

MINUTES OF THE CENSUS ADVISORY COMMITTEE
of the PROFESSIONAL ASSOCIATIONS

(This Committee consists of members of the American Economic Association (AEA),
the American Marketing Association (AMA), the American Statistical Association (ASA),
and the Population Association of America (PAA).)

At the Sheraton Crystal City Hotel, Arlington, VA, April 13, 2000

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Minutes Prepared by the History Staff

Attendants at Meeting

Present

Joseph Garrett (ASA), Chairperson
Tony Adams (AMA)
Robert Bell (ASA)
Roger R. Betancourt (AEA)
David A. Binder (ASA)
Lynne E. Browne (AEA)
Nancy Denton (PAA)
Michael Etzel (AMA)
Malay Ghosh (ASA)
Michael Gort (AEA)
Linda Jacobsen (PAA)
Katherine Bock-Jocz (AMA)
Jacob Klerman (PAA)
Barrett Lee (PAA)
Daniel Lichter (PAA)
Nancy A. Mathiowetz (ASA)
Dowell Myers (PAA)
William O'Hare (ASA)
Ariel Pakes (AEA)
Connie Pechmann (AMA)
Robert Peterson (AMA)
Arthur Redmond (AMA)
Carol Shea (AMA)
Daniel T. Slesnick (AEA)
Elizabeth A. Stasny (ASA)
Sybil Stershic (AMA)
Lynne Stokes (ASA)
Philip L. Swan (AEA)
Mary Waters (PAA)

Absent

F. Thomas Juster (ASA)
Lee Lillard (AEA)
Rebecca A. Maynard (AEA)
Stanley Smith (PAA)
Rosann Spiro (AMA)
Ross Stolzenberg (PAA)
Robert Willis (AEA)

Other Persons Present

Jeane Capace, Program Analyst, Office of
Inspector General
Michael L. Cohen, Study Director, National
Academy of Science
Cathryn Dippo, Associate Commissioner,
Bureau of Labor Statistics
Jill Haflich, Auditor, Office of Inspector
General
Linda Moeller, Economist, Bureau of Labor
Statistics

Introductory Remarks

Ms. Schneider (U.S. Census Bureau) announced the appointment of Ronald R. Swank as Chief of the Client Support Office in the Information Technology Directorate. She added that none of the regional directors have been able to attend this meeting due to the press of Census 2000 work.

Turning to changes in the Committee's membership, Ms. Schneider noted the following:

- ! With regard to representatives from the American Economic Association (AEA), Dr. Ernst Berndt has resigned from the Committee, and Dr. Frederick Scherer's term has expired. Drs. Daniel Slesnick from the University of Texas and Dr. Philip Swan of the IBM Corporation have been appointed to the Committee. Dr. Roger Betancourt has been reappointed for another term.
- ! For the American Statistical Association (AEA), Dr. Roger Tourangeau's term has expired, and Dr. Nancy Mathiowetz, of the University of Maryland, has joined the Committee. Dr. F. Thomas Juster's appointment has been renewed.

Ms. Schneider thanked Ms. Juanita Lott for her service as coordinator for this Committee; she is stepping down from that assignment to concentrate on 2010 Census planning activities. Ms. Paula Muroff will take on double duty as coordinator for both the AEA subgroup and as the coordinator for the entire Professional Committee.

The next Committee meeting is scheduled for October 19-20, 2000.

Dr. Prewitt reviewed the budget situation. He noted that the agency has asked for budgetary authority for several new initiatives, especially in the economic area. Among the latter were requests for funding to substantially expand the effort to collect information on e-commerce. At present, the U.S. Census Bureau is the only organization attempting to systematically collect information on the transformation of the economy under the influence of the expansion of e-commerce. The agency also is trying to move the Survey of Minority-Owned Business Enterprises from a quinquennial to an annual program; minority entrepreneurs are a dynamic part of the Nation's economic growth and measuring that part only once every 5 years is inadequate. Better data also are needed on exports—currently exports may be under measured by 3-to-7 percent—and funds have been requested for methodological improvements. The agency also has asked for major funding for redesigning the Survey of Income and Program Participation (SIPP) to improve measures of economic well-being. The improved SIPP design will use a series of overlapping panels and measure participation in government programs as well as money income received for the purpose of defining poverty. If this succeeds, the Office of Management and Budget (OMB) would designate a new poverty definition to replace the current one, which is based solely on cash income. The fiscal year (FY) 2001 budget request also includes funds for a sample redesign program (done after every decennial census and critical to all of the agency's survey work), as well as funding for the continuous measurement program (i.e., moving the long-form questionnaire from the decennial program to the American Community Survey).

The 2001 budget includes funding for closing out Census 2000 field operations and for data dissemination. The budget request has been cleared by the OMB and has been submitted to Congress.

There was a substantial cutback in the agency's non-decennial budget last year and part of the FY 2001 request is intended to reestablish the funding base lost then, the funding initiatives for

modernization of geographic system and other activities, and to undertake planning for a new or a renovated headquarters building for the agency. (There are serious problems with the old headquarters building, including water system problems, pigeon infestation, asbestos removal problems, and difficulties associated with grafting an expanding load of modern electronic equipment onto a very old wiring system.)

Dr. Prewitt reported that every major decennial census operation to date has been on schedule and on budget. These include the update/leave process, list/enumerate, update/enumerate, special place enumeration, and all the work in remote Alaska and other remote areas of the country. All of the operations that have recently been launched—the group quarters operation, the military and maritime enumeration, college dormitory counts, etc.—have been started on time and have been fully staffed. The agency has no reason to believe that the next major operation, the nonresponse follow-up, also will not be on time and fully staffed. He noted that, as of 3 days ago, the employment pool was at 107 percent of the projected requirement. The original target date for completing the employment pool was April 19, and while there are isolated areas around the country where there continue to be some under staffing, the procedures are in place to address those problems. The key facts are that all of the operations that required major staffing have been started on time and the personnel needed to do the census have been found.

Turning to field operations, Dr. Prewitt said the census is ahead of schedule with respect to data capture, and all four processing sites have accuracy rates of 99.2-to-99.6 percent. The systems are functioning very well. The telephone assistance system had an early “bump,” due to the very early spike in demand, but the staff was able to catch up with the demand within 2 days. Between 5 and 6 million telephone calls were received, and, with the exception of the first 2 days, about 98 percent of those calls were processed (about 95 percent were processed if the 2 problem days are included).

The requests for foreign language questionnaires totaled approximately 2.6 million requests. There were some complaints about the delays in getting the foreign language questionnaires sent out—it took about 2 weeks to process each call, prepare each mailing package, and get each questionnaire delivered. Despite the delay, the system generally worked and the questionnaires did get out to the people who needed them.

So far, from an operational point of view, Census 2000 has been a great census.

Regarding response rates, Dr. Prewitt said the census was planned based on a projected overall mail response rate of 61 percent. That level was achieved last week, and the most current response rate is around 62 percent. The final mail response rate (prior to nonresponse follow-up) will be announced next week and will probably be in the 63-to-65 percent range.

There is, however, a differential between response rates for the short-form and the long-form questionnaires. The most recent measurement of this difference is that the long-form questionnaire response is lagging the short-form questionnaire response by 14 percent; this compares to the 1990 differential of 4.5 percent. It seems extremely unlikely that the current rate will significantly improve and close the gap with the 1990 rate between now and the closeout date for mail response. This differential could result in degradation of the long-form questionnaire data. If there is substantial item nonresponse as well as long-form questionnaire nonresponse, the agency will have to look very carefully at data quality for the items affected. He added that there are two ways to measure the quality of a census—response rates and the quality of the information supplied. Prior to Census 2000, the primary concern in determining the quality of any given census generally has been the overall

coverage rate achieved. Census 2000 may be the first census in which the measure of the census turns on quality of the data supplied by respondents.

In response to a question by Dr. O'Hare (American Statistical Association [ASA]), Dr. Prewitt said that the appropriation hearing on the FY 2001 request turned out almost to be a hearing on the American Community Survey (ACS), largely because of the uproar about the long-form questionnaire. The Chairman of the agency's U.S. House of Representatives oversight committee has publicly suggested that Census 2000 will be the last to use a long-form questionnaire. The agency has been asked to provide a briefing on the ACS to congressional staffers, and there is discussion of scheduling an oversight committee hearing on the survey for sometime in the next few weeks. The FY 2001 budget request for the ACS is adequate for the scheduled test and experimental work. He added that the U.S. Census Bureau believes that the schedule for the survey could be accelerated, if necessary, to introduce the full-scale ACS in 2002 rather than 2003. However, the agency does not currently have the budgetary authority to do that. He suggested that if long-form questionnaire census data have been seriously degraded, then the country will need the ACS data sooner.

Replying to a question by Dr. Binder (ASA), Dr. Prewitt said that currently the ACS is considered part of the decennial census program, and it is a mandatory-response operation. If the Congress funds the survey, but does not make response mandatory, the agency could conduct the survey, but there would be an impact on response and costs. The agency believes that two factors would help maintain a high level of data quality in the ACS—(1) the professional enumerator staff would be used to collect the data and (2) it will be very difficult to sustain the kind of public attack on the long-form questionnaire data when the agency is talking to only 250,000 people a month over an entire year. Most importantly, however, the way the ACS is designed keeps the U.S. Census Bureau in close contact with local leaders. This means that the agency is constantly in negotiation with mayors, county commissioners, and city managers about the data. This takes what is now thought of as a "big government" intrusion and establishes a context in which the need for the data is far more obvious.

The anti-long-form questionnaire campaign has had some effect. A private survey agency has provided data on public attitudes on confidentiality and privacy; during March, the survey indicated that about half the American population believed census data are confidential, and that percentage remained essentially unchanged over the survey period. With regard to the question of whether the census questions were intrusive, at the beginning of March, about 10 percent of the population thought so. That percentage remained unchanged until just after the attacks began, when the percentage jumped first to 18 percent, then to 22 percent responding that the census is intrusive.

In response to a question by Dr. Lichter (Population Association of America [PAA]), Dr. Prewitt said the same kinds of questions are asked in the ACS as in the census, so they are "intrusive" to the same extent as the long-form questionnaire. However, the political environment to create an attack on the data would be very different in that the number of households involved is much smaller. It is hard to imagine a survey that would be more intrusive than the Consumer Expenditure Survey, yet that survey achieves reasonably good response. The U.S. Census Bureau has been enormously successful in promoting awareness of Census 2000—perhaps 99 percent of the population knows about the census. That heightened awareness of the census allowed various people to "run" with other agendas. Much of that sort of thing would "go away" in a non-decennial environment because there will not be the same level of public attention.

Dr. Binder commented that the lack of similar public attention may also mean less enthusiastic participation. He suggested the data quality of the ACS might be problematic, simply because a

continuing survey will not have the advantage of the great public/civic ceremony of the census. Dr. Prewitt said the country is on a collision course between its insatiable demand for more information and its growing concerns about privacy and confidentiality. People do not believe anything is really kept confidential, and they resent that. On the other hand, the developing "knowledge economy" needs more and more information. The country cannot have it both ways; if it wants the new economy, it must find some way to reconcile the conflicting demands for more and more data and the protection of privacy and confidentiality.

