconomic resources, and media exposure. The influence of the developmental context is considered as several inter-community differences in apparent causes of migration are noted.

Circular Migration, Development Conditions, and Young Child Malnutrition in Guatemala

Charles H. Teller, International Nutrition Unit/Office of International Health, U.S. Department of Health and Human Services, 121 Congressional Lane, Suite 304, Rockville, MD 20852; and William P. Butz, U.S. Bureau of the Census.

Agricultural households in Guatemala are increasingly resorting to circular migration as part of the struggle for survival. The authors examine recent patterns and trends in this type of migration, with particular reference to its impact on family well-being and on the nutritional status of young children. The migration data come from the INCAP/Rand Study life history instruments administered to 467 male respondents 20-59 years old in four Ladino villages and two peri-urban towns in Guatemala in 1975-1976. The nutrition data include 4,181 anthropometric observations collected periodically throughout the INCAP/NICHD longitudinal study conducted between 1969 and 1976. The results indicate that incidence, but not duration, of circular migration has increased over time, with more circulation closer to home. Children whose fathers seasonally migrate are at higher nutritional risk, particularly among the "perennial" migrant families, even holding socioeconomic status constant. Policy implications include the identification of distinct circular migrant groups as targets of nutrition interventions. The authors suggest that substantial food supplementation, which insulates children from the negative effects of migration in the two intervention villages, should be timed for the fathers' peak migration periods.

Migration, Education, and Rural Development: Evidence from Ecuador

David A. Preston, School of Geography, University of Leeds, Leeds LS2 9JT, England; and Rosemary A. Preston, University of Leeds.

Data from the 1974 census and from five case studies in rural Ecuador show that migrants do not move predominantly to urban destinations. Of those surveyed during these case studies, only 31 percent who had previous migratory experience had been to urban areas, while 67 percent of absent children live in urban areas. Over half of the children born in 1950 in the sample communities now live elsewhere. Renting of farmland by migrants is more likely to benefit those with less than average landholdings, and the process of land rental results in a more equitable distribution of resources. The relationship between migration and education is consistently positive: migrants had received more schooling than nonmigrants, and migrants to urban areas had received more schooling than migrants to rural areas. The authors suggest that migration should be seen as the consequence of increasing inequalities in a national society. Farming is frequently only one of many components of household livelihood strategies and seldom that perceived as the most capable of earning increasingly needed cash income.

A Model of Household Labor Mobility in a Modern Agrarian Economy, with Evidence from Mexico

Kenneth D. Roberts, Department of Economics, Southwestern University, Georgetown, TX 78626.

The model presented in this paper is designed to examine the influence of regional agricultural conditions in less developed countries upon the occupational and spatial allocation of rural-based labor. The model is tested with survey data from four agricultural regions of Mexico. With the household as the unit of analysis, occupational diversification may increase expected income and reduce risk, causing migration to other areas and cities or, as in the case of one of the zones in this study, to more developed neighboring economies. Farm income and the capitalization of agriculture are central among the factors that determine the occupational mix of a particular region among farming, local labor, and circular and permanent migration.

THE CHANGING SITUATION OF WOMEN: INTERNATIONAL PERSPECTIVES
Organized and Chaired by
Mary G. Powers, Fordham University

Transitions between Combined Marital, Labor Force, and Educational Statuses
for Young U.S. Women
Nancy A. Denton, Population Studies Center, University of Pennsylvania, 3718
Locust Walk CR, Philadelphia, PA 19104.

For U.S. women, marriage is no longer the sole defining element of their
adult status, nor is it tightly nested in an orderly series of transitions.
As a result, moving into adulthood requires a young woman to evaluate
simultaneously complex and competing options regarding her labor force,
marital, and educational roles, and late adolescence to early adulthood is a
period of experimentation with various combinations of these three roles.
After controlling for other variables, factors that affect movement among
combinations of these roles vary tremendously depending on which initial
combination a woman occupies, as does the relative importance of background
characteristics compared with more proximate current status characteristics.
Significant effects include the positive impact of IQ and college attendance
on movements into more complicated combinations and the differential impact of
a new child on labor force participation depending on the mother's initial
combined status set.

The Status of Working Women in Lebanon: An Analysis of the 1970s
Mary J. Chamie. Mailing address: 33 Jefferson Avenue, Hastings-on-Hudson,
New York, NY 10706.

The purpose of this study is to examine the status of working women in
Lebanon during the 1970s. Labor force participation rates are presented, and
the occupational diversity found for men and women is compared. The study
also deals with women's comparative status within occupational categories, the
educational attainment of men and women with similar occupations, and the
definitional problems of work that are encountered in a transitional society
such as Lebanon. Among the major findings, it is observed that regardless of
educational attainment, women are confined to a limited number of occupations,
which are generally among the least prestigious. Educational attainment of
wife and husband, age at marriage, previous work experience, and family income
are related positively to women's participation in the labor force after
marriage. It is also noted that the poorly delineated definitions of work
used by policymakers, governmental agencies, and social scientists have led to
serious misconceptions about who is economically active and who is not.

Changing Roles of Arab Women in a Rapidly Developing Nation: The Case of
Bahrain
E. James Fordyce. Mailing address: 24 Fifth Avenue, Apt. #601, New York, NY
10011; Maurice D. Van Arsdol, Jr., University of Southern California; Layla
Rhadi, State of Bahrain; Mary Beard Deming; and Ibrahim Al-Hamer, State of
Bahrain.

Recent data from the 1981 census of Bahrain provide information of the
changing educational status and labor force participation of Arab women under
conditions of rapid socioeconomic development. The increase in oil revenues
during the 1970s created broader educational and occupational opportunities
for Bahraini women. This has resulted in fundamental changes in both the
extent of female labor force participation and the degree of diversification
in the female occupational structure. This paper focuses upon these changes
using data from the 1959, 1965, 1971, and 1981 censuses. The effects of
modernization on family formation, work, fertility behavior, and educational
attainment are examined in detail.

Determinants of Women's Labor Force Participation in Urban and Rural Areas of the Republic of Korea
Kyonghee Min, Population Studies and Training Center, Brown University, Providence, RI 02912.

Two theoretical frameworks provide the basis of the analysis described in this paper: the role incompatibility model and Boserup's thesis on division of labor by sex and production system. Data are drawn from the one percent sample tape of the 1970 population census and the published reports of the 1970 agricultural census of the Republic of Korea. First, the analysis focuses on urban and rural women at the individual level. With women's labor force participation as the dependent variable and five socio-demographic variables (age, marital status, women's education, number of children still living, and number of generations living in the household) as independent variables, a multiple classification analysis is presented that shows a striking difference between urban and rural women. Second, because the five socio-demographic variables explain very little of the variation in rural women's labor force participation, the analysis focuses on rural women at the community level. Ownership of land and farm machines, size of land, and depletion of men are shown to be significant predictors.

DEVELOPMENT PROGRAMS AND FERTILITY CHANGE IN LDCs
Organized and Chaired by
Anrudh K. Jain, Population Council

A Comparative Assessment of the Fertility Impact of Rural Development Projects
Pamela DeLargy, University of North Carolina; and Richard E. Bilsborrow, Carolina Population Center, University of North Carolina, University Square East 300A, Chapel Hill, NC 27514.

This paper contains the findings of four field research projects that attempt to assess the demographic impact of rural development projects in Brazil, Nigeria, the Philippines, and Thailand. The studies were undertaken by indigenous researchers as a part of an international consortium for population-development research funded by UNFPA and the Rockefeller Foundation and coordinated by the Carolina Population Center. Household surveys were conducted to study the effects of resettlement projects in Brazil and Nigeria and a rural electrification project in the Philippines; a community-level survey was carried out to investigate the effects of a large irrigation project in Thailand. Differing effects on fertility are observed because of national and cultural situations and different methodological approaches. The authors conclude by reviewing common methodological issues and offering suggestions for future micro-level population impact studies.

Fertility Impacts of Irrigation and Electrification in Northeast Thailand
John E. Stoeckel, Population Council, P.O. Box 11-1213, Bangkok 10112, Thailand; Suchart Prasith-rathsint, National Institute of Development Administration; Suwanlee Piampiti, National Institute of Development Administration; and Twatchai Yongkittikul, National Institute of Development Administration.

The Population Council, with U.S. Agency for International Development funding, initiated a program on the fertility impacts of development in South and East Asia in 1978. This paper is a report on the results and methodological issues raised from two studies conducted in Northeast Thailand under the research awards component of this program. In the first study, carried out by Suchart Prasith-rathsint et al., the fertility impacts of irrigation are analyzed at the community and household levels using data

collected by a stratified probability sample of 4,500 households from 225
villages. In the second study, carried out by Suwanlee Piampiti et al., the
fertility impacts of electrification are analyzed at the community and
household levels using data collected by a stratified random sample of 5,000
households from 200 villages.

Cottage Industry and Fertility in West Bengal

Amit K. Bhattacharyya, Brown University; and Adrian C. Hayes, Department of
Sociology, State University of New York, Albany, NY 12222.

The relationship between fertility behavior and involvement in cottage
industry in a rural area of West Bengal, India, is examined in this paper.
Data from a 1980 survey show a positive association between family size and
children's participation in the industry. The authors test for the direction
of this causality by reconstructing both the fertility history and the work
history of families. The paper includes a discussion of the methodological
issues that are raised and consideration of the policy implications of the
findings.

Fertility and Family Planning in "Developed" Versus "Undeveloped" Squatter Areas in Lahore City

Nasra M. Shah, East-West Population Institute, East-West Center, 1777 East-
West Road, Honolulu, HI 96848.

The author analyzes fertility and family planning differences between
squatter areas that are at different levels of socioeconomic development in
the city of Lahore, Pakistan. Squatter areas in which the government has
provided developmental infrastructure such as sewage disposal systems, piped
water, and electricity are compared with other areas where no such development
has taken place. Another measure of the community's development level
consists of observations about the infrastructure (e.g., schools, family
planning clinics, hospitals, etc.) available within half a mile of that
community. Family planning attitudes and practice and cumulative fertility
are analyzed for currently married women in different squatter areas. In
order to ascertain the net impact of community-level variables, individual
factors including education, family income, and female work participation are
controlled in a multivariate analysis.

MIGRATION AND FERTILITY IN DEVELOPING REGIONS
Organized and Chaired by
John J. Nacisco, Jr., Fordham University

Migration, Fertility, and Social Mobility: An Analysis of the Fertility of Ecuadorian Women

E. Helen Berry, Department of Sociology, The Ohio State University, 300
Administration Building, 190 North Oval Mall, Columbus, OH 43210.

The purpose of this study is to examine the relationship between fertility
and migration behavior in terms of social mobility models that specify that,
within societal and biological constraints, couples lower their fertility in
order to "rise" in social status. Analyses of variance and regression
techniques are used to determine whether the relationship between migration
and fertility is a function of the move itself, assimilation of the fertility
values in the place of destination, or upward mobility. Results indicate that
while there are differences in migrant fertility by status groupings, the
assimilation of new norms is of greater import than mobility.

Fertility and International Migration in the Arab Middle East
Robert H. Weller, Center for the Study of Population, Florida State University, Tallahassee, FL 32306.

The relationship between international migration and fertility is examined using data from Arab countries in Western Asia, a region characterized by a high volume of international migration and persistently high levels of fertility. It is shown that immigration acts to lower fertility levels and that immigrants have lower fertility rates than the receiving populations. Although concentrated in the ages 20-39, immigrants are disproportionately male, and in several countries laws making difficult the marriage of immigrants to citizens further reduce the reproductive impact of immigration upon the age structure. The effects of emigration are harder to gauge. Emigrants tend to have lower fertility than the stayers, but this is not always the case. The effects of emigration upon fertility levels in the sending country depend upon the amount of age selectivity and the amount of visitation by workers abroad. The indirect effects of international migration on fertility, such as would result from the stimulation of economic growth or the provision of alternative role models threatening the national identity of the receiving population, cannot be assessed with the data used in this paper.

The Effect of Rural-Urban Migration on Fertility: Evidence from Mexico
Lee E. Edlefsen, University of Washington, DK-30, Seattle, WA 98195; and Bun Song Lee, University of Nebraska.

An attempt is made in this paper to estimate the effect of rural-urban migration in Mexico on migrants' fertility. In Mexico, as in many other places, the fertility of rural migrants tends to be lower than that of rural nonmigrants. This observed difference could reflect the fact that migrants' fertility adapts to the new circumstances and is lower than it would have been in the absence of migration. Another possibility, however, is that migration is selective and that migrants would have had lower than average fertility even if they had not migrated. A longitudinal fixed effect logit model is used to attempt to separate the adaptation effect from the selectivity effect. An attempt is also made to uncover the reasons for an adaptation effect, to the extent that it exists. Data for the study are taken from the 1976 Mexican World Fertility Survey.

Rural-Urban Migration and Fertility in Developing Countries: A Theoretical Synthesis
Oleh Wolowyna, Center for Demography and Ecology, University of Wisconsin, 1180 Observatory Drive, Madison, WI 53706.

After reviewing the theoretical aspects of the literature on the relationship between rural-urban migration and fertility, the author concludes that the lack of substantial progress noted by several researchers is primarily due to the lack of a conceptual framework and a theoretical elaboration of the relationship. A general conceptual framework is described that includes definitions of key concepts and several general propositions. Then, based on theories of fertility and migration, a theoretical outline for the study of the effect of rural-urban migration on the fertility of migrants is presented. It is proposed that the main theoretical link between rural-urban migration and fertility is the fact that such a move transfers families and individuals from an area with a particular familial mode of appropriation and distribution of resources in the household to an area where the modern ways of appropriation and distribution are the norm. The process of adaptation to these changed circumstances, which is partially conditioned by the degree of selectivity of migrants, can be conceptualized as an accelerated demographic transition. It is suggested that an analysis of this process may prove useful for a better understanding of the more general process of fertility decline in developing countries.

FERTILITY TRENDS AND PROSPECTS IN DEVELOPED REGIONS
Organized and Chaired by
Charles F. Westoff, Princeton University

The Emergence of a Modern Fertility Pattern: A Comparison of White and Nonwhite Cohorts
M. D. R. Evans, Department of Sociology, University of Chicago, 1126 East 59th Street, Chicago, IL 60637.

Changes in the quantity and tempo of the fertility of white and nonwhite cohorts born between 1905 and 1954 in the United States are analyzed. The author describes inter-cohort patterns of change in mean age at fertility, in the standard deviation of age at fertility, in the cohort total fertility rate, in the proportion permanently nulliparous, and in mean completed parity among those having any births. The fertility patterns of the two groups appear to be converging in some respects but remain distinct, and are even diverging, in other respects.

Dissimilar Modern Fertility Patterns: The Transition to Parenthood in the United States and Japan
S. Philip Morgan, Carolina Population Center, University of North Carolina, 123 West Franklin Street, University Square, Chapel Hill, NC 27514; Ronald R. Rindfuss, University of North Carolina; and Allan Parnell, University of North Carolina.

Goode, Ryder, and others argue that economic development accompanies a shift toward the conjugal family and, at the same time, sets in motion a host of anti-natalist forces that impinge on this family. The result of these forces is the emergence of a modern fertility pattern that is characterized by early ages at childbearing, nearly universal parenthood, small families, and the dominance of timing shifts (over number shifts) in affecting fertility rates. The authors use data from Japanese and American fertility surveys to contrast the modern fertility patterns of these two countries and find features of these patterns that are quite dissimilar. Japanese women initiate childbearing at a much later age, and fewer remain permanently childless compared with U.S. women. The authors suggest that these important differences are due to lingering cross-national variations in family structure, sex roles, and the meaning of marriage. Finally, a discussion of the permanence of these cross-national differences leads the authors to conclude that a range of possible "modern fertility patterns" exists and that the one adopted depends upon the society's existing institutional structures.

Forecasts of Age-Specific Fertility Rates in the United States, Japan, and Some Western European Countries
Robert Kleinbaum, Population Studies Center, University of Michigan, 1225 South University Avenue, Ann Arbor, MI 48109.

No abstract received.

The Fertility of Guestworker Populations in the Federal Republic of Germany: 1961-1981
Thomas T. Kane, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton University, Princeton, NJ 08544.

Based on vital statistics data and special micro-census tabulations from the Federal Republic of Germany, current and cumulative fertility of six foreign migrant groups residing in Germany is estimated for the 1961-1981 period and then compared with native German fertility and fertility in the

home countries. Standardization techniques are employed to eliminate the effects of differing age and marital status compositions. The effects of migration selectivity and assimilation on migrant fertility trends, levels, and differentials are explored. Preliminary results indicate that the fertility of Greek, Spanish, and Portuguese migrants is rapidly approaching the German level. Turkish fertility remains high, with a total fertility rate (TFR) of 3.6 in 1980, compared with a TFR of only 1.4 for German nationals. Foreign migrant women with longer durations of residence in Germany and better knowledge of the German language appear to have lower cumulative fertility than comparable women with shorter durations of residence and less knowledge of German.

FURTHER ISSUES IN THE U.S. RURAL GROWTH TURNAROUND
Organized and Chaired by
Calvin L. Beale, U.S. Department of Agriculture

Residential Preference and Structural Change--An Integrated Aproach to the Nonmetropolitan Migration Turnaround
Corrinne M. Rowe, Department of Sociology, University of Idaho, Moscow, ID 83843; and John M. Wardwell, Washington State University.

No abstract received.

SMSA Characteristics and Nonmetropolitan-Destined Out-Migration
Linda L. Swanson, Population Section, U.S. Department of Agriculture, Room 492, 500 12th Street SW, Washington, DC 20250.

Research on the reversal of growth trends in nonmetropolitan areas has focused primarily on the qualities of rapidly growing nonmetropolitan areas and the characteristics of the recent in-migrants. However, survey results imply that much of the impetus for the growth reversal is a dissatisfaction with city life. Using data on the residential and employment related attributes of SMSAs over the period 1965-1970, the author compares the attributes associated with out-migration from SMSAs to other metropolitan areas with those attributes associated with out-migration to nonmetropolitan areas for both the entire population and age-specific groups. It is found that economic attributes are important factors in out-migration to metropolitan areas, while central city crime, followed by unemployment for the middle age group and age of city for the youngest age group, affects out-migration to nonmetropolitan areas. In-migration to the SMSA, specific to type of origin (metropolitan or nonmetropolitan), is the most powerful predictor. It appears that in predicting destination-specific out-migration from SMSAs, the "push" provided by negative characteristics is secondary in importance to the pattern of migrant exchange between an SMSA and nonmetropolitan or other metropolitan areas.

Nonmetropolitan Growth in the Late 1970s: The End of the Turnaround?
Kerry Richter, Department of Rural Sociology, University of Wisconsin, Madison, WI 53706.

Early research on the migration turnaround to nonmetropolitan areas in the United States in the 1970s found that growth was occurring even in remote rural areas. Though this shift took many researchers by surprise, it was soon incorporated into new theories of urban evolution and economic differentiation. More recent evidence, however, shows that the growth of nonmetropolitan areas did slow by the end of the decade. In particular, the

flow of migration into areas remote from an urban center dropped sharply. In this paper, growth rates are examined by investigating the differences in natural increase and migration by size of place. Regional differences in nonmetropolitan growth in the 1970s are seen in the light of longer-term migration shifts. The findings of previous researchers are extended to the latter half of the decade to determine which explanations for the turnaround appear to be short-lived and which continue to be useful in analyzing the factors affecting migration.

Fertility and Migration between Metropolitan and Nonmetropolitan Counties, 1970-1975
Nan E. Johnson, Department of Sociology, Michigan State University, East Lansing, MI 48824; and Kenneth G. Keppel, U.S. National Center for Health Statistics.

Various theories predict that migrants should have higher, lower, or similar fertility in comparison with nonmigrants. In the present study, the authors examine the extent to which the new net in-migration to nonmetropolitan U.S. counties after 1970 was associated with a change in the metropolitan/nonmetropolitan differential in cumulative fertility. Despite the influx of metropolitan women to nonmetropolitan counties, data culled from the March and June 1975 Current Population Surveys suggest that nonmetropolitan residents continued to have higher cumulative fertility. Suggestions for future research on the relationship between migration and fertility are made.

CHANGING U.S. FAMILY AND HOUSEHOLD STRUCTURES
Organized and Chaired by
V. Jeffery Evans, U.S. National Institute of Child Health
and Human Development

Changes in Hispanic Household-Family Structure
W. Parker Frisbie, Population Research Center, Department of Sociology, University of Texas, Austin, TX 78712; Frank D. Bean, University of Texas; Robert Kaufman, University of Texas; and Dudley L. Poston, Jr., University of Texas.

The authors report on an application of standardization techniques for contingency tables to adjust for life cycle (age) composition as it affects patterns among 40 household-family types that distinguish various Hispanic groups in the United States. The most noteworthy finding is that membership in different ethnic populations must be taken into account when modeling the observed variation in household structure. Life cycle stage, as expected, also plays a major explanatory role.

Cohort Variation in Children's Responses to Divorce: A Preliminary Assessment
Judith A. Seltzer, Department of Sociology, Johns Hopkins University, Baltimore, MD 21218; and Frank F. Furstenberg, Jr., University of Pennsylvania.

The authors investigate variation in the effects of divorce on 11-year-old children in three U.S. birth cohorts: 1952-1954, 1965, and 1970. They test the hypothesis that children whose parents were separated or divorced during a period characterized by relatively low divorce rates are more likely to show adverse consequences of the event than children in recent cohorts who

experienced divorce at a time when it was a more common occurrence. Results of preliminary analyses provide very little evidence of the predicted cohort differences in the effects of divorce on a variety of child outcomes. Contrary to expectations, the data suggest that the effects of divorce on one aspect of child well-being, tension level, may have intensified. Subsequent stages of the analysis will explore this relationship in greater detail and focus on further refining the specification of cohort and social context effects on responses to family events.

Remarried Couple Households
Andrew J. Cherlin, Department of Social Relations, Johns Hopkins University, Baltimore, MD 21218; and James McCarthy, Johns Hopkins University.