In response to a question by Mr. Adams (American Marketing Association [AMA]), Dr. Prewitt said the agency adopted language for Census 2000 stating that response was mandatory as part of a deliberate marketing strategy, based on the results of market research carried out in the early 1990s. In retrospect, that research was carried out in a different environment, and no one foresaw that Census 2000 would be such a publicly discussed event, nor the success of the census promotional activities in increasing public awareness. He was uncertain if the same decision to use the mandatory language would have been made had the supporting research been done in the environment that eventually emerged. The current survey data indicate that a significant portion of the respondents said they returned the questionnaires because it was the law. All the recent talk about how many people the agency is going to prosecute and the bills submitted to forbid prosecution, are nonsense; no one has been prosecuted for refusing to respond to the census since the 1960s. Saying that census response is mandated is a statement, by the Nation, that the census is serious business. Every once in a while the country says something is serious business—jury duty is serious business, filling out your income tax form is serious business, registering for the draft in case of a national emergency is serious business, and the census is serious business.

Mr. Adams commented that in purely marketing terms, Census 2000 was speaking in two voices; the language of mandatory response was very much at odds with the other efforts to promote cooperation and enthusiasm for the enumeration. Ideally, given the nature of the environment the U.S. Census Bureau sought to create for the census, developing a more "user-friendly" message might have done even better in promoting response. Dr. Prewitt pointed out that the agency did try to moderate the language during the promotion campaign, shifting emphasis to stress civic duty and local advantages in response. The agency's survey data on respondents' reasons for completing the questionnaires indicate that "getting our fair share" is in the 80-percent bracket of reasons for response, with civic duty in the 60-percent region, and legal requirement rather low (21 percent) at the beginning of March, but rising to over 40 percent after the census questionnaire mailout (the message that response was required by law was printed on the outgoing envelope).

Replying to a question by Mr. Garrett (ASA), Dr. Prewitt said the agency has not yet calculated the budget costs of the additional follow-up that will be needed because of the 14-percent differential in long-form versus short-form questionnaire response. There will be a heavier burden on the field enumerator staff to obtain long-form questionnaire data than short-form questionnaire data. His own greatest concern is that the people who refused to return a completed long-form questionnaire are likely to be those who are most resistant to responding in any case, and the enumerators may be faced with households that refuse to give anything more than the short-form questionnaire information.

In response to a question by Dr. Pechmann (American Marketing Association [AMA]), Dr. Prewitt said there is no doubt that the Census 2000 promotion campaign created awareness of the census; whether it improved the response rates among the population groups on which it was primarily focused is not yet known. The agency has its own evaluation work underway; also there is

independent survey work being done, but the results have not yet been analyzed. The response rate at the local census office level is being tracked, and the response rate at the tract level also will be tracked, which will enable the agency to do demographic analysis of response. The U.S. Census Bureau's own judgment is that, demography holding constant, the strongest indicator of Census 2000 response behavior equals the 1990 response behavior. The curve showing response rates across the country ought to be the same for 2000 as for 1990; it may differ in level, but the shape ought to be the same. If the 2000 response rate curve is not the same as for 1990, then there is a new phenomenon that will have to be investigated.

Replying to a question by Dr. Jacobsen (PAA), Dr. Prewitt said the agency has already informed Congress that the U.S. Census Bureau has very high-quality standards for its data. In the past, there have been instances when the agency has refused to publish data because they did not meet its standards. That has never been done with the census data, but if the item-nonresponse for the long-form questionnaire causes significant data degradation, some data may not reach the agency's quality thresholds and may have to be suppressed. That will not be an easy decision to make.

In response to a question by Dr. Pakes (AEA), Dr. Prewitt said that all nonrespondent households—about 44 million of them—will be subject to nonresponse follow-up. There is no plan to target particular parts of the nonrespondent population for follow-up. Part of the attack on the long-form questionnaire include suggestions that people simply report the number of persons in a household. This will require "coverage follow-up" rather than "content follow-up." That means that the follow-up is done to confirm that the number of persons living in the household has been correctly reported.

Dr. Pakes suggested that the agency's statisticians could identify specific populations or areas that needed additional data to bring them up to accepted levels of data quality, and then the follow-up operation could concentrate on those areas. Dr. Prewitt said it might be possible to develop such a plan; however, doing so, then obtaining the necessary congressional support and funding and completing the operation all within the required time would cost a great deal of money and might simply be operationally impossible.

Dr. Prewitt added if there is a significant problem with the long-form questionnaire, either overall nonresponse or item-nonresponse, the agency will have to have a serious talk with the Congress about accelerating the implementation of the ACS. He pointed out that the development of plans for the ACS has provided a possible alternative source of data if the long-form questionnaire problem really does become serious.

Census Bureau Responses to Committee Recommendations/Report on the October 1999 Meeting

Mr. Garrett (American Statistical Association [ASA]) asked members for any comments on the minutes or the U.S. Census Bureau's responses to the Committee's recommendations.

Ms. Shea (American Marketing Association [AMA]) commented that there apparently is a paper missing from the recommendations section of the minutes. She has a copy and will give it to the agency.

Planning for Census 2000 Ethnographic Research (ASA, AMA, PAA)

Dr. de la Puente (U.S. Census Bureau) introduced the ethnographic studies that the U.S. Census Bureau is conducting in conjunction with Census 2000. These studies were proposed and developed by sociologists, anthropologists, and other social scientists from the Center for Survey Methods Research and the Statistical Research Division. Ethnographic studies have been conducted at the U.S. Census Bureau since 1971. The 1990 program was the most extensive to date, consisting of 29 separate ethnographic studies; these studies are collectively known as the “ethnographic evaluation of the behavioral causes of census undercount.” These studies identified barriers to coverage, such as residential mobility, irregular housing, and complex households. Many ethnographic studies have been carried out at the U.S. Census Bureau since then, and they have examined such topics as migrant workers, mobile population, juvenile justice facilities, and residence concepts. The current research reflects topics of concern that have become increasingly important since 1990. These studies cover populations that are hard to enumerate and topics associated with undercoverage. The U.S. Census Bureau used a research model which involved contracting with ethnographers throughout the country who have unique knowledge and experience with the population being studied. The work is a collaboration between these ethnographers and the U.S. Census Bureau.

Dr. Gerber (U.S. Census Bureau) explained that ethnography has no set definition, but it still is a powerful tool for capturing the richness, range, and detail of behavior of human populations as they construct their lives and interact with each other and the world around them. Ethnography helps to contextualize behavior which helps to understand and account for that behavior. Ethnography stresses culture and diversity. Its methods are varied and include observation and interviews. While generally qualitative, ethnography also can be quantitative if one wants to study such questions as the frequency of behavior. The value lies in understanding the beliefs and behaviors that underlie the statistical data that the U.S. Census Bureau collects. For instance, ethnography can look at the interrelated cultural and socioeconomic factors that influence the lower response rates to the census from poorer areas. Such factors include residential mobility from economic conditions, disinclination to trust governmental promises of confidentiality, apathy, and problems in mail service, among others. In addition to analyzing the causes of such phenomena, ethnography can propose solutions.

There are six current ethnographic research projects—

- ! Protecting privacy. This study examines the concerns that respondents have about privacy, and how these influence their response to the census and surveys. It will focus on the response patterns among hard-to-enumerate groups. The study will address the perceived legitimacy of the census and whether it is seen as an invasion of privacy. It also will assess the effect of a variety of confidentiality statements from the decennial census and several surveys and will assess risks and benefits that respondents perceive. One focus of the research is the anxieties caused by new technologies such as the Internet, data sharing, and administrative records. The research will take place nationally in several rural and urban locations, and it will include as respondents Whites, African Americans, Asians, Latinos, and American Indians. Cognitive interviews, featuring vignettes, will be used to get participants to discuss sensitive subjects and will help evaluate how they understand question and statement wording. The research will suggest ways of explaining privacy protections and confidentiality procedures. It will offer insights into motivational materials and assess the public’s reaction to the privacy implications of new technologies.
- ! Complex households and relationships. This study looks at how relationship questions are being used in the census and surveys to see how these questions either capture or fail to capture complex relationships within households. Complex households include intergenerational families, blended households (from divorce and remarriage), and extended families. The study will examine

the effects of migration patterns on household structure among immigrant groups. This study will take place nationally and will include African Americans, White farmers, American Indians, Alaska Natives, Korean-Americans, and Latinos. The research will include interviews and matching households to their census records to assess the appropriateness of the relationship questions, and determine how well the questions capture the complexity of these households, and how well the current household typologies reflect and report existing household structures.

- ! Generation X. This study concentrates on the attitudes of those people born between 1968 and 1979, a group with a reputation for apathy and cynicism. The research will address this group's civic engagement through behaviors, such as voting, donating to charity, working for political causes, or filling out census questionnaires. It will examine how different experiences and social, ethnic, and economic backgrounds shape the attitudes of different segments of this group toward government and civic involvement. The research will be national in scope, and will include Asian, African American, American Indian, Latino, Afro-Caribbean, and White youth. Small comparison groups of Baby Boomers and Millennial Generation members will be included in the study for comparison. The study will use a brief survey, semi-structured interviews, focus groups, and site observations at places that Gen-Xers congregate (such as "powwows," civic groups, coffee houses, and other "slacker joints"). This group will constitute the core respondents for the 2010 census, so knowledge of their attitudes toward privacy and government may suggest ways to motivate response from this group.

- ! Enumeration barriers in colonias. This study looks at new methods of enumerating colonias and the enumeration barriers, such as language, illiteracy, irregular household arrangements, and resistance to government. Colonias are low-income, unincorporated residential areas that lack basic infrastructure and social services; they exist along the United States/Mexico border. Four colonias will be studied: one in Texas, two in New Mexico, and one in California. Site observations are going on now; these will be followed by interviews with colonia residents and focus groups with colonia residents and members of enumeration teams. The research will help to evaluate current procedures for collecting data from colonias and suggest improvements.

- ! Ethnographic social network tracing. This study looks at social networks to determine how long highly mobile individuals stay in areas where they have social ties, and investigates which of these places is most likely to capture them in an enumeration. Ethnographers will study the movement patterns to assess what factors lead to high mobility. Coverage of these people will be matched with census records. Those currently being covered in the study include American Indians, Mexican migrant workers in the south, and homeless people in the Pacific Northwest. Other groups will be added later. Respondents will be tracked by ethnographers who will be acting as participant observers. Their social networks and interactions will help the U.S. Census Bureau to create a model of high mobility. This will help to determine how best to capture the highly mobile in an enumeration. The results may lead to improved residence rules that will better capture such individuals.

- ! Mobile populations. This research studies transient groups whose life styles involve high mobility and compares the fit between these mobility patterns and standard census enumeration procedures. The research will look at the locations that itinerants stay, the length of stay, and frequency of visitation. These patterns will be evaluated in terms of the economic or subsistence niche of that particular population. Research will be carried out at the places that these groups stay, including transient locations, group quarters, and domiciles. The groups to be studied include retired people who spend all or part of the year traveling, American Indians who migrate

cyclically, urban itinerant workers, and members of street gangs. Both participant observation and interviews will be used. The research will evaluate current methods for enumerating these groups and will suggest improvements.

Preliminary findings for each of these six projects will be completed by September 2000 and the final reports will be ready during the summer of 2001.

Dr. Myers (Population Association of America [PAA]) praised the studies for helping to validate the data and to provide valuable qualitative insights behind the numbers. Such research will help to explain the variation in response by different groups. There are three challenges for ethnographic study. First, determining which groups to study; second, that small samples only reveal the most obvious differences (though these are valuable, small distinctions and insights can be missed); and third, that there are no control groups. A control group might provide insight into how a subgroup's privacy concerns might coincide with or differ from the privacy concerns of a major group. He praised the U.S. Census Bureau's ethnographic program in general and its efforts to study the cultural variation in living arrangements and fluidity of residential location in particular.