Tabulations are presented for "remarried couple households" in the June 1980 Current Population Survey. These households are defined as married couple households in which one or both spouses has been divorced. Results show that in one out of five households maintained by a married couple in June 1980, one or both spouses had been divorced. One-sixth of all children under 18 in the United States live in these households. These remarried couple households are further classified by the existence and current living arrangements of children from previous marriages. In about two million of these households, stepparents and stepchildren are present.

Leaving Home and the Transition to Adulthood
Frances E. Kobrin, Department of Sociology, Brown University, Providence, RI 02912; and Julie DaVanzo, Rand Corporation.

In the analysis presented here, data from the National Longitudinal Study of the High School Class of 1972 are used to investigate the extent to which living away from home is linked to other roles usually assumed during the transition to adulthood in the United States. Marriage, military service, and, to a much smaller extent, higher education are found to increase residential independence, while both parenthood and full-time employment are associated with greater residential dependence. However, much of the increase in living away from home is not explained by these other roles. The authors also examine how transitions among roles are related, with a focus on the responsiveness of living arrangements to changes in these roles. The analysis reveals a substantial amount of returning to the nest when schooling, military service, and/or marriage end. Explanations for these patterns are discussed, and further analyses to test them are proposed.

Living Arrangements among the Never Married: Changes in the Propensity to Live Alone in the United States
William R. Grady, Battelle Human Affairs Research Centers, Battelle Memorial Institute, 4000 NE 41st Street, P.O. Box 5395, Seattle, WA 98105; and Steven D. McLaughlin, Battelle Memorial Institute.

The authors present some preliminary findings from a larger study of recent changes in the propensity of the U.S. population to live alone. The focus of this analysis is the allocation of change in the number of never-married persons living alone into several components. One important component, change in the propensity to live alone, is then further analyzed to identify the sources of its change. An analysis of Current Population Survey data indicates that population growth and an increasing proportion of never-married persons account for most of the change in living alone. Change in propensity is found to be an important positive component among whites. Among nonwhites, however, declining propensity limits the increase in living alone produced by growth in the never-married population. Race and sex-specific regressions show that age, education, income, and labor force status are largely unrelated to propensity and do little to explain its change.

DEMOGRAPHIC IMPACTS OF LABOR MIGRATION IN LDCs
Organized and Chaired by
Charles B. Keely, Population Council

Economic Development, Diversification, and Migration: The Case of Bahrain
Maurice D. Van Arsdol, Jr., University of Southern California. Mailing
address: 1025 Lachman Lane, Pacific Palisades, CA 90272; Layla Rhadi, State
of Bahrain; E. James Fordyce; Ibrahim Al-Hamer, State of Bahrain; and Mary
Beard Deming.

Migration to Gulf States (Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and
the United Arab Emirates) during the 1970s was a response to economic
development and diversification, which partially resulted from increased
energy prices. In this paper, the determinants, content, and impact of recent
migration to Bahrain are described. First, the authors outline population
growth in the 1970s. They then describe the country's native and foreign-
stock population and examine the determinants and composition of immigration.
In conclusion, they consider the future impact of immigration to Bahrain and
the implications for other Gulf States.

The Impact of Emigration on Public Sector Productivity: The Sudanese Ministry
of Health
Mohamed Mirghani Abdel-Salam, Economic and Social Research Council, Sudan;
Ellen Percy Kraly, Colgate University; and Ismail Sirageldin, Department of
Population Dynamics and Political Economy, Johns Hopkins University, 615 North
Wolfe Street, Baltimore, MD 21205.

A study is described that will evaluate the consequences of emigration
from Sudan for the productivity of one public sector, the Ministry of Health.
A methodology is developed to measure economic loss due to out-migration of
employees. The flow of emigrants will be documented for selected departments
and occupations within the Ministry of Health. Information from personnel
files will identify and describe employees present between 1978 and 1982 as
well as those who have filled vacancies. This census also will serve as the
sample frame for the selection of 600 employees who will be interviewed in
depth. Workers will be asked about their past mobility history, their
available options, and future plans. The National Health Programme will
provide a framework for assessing the impact of emigration on departmental
productivity. Also, a content analysis will be performed to estimate the
expected output of the selected departments and their manpower input
requirements. Policies for dealing with the potential consequences of
emigration for the activities of the Ministry of Health are analyzed.

Emigration and Fertility in a Mexican Town
Brendan P. Mullan, University of Pennsylvania; and Douglas S. Massey,
Population Studies Center, University of Pennsylvania, 3718 Locust Walk CR,
Philadelphia, PA 19104.

Fertility estimates are calculated using own-children data from the
Mexican migrant town of Guadalupe, Michoacan. In this town, 75 percent of
families have some member working in the United States, typically the male
family head. In many cases, migrant husbands and wives are separated for
varying periods each year. From prior simulations by Menken and by Bongaarts
and Potter, it was expected that fertility would be lower in such families.
An examination of differential fertility between different migrant statuses
reveals this to be the case. Seasonal out-migration to the United States
lowers total fertility of women married to both legal and illegal migrants
relative to wives of nonmigrants. It also disrupts the age pattern of
fertility. As one would expect, the effect of migration on fertility
increases the longer a husband and wife are separated. A logistic analysis of
birth probabilities shows that reductions produced by seasonal migration are
in the range expected from prior simulations.

SOCIOECONOMIC-AGING INTERRELATIONS IN INDUSTRIAL REGIONS
Organized and Chaired by
William J. Serow, Florida State University

The Employability of Older Men: The Influence of the Nature of the Job
Mark D. Hayward, Battelle Human Affairs Research Centers, Battelle Memorial
Institute, 4000 NE 41st Street, P.O. Box 5395, Seattle, WA 98105; and William
R. Grady, Battelle Memorial Institute.

This study is concerned with the factors influencing the occupational
retention of older men in the United States. In particular, the authors
investigate how job transitions pertaining to continued labor force
participation and retirement are affected by the structural characteristics of
occupations. Data for the study are from the March Current Population Survey
for 1968-1970. The major findings indicate that work flexibility decreases
the risk of older men leaving their occupation, that substantial involvement
with certain work tasks increases the likelihood of remaining in the labor
force, and that certain work requisites and rewards influence the likelihood
of incumbents' movements both to other occupations and out of the labor force.
Overall, the paper provides support for the importance of structural features
of occupations in explaining the processes through which occupations maintain
older male incumbents.

Pay-As-You-Go Retirement Programs in Non-Stable Populations
Shelley F. Lapkoff, Graduate Group in Demography, University of California,
2234 Piedmont Avenue, Berkeley, CA 94720.

Most research on the effect of the population's age distribution on pay-
as-you-go retirement programs has been of two types: (1) theoretical analysis
explicitly or implicitly assuming the stable population model, or (2)
empirical work examining changes in the dependency ratio of an actual
population. In this paper, an attempt is made to bridge these two approaches
by modeling deviations from a stable population to represent fluctuations over
time in the population's age distribution. It is shown how relatively large
and small cohorts may affect, and be accommodated by, several different
versions of a pay-as-you-go retirement program. Sensitivity analysis is
performed on three parameters of a retirement program--rate of return, benefit
levels, and tax rates--in relation to demographic change.

Supply and Demand Determinants of Post-Retirement Income: A Segmented Labor
Market Approach
Nan L. Maxwell, Department of Economics, Denison University, Granville, OH
43023.

The research presented in this paper focuses on the extent to which
industrial and occupational labor market segments, labor market institutions,
and human capital accumulation impact on a worker's retirement income in the
United States. Data from the older men's cohort of the National Longitudinal
Surveys of Work Experience and path analysis support the hypothesis that labor
market segments and institutions extend their influence into retirement.
While labor market segments do influence the level of retirement income, they
are instrumental also in determining the source of that income for both blacks
and whites. Labor market institutions also have an impact on the level of
retirement income for blacks.

Alternative Retirement Age Indexes
Marilyn M. McMillen, U.S. National Center for Health Statistics, Room 1-44,
3700 East-West Highway, Hyattsville, MD 20782.

No abstract received.

Family Transfer Income and Household Living Arrangements among the Elderly

Carol Shuchman, Department of Sociology, Brown University, Province, RI 02912.

The gradual transfer of welfare functions from the family to the public sector in the United States has created ambiguities in the sources of support for the elderly. Though the state has taken primary responsibility for economic support for those in need, the family often supplements these resources with additional income. In this paper, the author explores the income sources available to the elderly using data from the Panel Study of Income Dynamics. Specifically, she examines the interaction between public transfer income and family transfers as it relates to household living arrangements and various socio-demographic characteristics of the elderly population.

FEMINIST PERSPECTIVES IN HOUSEHOLD DECISION-MAKING MODELS, 1983
Organized and Chaired by
Mary Kay Falconer, Florida State University

Household Decision-Making in a Religious Context

Rena Cheskis, Office of Institutional Research, Yale University, 451 College Street, New Haven, CT 06520; and Susan Enea, Brown University.

The authors use data on white ever-married men and women and their spouses from the Rhode Island Population Research Laboratory to explore family decision-making. Classic decision-making theory assumes that the partner with more resources will be the dominant family power. It has also been stressed that the relationship between resources and family decision-making will be clearer when considered within a cultural context. An array of socioeconomic characteristics is used in this study to represent a partner's resources relative to those of his or her spouse. In addition, religious affiliation is stressed as the cultural context. Family decision-making is explored separately for religiously homogamous Protestant and Catholic marriages and for mixed Protestant-Catholic marriages.

The Effect of Migration on Married Women's Labor Force Participation: Occupational Factors Influencing the Relationship

Joan M. Herold, Department of Sociology, University of South Carolina, Columbia, SC 29208; and Peter Mariolis, Mariolis Research Associates.

The authors examine the hypothesis that the characteristics of geographic ubiquity and easy reentry commonly attributed to female occupations will decrease the negative effect of migration on married women's labor force participation. The Mature Women Sample of the U.S. National Longitudinal Surveys is used to create five two-year migration intervals between 1967 and 1979. An ordinary least squares multiple regression analysis is used to show that migration has the most negative effect on subsequent labor force participation for women with low education levels in male occupations and the least negative effect for women with high education levels in male occupations. Migration has an intermediate effect for women in female occupations. The authors conclude that geographic ubiquity and easy reentry are not major determinants but that sex discrimination and the differential social rewards associated with occupations help to explain the effect of sex-type of occupation on the relationship between migration and married women's labor force participation.

The Effect of Wives' Employment on Family Migration

Glenna Spitze, Department of Sociology and Social Science, 340, State University of New York, 1400 Washington Avenue, Albany, NY 12222.

The effect of a wife's employment on her family's probability of migration is examined by testing hypotheses derived from economic migration theory and from sociological research on work and family life. Data for U.S. white married women from the National Longitudinal (Parnes) Surveys of Young and Mature Women are aggregated across two-year time periods and then disaggregated by age groups. Results indicate the deterent effects of both wife's employment and her income but no interactions with job satisfaction or sex-role attitude variables. There are distinct age patterns, with earnings playing a greater role in the 20s and employment status in the early 30s. After this point, wives' employment plays no part in the family migration process. Possible age and cohort interpretations are discussed. It is concluded that increasing levels of female labor force participation may slow general levels of migration somewhat, particularly for young couples.