Dr. Pechmann (American Marketing Association [AMA]) expressed her appreciation for the research, noting that it should lead to several advances such as better advertising and improved wording of census questions. In terms of scope, the U.S. Census Bureau should consider using a marketing framework that looks at respondents' motivations, abilities, and opportunities. In other words, what motivates people to participate and what factors, such as distrust of government, lead people to avoid participation. What would motivate them to participate? Do they have the ability to understand the terms and concepts of each question? Do they have the time to complete the questionnaire and provide the proper information about all household members? With these concepts in mind, the research could help the U.S. Census Bureau to counter inefficiencies, inaccurate responses, and nonresponse. As the agency moves toward implementing the American Community Survey, accuracy of response and item nonresponse will be increasingly important. She noted that while both focus groups and participant interviews are important, focus groups should be emphasized. Focus groups that have participants generate solutions to problems are more effective than having one person come up with a solution. She noted that the U.S. Census Bureau should be careful about using census records in studies about confidentiality since people might feel betrayed if these records are being used without their prior written consent. She encouraged the agency to rely more on experts in the field who are close to the communities that they are studying. Finally, she recommended quantitative followup on the qualitative findings.

Dr. Mathiowetz (American Statistical Association [ASA]) noted that the biggest barrier to participation is complex household structure. The instructions for Census 2000, however, do not adequately address the problem, particularly for those who moved between March and April. The U.S. Census Bureau needs to use its research to design a better questionnaire and to develop better procedures to ensure that people in complex households are not missed. Different groups need to be approached differently, and this should be taken into account when administering the census. She suggested that if any of the studies need to be de-emphasized for one reason or another, the Generation X study is the least important of the six. These people are in their twenties and will be at a different phase of life when the next census comes around.

Ms. Shea (AMA) urged the U.S. Census Bureau to consider studying people who use privacy tools as a means to protect their confidentiality; studying them might provide insight into confidentiality concerns. The agency also should do content analysis of editorials about the census, on-line

feedback, and other sources of critique. She also asked why one of the Generation X study sites is Washington D.C.

Ms. Stershic (AMA) applauded the U.S. Census Bureau's intention to compare the attitudes of Generation X with those of the Millennial generation. She also encouraged the U.S. Census Bureau to study mobility patterns for older Americans, particularly as they travel to nursing homes and retirement communities.

Dr. de la Puente stated that any time that the U.S. Census Bureau engages in ethnographic research, it always gets prior written consent from the respondents. In addition, all ethnographers outside of the U.S. Census Bureau who might work with individual census records are sworn to confidentiality. He noted that the knowledge about complex households that arose from ethnographic studies from the 1990 census did influence the way that Census 2000 was conducted. The 2010 planning staff is working to ensure that the current research will be incorporated into the design of the next census.

Dr. Gerber stated that some of the studies will use control groups. She added that while ethnographic study can provide insights, no changes are made until their effects can be studied quantitatively. She agreed that the procedures and questionnaires both need to change in response to the research findings. She concurred that studying the mobility of the elderly is worth pursuing.

In response to Dr. Klerman (PAA), Dr. de la Puente agreed that people's perceptions about the way they think that racial data will be used can influence their responses to the race question. More ethnographic research on this topic needs to be conducted.

Responding to Dr. Lichter's (PAA) concern that the wealthy living in high-security buildings can be just as hard to reach as the poor, Dr. Gerber stated that historically the poor have been the hardest to enumerate. While the wealthy should be studied ethnographically, it might prove difficult to get the wealthy to participate in interviews.

Answering Dr. Waters' (PAA) concern that the research might reveal differences in attitude due to education and class rather than to subculture, Dr. Gerber stated that the Generation X research will try to isolate such distinctions. Dr. Waters also expressed concern that information for a household can change depending on who completes the questionnaire, and that the information can change over a short period of time. Responses to such questions as racial category are particularly prone to variation. She also asked how participants for the studies will be chosen. Dr. Gerber stated that respondents will be recruited via two methods—either ethnographers in a particular area will find them or partnership groups will help to identify candidates. Dr. de la Puente added that the colonias study examines the question of who fills out the questionnaire and who is consulted for information. Dr. Gerber noted that the privacy study also addresses this question. Dr. de la Puente stated that this issue also will be explored in future research for the race and ethnicity question.

Dr. O'Hare (ASA) commented that since one of the largest groups to be undercounted was children there needs to be more investigation into this issue; this major problem is not emphasized in the current research.

Dr. Denton (PAA) noted that the number and breadth of comments were increasing the burden of what is expected of each study. However, she expressed concern that the current research might already be spread too thin to gather meaningful data; there are too many studies for too few respondents. There needs to be a larger sample or a tighter focus in order to make the research program successful.

Drs. Gerber and de la Puente noted that ethnographic research is not a scientific sample; it is a method for discerning cultural insights, so adding more voices will not make the results any more meaningful.

Dr. Lee (PAA) encouraged the U.S. Census Bureau not to neglect the “baby boomers” in its studies, particularly since this generation’s post-retirement economic behavior and mobility will not follow previous patterns.

Dr. de la Puente explained that the results from the cognitive interviews done in 1990 were incorporated into field methods for the census, but the testing had a less dramatic effect on the wording or content of the questionnaire. Dr. Pechmann suggested that question wording could be one of the topics to study in preparation for 2010. Responding to Dr. Pechmann’s suggestion that the advertisements and publicity should be tested early in the planning, Dr. Gerber agreed that such testing is a good idea. Dr. Gerber added that the presentation of residence rules and roster creation are currently being tested, and later the U.S. Census Bureau will test the content of the specific questions, such as the one regarding race.

Dr. Binder (ASA) praised the U.S. Census Bureau’s use of ethnographic research, even if the results are somewhat anecdotal and cannot be generalized. He cautioned the agency to make sure that its efforts to design a census that is capable of capturing the hard-to-enumerate does not alienate or disadvantage the majority of respondents who already participate. Qualitative studies can illuminate, but cannot replace quantitative studies. He noted that 90 percent of the research is devoted to solving a problem created by 10 percent of the population, but this should not adversely affect the 90 percent of the population not being actively studied.

In response to a question from Dr. Binder, Drs. Gerber and de la Puente explained that there are many differences between the study on complex households and that on social network tracing. The social network study traces behavior and physical movement, while the complex household study examines responses to a question by the hard-to-enumerate.

Dr. Etzel (AMA) observed that most surveys account for bias. However, in the U.S. Census Bureau’s ethnographic study of confidentiality the participants are self selected. This might force the U.S. Census Bureau to miss out on the perspective of those most protective of their confidentiality, who would be unlikely to participate. He noted that the design of ethnographic studies may result in the agency missing out on valuable perspectives. Ms. Gerber stated that the recruiting tries to account for this possibility. She added that in the study on confidentiality that individual census records will not be used in order to avoid alienating potential participants. Though the participants are self-selected, the study’s designers are looking for a range of views and attitudes for this qualitative study that will allow comparison of the attitudes and reasoning of those most concerned about privacy with others who are less concerned. Though there will not be any quantitative results, this study will help to understand the culture of those most protective of their confidentiality. Ethnographic studies are more about establishing a spectrum of beliefs than quantifying how many people agree with a particular belief.

Dr. Clark (U.S. Census Bureau) stated that ethnographic and quantitative research help to reinforce each other; analysis of quantitative data can point to anomalies that only can be explained through cultural studies, while cultural phenomena can point to behaviors that can be studied quantitatively. Both types are necessary for a complete research program.

Chief Economist/CES Update (AEA)

Dr. Jensen (U.S. Census Bureau) said due to a communications mix-up, there would be no presentation on the Longitudinal Employer Household Dynamics Survey.

New staff at the Center for Economic Studies (CES) consists of Mark Mildorf, an assistant division chief since November 1999. The U.S. Census Bureau is looking for two staff economists, a health economist, and a general economist. Unfortunately for the agency, the demand for newly-graduated economists with Ph.D.s greatly exceeds the available supply, and the U.S. Census Bureau is unable to offer competitive salaries. Of the seven applicants selected for consideration, six already have taken jobs elsewhere.

The main topic for this session, however, was the recent changes at the CES due to the service safeguard audit conducted by the U.S. Internal Revenue Service (IRS), which affects the U.S. Census Bureau's ability to use administrative data obtained from the IRS. The major issue in the latest safeguard audit is that of commingled data. While the data published by the U.S. Census Bureau are regulated by title 13, the data released by the IRS come under the auspices of title 26. Commingled data, therefore, are data derived from more than one Federal agency, which are regulated by different laws.

For the U.S. Census Bureau's economic programs, including the economic census, data for the smallest establishments are derived predominately from the IRS tax register. Also, data from this register are used for nonresponding larger establishments. So the data files for these establishments are a mixture of title 13 and title 26 data. In the past, the U.S. Census Bureau has treated these commingled data as if they were title 13 data. The IRS, however, now maintains that any file containing any tax data should be governed by title 26. In the past, the U.S. Census Bureau and the IRS agreed to disagree over this issue, and the U.S. Census Bureau treated commingled data as title 13 data.

The IRS now insists that anything containing title 26 data must be subject to its purview. This position impacts almost every project administered by the CES, including projects using the Longitudinal Research Database, as well as the Census of Manufactures and the Annual Survey of Manufactures. In the view of the IRS, it claims it must approve, on a project-by-project basis, everything containing any title 26 data. Also, the IRS has indicated it plans to reconsider its 1980 legal opinion regarding the special sworn status, the vehicle by which the U.S. Census Bureau allows external users access to its confidential data.

Although the dialog between the IRS and the U.S. Census Bureau continues, the IRS' position has already affected the U.S. Census Bureau's programs adversely. Some examples include

- ! The ongoing project between the U.S. Census Bureau and the Bureau of Labor Statistics (BLS) in which the business register data maintained by the U.S. Census Bureau are compared with the BLS business register data has been suspended at the request of the IRS.
- ! A joint program between the U.S. Census Bureau and a research site at the University of Maryland regarding survey methodology has been closed.
- ! The U.S. Census Bureau has suspended the initiation of 24 projects that it already had approved as part of its normal review cycle.

- ! Due to miscommunication, some irregularities were found in eight projects jointly administered by the U.S. Census Bureau and the Social Security Administration, which are now on hold.
- ! In addition to the above projects, the IRS has asked the U.S. Census Bureau to stop work on any project that would go beyond September of this year and is asking for monthly status reports on those projects ending before September.

In response to a question by Dr. Gort, Dr. Knickerbocker (U.S. Census Bureau) indicated that the IRS' position may in part be the result of a General Accounting Office (GAO) audit criticizing the IRS for laxity in protecting the confidentiality of taxpayers' data. Also, the programs administered by the CES have grown considerably since the last safeguard review in 1992. At that time, the U.S. Census Bureau had no research data centers. In 1997, the U.S. Census Bureau made demographic and economic records available to the researchers. Also, about 18 months ago, with the establishment of the Longitudinal Employer Household Dynamics data, economic and demographic data were prepared to be linked together for the first time in this country. All of these events have contributed to a growing scrutiny and concern by Congress and GAO to protect confidential records.

In response to another question by Dr. Gort, Dr. Knickerbocker said that the Longitudinal Employer Household Dynamics project had not been discontinued, but that for the moment, analysis depends on data derived from state Unemployment Insurance records instead of IRS data.