Women's Education, Vocational Training, and Work Experience: A Reevaluation of Human Capital Theories of Investment Decision-Making

Linda A. Jacobsen, Center for Demography and Ecology, University of Wisconsin, 3224 Social Science Building, Madison, WI 53706.

Analyses of the economics of household production are used by economists to account for observed earnings differences between men and women. Specifically, it is often argued that the process of household decision-making with respect to the human capital investment of members results in a series of sequential decisions that leave women with lower levels of human capital stock, and thus earnings, than men. This paper provides an evaluation of these economists' assumptions about household investment decision-making and consists of three sections. In the first, the author describes the number and characteristics of women who complete their education after marriage and pinpoints the timing of this completion with respect to childbearing. In the second, she utilizes logistic models to examine the determinants of education investment across life cycle intervals, and in the third, she evaluates the implications of these findings for arguments concerning the process of household investment allocation and decision-making. The study is based on data for young women from the U.S. National Longitudinal Survey of Labor Market Experience.

THE BICENTENNIAL CENSUS: DESIGN AND MEASUREMENT ISSUES IN THE CENSUS OF 1990
Organized and Chaired by
Robert Parke, Social Science Research Council

The 1990 Census: A Count or an Estimate?

Barbara A. Bailar, U.S. Bureau of the Census, Washington, DC 20233.

The decennial census has traditionally been viewed as a counting process in which every person in the United States is listed and enumerated on a census questionnaire. In the 1970 census, estimation was used to add about 1.5 million persons to the census count. In the 1980 census, estimation was used only to assign a count to units for which occupancy status could not be determined. Questions have now been raised about how much estimation there should be in the 1990 census. Potential uses are sampling for follow-up, sampling for estimation of net census error, modeling net census error for small areas, and assignment of counts to units for which occupancy status cannot be determined. These will be discussed along with issues related to the use of estimation in the census.

Who Lives Where?
Conrad Taeuber, Georgetown University. Mailing address: 4222 Sheridan Street, Hyattsville, MD 20782.

If the U.S. census is to reflect the social structure of the nation, there must be continuing examination of the concepts on which the questions are based. The use of outdated concepts could lead to a false sense of comparability with the past, a distorted image, and erroneous conclusions and actions. Two aspects of the questions concerning residence are examined. One relates to the assumption that each individual can be definitely associated with one and only one specific location, as reflected in the term "usual residence". The other relates to the classification of residences as rural and urban, or metropolitan and nonmetropolitan. The division of rural population into farm and nonfarm components is also challenged.

Census Measures of Social and Economic Characteristics: Concepts Suited to the 1990s
Charles B. Nam, Center for the Study of Population, Institute for Social Research, Florida State University, Tallahassee, FL 32306.

There is a tendency in U.S. census enumerations for content items to remain essentially the same between census periods. A review of census history in the area of social and economic characteristics shows occasional points of innovation but relatively little change in items and concepts between recent censuses. A more focused study of items on ethnic status, education, and occupation shows that the Bureau of the Census's conceptual frameworks are out of date. Recommendations for testing some new social and economic items for the 1990 census are provided.

FERTILITY OF U.S. HISPANIC POPULATIONS
Organized and Chaired by
Earl E. Huyck, U.S. National Institute of Child Health
and Human Development

Determinants of Mexican American Fertility
Charles W. Warren, U.S. Centers for Disease Control. Mailing address: 1429 Stoneleigh Hill Road, Lithonia, GA 30058.

The Bongaarts model is used to assess the effect of four direct inhibiting factors (contraceptive use, marriage, induced abortion, and lactation) on Mexican American fertility. Bongaarts suggests that the importance of the inhibiting effects changes as a population moves from natural to controlled fertility. Since Mexican Americans are in a process of acculturation from their culture of origin (Mexican) to their culture of destination (Anglo American), they are, in effect, in the transition from natural to controlled fertility. The contrasting effects of the fertility-inhibiting factors are examined across three groups, Mexican, Mexican Americans, and Anglo Americans. The findings show that across these three groups the importance of the inhibiting factors changes substantially: contraceptive use (which is the most important factor) increases, the proportion of women delaying or never marrying increase, and induced abortion becomes more prevalent. Lactation has little effect on the fertility of either Mexican Americans or Anglo Americans. Mexican Americans appear to be at an intermediate stage in this transition: contraceptive use is high (over 60 percent), more women appear to be postponing or never marrying, lactation is prevalent but of very short duration (less than five months), and induced abortion is not widely used. Attempts to refine the analyses by focusing on subgroups of the Mexican American population (by place of birth and language preference) prove of little use, as the importance of the proximate determinants is similar for each.

Fertility Expectations and Behavior among Mexican Americans in Los Angeles
Georges Sabagh, Department of Sociology, University of California, Los Angeles, CA 90024.

The author reports on the results of a 1982 follow-up survey of a probability sample of approximately 1,100 Mexican American women initially interviewed in 1973. Even though there were no contacts with these women during the intervening period of nearly nine years, about 70 percent of them were located and about 64 percent were interviewed. The extent of aggregate and individual inconsistencies between fertility expectations and behavior is determined for the Los Angeles sample, and comparisons are made with the 1975 National Fertility Study follow-up survey. The degree of inconsistency is about the same for Mexican Americans reared in the United States and the national sample and is somewhat higher for Mexican Americans reared in Mexico. A similar pattern is observed for the correlations between intentions and reproductive behavior. It should be noted, however, that the Los Angeles sample was followed for a somewhat longer period than the national sample.

The Social Context of the Relationship between Female Education and Mexican American Fertility
Frank D. Bean, Department of Sociology, University of Texas, Austin, TX 78712; C. Gray Swicegood, University of North Carolina; and John P. Marcum, University of Iowa.

No abstract received.

Fertility-Related Attitudes of Mexican-Americans
Katherine F. Darabi, Center for Population and Family Health, Columbia University, 60 Haven Avenue, #B-3, New York, NY 10032; Pearila B. Namerow, Columbia University; and Susan Philliber, Columbia University.

The authors use cumulative data from the 1972-1980 NORC (National Opinion Research Center) General Social Surveys to compare the fertility-related attitudes of Mexican-Americans and non-Hispanic blacks and whites. The survey includes measures of ideal family size and attitudes toward abortion, sex education, and premarital sexuality. Attitudes among blacks, whites, and Mexican-Americans are compared after controlling for background variables.

Fertility Patterns of Hispanic Migrant Workers
Doris P. Slesinger, Department of Rural Sociology, University of Wisconsin, 1450 Linden Drive, Madison, WI 53706; and Yoshitaka Okada, International University of Japan.

Hispanic women who are currently in the migrant stream performing work in the agricultural sector have greater numbers of children than other women in the United States. The results of a 10 percent stratified random sample survey of Hispanic farmworkers and women of childbearing age in their families in Wisconsin in 1978 are presented. Little difference in fertility behavior between women under 30 years of age and those aged 30 and older is found. About one-third of both groups of women had their first birth at age 18 or younger; the average spacing interval between births is similar; and experience with infant and child mortality is about the same, controlling for number of pregnancies. However, difference in level of education is the strongest correlate of number of live births and expected completed family size, after statistically controlling for the effects of age. The authors conclude that for fertility to decline, a complex set of interrelated factors must fall into place, including improvements in education and economic position.

MORTALITY TRENDS AND PROSPECTS IN DEVELOPED REGIONS
Organized and Chaired by
George C. Myers, Duke University

Mortality Trends in Australia: 1966-1980
Elizabeth Hervey Stephen, Population Research Center, University of Texas,
1800 Main Building, Austin, TX 78712.

The author utilizes life table functions to determine the pattern of sex
differentials in mortality by age and the contribution of each age group to
the overall mortality decline. Data are presented for Australia, and
comparisons are made with the United States. Temporary life expectancies are
used to measure the mortality change within specified age groups. The gain in
life expectancy at birth is decomposed to determine the contributions by age.
The findings reveal that females are reaching the absolute limits of life, and
as a result, the sex differential may begin to stabilize or converge. The
largest contributions to the increase in life expectancy at birth have been
made by increasing longevity for those aged 55 to 79.

Mortality Patterns in Developed Countries: Temporal Trends in the Impact of
Major Chronic Diseases
Kenneth G. Manton, Center for Demographic Studies, Duke University, Durham, NC
27706.

A comparison is made among changes in the impact of four major chronic
diseases (ischemic heart disease, stroke, diabetes, and cancer) on total
mortality over the period 1950-1978 in 10 countries (the United States,
Canada, Japan, the Federal Republic of Germany, Czechoslovakia, Norway,
Sweden, Denmark, Great Britain, and Hungary.) This comparison focuses on the
change in person-year gain for each chronic disease based on cause elimination
life tables assuming the independence of individual causes of death. In order
to understand these changes better, the person-year gain is assessed both in
the standard way (i.e., change in life expectancy caused by the hypothetical
elimination of the disease averaged over all persons) and for only that
proportion of the population observed to have died of the disease. Sex and
age differentials in both types of measures are examined as are differentials
between overlapping but partial cohorts. These findings are used as the basis
for assessing the prospects for future mortality declines through further
reductions in these causes of death.

Age-Period-Cohort Analysis of Suicide in the United States, Sweden, and Japan
Charles R. Hammerslough, Office of Population Research, Princeton University,
21 Prospect Avenue, Princeton, NJ 08544.

The author explores age-period-cohort models as a way to incorporate
explicitly the concept of cohorts into the description of suicide rates.
Logistic regression models, which attempt to control simultaneously for age,
period, and cohort effects, are fitted to observed suicide rates. Data for
males in the United States, Sweden, and Japan are used in order to capture a
wide geographic and cultural spread within the more developed world. Two
distinct age-cohort patterns of suicide emerge from the analysis. The United
States and Sweden exhibit rising suicide rates with age. Japan's underlying
age pattern of suicides is bimodal: there is a peak in the age group 20-24,
as well as a strong increase with age. Suicide rates have increased for the
most recent cohorts in the West but have generally decreased in Japan since
the late nineteenth century. Period does little to describe suicide rates
when age and cohort are controlled.

NATIONAL POPULATION PLANNING: NEW APPROACHES
Organized and Chaired by
Leslie Corsa, University of Michigan

Effect of Age at Marriage on Fertility in Xian City, China
Charles H. C. Chen, U.S. Centers for Disease Control, Atlanta, GA 30333;
Zhonghui Feng, Xian Medical College; and Roger W. Rochat, U.S. Centers for
Disease Control.

A sample of 1,051 married women below age 50 was randomly selected for
survey in a district of Xian City, China, at the end of 1981. Analysis of the
survey data shows that the median age at first marriage increased from 21.6 in
1962 to 25.5 in 1981. Women with higher education had a higher age at
marriagein early years; however, this educational differential in age at
marriage has disappeared in recent years. For every birth cohort, those who
were married at younger ages consistently have more cumulative live births
than those who were married at older ages. Multivariate analysis of women
aged 40-49, who have completed or nearly completed fertility, shows that an
increase of one year in female age at marriage would lead to a .10 decrease in
the number of live births; one year of additional schooling for women would
lead to a .13 decrease in the number of live births; and a one-year delay in
marriage would add .73 years to the length of generation, controlling for
parity. Implications associated with results of this analysis are discussed.

Toward the Institutionalization of Integrated Population and Development
Policy: Interorganizational Behavior and Population Policy Units in
Developing Countries
Susan A. Stout, Battelle Memorial Institute, 2030 M. Street NW, Washington, DC
20036; Marie-Claire Rens, Battelle Memorial Institute; and Paul E. Haber,
Johns Hopkins University.

The authors review past literature on the organizational factors
underlying the design of effective population policy and advocate an open
systems model of the transaction of resources across organizational
boundaries, "the boundary roles model", for analyzing the performance of
population policy units in developing countries. The implications of this
model for developing sound structural and functional organizational designs
for population policy units are then explored. In the final section of the
paper, the authors summarize lessons learned through this analysis and outline
key questions for future organizational and administrative research on the
design of population policy.

Family Planning Program in Pakistan: Will It Succeed?
Makhdoom A. Shah, School of Public Health, University of Hawaii, 1960 East-
West Road, Honolulu, HI 96822; and Nasra M. Shah, East-West Population
Institute.

In 1965, Pakistan embarked on a national family planning program, which it
was hoped would be one of the most successful programs in a developing
country. But results of a national survey in 1968-1969 did not support
initial optimism in terms of contraceptive practice. The organizational
structure and strategies used were questioned in later years by national and
foreign researchers alike. However, the authors suggest that such research
did not uncover the real reasons for the program's failure, which they
considered in previous research presented in 1980 and 1981. Under new
leadership, the program has undergone a comprehensive face-lift with major
changes in structure and strategies. In this paper, the authors offer a
framework comparing the previous plan with the existing one. Using that
framework, they offer an opinion on the prospects of success from a management
evaluative perspective. The projected utility of program changes is analyzed,
and an alternative strategy is suggested to enhance the continued adoption of
effective contraceptive methods.

Demographic Trends in Huaide County, China

Pi-chao Chen, Wayne State University. Mailing address: 1057 Lincoln Street, Ann Arbor, MI 48104; Leslie Corsa, University of Michigan; Cao Mingguo; Zhao Fengcha; and Zuo Changching.

This collaborative study by Chinese and American researchers is intended to examine Chinese population policies, programs, and performance over the last two decades and to predict the outcomes of current policies 10 to 20 years in the future. The study focuses on Huaide county in northeast Jilin province. In the present paper, selected findings of the field investigation are discussed, with emphasis on the completeness and accuracy of data on vital trends, service statistics, and records kept at the brigade and commune levels.

The findings show that the fertility transition in Huaide during the 1970s was real and more spectacular than that in any other developing or newly industrialized nation in Asia. By 1980 the period total fertility rate had dropped to 1.1, a figure that is corroborated by internal consistency checks. During the mid-1970s, the under-registration of births was substantial, ranging from 10 to 25 percent; however, by 1980 birth registration was virtually complete. Reported deaths by age also appear to be reasonably complete (except for infant deaths), and the age-specific death rate curve resembles that of West level 20-21 in the Coale-Demeny model life tables. By 1979-1980 the mean age at first marriage for females had risen to 24-25; however, the evidence suggests that the under-registration of marriages was widespread during the 1970s, thereby artificially raising the rate of late marriages. It is also found that the one-child certificate rate in Huaide in 1980 appears to be higher than it actually is. On the other hand, as is the case with other Chinese populations, age reporting appears to be rather accurate, with minimum age heaping. The data on age structure resemble recently issued official statistics for three provinces and confirm the reported fertility decline. By 1980 the child-woman ratio in Huaide was 266, compared with 302 for Singapore in 1979 and 491 for the Republic of Korea in 1975.

Developments in U.S. Population Policy

Carole L. Baker, Zero Population Growth, 1346 Connecticut Avenue NW, #603, Washington, DC 20036; and Rhea L. Cohen, Zero Population Growth.

Since 1938, Presidents, Congresses, Special Commissions, and Select Committees have cited the need for a policy to lead the United States to population stabilization. Instead, federal government programs have caused haphazard growth and uncoordinated demographic shifts and have reduced the availability of birth control assistance, at the same time that U.S. foreign aid promotes family planning in developing countries. The authors suggest that unplanned population changes can significantly alter the social, economic, health, and environmental aspects of a community. They then review current attempts to address these matters through various pieces of legislation before the Congress concerning immigration, freedom of choice in family size, limits to demographic growth, and national foresight legislation.

Family Planning Programs: What Determines Their Impacts?

J. Timothy Johnson, School of Public Health, University of Michigan, Ann Arbor, MI 48109; and Gayl D. Ness, University of Michigan.

Although it is now generally accepted that family planning programs influence fertility levels in developing countries, it is much less clear to what extent different factors determine program performance levels. Preliminary findings are presented from a study of 24 Asian nations, plus 21 Indian states. In the study, the authors examine the influence of differing organizational characteristics of family planning programs, along with population policy and political-administrative systems and socioeconomic development indicators, upon program activities and impacts.

EMERGING INTERNATIONAL PATTERNS OF INFANT MORTALITY
Organized and Chaired by
Iwao Moriyama, International Institute for Vital Registration
and Statistics

Trends in Infant Mortality and Its Components in Developed Countries:
1960-1979
Robert B. Hartford, Office of International Statistics, U.S. National Center
for Health Statistics, 3700 East-West Highway, Hyattsville, MD 20782.

No abstract received.

Neonatal and Postnatal Mortality in Developing Countries: Trends and Causes
of Death
Eduardo E. Arriaga, U.S. Bureau of the Census. Mailing address: 4621
Wakefield Chapel Road, Annandale, VA 22003.

The author analyzes trends in infant mortality in developing countries by
focusing on trends in neonatal and postnatal mortality rates from the early
1950s to the late 1970s. The article includes an evaluation of the available
information and deals mainly with developing countries in Latin America.
Causes of death are analyzed, and comparisons are made with the United States.
The author concludes that improvements in postnatal mortality made a greater
contribution than changes in neonatal mortality in the reduction of the infant
mortality rate in developing countries up to the late 1970s. An analysis of
changes in causes of death that contributed most to the decline of postnatal
mortality is included, and the causes of death that might possibly be reduced
in the future are identified.

Some Correlates of Infant Mortality: Trinidad and Tobago, Guyana, and Jamaica
G. Edward Ebanks, Department of Sociology, University of Western Ontario,
London, Ontario N6A 5C2, Canada.

The author examines the relationship between infant mortality on the one
hand and several socio-demographic variables on the other. The data are from
World Fertility Survey studies of Trinidad and Tobago, Guyana, and Jamaica.
Using the average number of infant deaths to a woman as the dependent variable
and with fertility as a control, the author finds that the current age of the
mother and the age of the mother at the birth of the child are both related to
the level of infant mortality. Breast-feeding depresses infant loss, and
birth spacing is negatively associated with the probability of dying in
infancy. The higher the level of education of the mother, the lower the
infant loss. The study also provides support for the replacement hypothesis.
Women who experience a child loss are more likely to have another child than
those who do not experience a child loss. The author notes that infant
mortality and fertility have been declining in all three countries studied.

Toward a Reformulation of the Neonatal Mortality Rate
Dudley L. Poston, Jr., Population Research Center, University of Texas, 1800
Main Building, Austin, TX 78712; and Richard G. Rogers, University of Texas.

The degree to which neonatal mortality approximates endogenous mortality
and post-neonatal mortality approximates exogenous mortality is examined in
this paper. The authors also question whether the operational definitions of
neonatal and post-neonatal mortality are based more on statistical convenience
than biological fact. In order to analyze the differences in endogenous and
exogenous mortality, a data set of nearly 1,400 matched birth and death
certificate records for individuals less than 365 days of age who were born in
the years 1974 through 1977 in New Mexico was compiled. In comparing the day-
specific trend of endogenous mortality with that of exogenous mortality
through regression analysis, the authors find a convergence of endogenous and

exogenous mortality between days 18 and 19. The results show that endogenous mortality rates predominate during the first 18 days of life; this finding cautions against the use of the neonatal rate, as currently defined, as a proxy for endogenous mortality. The findings also caution against the use of the post-neonatal rate, as currently defined, as a proxy for exogenous mortality. There is no single period within the first 365 days that approximates exogenous mortality. The results in the state analysis are shown to be generalizable to other U.S. aggregates.

POPULATION AND THE PRIVATE SECTOR
Organized and Chaired by
Carl Fredrickson, Surveys and Statistics Credit Union
National Association

Census Data and Retail Sales Methodologies
Joan G. Finch, Area Research and Planning, Dayton Hudson Corporation, 777 Nicollet Mall, Minneapolis, MN 55402; and Alan V. Abramson, Dayton Hudson Corporation.

In combination with other methods, the Dayton Hudson Corporation uses a demographic analog procedure to project retail sales, select sites for new stores, and define trade areas. The analog method is based on knowledge of the relationship between sales performance and demographic factors for existing stores and a data base methodology by which analogs can be consistently and reliably retrieved and selected. The corporation's past experience with site selection and sales projection techniques is reviewed with regard to demographic characteristics of sub-county and metropolitan areas. Data from the 1980 U.S. census are used to analyze existing sales performance and to determine the relative contributions of specific socioeconomic and demographic factors relevant to retail success.

Variations in Homeownership and Housing Type: Applications to Energy Policy
Mary Beard Deming, Southern California Edison Company. Mailing address: 705 North Wilson Avenue, Fullerton, CA 92631; and Robin J. Walther, Southern California Edison Company.

Participation in government- and utility-sponsored energy conservation programs and the energy savings that can be expected to result from these programs are dependent upon the ownership status and physical characteristics of the housing unit. Data from the Summary Tape Files of the 1980 U.S. census are used to investigate regional variations in homeownership and in the types of owned and rented units (such as single family, multifamily, and mobile homes). The analysis is limited to census tracts (about 1,700 areas) in the Southern California Edison service territory. The paper begins with a description of the variations in ownership status and housing type. This is followed by multivariate analyses of the probability of owning and of the probability of living in specific housing types conditional on renting. The broad applications of such models for energy conservation program marketing and evaluation are reviewed.

A Survey of Demographers in the Private Sector
Cheryl A. Russell, American Demographics, P.O. Box 68, Ithaca, NY 14850; and Diane Haggblom, American Demographics.

How much influence do trained demographers have over demographic analysis in the corporate world? In order to find answers to this question, the authors present the results of a survey of over 100 corporations and 40 private data companies. They note that a significant amount of demographic

work is being done by people with no demographic training. As more business people learn about demography and what demographers do, and as students of demography learn the kinds of skills corporations are looking for, the demographer's role in the private sector--and demographic employment opportunities--could expand.

Family Composition and Investment in Household Capital: Contrasts in the Behavior of Husband-Wife and Female Headed Households
Cathleen D. Zick, Department of Family and Consumer Studies, University of Utah, Salt Lake City, UT 84112; and Jennifer L. Gerner, Cornell University.