Dr. Jensen said the U.S. Census Bureau has explained to the IRS the disruptive effects of suspending all of these projects. The U.S. Census Bureau also has consulted with U.S. Department of Commerce counsel to explore the legal implications of abruptly ending these projects, given that the U.S. Census Bureau entered into project contracts in good faith with the research centers throughout the country. The IRS suggested the U.S. Census Bureau prioritize its external research projects according to their sensitivity. The U.S. Census Bureau countered that it prefers to prioritize these projects according to the amount of title 26 data contained in the databases utilized by the researchers.

One solution considered by the U.S. Census Bureau is for the CES staff to go through all its files and decommingle the data, separating the title 13 and title 26 data into different files. This proposal would effectively tie up the CES staff for 12 to 18 months. Under this proposal, the research centers could access all the title 13 data, but would be required to obtain IRS approval for use of the title 26 data. It remains uncertain, however, what the IRS approval process would consist of, how long it would take, or what the appeal procedure would entail. Also, if the U.S. Census Bureau makes this proposal, it is abandoning its position that commingled data come under title 13, an unappealing stance, but at this point it is not clear what other options are available.

The current situation has had a deleterious effect on both the research data centers and the CES staff. The research centers that are in the process of opening and those which are newly opened are especially concerned about their future existence. In California, more than half the projects that have been approved now are suspended. The staff at the CES is having to respond to requests from the IRS on almost a daily basis; staff is becoming weary.

In response to a question by Dr. Betancourt, Dr. Jensen said the effect of limiting the research centers to the sanitized title 13 data would vary considerably. For the Annual Survey of Manufacturers, the effect would be minimal, since title 26 data are rarely used for imputation. For a study concerning

how small establishments become large establishments, however, the effect could be quite significant since all the small establishment data are covered by title 26.

Dr. Gort asked if state planning agencies might be an alternative source for the data now obtained from the IRS. Dr. Jensen said theoretically it would be possible to get similar data from these agencies, but it would probably require a lifetime's work to reconstruct these data.

In response to a question by Dr. Pakes, Dr. Jensen said that section 6103J states that the IRS is required to provide the U.S. Census Bureau with tax data that are beneficial to the administration of the latter agency's programs as defined under chapter 5, title 13. The IRS asserts that it has the right to judge whether the uses of the title 26 data benefit the U.S. Census Bureau's programs. It questions whether projects administered by the research data centers are beneficial to the U.S. Census Bureau.

Dr. Pakes wondered why the U.S. Census Bureau promptly suspended or canceled so many programs. These actions seem to concede acceptance by the U.S. Census Bureau of the IRS' position.

Dr. Knickerbocker clarified the current status of affairs. None of the research projects have been canceled so far, and the U.S. Census Bureau is hopeful that it can work things out with the IRS. Specifically, 24 approved research projects have yet to be started, the 3 projects with the BLS are on hold while their irregularities are being resolved, and the projects concluding before September 2000 are still ongoing. As for those projects extending beyond September, Dr. Knickerbocker said he would be telephoning the IRS to inform that agency that, upon advice of counsel, the U.S. Census Bureau, pending the gathering of legal information, will not shut projects down. The legal consequences of doing so could violate the U.S. Census Bureau's commitments with the Federal Reserve Board, the National Science Foundation, numerous universities, and contracts with individual investigators and their research associates, creating the possibility of serious monetary and career damage.

The U.S. Census Bureau hopes that a reasonable solution will surface. This agency has agreed to fix the irregularities with the BLS projects; moreover, it recognizes that the IRS has a legitimate concern about the proliferation of its data to numerous organizations and individuals throughout the country. The IRS now wants to have approval over all the U.S. Census Bureau's research projects involving title 26 data. The U.S. Census Bureau believes it only needs to notify the IRS of these projects. A compromise should be possible. Also, some research projects are more "IRS data intensive" than others. It should be possible to differentiate among projects for review purposes.

In response to a question by Dr. Pakes, Dr. Knickerbocker said that the IRS has been indifferent to U.S. Census Bureau attempts to justify these research projects based upon how the data are used and their value to the Federal Government and the general public. Under the IRS' strict interpretation, the U.S. Census Bureau must demonstrate how these projects improve this agency's ability to take its censuses and surveys. If the U.S. Census Bureau merely shows that the research project improves public policy, this is insufficient justification for the IRS. Dr. Gates (U.S. Census Bureau) added that the IRS tax code makes a clear distinction between reimbursable programs covered by chapter 1 and appropriated programs covered by chapter 5 of title 13. The IRS tax data only can be made available for those U.S. Census Bureau programs coming under chapter 5. According to the IRS, these are the programs that are beneficial to the census and survey operations of the U.S. Census Bureau. The Chapter 1 programs, though they may be beneficial for public policy, are not entitled to make use of IRS data.

In reply to a question by Dr. Browne, Dr. Knickerbocker said every year the U.S. Census Bureau is required to make a formal request, through the Secretary of Commerce to the Secretary of the

Treasury, to access the entire range of business records and a substantial number of demographic records from the IRS. On the economic side, the business records provide the fundamental infrastructure of the Standard Statistical Establishment List (SSEL). Records from the U.S. Social Security Administration (SSA), such as the 941s, which provide the basis for updating the quarterly employment and payroll reports, and the SS4s, showing the birth of new enterprises, come through the IRS. Also, coming directly from the IRS are the Return Tax Files, which are instrumental for the quarterly financial reports. On the demographic side, all the intercensal estimates of population depend on filings of the 1040s. Turning off these two “spigots” of IRS data would severely restrict the U.S. Census Bureau’s operations.

Responding to a question by Dr. Pakes, Dr. Knickerbocker suggested that the AEA subgroup members could make their views known among their contacts in Federal agencies and offices that might be able to influence negotiations between the IRS and the U.S. Census Bureau. Ms. Muroff (U.S. Census Bureau) suggested the Federal Economic Statistics Advisory Committee (FESAC), which deals with topics of interest to the U.S. Census Bureau, the U.S. Bureau of Economic Analysis (BEA), and the BLS, as an additional source of support. Dr. Pakes said the AEA subgroup should develop a recommendation addressing how this dispute between the IRS and the U.S. Census Bureau might be best resolved and what the subgroup can do to assist this agency. Dr. Browne asked that the U.S. Census Bureau provide the AEA subgroup with a brief summary of the issues discussed in today’s session.

Dr. Jensen said that regardless of how the disagreement between the IRS and the U.S. Census Bureau eventually is resolved, it is important to stress that the research center program still will be intact 2-to-5 years from now. The terms and conditions may change, but the program will continue to exist. Also, it is important to convey this message to the research centers and others to assure them that the program is viable for the long term.

Dr. Pakes noted that the IRS’ position would likely have a negative impact on the analysis of e-commerce. Dr. Betancourt said another area that would be negatively impacted is the rapidly expanding network industry, which is no longer location specific. Dr. Knickerbocker added that if the U.S. Census Bureau and the IRS could not work out a reasonable solution, the failure would cast doubt on the current proposal for data sharing among eight Federal agencies.

The Census 2000 Testing and Experimentation Program (AMA, PAA, ASA)

Ms. Bolton (U.S. Census Bureau) pointed out that the U.S. Census Bureau has incorporated research projects into decennial censuses since the early years of the twentieth century and that a more formal research and evaluation program began with the 1950 census. The Census 2000 version of this research is called the Testing, Experimentation, and Evaluation Program. This program has two goals— (1) to assess the efficacy of key census operations and (2) to conduct studies to inform the design of the next census, the American Community Survey, and other U.S. Census Bureau surveys. Today’s discussion will focus on the testing and experimentation portion of the program.

The agency conducts these tests during the census because this period provides the best possible conditions to assess the potential value of new census methods. In addition, identifying, refining, and retesting new methods requires an extraordinary amount of lead time.

In November 1997, the U.S. Census Bureau formed a committee to direct a research program to be implemented during Census 2000. This committee requested research proposals from organizational

units throughout the agency. Committee members reviewed the projects using criteria such as the following:

- ! Does the proposal require testing during the decennial census?
- ! Could the test compromise the census?
- ! Is the research important for planning future censuses and surveys?
- ! Is there additional respondent or enumerator burden?

The committee selected a number of proposals and agency experts began finalizing the designs, specifying their operational components, and coordinating with Census 2000 planners to ensure that these experiments were integrated into the overall Census 2000 plan and did not jeopardize any of its operations.

The goal of the Alternative Questionnaire Experiment is to develop a mailout questionnaire that is easier to understand and complete. This experiment will include a mailout of about 47,000 questionnaires and will evaluate changes in questionnaire design and content. The Administrative Records Experiment will assess the value of using files such as the Internal Revenue Service, Social Security, and Medicare records as a data-collection method for census taking. U.S. Census Bureau staff believe this approach may have potential for cost savings and reduction in response burden. This test will involve a total of about 1 million housing units and 2 million people in Baltimore, MD, and three counties in Colorado and will use national-level data files to compare two methods of conducting an administrative-records census.

The Social Security Number, Privacy Attitudes, and Notification Experiment will examine public response to a voluntary request to provide Social Security Number information on the short-form questionnaire and to two versions of a cover letter informing respondents that the U.S. Census Bureau may use the records of other Federal Government agencies for data collection. Another component of this survey will consist of two telephone interviews, one before the census and the other during the census, to measure public attitudes relating to the agency's stated use of administrative records.

The Response Mode and Incentive Experiment will examine public reaction to different ways of responding (e.g., computer-assisted telephone interviewing, interactive voice recognition, and the Internet) to a mailout questionnaire and the effect of adding an incentive (a telephone calling card worth 30 minutes of long distance service). This test also gathers data on the effect of incentives on census nonrespondents.

The Census 2000 Supplementary Survey is designed to assess the operational feasibility of collecting the full range of socioeconomic sample data during a census year via an alternative data-collection survey. Questionnaires will be mailed to a nationwide sample between January and December 2000. Nonresponse follow-up will take place by telephone initially, to be followed by personal visits as needed. The agency plans to process the data from this survey early in 2001 and to release the results by the summer of 2001.

Another experiment addresses the issue of improving the selection tools the agency uses to hire nonresponse follow-up enumerators. The Office of Personnel Management has reported that the tests used to evaluate enumerator candidates do not address the interpersonal skills of potential hires. The

U.S. Census Bureau agrees that these skills are important for successful enumerator performance. The agency plans to use an existing non-cognitive test to determine if it can provide reliable information on candidates' interpersonal skills and could be used to make more precise hiring decisions. About 73 local census offices will administer the test to a sample of their nonresponse follow-up enumerators at the beginning of their training.

In terms of operations, three experiments involve a mailout of about 135,000 questionnaires. These were delivered to the sample households around the same time as the "regular" census questionnaires were delivered to most households. About two-thirds of the experimental questionnaires were short forms, and about one-third were long forms. While the experimental questionnaires look generally similar to ordinary census questionnaires, they contain design and content variations. A separate, toll-free telephone number is available to participants in these experiments to answer their questions. Completed questionnaires are being checked in at the National Processing Center in Jeffersonville, IN, and keying will begin next month.

Ms. Hill (U.S. Census Bureau) described the design of each experiment, including the number of treatments and panels, sample sizes and locations, the proportions of long- and short-form questionnaires, and the variables under investigation.

Dr. Bell (American Statistical Association [ASA]) pointed out that neither the background paper nor the presentation provided enough detail to allow for more than general comments. He thought the experiment involving different versions of the race and Hispanic-origin questions and of the instructions to respondents was very important. Census 2000 allows people to claim affiliation with two or more races. The experiment will provide much needed data on the racial and ethnic composition of the population under the previous version of the race question, which required that respondents select a single race among those offered or write in a racial designation.