During the past 20 years, dramatic changes in household composition have occurred in the United States. In particular, the proportion of traditional husband-wife households has been declining, while the proportion of female headed households has been and is continuing to rise. These household composition changes have the potential to alter greatly both consumption and asset accumulation patterns. A household stock adjustment model is used in this paper to examine the resource allocation patterns of these two changing groups. The analysis focuses on the contrasts between their resource allocations to physical, financial, and human capital. The results indicate that female headed households generally have lower asset levels than do their husband-wife counterparts, that female headed households are slower in correcting deficits in their capital stocks than are husband-wife households, and finally that their cross-asset adjustment behavior is generally counter to the predictions of economic theory. In general, it is concluded that if current demographic trends continue, there will be an overall decline in household demand for all major assets, and in addition, household response time to changes in market conditions should lengthen.

LATIN AMERICAN MIGRATION TO THE UNITED STATES: PATTERNS, POLICY
ASPECTS, AND RESEARCH ISSUES
Organized and Chaired by
Frank D. Bean, University of Texas

Discontinuity and the Theory of International Migration
Oded Stark, Department of Economics, Harvard University, Cambridge, MA 02138.

In this exploratory note, the notion of (strong) discontinuity is introduced into the theory of international labor migration. It is suggested that inter-country wage differentials alone may fail to induce international migration at the level of the decision-making entity. However, three factors (risk aversion, relative deprivation, and asymmetric information), in conjunction with these wage differentials, may account for international migration.

Historical Migration Patterns and Current Temporary Migration: The Case of Mexican Migration to the United States
Susan Ranney, Department of Economics, DK-30, University of Washington, Seattle, WA 98195; and Sherrie Kossoudji, University of Michigan.

The authors examine three potential determinants of the propensity for temporary migration to the United States: individual characteristics, structural characteristics of the region of origin, and historical migration patterns. A reduced-form logit approach is taken using data on Mexicans who have migrated temporarily to the United States in the 1974-1978 period. These data were collected by the Centro Nacional de Información y Estadísticas del Trabajo of the Mexican government and are supplemented by Mexican census data.

Estimates of Illegal Aliens from Mexico Counted in the 1980 U.S. Census
Robert Warren, Population Division, U.S. Bureau of the Census, Washington, DC
20233; and Jeffrey S. Passel, U.S. Bureau of the Census.

The authors present estimates of the number of undocumented aliens who
were included in the 1980 U.S. census. The estimates, derived with a residual
method, are developed by comparing the census count of aliens with estimates
of the legally resident alien population based on data collected by the
Immigration and Naturalization Service in January 1980. Estimates are
presented by age, sex, and period of entry for all aliens residing in the
United States, for aliens from Mexico, and for aliens from other selected
countries of origin. In addition to setting a lower limit on the number of
undocumented aliens residing in the United States in 1980, the estimates are
useful for evaluating the completeness of coverage of the 1980 census.

Shifts to English as Usual Language by Americans of Spanish Mother Tongue
Gilles Grenier, Department of Economics, University of Ottawa, Ottawa, Ontario
K1N 6N5, Canada.

In the United States in 1976, about half of the persons who claimed
Spanish as their mother tongue reported that English was their main language
of communication. Using a probit regression model, the author investigates
the factors that determine shifts from Spanish to English in a sample of
Hispanics drawn from the 1976 Survey of Income and Education. Factors
positively associated with a shift to English include the number of years
since the migration date, the level of education, and the choice of a non-
Hispanic marriage partner. A factor negatively associated with a shift to
English is age at migration. It is also found that these factors have similar
effects for each of the major Hispanic groups in spite of their differing
backgrounds.

STATISTICAL DEMOGRAPHY: EVENT HISTORY ANALYSIS AND HAZARD MODELS
Organized and Chaired by
James Trussell, Princeton University

Entry into Marriage and Parenthood by Young Adults
Nancy Brandon Tuma, Department of Sociology, Stanford University, Stanford, CA
94305; and Robert T. Michael, University of Chicago.

The authors investigate the marital and fertility patterns of young U.S.
men and women (age 14-21) using the first year data from the new National
Longitudinal Survey of Youth (NLS/Y). The paper's substantive focuses are the
influences of family background on early (teenage) entry into marriage and
parenthood and the extent to which measured family characteristics can explain
the large differences among whites, Hispanics, and blacks. The paper's
methodological focus is the comparison of results when a data set is analyzed
as either a conventional cross-sectional file using a linear probability
(ordinary least squares regression) or logistic (maximum likelihood) model or
as a continuous time, event-history file using a partial likelihood model.

Intra-Household Allocation and the Determinants of Child Health: A Dynamic
Fixed-Effects Model
Mark R. Rosenzweig, Department of Economics, University of Minnesota, 1035
Business Administration Building, Minneapolis, MN 55455.

In this paper, the problem of obtaining consistent estimates of the
effects of parental behavior on children's health when children within a
family may differ in inherent characteristics known to parents but not to the
statistician is considered. It is shown that simple "within-family" estimates
of the behavioral determinants of child health or other outcomes are not

consistent as long as parents are concerned about the intra-household distribution of such outcomes and adjust their behavior to new information. Estimates obtained from longitudinal data on the health of children within the same family indicate the importance of this form of within-family, dynamic heterogeneity bias and how the parental allocation of resources across children is responsive to differences among children in gender, birth order, and other endowments that are unobserved by the statistician.

The Effect of Infant and Child Mortality on Fertility: An Application of a Longitudinal Fixed-Effect Logit Model of Fertility
Lee E. Edlefsen, University of Washington, DK-30, Seattle, WA 98195.

A new approach to the estimation of the causal effect of infant and child mortality on subsequent fertility is developed and applied in this paper. The effect of a death on the log-odds of subsequent birth probabilities is estimated, and these estimates are in turn used to estimate the effect of a death on completed fertility. A fixed-effect model is used in an attempt to capture and remove the biasing effects of omitted variables. The model is conceptually similar to survival function models and shares the advantages of such models, but it can be applied directly to repeatable events such as fertility. It avoids most of the difficulties inherent in regression approaches to the problem of estimating the effect of mortality on fertility. It is also computationally tractable, despite the great complexity of the effects being estimated.

Correcting for Unobserved Heterogeneity in Hazard Models: An Application of the Heckman-Singer Procedure to Demographic Data
Toni Richards, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton, NJ 08544.

Most hazard models used by demographers have been based on the assumption that all heterogeneity is captured by measured covariates. Some research has allowed for unmeasured heterogeneity but has assumed a particular parametric distribution. However, inappropriate choice of functional forms may lead to biased results. In this paper, the author compares parametric and nonparametric estimates of the hazard in the absence of heterogeneity and, for parametric forms of the hazard, compares estimates that correct for heterogeneity without specifying a parametric distribution for it with estimates that do not correct for heterogeneity. Data on birth intervals and child mortality from the Korean National Fertility Survey are used. It is found that models that neglect heterogeneity are insensitive to the form of the hazard chosen and to simple specification error. Correcting for heterogeneity gives unstable results for child mortality, but the results for fertility are not drastically altered.

WORLD FERTILITY SURVEY: RECENT ANALYTICAL FINDINGS
Organized and Chaired by
John Bongaarts, Population Council

The Proximate Determinants of Fertility: Cross-National and Sub-National Variations
John B. Casterline, World Fertility Survey, 35-37 Grosvenor Gardens, London SW1W 0BS, England; Susheela Singh, World Fertility Survey; and John Cleland, World Fertility Survey.

The authors apply the Bongaarts model to World Fertility Survey data on education and residence subgroups in 29 countries. The objective is to synthesize the existing rich array of data by searching for uniformities and patterns in the relationships among the proximate determinants and fertility. Two main questions are posed: How does the contribution of each of the

proximate determinants to the reduction of fertility vary cross-nationally? and What is the contribution of each of the proximate determinants to observed sub-national differentials in fertility?

Fertility and Family Planning in Developed Countries: A Summary of Findings of the ECE/WFS Comparative Study
M. Khalid Siddiqui, U.N. Economic Commission for Europe, Palais des Nations, CH 1211 Geneva 10, Switzerland.

Some of the recent findings from the ECE/WFS Comparative Fertility Study being conducted at the Economic Commission for Europe are summarized. This project is based on data from fertility surveys undertaken between 1975 and 1979 in 15 European countries and the United States in coordination with the World Fertility Survey. Levels of and trends in some of the fertility and family planning variables are reviewed. A summary of findings concerning socioeconomic differences in achieved fertility, ultimate expected family size, child spacing, contraceptive knowledge and use, and ideal family size is also presented. Selected tables consisting of comparative analytical results are included for illustrative purposes.

Child-Spacing in Asia: Similarities and Differences
Ronald R. Rindfuss, Department of Sociology, University of North Carolina, Hamilton Hall 070-A, Chapel Hill, NC 27514; Larry L. Bumpass, University of Wisconsin; James A. Palmore, East-West Population Institute; Mercedes B. Concepcion, University of the Philippines; Nor Laily Aziz, National Family Planning Board, Malaysia; Sirisena Gamage, University of Peradeniya; Chanpen Saengtienchai, Chulalongkorn University; and Nam Il Kim, Economic Planning Board, Republic of Korea.

No abstract received.

Multilevel Effects of Socioeconomic Development and Family Planning Programs on Children Ever Born
Barbara Entwisle, Department of Sociology, Dartmouth College, Hanover, NH 03755; and William M. Mason, University of Michigan.

Data from 15 World Fertility Survey countries show that per capita gross national product (GNP) and family planning program effort (FPE) affect not only country-specific average levels of children ever born (CEB), but also the direction and magnitudes of within-country socioeconomic status differentials in CEB. The within-country effects of wife's childhood residence for the cohort aged 40-44 in 1974 are considered as an example. In countries where FPE and per capita GNP are low, women who grew up in urban areas have more children than women who grew up in rural areas. This differential is reversed, with women who grew up in urban areas having fewer children, in countries with higher levels of per capita GNP and in countries with moderate-to-high levels of FPE. These findings are largely consistent with hypotheses derived from the Entwisle-Hermalin-Mason theory of socioeconomic determinants of fertility behavior in developing countries.

The Effect of Child Mortality on Contraceptive Use and Fertility in Colombia, Costa Rica, and the Republic of Korea
Barbara S. Mensch, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton, NJ 08544.

The author addresses the question of whether reproductive behavior is consciously altered by a woman upon the death of her child. Alternative strategies are proposed by which women replace dead children. They may either refrain from using contraception or they may choose to use contraception for a shorter period of time. The possibility that the volitional response to a child death only emerges at certain birth intervals is explored. Analysis of World Fertility Survey data from Colombia, Costa Rica, and the Republic of

Korea indicates that the timing and nature of the response to child mortality
depend on a country's stage in the fertility transition.

NEW DIRECTIONS IN INTERNAL MIGRATION RESEARCH
Organized and Chaired by
Julie DaVanzo, Rand Corporation

Economic Models of Planned Temporary Migration
Susan Ranney, Department of Economics - DK30, University of Washington,
Seattle, WA 98195.

Standard migration models generally focus on permanent migration flows as
a consequence of expected wage differentials. However, much of the migration
observed today is only temporary. In this paper, the author examines the
economic explanations for return migration to a low-wage area. After a review
of the descriptive literature, several models providing answers are presented,
and their implications are explored. It is suggested that consideration of
both relative real wage rates and relative price levels is critical and that
wealth effects, capital ownership, and family characteristics play important
roles in temporary migration decisions.