Concerning the experiment involving a request for respondents' Social Security Numbers, he suggested that one important group, the U.S. Congress, would almost certainly oppose this in 2010 and that there would probably be substantial resistance among certain population groups.

He questioned whether what could be learned from the experiment with differing modes of response in 2000 would be particularly relevant in planning the 2010 census. Similarly, he thought that a small study of the impact of incentives embedded in Census 2000 was unlikely to reveal very much about the potential effectiveness of using incentives in the 2010 census.

He suggested that the U.S. Census Bureau consider releasing the data used in evaluations to the public, after removing personal and some geographic identifiers. Noting that the agency commissions outside experts to review experimental and methodological data sets, he pointed out that making these data public might produce some free work that the agency could use and enable outside analysts to apply their differing perspectives to data the agency wants examined.

He expressed concern about the experiment that intended to code people that appear in administrative records to the block they live in rather than the specific address. He felt these records would not necessarily provide information on household composition, would not be able to resolve problems associated with the different households occupying the same housing unit over time, and should be supplemented, at least in part, by personal interviews.

Dr. Peterson (American Marketing Association [AMA]) also remarked upon the lack of detail concerning the experiments described at the beginning of the session. He added that the employee reliability study probably used a scale or scales that were empirically, rather than theoretically, based. This approach can put people in categories but does not reveal much about why they belong in those categories.

He thought it was possible for the agency to use incentives and pointed out that he had worked with a firm that sent out \$300,000 in \$1 bills as incentives. It turned out that dollar bills were very powerful incentives. He suggested that some incentives were much more effective with particular population groups than others and ran through several different types of incentives, including monetary and non-monetary, precompletion and post-completion, and providing participants with a choice of incentives.

He noted that the plan included a large number of studies and suggested that by combining some of them, the agency could look at interactions among different independent variables and incentives.

Dr. Klerman (Population Association of America [PAA]) said that in all probability, both the experimental designs and their budgets have been established, and there is little likelihood of significant modifications. Turning to the concept of an administrative-records census, he recalled that at one of the first census advisory committee meetings he had attended, he heard Mr. Waksberg (U.S. Census Bureau, retired) remark that at an advisory committee meeting held in the 1950s, someone had stated that the 1960 census would be an administrative-records census. In fact, this concept has been a remarkably elusive, though tenacious, goal. He felt that it was clear that careful consideration should be given to the possibility of conducting an administrative-records census in 2010. However, he repeated his contention that the privacy and confidentiality concerns raised in connection with the Census 2000 long-form questionnaire are likely to be even more serious in 2010. The American public seems to be very concerned about the possibility of the Federal Government constructing a population register. He suggested that this would be the interpretation given to any attempt to conduct an administrative-records census. He agreed with Dr. Bell (ASA) that it was highly unlikely that the U.S. Census Bureau would be allowed to include a request for respondents to provide their Social Security Numbers on either the long- or the short-form questionnaires in the foreseeable future. This limitation would greatly inhibit, if not prohibit, the agency's ability to use administrative records to complement more conventional data collection. He advised that the agency proceed with caution on this issue. In addition, he pointed out that if serious consideration is being given to including a significant administrative-records component in the 2010 census, it is already getting late in the planning cycle. He suggested that upcoming meetings ought to contain presentations on the options for administrative-records censuses.

Dr. Etzel (American Marketing Association [AMA]) was struck by the almost unlimited number of research projects that could be incorporated into the census. As he was completing the Census 2000 (sample) long-form questionnaire he received, he reflected that many of the employment-related questions were not going to elicit the kinds of statistical information needed over the next decade. Using himself as an example, he said that as an academic, he was only under contract to his employer for 9 months per year, and his income did not reflect his primary work experience. He noted that he worked at home some days, and on others he did not travel to work during the rush hour. Since an increasing number of workers were employed in non-traditional jobs, this is one of the topics that the 2010 research program should be addressing. He pointed out that the potential value of research projects could be evaluated quantitatively, for example, by the expected value of additional information on a particular topic. He wondered what would be gained by studying response via the Internet 8 or 10 years in advance of the next census. He suggested that one way to evaluate research

projects to be funded would be to ask decision makers if the results of the research at issue would be likely to change their decisions. He stated that the agency may well have incorporated this type of evaluation into its process for selecting research projects to fund but felt that it was an important issue to raise.

Ms. Bolton said that the experiment involving the collection of Social Security Numbers was not tremendously popular but that it was important to conduct it during an ongoing census. The agency experimented with this in 1992 and needed to know how public response had changed over the intervening 8 years. The results of the current experiment should provide results that will indicate whether this avenue of research should be pursued in the future.

On the issue of making census research files available for limited public use, Ms. Hill pointed out that the U.S. Census Bureau has been discussing this with consultants and contractors. Some files have been made available to researchers working with or for the agency precisely to gain different perspectives on data analysis. Westat and Gallup have provided useful analytical perspectives on census research data files. She added that with regard to experimenting with incentives, the agency plans to conduct further research using different types and levels of incentives, possibly varying them by population group.

Ms. Bolton noted that one of the ideas behind the Internet experiment was to combine the Internet option with the use of incentives to compare rates of response between those that received the incentive and those that did not. The Internet offers the intriguing possibility of greatly reducing data-collection costs.

In response to comments that the Committee did not have enough detailed information to evaluate thoroughly the experimental program, she pointed out that each experiment was described in detail in a Program Master Plan and that Committee members should request copies of some or all of these plans through their Committee liaison.

Mr. Adams (AMA) expressed concern about what some respondents may have perceived as a mixed message from the census. While the outreach and advertising campaigns tended to focus on the potential benefits of participating in the census, the envelope that arrived on the doorstep stressed mandatory compliance. Another part of the mixed message concerned the fact that the Federal Government admitted that failure to comply would be unlikely to have legal consequences. Since the cost of following up households that do not respond voluntarily averages about \$50 or \$55, perhaps the agency should seriously consider the use of cash incentives in the future.

He mentioned that Dr. Prewitt (U.S. Census Bureau) had said that the mandatory compliance statement on the census envelope was tested in 1991 and 1992. However, times do change. What was true early in the 1990s may well not be true by Census Day in 2000.

Dr. Binder (ASA) noted that even when experiments are embedded in an actual census, the context is not the same because there is not the same kind of public campaign around the experimental version as there is around the actual census. While an experiment can mimic the census, it is still not the same as an actual census.

Concerning the types of analysis planned for experimental data, he wondered why different approaches (regression, logistic regression, and so on) were planned for different experiments. He

also felt that complex survey designs had trouble generating good estimators for differences in treatments.

Dr. Pechmann (AMA) pointed out that experiments that ask for confidential information often get better results if respondents are told why they should provide this information. For example, respondents might be told that providing their Social Security Numbers would result in their not having to fill out the sample (long-form) questionnaire, thus saving them time and trouble. Ms. Bolton agreed but noted that the design for the 2010 census has not yet been determined. One option would be to ask for the Social Security Number but give respondents a choice of providing it or not.

The Changing Supply Chain—A Research Update (AEA)

Mr. Mesenbourg (U.S. Census Bureau) introduced Mr. Fein of Pembroke Consulting, Inc. Dr. Fein said his company focuses on wholesale distribution and business-to-business channels. The U.S. Census Bureau has contracted with Pembroke Consulting, Inc., to study the supply chain and the North American Industry Classification System's (NAICS) effect on assessing changes within the supply chain.

Dr. Fein summarized his research findings, found in "The Changing Supply Chain: A Research Update," as follows:

- ! Traditional supply chain participants are performing fewer and/or different supply chain-related activities.
- ! The current NAICS structure does not reflect emerging realities and faces increasing irrelevancy as current trends continue.

Following a review of his paper, Mr. Fein said his next task will be to—

- ! Draft the paper with his findings (which is currently in progress).
- ! Refine supply chain recommendations for the 2002 Economic Census questionnaires.
- ! Develop a plan for collecting and analyzing data on the production characteristics of companies in the supply chain.

In response to a question by Dr. Betancourt, Dr. Fein said he does not want to redefine the entire structure of NAICS. Instead, he is studying activities as they affect the supply chain. He said there are establishments in the retail industries sector that include operations associated with transportation, warehousing, or wholesale trade.

The desirable outcome of his research will be to find a method of capturing an establishment's true scope of activity. Dr. Fein said he would like to know the degree of vertical integration within the supply chain, across different industries. As an example, Dr. Fein said the wholesale trade census will provide data for categories such as "wholesalers, manufacturers, sales branches, and agents and brokers." But, if a researcher is looking for retailers who have "backward integrated," or manufacturers who have "forward integrated" beyond what falls into the "manufacturers, sales branches, and agents and brokers" category, these data are not available. Supply-chain data would provide some of these missing data.

Dr. Fein said a large retailer may not locate all its activities at one establishment. Instead, it may have separate establishments providing wholesale and retail services. These establishments should be classified according to their function. Whether they are involved in wholesale or retail activities, the core production function may be the same. Looking towards NAICS 2007, these establishments possibly should be in the same NAICS sector.

Mr. Mesenbourg said that the establishment would be classified according to its primary activity. If there were multiple establishments, those establishments with a distribution function should be classified in the wholesale trade sector; retail establishments should be classified in the retail trade sector; etc. He added that Dr. Fein was asked to research the supply chain broadly. The U.S. Census Bureau understands there is a lot of activity in the supply chain that is not being adequately assessed.

He said the 2002 NAICS content has been fixed; however, inquiries can be added to the census questionnaires that would better illuminate the effect of e-business processes on the entire supply chain and possibly permit different aggregations and data presentations. The movement of tangible goods is the focus of Dr. Fein's research.

Dr. Fein said NAICS doesn't provide detail on a production function; however, activities can be studied that correlates some underlying production functions. He said he did not know what the correct level of aggregation should be and asked the AEA subgroup members for their recommendations.

Dr. Pakes said he would prefer more detailed information—data on how much freight is transported, how this has changed over time, and how e-business has affected these changes. The answers to these questions will impact future policy decisions. For example, spending for airport improvements will depend upon these data. He said he was unsure if a questionnaire was the correct tool to collect data on these changes, but finding out why changes have occurred in transport would be useful.

Dr. Fein said he has researched data from external surveys that have measured changes, including changes in warehouse use. The result was that manufacturers tended to no longer own their own warehouses and the number of independent wholesalers had grown. He noted that independent, value-added warehouseers showed the greatest increase in square footage according to the survey data he had studied.

Dr. Pakes said that if data on changes in the supply chain were collected over a long period of time, researchers could study the development and changes within industries. His emphasis would focus less upon production functions and more upon changes as a result of e-business, distribution, etc.

Mr. Mesenbourg said additional questions could be added to the 2002 Economic Census, and a survey of the supply chain could be conducted if funding was available. Next year, a supply-chain survey would permit inquiries that would address changes as a result of e-business.

Dr. Fein said that the census questionnaires and their attached instructions are lengthy documents. These questionnaires are typically being completed by a chief financial officer within the company. This person may not have the in-depth knowledge of the issues about which the AEA subgroup members are most interested. The challenges will be to determine—(1) how to gather this data and (2) how to identify the key person within an organization who would know the answers to these inquiries. Getting the right person within a company to complete the questionnaire will be a fundamental issue.

Dr. Pakes said that if questions were asked in the economic census or a proposed survey, the questionnaires should be customized for each industry. Factors causing change for one industry may be different than those of another. Dr. Fein said the questionnaire would be customized.