Impact of Urban Living on Socioeconomic Status of Return Migrants in the
Republic of Korea
Jin Ho Choi, Korea Research Institute for Human Settlements, Daejun Building,
424-4, Yeochsam-Dong, Kangnam-Ku, Seoul 134-03, Republic of Korea.

Survey data collected in three rural towns in the Republic of Korea are
used to examine the effects of urban living on individual return migrants from
urban areas. It is found that the socioeconomic status of return migrants is
much higher than that of rural natives. These differences are found to be
partly due to the initially high socioeconomic status of migrants when they
left the community of origin and partly due to their migration experience.
Among many aspects of experience in the city, attaining formal education of at
least a high school level appears to be overwhelmingly important for raising
socioeconomic status. In addition, mass media contact in the city,
participation in the modern economic system, and bringing some money back from
the city also have significant independent effects on the socioeconomic status
of migrants after they return.

A Contextual Analysis of Migration Intentions in Ilocos Norte, the
Philippines: Linkages between Micro- and Macro-Level Data
Sun-Hee Lee, East-West Population Institute; James T. Fawcett, East-West
Population Institute; Robert Gardner, East-West Population Institute, East-
West Center, 1777 East-West Road, Honolulu, HI 96848; and Ricardo G. Abad,
East-West Population Institute.

A logit model is applied to test the relative importance of individual
characteristics, kinship, and community-level determinants of migration
intentions. Data are drawn from a sample of adults in Ilocos Norte province,
the Philippines, and from census and other sources. The results show that
such individual variables as education, being single, and previous migration
experience increase the probability of intending to move, as do kinship ties
at potential destinations. At the community level, irrigation,
electrification, employment opportunities, and community amenities are
negatively related to migration intentions, while agricultural density shows a
positive relationship. These relationships are further examined for the
subgroups farmers/nonfarmers and married/single, with interaction effects
being demonstrated among some of the predictor variables. Results are

interpreted with reference to the adequacy of the model and the conceptual problems in analyses that incorporate both individual- and community-level data.

Family Interaction and Mobility Decision-Making: An Extension of the Speare Model
Gordon F. De Jong, Population Issues Research Center, Pennsylvania State University, 22 Burrowes Building, University Park, PA 16802; Rex H. Warland, Pennsylvania State University; and Brenda D. Root, Pennsylvania State University.

   The contribution of family sociology theory and concepts to migration decision-making models has not been extensively developed. The salience of family interaction and the consensus/conflict that accompanies interaction are identified as two theoretically significant dimensions for household decision models. With Speare's general mobility decision model as a point of departure, the authors develop empirical indicators of the extent of pre-move family interaction and family members' consensus/conflict on migration-related issues. Based on data from the longitudinal Pennsylvania residential preference and migration survey, log-linear models are used to show that family interaction indicators not only structure mobility desires, expectations, and subsequent behavior, but also produce significant interaction effects under differing consensus/conflict conditions.

The Life Course and the Decision to Move
Gary D. Sandefur, Department of Sociology, University of Oklahoma, Norman, OK 73019.

   The nature of events that occur as individuals move through the life course suggests that not only should the rate of geographical mobility decline, but also that the way in which individuals make decisions about migration and the importance they attribute to various factors should change. The author uses a sample of U.S. event histories and survival analysis to examine decisions to move to other counties and other states that are made in the early to middle stages of the life course. The results indicate that the levels of location-specific resources increase as individuals move through successive stages of the life cycle. Length of residence becomes a more signficant factor in the migration decision-making process as individuals move through the life cycle. Career factors, however, are just as important or more important for individuals with families as for single individuals. The findings as a whole suggest that there is much to be gained by exploring the migration decision in the context of the life course and that survival analysis is the ideal tool for studying this issue.

RESEARCH IN MARRIAGE AND FERTILITY
Organized and Chaired by
Larry Bumpass, University of Wisconsin

Premarital Sexual Activity in the Philippines: Causes and Consequences
Peter C. Smith, East-West Population Institute, East-West Center, 1777 East-West Road, Honolulu, HI 96848; Nancy E. Riley, East-West Population Institute; and Josefina Cabigon, University of the Philippines.

   Recent evidence from the Philippine round of the Asian Marriage Survey is presented that indicates a high prevalence of premarital sexual activity. About one-third of the urban middle-class wives interviewed report premarital sexual experience, and the level reaches 60 percent among rural wives. Within all sample strata, the level is highest among the youngest and the most recently married. This and other evidence lead the authors to conclude that the observed pattern reflects stressful economic conditions and resulting

breakdown in family and intergenerational relationships. The alternate view, that a high level of premarital sexual exposure is an impact of modernization and westernization, is rejected.

Age at Menarche in Peninsular Malaysia: Time Trends, Ethnic Differentials, and Association with Ages at Marriage and at First Birth
Tan Boon Ann, National Family Planning Board, Malaysia; Ramli Othman, National Family Planning Board, Malaysia; William P. Butz, U.S. Bureau of the Census, Washington, DC 20233; and Julie DaVanzo, Rand Corporation.

No abstract received.

A Comparison of the Determinants of First Birth Timing for White, Black, and Hispanic Women
Jay D. Teachman, Department of Sociology, Brown University, Box 1916, Providence, RI 02912.

No abstract received.

What Are the Determinants of Delayed Childbearing and Permanent Childlessness in the United States?
David E. Bloom, Department of Economics, Havard University, Cambridge, MA 02138; and James Trussell, Princeton University.

The authors present estimates of delayed childbearing and permanent childlessness in the United States and the determinants of those phenomena. The estimates are derived by fitting the Coale-McNeil marriage model to survey data on age at first birth and by letting the parameters of the model depend on covariates. Substantively, the results provide evidence that the low first birth fertility rates experienced in the 1970s were due both to delayed childbearing and to increasing levels of permanent childlessness. The results also indicate that delayed childbearing is less prevalent among black women than among non-black women, education and labor force participation are important determinants of delayed childbearing, the influence of education and labor force participation on delayed childbearing seems to be increasing across cohorts, and education is positively associated with heterogeneity among women in their age at first birth. It is also shown that the dispersion of age at first birth is increasing across cohorts, race has an insignificant effect on childlessness, and education is positively associated with childlessness, with the effect of education increasing and reaching strikingly high levels for the most recent cohorts.

The Effects of Children on Divorce and Remarriage: A Multivariate Analysis of Life Table Probabilities
Helen P. Koo, Research Triangle Institute, P.O. Box 12194, Research Triangle Park, NC 27709; C. M. Suchindran, University of North Carolina; and Janet D. Griffith, Research Triangle Institute.

Proportional hazards models and life tables are applied to data from the 1973 U.S. National Survey of Family Growth to test hypotheses that larger numbers of children or younger children reduce the probabilities of divorce after separation and of remarriage after divorce and lengthen the interval to these transitions. The results show that separated women with two or more children are less likely to divorce, and, among whites, divorced women with three or more children are less likely to remarry. Among whites, women with a youngest child aged 2-5 at separation have lower probabilities of divorce. The implications for the study of divorce and remarriage and for the problems of single-parent families are discussed.

Changing Attitudes toward Divorce with Children: Evidence from an
Intergenerational Panel Study
Arland Thornton, Institute for Social Research, University of Michigan, Ann
Arbor, MI 48106.

The author addresses several issues concerning divorce attitudes and
attitude change in the United States using data from an intergenerational
panel study of mothers and their children. A definite trend toward approval
of divorce is observed between 1962 and 1980. A theoretical model of the
determinants of divorce attitudes shows that affiliation with Catholicism or
fundamentalist Protestant tends to reduce approval of divorce but that between
1962 and 1980 the effect of Catholicism declined and the effect of
fundamentalist religion increased. Church attendance also has an important
traditional influence on divorce attitudes. Older women had the most
approving attitudes in 1962, but they experienced the smallest subsequent
change. Age at marriage is also negatively related to approval of divorce.
Attitudes toward divorce are shown to have little influence on subsequent
divorce experience, while a divorce significantly influences attitudes. There
is substantial stability of individual attitudes over time, and mothers have
an important influence on the attitudes of their children.

MORTALITY PATTERNS AND RESEARCH PROBLEMS
Organized and Chaired by
Alberto Palloni, University of Wisconsin

The Multi-Round Urban Survey of Infant and Child Mortality
Etienne van de Walle, University of Pennsylvania; and Francine van de Walle,
Population Studies Center, University of Pennsylvania, 3718 Locust Walk CR,
Philadelphia, PA 19104.

Since 1978, several large surveys have been conducted in various cities of
French-speaking Africa; they aim at including all births occurring in the city
during a one-year span and at following them during the first two years of
life. The authors describe these surveys and consider their strengths and
weaknesses. The strength of this method lies in the accurate dating of events
and records of changes in the child's environment. The approach, however, is
vulnerable to bias that critically impairs the representativeness of the
population surveyed. There are selective losses at the time of birth, both in
the case of home deliveries and at maternity hospitals, and between birth and
the first home visit.

Indirect Estimation of Infant Mortality from Contraceptive Prevalence Surveys
Anne R. Cross, Westinghouse Health Systems, P. O. Box 866, Columbia, MD 21044;
and Jeremiah M. Sullivan, University of North Carolina.

The authors attempt to measure levels of infant mortality using data from
12 Contraceptive Prevalence Surveys (CPS) conducted in eight countries in
Latin America and Asia between 1978 and 1981. The reported proportions dead
among children ever born to women by age group are transformed into infant
mortality estimates using the Brass-Sullivan method. Results indicate
implausible trends in infant mortality over time that are presumably due to
biases inherent in the estimation methodology, especially in the assumption of
homogeneity of mortality of children born to women of different ages. A more
detailed examination of data from Bangladesh also reveals rather severe
underreporting of dead children in the CPS. The conclusion is that this
method appears to be inappropriate for use in situations in which a high
degree of accuracy of the estimates is required.

<u>Infant and Child Mortality Levels, Time Trends, and Determinants in Jordan</u>
Jeremiah M. Sullivan, University of North Carolina, POPLABS/NCNB Plaza-S400,
136 East Rosemary Street, Chapel Hill, NC 27514; A. L. Adlakha, University of
North Carolina; and C. M. Suchindran, University of North Carolina.

Data from the 1976 Jordan Fertility Survey are analyzed to provide
information on levels, time trends, and determinants of infant and child
mortality in Jordan. The analysis of determinants includes demographic and
selected socioeconomic characteristics of parents and breast-feeding
practices. Estimates of the net effect of each variable are made using a
logistic regression model. The most interesting finding is one that relates
to breast-feeding practices. The net effect of breast-feeding on mortality is
estimated separately for the 1-5 months, 6-11 months, and 12-59 months age
intervals. The results indicate that the effect of breast-feeding on
mortality is significant only in the 1-5 months age interval.

<u>Child Replacement Effects, Investment Effects, and Breast-Feeding</u>: <u>Multiple-</u>
<u>State Hazards Models</u>
Mark R. Montgomery, Office of Population Research, Princeton University, 21
Prospect Avenue, Princeton, NJ 08544.