In response to a question by Dr. Swan, Mr. Mesenbourg said response to the 1997 Economic Census was lower than in 1992. To address this problem, the U.S. Census Bureau has created a customer relationship management group for the largest companies. This group works "one-on-one" with a key contact within each company. The large companies are key to the accuracy of the economic data. Currently, the agency is working with 10 of the largest companies.

Mr. Mesenbourg also said the U.S. Census Bureau plans to expand the use of electronic reporting to ease response burden. He noted that one of the major problems the agency has encountered has been that companies are asked to report on an establishment basis; however, this does not always coincide with the companies' record keeping practices.

Dr. Betancourt said some activities, like warehousing, may be shared between a company and its establishments; however, other activities, like sales, may be conducted in a number of establishments. Therefore, the relationship between activity and the functions of the establishment and company should be studied.

Dr. Browne asked if data would be lost if Dr. Fein's recommendations for classification were adopted. Dr. Fein said data would not be lost. The older classification system would remain intact, but additional, more detailed data would be available. He said he considered this addition to be a new dimension of data research and presentation that has formerly not been possible. Mr. Mesenbourg noted that there would be no loss of data from the 2002 Economic Census. The U.S. Census Bureau could use these data to create a different aggregation of the supply points.

Dr. Swan asked if the Chief Information Officer (CIO) or Chief Executive Officer (CEO) would be the key contact within a company to provide supply chain data. Dr. Fein said that although a CIO or CEO may be able to answer some inquiries, the vice-president of marketing or sales may be a more logical source for more detailed inquiries about changes to the supply chain.

Retail E-Commerce Sales Estimates Methods and Results (AEA, ASA)

Ms. Detlefsen (U.S. Census Bureau) said the U.S. Census Bureau wants to develop a broad array of e-business measurements to shed light on its effects on economic growth, productivity, and the like. The agency has defined e-business broadly, as any business conducted over a computer-mediated network—i.e., electronically linked devices that communicate interactively over networks. To give a broad picture of e-business, the agency plans to measure e-commerce transactions, understand and measure effects of e-business processes, and measure e-business infrastructure. This presentation will address all three of these, but will emphasize measuring e-commerce transactions.

As a first step toward meeting the e-commerce transaction goal, the U.S. Census Bureau recently released the first official measure of retail e-commerce sales estimates for the fourth quarter of 1999—\$5.3 billion, about 0.6 percent of total retail sales. For data-collection purposes, e-commerce sales are defined as sales of goods and services made over the Internet, an extranet, electronic data interchange (EDI), or other online system where payment may or may not be made online. The estimates recently released are for businesses classified as retail under the current Standard Industrial Classification (SIC) code, and includes such industries as general merchandise, food stores, apparel

stores, mail order retailers, and the like. It does not include travel services, financial brokerages, or information services, since these are not classified as retail.

Retail e-commerce sales were collected as part of the existing monthly retail trade survey. This survey measures monthly sales data for all retail businesses whether or not they are engaged in e-commerce. E-commerce questions were added to the monthly report forms sent to all monthly survey units pre-identified as e-commerce retailers for the holiday period. In addition to their total monthly sales, e-commerce retailers were asked for their e-commerce sales for each month of the quarter.

The sample used for the monthly retail sales survey, and thus for the e-commerce data collection, was initially selected after the completion of the 1992 Economic Census. Since selection, the agency has done several things to ensure that the sample represents the retail universe as accurately as possible. These include selecting a sample of new business "births," which are added quarterly. These businesses are added to the sample about 9 months, on average, after they began operation, using an interim imputation method to compensate for the new births during the time lag between their beginning operations and their inclusion in the monthly data collection. The agency benchmarks monthly survey estimates to prior annual survey estimates to account for nonemployer businesses and for any shortfall for employer businesses.

Before collecting e-commerce data in the monthly survey, the agency used a "screener" mailing to ask businesses whether they engaged in e-commerce sales, or planned to do so before the end of 1999. For those survey units that did not answer the screener, or that answered in the affirmative, an e-commerce question was added to their monthly questionnaire. In addition to providing their total sales, these businesses were asked to break out their e-commerce sales for each month of the quarter.

For survey units indicating no plans to make e-commerce sales before the end of 1999, e-commerce sales were set at "0" for each month of the quarter and they were considered to be "reporters." If a survey unit indicated that all its retail sales were made online, the agency set e-commerce sales equal to the total sales. E-commerce sales were considered reported if the total sales were reported.

The agency imputed response for survey units that were nonrespondent to the e-commerce question. For the October data month, imputation of e-commerce sales was based on the ratio of weighted units that reported both. The ratio included cases similar in industry and size to nonresponding units.

After the October data month, the agency imputed e-commerce sales based on the ratio of weighted current and prior month e-commerce sales for units that reported both. The ratio included cases similar in industry and size to nonresponding units.

Estimates were obtained by first aggregating weighted data for each month of the quarter. The aggregated estimates were then benchmarked to the prior annual survey estimates. Estimates for the quarter were obtained by summing the monthly benchmarked estimates.

The U.S. Census Bureau plans to continue releasing quarterly e-commerce retail sales estimates, but other important trade areas are not covered by this effort. To help fill this gap, the agency plans to collect data on e-commerce activities in its 1999 annual surveys for other trade areas. The type and detail of information collected for each trade area will vary; where appropriate, sales and shipments will be collected, and there will be, at least, an indication of whether purchases are made online. In some cases, some commodity and product detail may be requested as well.

Ms. Detlefsen said the agency recently has turned its attention to understanding e-business processes. The key points to determine are how the advent of the Internet and other online systems have changed the way firms do business, and the subsequent impact of that on the economy. E-business processes includes such things as purchasing, order fulfillment, inventory control, and the like. She noted that a draft questionnaire for requesting e-commerce information from businesses in the Annual Survey of Manufactures (ASM) has been distributed to members, and the questionnaire illustrates the kinds of information sought.

The third goal of measuring e-business infrastructure is a long-term objective. In this regard, the U.S. Census Bureau is trying to look at the share of total infrastructure used to conduct e-commerce transactions and support e-business processes—such as expenditures for hardware, applications hardware, support services, telecommunications, etc.

Ms. Detlefsen said it is important to have reliable and consistent official measures of the value of e-commerce transactions across all industries, and to provide measures that paint a broad picture of e-business. The agency believes its first efforts to collect data on e-commerce sales have been reasonable, but is looking for advice from the Committee on other approaches to methodology and on ways to look at e-business processes. Specifically, the U.S. Census Bureau is interested in any thoughts by members on (1) coverage methods and ways to expedite the identification of businesses involved in e-commerce, (2) estimation and imputation procedures, and (3) ways to measure and understand e-commerce business processes.

Dr. Betancourt (American Economic Association [AEA]) commended the U.S. Census Bureau for undertaking the effort to measure e-commerce. He commented that the background paper primarily addresses the first of the agency's three stated goals—measuring e-commerce transactions. The methods used leaves out significant retail activities—i.e., travel services, etc. This suggests that the estimates of e-commerce provided by this mechanism will be well below the actual figure. The question that must be raised is, Why did the agency use the SIC code classifications instead of the North American Industry Classification System (NAICS)? This decision necessarily means that these data must be considered transitional, until the effort moves to the NAICS.

He pointed out that it is now possible to buy an automobile through the Internet. Is this going to be reported and included in the agency's data, and how will the transaction be reported? Does the agency have some mechanism to verify whether this sort of activity is being reported? With regard to nonrespondents, he suggested it seems problematic to use the ratio of the respondents of e-commerce to total sales. If someone responds to the total sales question but leaves the e-commerce question blank, it may well be because the question has no meaning for them, so that method of imputation may not be particularly reliable. It might be a better idea to report these respondents as having no e-commerce sales.

He noted that there was no description of the way the agency adjusted the sample to make it more representative of retail establishments engaged in e-commerce.

With regard to understanding e-business processes, the agency's efforts so far will not provide much information on that. He suggested that what is needed is a special analysis of e-business processes within the retail sector.

Mr. Garrett (American Statistical Association [ASA]) said that his understanding was that e-commerce sales had always been included in the monthly retail data, but now is being broken out separately; the

U.S. Census Bureau is using generally the same processes to produce e-commerce estimates as it does to produce retail sales estimates. He noted that the e-business sales total reported (\$5.3 billion) represents only 0.6 percent of all retail sales for the last quarter of 1999, which seems a very small total given the amount of attention e-commerce has been getting recently. He did not question the total, nor was he particularly exercised by the fact that the total did not include certain industries not generally considered part of the retail trades area—the agency's survey measured what it was designed to measure. With regard to the SIC versus NAICS question, the NAICS was adopted for the 1997 Economic Census, but will not be implemented for the current surveys until later.

Ms. Detlefsen said that the agency has selected the samples for its 1999 annual economic surveys on a NAICS basis, and these surveys will include e-commerce questions. Beginning early in 2001, the monthly surveys will use the NAICS.

Mr. Garrett applauded the U.S. Census Bureau for trying to develop legitimate official estimates of e-commerce activity. Looking at the various estimates of e-commerce, it is difficult to tell precisely what they are measuring; they may be capturing data for sectors other than retail. They may also be reporting gross sales rather than net sales; this has been reported that several "dot-com" companies have been doing so. This does great things for their stock prices, at least until there is a change in accountants. That could be a reason why some of the non-Census Bureau estimates are higher than the agency's. In general, he trusted the agency's estimates and methods.

With regard to "birth and death" processing, he said it is probably true that there is a growing number of "e-tailers" coming into existence every quarter, and there is about a 9-month lag between their actual start-up and their appearance in the estimates. To account for these cases, the agency accounts for these by imputing data for companies that have gone out of business. In stable economic times, this sort of balancing effort works fairly well. However, these are not particularly stable times for e-commerce, and the impact of this methodology at this time is to not balance "births" and "deaths" of businesses. In terms of coverage, the imbalance between births and deaths probably results in the agency not having the coverage it wants.

He commented that the imputation procedures being used by the agency are reasonably good; the imputed value constitutes 20 percent of the estimate of total retail e-commerce sales or about 0.012 percent of all retail sales. He did not believe he would invest a lot of time and resources in trying to determine how better to make up data for that fraction of total retail sales.

Ms. Detlefsen said that, with regard to the lack of coverage of important non-retail sectors of the economy, the survey described is the agency's first effort at trying to measure e-commerce, and a narrow focus was chosen purposefully. There are plans to expand the data-collection effort to include the service oriented businesses mentioned, as well as other businesses across the entire economy. Similarly, the agency decided to go ahead and collect the information on a SIC basis because the survey that was in place still used the SIC, and provided the most expeditious vehicle available for collecting e-commerce data. Data will be collected under the NAICS as soon as possible. She noted that, with respect to the example Dr. Betancourt brought up regarding auto sales, such transactions would be covered under this survey since it is a retail transaction. She added that the understanding by respondents of what is being requested is critical to any successful survey, and the agency has followed up businesses to ensure that they do indeed engage in e-commerce selling according to the U.S. Census Bureau's definition.

In response to a question by Dr. Betancourt, Ms. Detlefsen said that, the e-commerce question asked of auto dealers was the same as for other retailers—i.e., they were asked to report online sales, and the definition given was “sales of goods or services over the Internet, an extranet, electronic data interchange, etc., where payment may or may not be made online.”

She added that, with regard to nonrespondents, the agency actually used two different ratios—the first for those cases where the screening indicated the respondent was engaged, or was planning to engage, in e-commerce sales. In that case, the imputation ratio included only those cases that had said yes and responded with a total. For cases that did not respond to the screening question, the ratio included both those cases that said yes and reported a total, and those that said no so that their e-commerce sales was “0.”