The author explores the impact of a child death on the care given to a
subsequent birth in a developing-country context. The underlying idea is that
when faced with a child death, parents may make special efforts to enhance the
survival prospects of the next child born. Statistical analysis using data
from the 1976 Malaysian Family Life Survey focuses on the initiation and
length of breast-feeding of the next child and employs a multiple-state
hazards model. Results indicate that while a child death does not affect the
probability that the next child is breast-fed, it does appear to lengthen the
duration of such feeding.

<u>Breast-Feeding and Infant Mortality</u>: <u>A Hazards Model Analysis of the Case of</u>
<u>Malaysia</u>
Bart K. Holland, Office of Population Research, Princeton University, 21
Prospect Avenue, Princeton, NJ 08544.

This study is an attempt to estimate the relative risks experienced at
different periods during the first year of life among Malaysian infants
breast-fed for various durations. Data on mortality, breast-feeding, and
social variables were obtained from the Malaysian Family Life Survey of 1976,
a retrospective survey carried out by the Rand Corporation, and were checked
for quality and consistency. By using LOGLIN to calculate hazards
models--essentially multidimensional life tables--it is found that breast-
feeding has an effect on mortality independent of socioeconomic variables and
birth cohort. A monotonic relationship is observed between breast-feeding
duration and lower infant mortality during each of four subdivisions of the
first year of life. The author concludes that breast-feeding is a
statistically significant predictor of mortality during the first six months
of life.

DEMOGRAPHIC CONSEQUENCES OF LDC DEVELOPMENT TRENDS AND PATTERNS
Organized and Chaired by
David Yaukey, University of Massachusetts at Amherst

<u>Explaining Fertility Change in Macrosystems</u>: <u>Demographic Transition,</u>
<u>Political Economy of the Family, and the World System</u>
Patrick D. Dolan, Department of Sociology, University of South Carolina,
Columbia, SC 29208; and Ralph B. White, University of South Carolina.

Change in crude birth rates in 100 nations from 1960 to 1977 is related in
this paper to change over the same period in factors suggested by classic

demographic transition theory and Caldwell's theory of fertility decline. Separate tests are conducted for the three strata of the world economic system: periphery (least-developed), semi-periphery (developing), and core (developed) nations. Change in child mortality rates, relevant to demographic transition theory, is positively related to fertility change in both periphery and semi-periphery nations. Economic/technological development (defined as change in energy consumption per capita), however, has no significant relationship with fertility change in any of the strata over this time span. Change in percentage representation of women in the labor force, relevant to Caldwell's emphasis on the political economy of the family, has a negative relationship with semi-periphery fertility change. None of the change factors has a significant impact on fertility in core countries. These results provide direct evidence of relationships between fertility trends and trends in their determinants and, thus, corroborate previous conclusions from cross-sectional studies.

Fertility and Disarticulation: A Test of the Effects of Sectoral Inequality on Fertility Rates in Underdeveloped Countries
Lynne Garner, Department of Sociology, University of Massachusetts, Amherst, MA 01003; and Randall Stokes, University of Massachusetts at Amherst.

The purpose of this analysis is to explore the utility of insights drawn from the dependency and world systems view of development for understanding the relationship between development and fertility in developing countries. When sectoral inequality is used to measure disarticulation in developing countries, the links between dependency and fertility become clear. Foreign capital has a positive effect on sectoral inequality, and sectoral inequality is shown to have had a positive effect on changes in crude birth rates between 1960 and 1977. In both equations, the development level is controlled.

Agricultural Development and Rural-Urban Migration in India
Devendra K. Kothari, Sardar Patel Institute of Economic and Social Research, Thaltej Road, Ahmedabad 380 054, India.

The author explores the relationship between agricultural development and migration in India. Specific attention is paid to whether agricultural development based on new technology accelerates or decelerates rural-urban migration. A summary of the results of a migration study conducted in India by the author is included. Although no immediate causal relationship between agricultural development and the incidence of migration is apparent, it appears that in the short run, agricultural development probably provides a weak stimulus to rural-urban migration. However, the long-term impact may be a strong stimulus to this migration. The study also suggests that agricultural development may improve the quality of out-migration from rural areas.

Changing Patterns of Migration in Malaysia, 1941-1976: Evidence from the Malaysian Family Life Survey
Scott R. Radloff, Economic Growth Center, Yale University, Box 1987, Yale Station, New Haven, CT 06520.

Migration research has long been shackled by data resource constraints. Consequently, we often know very little about migration patterns in general and even less about changes in these patterns over the course of development. In the present study, the author exploits the retrospective migration history data of the Malaysian Family Life Survey to explore migration prevalence and selection patterns and how these patterns changed over the 1941-1976 time span. An age-standardization technique is used to accommodate inter-period comparisons. Research findings suggest that rates of migration generally increased over the 35-year period, age selection shifted toward older ages with time, and education selection increased only slightly--if at all--over this period, appearing to be inversely responsive to changes in migration

rates. Additionally, political events that occurred during this time span seem to have influenced ethnic-specific migration patterns.

RESEARCH IN FORMAL AND QUANTITATIVE DEMOGRAPHY
Organized and Chaired by
Hania Zlotnik, United Nations

A New Relational System of Model Life Tables for Less Developed Countries

José C. Gomez de Leon, Office of Population Research, Princeton University, 21 Prospect Avenue, Princeton NJ 08544.

The author explores the use of Brass's two-parameter relational model of mortality to detect and characterize typical age and sex patterns of mortality--families of mortality--in less developed countries. Extensions to three and four parameters that improve the flexibility of Brass's model are also proposed. These extensions allow in turn a more general treatment of the families. The analysis is organized around two questions: What is the minimum set of parameters needed to reproduce adequately most of the mortality variation observed in less developed countries? and How do these parameters characterize and isolate families of mortality?

Estimating Mortality Rates for Small Populations: An Application of a Pair of Two-Census Methods

Timothy B. Gage, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, TX 78284; Bennett Dyke, Southwest Foundation for Research and Education; and J. W. MacCluer, Southwest Foundation for Research and Education.

A pair of two-census methods is evaluated in terms of their ability to estimate the mortality rates of small populations. One technique calculates p(x) from two age distributions and then smooths these values using robust, locally weighted regression to isolate the underlying pattern. The other technique uses an extension of Brass's relational method to fit a model life table. Evaluation consists of generating simulated population data with known vital rates using a stochastic discrete-time micro-simulation algorithm and then attempting to recover the underlying rates. The accuracy of these methods for various total population sizes ranging from approximately 200 to 2,000 is investigated. Implications for the demographic study of small populations are discussed.

The Use of MATHIST (A Model of Maternity Histories) in the Analysis of Demographic Data: A Historical Example

Gary T. Pickens, Department of Mathematical Sciences, Drexel University, Philadelphia, PA 19104.

MATHIST is an interactive computerized model for the reproduction of female birth cohorts and may be used to enhance the analysis of maternity history data. In this paper, the design concepts and input/output structure of the model are described. MATHIST employs results from the theory of terminating Markov renewal processes to generate measures of demographic interest, such as age-specific fertility rates and net and gross reproduction rates, based on input information regarding age at first marriage, birth interval distributions, sterility, and mortality. The model is used to analyze maternity history data from a nineteenth-century European natural fertility population. The outputs of MATHIST appear to agree quite well with a number of summary measures calculated directly from the data set in question. It is also shown how the model may be used to investigate hypotheses of demographic interest, for instance the effect on fertility of variations in the length of the postpartum sterile period.

The Impact of Expected Child Survival on Husbands' and Wives' Desired
Fertility: A Log-Linear Probability Model
Evelyn L. Lehrer, Department of Economics, University of Illinois, P.O. Box
4348, Chicago, IL 60680; and Marc Nerlove, University of Pennsylvania.

In a regime of high mortality, parents may have a greater number of births
than their desired surviving family size as an insurance against the
possibility of losses in the future, when fecundity loss or health hazards
would make further births inadvisable or impossible. The log-linear
probability model and data from the Malaysian Family Life Survey are used to
explore this relationship quantitatively. The empirical results suggest that
perceived child survival probabilities affect husband's desired fertility
significantly in the expected direction but have no impact on the wife's
desire for further births. Important husband-wife differentials in the
response of desired fertility to changes in other variables are also
uncovered.

PATTERNS OF INTERNAL MIGRATION
Organized by Donald F. Heisel, United Nations
Chaired by Mary M. Kritz, Rockefeller Foundation

Rural Development and Population Retention: China and Cuba
Alan B. Simmons, Social Science and Human Research, International Development
Research Centre, Box 8500, Ottawa, Ontario K1G 3H9, Canada.

China and Cuba have seriously pursued the combined objective of rural
development and rural population retention. The two countries differ widely
in the policy measures used, but both show unusually slow rates of large city
growth between 1960 and 1975. The author contrasts the policies, development
patterns, and urbanization patterns in these two nations.

Migrant Exchange in an Urban System: Policy Effects in Israel
E. B. Attah, Department of Sociology, Atlanta University, Atlanta, GA 30314.

The author approaches the study of internal migration in Israel from the
point of view of systems of cities and uses the inertia of systems as the
basis for formulating hypotheses about the pattern of migrant exchange among
settlements. The analysis spans the transitional stages as the structure of
the urban system was being changed from previous primacy toward rank-size
distribution (attained by the mid-1960s) and another decade afterward. The
effects of policy initiatives on migration are investigated, with attention to
the impact of both decisions made earlier and current decisions at each stage.

Community-Level Variables and Migration: A Proposed Theory and Strategy of
Analysis
Sally E. Findley, Department of Sociology, Brown University, Providence, RI
02912.

Migration research has typically been conducted either at the individual
or aggregate levels, but seldom have the two levels of analysis been combined
in one investigation. Yet migration behavior is a response to both community
and individual situations. The purpose of this paper is to develop a theory
integrating the community influences with individual migration behavior. It
is suggested that these operate by influencing the relative costs or benefits
to staying, altering the costs of migration, and introducing more information
about migration. The paper concludes with a discussion of some strategies for
operationalizing community-level influences on migration.

Migration and Fertility as "Survival Strategies": An Exploratory Analysis
Carol Vlassoff, International Development Research Centre. Mailing address:
40 The Driveway #1407, Ottawa, Ontario K2P 2C9, Canada.

    The concept of survival strategies, as used in the Latin American
demographic literature, is explored from both theoretical and empirical
perspectives.   The theoretical exposition incorporates a brief review of the
relevant schools of thought concerning the peasant economy, particularly the
works of Meillassoux and Chayanov. A number of problems emerging from this
review are noted.   The author also discusses the empirical or neoclassical
approach to demographic analysis common in other parts of the world, with a
focus on the new home economic research. The strengths and weaknesses of this
approach in relation to the survival strategies position are examined.
Finally, suggestions are offered for orienting future work on fertility and
migration that may pave the way for greater balance between theoretical
concerns and concrete applications.

PRESIDENTIAL ADDRESS
Three to Five Main Challenges to Demographic Research
President: George J. Stolnitz, Indiana University

Chair: Jane A. Menken, Princeton University