The background paper did not give much information on the plans for measuring e-business processes; the draft questionnaire actually provides the most work that has been done on this effort so far. The questionnaire tries to determine the kinds of processes being used, and one of the agency’s contractors also is investigating these issues.

With regard to the question of the imputation going on to compensate for “births,” the agency is considering ways to speed up the process of identifying new businesses. Currently the agency uses two phases of sampling for birth processing. A new procedure would reduce this to a single phase, which would save some time.

Dr. Stokes (ASA) commented that there have been two papers published recently (one in *Science* and the other in *Nature*) on estimating the size of the Web. Actually, in both cases they are estimating the number of pages on certain topics, using teams of graduate students counting how many pages qualified from each search engine on certain topics. A method like that might help the agency come up with a number of establishments.

In reply to a question by Dr. Binder (ASA), Ms. Detlefsen said the survey identified approximately 2,000 cases (of 13,500 in the sample) that either said “yes” to the screener question or did not answer. Dr. Binder commented that this is a very small sample, and that any breakdown by industry would be even more tenuous. It would be interesting to see the variances. Ms. Detlefsen said the coefficient of variation for the e-commerce total is approximately 3.5 percent. This is relatively small, in part because a good deal of the estimates are coming from the certainty component of the survey.

Dr. Binder suggested that for future presentations to an ASA subgroup, he would like to see more detail. He added that, since the survey is looking at a relatively rare population, it may be worthwhile to use network sampling to identify other businesses engaged in e-business. That would involve asking the businesses already identified as e-business retailers if they know of other companies that are also involved in e-business.

Replying to a question by Mr. Garrett, Ms. Detlefsen said the 13,500 units in the survey sample are all classified as retailers under the SIC code.

Responding to questions by Dr. Stasny (ASA), Mr. Mesenbourg (U.S. Census Bureau) said the draft questionnaire is an early draft, and that question 5A should read, “Does this plant accept orders of its manufactured products over computer-mediated networks?”

Dr. Pakes (AEA) commented that he was struck by the small volume of e-commerce for retail trade, and wondered if some verification of the total could be obtained by using some consumer surveys, such as the Consumer Expenditures Survey (CES), to ask for purchases made online?

Mr. Mesenbourg said the CES would be a good instrument to collect that kind of information, but the survey does not have supplements, so the U.S. Bureau of Labor Statistics (BLS) would have to be convinced to use the survey to collect additional data. The U.S. Census Bureau's own Current Population Survey (CPS) might be used for this purpose as well and has the advantage of employing a number of supplements to the basic data-collection instrument that might be used.

Replying to a question by Dr. Pakes, Mr. Mesenbourg said that the agency is looking at the questions of investment in the computer networks, what public infrastructure investments will have to be made, and so on. The AEA members earlier heard a presentation on the research underway on the supply chain, and the agency also has contracted with IBM for a research project focusing on the investments on the networks. If the FY 2001 budget provides funding, additional research will be done to get a better handle on the e-commerce infrastructure.

In response to further questions by Dr. Pakes, Mr. Mesenbourg said the annual retail survey is the vehicle used to get at the margin—cost of goods sold and total goods sold are requested in that survey. For pure "e-tailers," the catalog stores, computer stores, and office supply stores, are being asked in the 1999 survey to break down their total sales by 11 commodity groups. He pointed out that the draft questionnaire is for an ASM supplement, and is intended to try collect the data needed for some baseline measures of e-business process usage. The agency will be asking for actual purchases and sales done on line.

Ms. Dipppo (BLS) added that, with regard to the CES, it is being redesigned for Computer Assisted Personal Interviewing (CAPI), and this redesign is not scheduled for completion until 2003. She noted that the CES interview already is, on average, 90 minutes long, so there is a great reluctance to add any more questions. She noted that the U.S. Bureau of Labor Statistics is not certain what effect the introduction of CAPI will have on the CES, but there is concern that it will make the interview even longer simply by doing it on computer. At this point, it seems premature to consider using the CES for another major data-collection effort. There has been some consideration to doing something on this question with the Point of Purchase Survey, which is a "random-digit dialing survey" used simply to get the names and addresses of outlets where respondents purchase things. The information from this survey then is used as the sampling frame for the Consumer Price Index. The issue involved in using the Point of Purchase Survey is that her agency does not draw any estimates from this survey.

In reply to a question by Dr. Pakes, Ms. Dipppo said the Point of Purchase Survey is used only for a sampling frame and has no regular production process to provide anyone with probability based estimates. To rework the survey so that it could be used to obtain probability estimates is beyond the current resources of her agency at this time.

Dr. Knickerbocker (U.S. Census Bureau) commented that there has been some discussion of how the U.S. Census Bureau's estimates of e-commerce compare to private sector estimates, and it has been noted that the agency knows very little about the underpinnings of most of these private estimates. One set of these that the agency does know something about is the set produced by Boston Consulting Group and the organization called Shop.org, because they consulted with the agency when they were preparing their data. Their estimated total for retail e-commerce is \$9-to-\$11 billion. If an attempt is made to compare apples-to-apples—i.e., if travel services, financial services,

entertainment, and those businesses for which they have accepted gross instead of net totals are stripped from their estimate, the new total is \$4.7 billion. This suggests that some of the higher estimates that have been reported are rather heavily influenced by totals for travel services, financial services, etc.

Ms. Shea (American Marketing Association [AMA]) commented that there is a resource that captures transactions over the Internet at the Internet-service provider level rather than by Web portal. She suggested that new and better technologies will undoubtedly be appearing, and anyone interested in collecting data on e-commerce will have to stay on top of those developments.

Dr. Peterson (AMA) pointed out that about 15 percent of e-commerce firms have negative margins at this time; they are being funded by equity. Trying to include these firms in the data will cause significant problems in calculating real numbers. A second problem is the question of how to handle sales over the web when someone "offshore" is handling everything. Once there is a sales tax on e-commerce, more and more businesses will move offshore, and the agency will have to try to pick up sales from these companies as well.

Ms. Detlefsen said that the U.S. Census Bureau's activities to this point have concentrated on trying to collect information on domestically-owned firms. Mr. Mesenbourg added that the 1999 ASM includes an item asking e-commerce firms to estimate their volume of sales to customers outside the United States. Firms that do not have a domestic location in the United States are out of scope of the census and the ASM. Dr. Knickerbocker suggested that to obtain information on those companies, a household sample would have to be used.

In reply to a question by Dr. Brown (AEA), Ms. Detlefsen said that a good deal of e-commerce is conducted by purely e-commerce firms, but a substantial portion also is being conducted by traditional mail order companies that have moved into e-commerce. A large portion of the estimate is derived from mail-order businesses.

Census 2000 Products—Some Recent Developments (AMA, PAA)

Ms. Miller (U.S. Census Bureau) said that following Census 2000, the U.S. Census Bureau will produce "traditional" products, including profiles, summary files, the public use microdata sample file, and special tabulations.

Four summary files will be available for both the 100-Percent Summary File and a Sample Summary File, as follows:

- ! The following 100-Percent Summary Files will include—
 - ! Population counts for race and Hispanic categories and for American Indian and Alaska Native tribes and 100-Percent population and housing characteristics.
 - ! The 100-percent population and housing characteristics iterated for many detailed race and Hispanic categories, and for American Indian and Alaska Native tribes and population threshold.
- ! The Sample Summary Files will include—
 - ! Population counts for ancestry groups and sample population and housing characteristics.

- ! Sample population and housing characteristics iterated for the same categories as Summary File 2 and ancestry groups and population threshold.

In addition to these products, several new products will be introduced for Census 2000, including quick tables, geographic comparison tables, and an advanced query function on the agency's Internet site.

The U.S. Census Bureau's plans for printed reports have been revised. Currently, three printed report series will be published—

- ! The 100-percent population and housing characteristics.
- ! Sample population and housing characteristics.
- ! Historical population and housing counts.

Ms. Miller asked the committee's four subgroups to provide their advice on the following:

- ! Should the Census 2000 CD-ROM files package data by geography or racial/ethnic/ancestry group?
- ! What key variables for the city and county short profiles, which will be available on the U.S. Census Bureau's homepage, are necessary?
- ! Is there a need for a 1-percent national file with minimum geographic identifiers (regions, divisions, metro/non-metro), but with more detail than found on the county or metropolitan files?

In response to a question by Dr. Pechmann (American Marketing Association [AMA]), Ms. Miller said Summary File 1 would include block-level data and some census tract data. The majority of the data would be available at the block level. Summary File 2 data would be available at the census tract level.

Dr. Meyers (Population Association of America [PAA]), asked if the products from the current data-release plans were similar to earlier censuses' Summary Tape Files (STF). Ms. Miller said there are similarities; however, Census 2000 products will include thresholds that were not available on STF 2 and 4. Summary File 2 also will include detailed characteristics of groups in Summary Files 1 and 3.

In response to a question by Dr. Pechmann, Ms. Miller said data for income and sex, by county, would be available on Summary File 3 and in some of the agency's tables. Although the agency's income or age ranges may not match Dr. Pechmann's requirements, similar data would be available.

In response to a question by Dr. Pechmann, Ms. Miller said that Census 2000 data could be downloaded from the American FactFinder and used in other programs.

In response to a question by Dr. Pechmann, Ms. Miller said the Public Use Microdata (PUMs) data will be stripped of any identifying information to protect confidentiality. Some of these data are recoded and then made available to researchers for independent analysis.

Ms. Miller asked the subgroups if the imputation flags should be removed from the microdata records as an additional safeguard to protect confidentiality. If the flags are removed, researchers will not know if the data are real or imputed.

In response to a question by Dr. Waters (PAA), Ms. Miller said imputation is used when the data are missing. If the imputation flags are removed, researchers using a second data file to match records will not be able to determine which data are imputed.

Dr. Klerman (PAA) said that if the imputation flags are removed, individuals with very unique characteristics would have plausible deniability if a researcher tried to identify the individual using PUMs. Researchers will not know what data are imputed and what data are from a real response to the data collection.

Dr. Meyers said the imputation flags may be more important following Census 2000 because of the low response to the long-form questionnaire. Users will want to know which data have been imputed.

Dr. Lichter (PAA) said that unless there has been opposition to the imputation flags, they should be kept. Without these flags, the U.S. Census Bureau would be prohibiting research of new techniques for missing data imputation. Dr. Klerman agreed that removing the imputation flags would not provide any substantial benefits; however, removing them could have negative consequences.

Regarding the proposed Census 2000 product plans, Dr. Lichter said the agency seems to be more concerned about the mix of products than content. He said he and his colleagues are more concerned with the content. He made the following recommendations:

- ! The only geographic unit that does not change over time is the county. He would like more attention given to both backward- and forward-looking subcounty disaggregations. Subcounty boundaries are constantly changing, so the data should be shown reflecting previous subcounty boundaries (backward-looking). The boundaries should also be updated in 2004 and 2006 (forward-looking).
- ! He would like much more geographic context in PUMs allowing research into regions, like Appalachia and the Mississippi Delta.
- ! He urged the U.S. Census Bureau to include longitude and latitude data for households. At the very least, these data could be used for archival purposes.
- ! He recommended additional data be made available for unmarried, cohabitating couples and nonmarital fertility. These data provide important economic characteristics that are quite different for other demographic groups.
- ! Detailed data should be available that shows living arrangements of children and their relationships to other residents of the household.

Dr. Lichter said he would like to learn more about how the U.S. Census Bureau will be working with commercial vendors and operators of secure sites where researchers can study confidential files.

Ms. Miller said that there would be some geographic equivalency files available using 1990 data. This would permit a "backward look" at geographic data. She added that the U.S. Census Bureau has

discussed providing updated data for ZIP-Code tabulation areas. She also added that data would be available for unmarried cohabitating couples.

Mr. Redmond (AMA) said the current Census 2000 product mix is much improved over past plans. He asked the following questions:

- ! Given the unanticipated interest in printed data products, are there plans to increase the dissemination of data using printed publications?
- ! Will quick reports and short profiles be available in printed format?
- ! Assuming U.S. Census Bureau policy will permit it, are more products planned that will enable self-definition of geography?

Mr. Redmond suggested that research be conducted to determine the optimal array of product offerings. He said that there are techniques available that would allow for more scientific decision making when determining the product mix. This may result in greater consumer appeal and increased revenues.

Ms. Jocz (AMA) made the following comments about the Census 2000 products plan:

- ! A glossary of geographic terms should be available.
- ! Short profiles on the U.S. Census Bureau's Internet home page was a good idea. She suggested that historical comparisons for 1990 and 1980 census data would be useful with the short profiles. This may simply require a map to provide a visual comparison for data users.
- ! Data be presented using "double click" technology, which allows data to users start with tables based on summary categories. Data users could "double click" a category to view more detailed data.
- ! Data users should be given previews of tables before downloading the entire table. This would save time if the preview shows that the table does not provide the data for which the user is looking.
- ! Permit data users to sort the data or choose categories, like "the top 10" metropolitan areas.
- ! Given the constant changes in technology, the agency should try to revise products so as to include features that will improve data accessibility.

Mr. Adams (AMA) said the U.S. Census Bureau has done a tremendous job focusing almost all the public access and analysis through the American FactFinder. It gives the agency a significant amount of leverage when marketing its products. Therefore, there should be a marketing plan in place that specifically addresses the American FactFinder. This marketing plan should identify the American FactFinder's target audiences and primary benefits.

Mr. Adams said the U.S. Census Bureau should discuss how Census 2000 data can be utilized in the business world. Ms. Gutierrez (U.S. Census Bureau) said the agency will be studying how its services should be marketed to a wide variety of data users.

Mr. Adams recommended that the U.S. Census Bureau test any plans that the agency is in doubt about.

In response to a question by Dr. Jacobsen, Ms. Miller said the matrices for Summary Files 1 and 2 will be made available to the subgroups.

Ms. Miller said the quick reports and profiles have been designed so they fit on a single page. These reports and profiles are designed to replace the 450,000 printed pages containing the same information following the 1990 census. Some of the state data centers have indicated that they may print and bind these reports and profiles for the data users they serve.

Dr. Klerman agreed that the U.S. Census Bureau's dissemination plan has made significant progress. He said he did not believe that Dr. Lichter's suggestion of making boundaries consistent over time would be possible. When there are changes across boundaries that include small slices, these slices tend to run under the minimum population sets. In general, this will prevent the release of data from the same census for different geographies. If a city annexes two blocks, this annexation may involve 50 people. Traction across the two geographies would identify the characteristics of the 50 people.

He added that the U.S. Census Bureau must make data more accessible at secure facilities. As a result, a national file should not use the 1-percent PUMs, since researchers who are likely to have "national" questions also will likely have access to the secure facilities.

Dr. Klerman reiterated that the product mix is not as important as simply making the data available. Marketers will be providing the data in a variety of mixes. The U.S. Census Bureau should focus its energy on services that only it can provide.

Dr. Meyers asked why there was a 6-percent threshold for the PUMs. In 1990, there was an 11-percent threshold. Ms. Miller said the 6-percent threshold was recommended by the U.S. Census Bureau's disclosure review board. Dr. Meyers said the 6-percent restriction would negatively affect research. For example, creation of the senior citizens' file following Census 2000 will be impossible with the 6-percent threshold.

Dr. Meyers said he agreed with Dr. Lichter's suggestion for geographic comparability and understood Dr. Klerman's confidentiality concerns. However, he identified one of the U.S. Census Bureau's greatest deficiencies as not assisting data users make comparisons over time.

In regard to Dr. Klerman's argument against providing geographic comparability, Dr. Meyer said Dr. Klerman was assuming an intent to find an individual's characteristics. He urged the U.S. Census Bureau to weigh the reality of this argument with the value of the data that would be made available to researchers.

Dr. Waters said the imputation flags were very important and should not be removed. She said the national-level PUMs are used by a number of researchers.

In response to a question by Dr. Klerman, Ms. Miller said she would provide the subgroup with the number of CD-ROMs required for the Census 2000 data.

Dr. Jacobsen said providing only one ethnic or racial group on a CD-ROM was not convenient for many researchers, since a number of data users would want to compare data from more than one group.

Ms. Miller clarified that the race groups approved by the Office of Management and Budget will be shown on Summary Files 1 and 3.

In response to a question by Dr. Pechmann, Ms. Miller said confidence intervals would be available in the metadata. There are no plans to include the confidence intervals with each matrix. This would require tremendous computational resources. Although confidence intervals may be useful to researchers, they may be discouraging to the general public. There will be a source and accuracy statement associated with each product.

Drs. Jacobsen and Klerman said confidence intervals are vital data for each matrix and should be available to researchers.

Develop Recommendations and Special Interest Activities (AEA)

Dr. Betancourt offered a recommendation supporting the agency's attempts to measure e-commerce in the retail sector and suggesting consideration of methodologies to be used for that purpose. In reply to a question by Dr. Slesnick, Dr. Betancourt said that asking respondents how they identify their e-commerce sales would be useful.

Dr. Slesnick contended that the current effort to compare the agency's numbers to those of other forecasters is simply inadequate. Some other method of checking the figures has to be developed. Mr. Mesenbourg (U.S. Census Bureau) pointed out that one of the things the agency has done to provide some comparisons for its e-commerce data (for the largest e-tailers) has been to search the business press for their monthly sales estimates releases to try to validate what they reported to the agency with what they publicly claimed. This is one of the reasons the agency went to quarterly rather than monthly estimates; if there were nonrespondents there was some publicly available data that could be used.

Dr. Pakes said he wanted to encourage the U.S. Bureau of Labor Statistics (BLS) to consider using the Current Expenditures Survey for collecting the information needed to corroborate the U.S. Census Bureau's data. After all, the BLS should be interested in these data because they will have an impact on the consumer price index.

In response to a question by Dr. Browne, Mr. Mesenbourg said an "extranet" uses Internet technology with passwords and is generally used in partnership between a customer and a supplier; e.g., office supplies might be bought using a password on a company's extranet for a reduced price compared to using the "brick and mortar" stores. The electronic data interchange technology is still important, so that has to be considered in any system for collecting data on e-commerce.

In reply to a question by Dr. Swan, Mr. Mesenbourg said that, up to a year ago, the agency did not assume that manufacturers sold directly to consumers. Since then, companies such as Gateway and Dell have started to do that, and the agency has had to ask for information on direct sales by manufacturing companies to individual customers.

In discussion of a proposed recommendation addressing research on the changing supply chain, Mr. Mesenbourg said the agency hopes to have advice on whether it should do more research. He noted that the agency has little experience in measuring business processes and believes it will have to do more in that arena. Dr. Betancourt said the language of the recommendation supports measuring activities/functions at a disaggregated level, and he supports doing similar studies in other areas.

Dr. Pakes commented that the way the agency gets the functional divisions will be different from industry to industry.

Mr. Mesenbourg said that the agency will be adding questions to questionnaires that target specific industries. The authors of the background paper on the changing supply chain tried to identify the functions across the supply chain seen in different industries or groups of industries and how that information might be used to aggregate the data differently and extract some of the logistics firms now in the services areas to create a more accurate picture of the supply chain.

There was an extended discussion of the Internal Revenue Service's (IRS's) increased oversight of the use of tax records provided to the U.S. Census Bureau. The members considered several examples of important past research projects that would have been compromised had restrictions proposed by the IRS been in place, as well as critical proposed research projects that would be adversely affected if restrictions were imposed. Dr. Browne suggested that the members also ask the chairman of the AEA to express the association's concern about this situation to the Secretary of the Treasury.

Responding to a question by Dr. Pakes, Dr. Knickerbocker (U.S. Census Bureau) said there was a proposal to extend the Current Industrial Reports (CIRs) program across the entire manufactures sector. The CIR program collects information from firms and divisions comparatively high in the hierarchy of firms, rather than from establishments. This proposed change has been seen by some to be a threat to general establishment-level data, as well as to capital expenditures data for establishments.

In reply to a question by Mr. Mesenbourg, Dr. Wilson (U.S. Census Bureau) said the 1998 Annual Capital Expenditures Survey (ACES) will have considerably expanded expenditures data. Dr. Knickerbocker pointed out that the 1998 survey will be the first time the agency has combined the equipment expenditures and structural expenditures detail in the same survey. Dr. Wilson added that the 1999 ACES will convert from the Standard Industrial Classification (SIC) Code to the North American Industry Classification System (NAICS), and coverage will expand from 98 SIC to 132 NAICS industries. The ACES collects data at the firm level. Mr. Mesenbourg noted that, as the agency begins to look at collecting infrastructure data for e-commerce, the ACES will be one of the first sources of that kind of information, so members may want to take a look at the operation. Dr. Knickerbocker suggested that the agency e-mail the ACES file in portable document format (PDF) to members when it is released, so they can see exactly what is being done with the survey and the kind of data that it produces.

In response to a question by Dr. Pakes, Mr. Mesenbourg said that it is not clear that the Current Population Survey (CPS) is the best instrument to use to get at the e-commerce retail sales. The Economic Directorate has a group working with the U.S. Census Bureau's Demographic Surveys Division to evaluate using the CPS for this purpose, and it may be useful to have a report to the AEA subgroup on the progress of that project.

Replying to a further question by Dr. Pakes, Dr. Knickerbocker said that the IRS the U.S. Census Bureau to shut down three activities, including a comparison of the agency's Standard Statistical Establishment List (SSEL) to the BLS's Business Establishment List (BEL). The SSEL costs about \$7 million a year to maintain, and involves a mailing to about 60,000 firms every year in the Company Organization Survey. The BLS has similar surveys related to the BEL, so there is a significant demand for information being made on American industry. With the possibility of data sharing under consideration, it is important to compare the two business registers to see to what extent they are

redundant, what are their respective strengths and weaknesses, and even whether they could be reduced to a single register. Consequently, the two bureaus undertook a study of these questions and are about 6 months into the activity and are just getting some of the results. At this point, the IRS asserted that the study involved data sharing between the two agencies, which had no legal justification, and brought the study and the reporting to a halt.

Dr. Pakes suggested the AEA subgroup add a statement to its recommendation in support of the joint business register comparison and evaluation project.

In response to a question by Dr. Betancourt, Dr. Knickerbocker said the SSEL/BEL comparison project is not essential to making the employer/employee link. The latter is a different issue, in which the U.S. Census Bureau is trying to get access to the IRS's file of W2 records. The W2 records have 13 fields, including nonwage income, 401K contributions, tips and wages, and so on, so that if one is really trying to understand how people manage their wealth, the totality of the W2 data are needed.

There was a discussion of the proposed recommendation on changes in the supply chain. Replying to a question by Dr. Browne, Dr. Knickerbocker said there were a good many studies of the evolution of firms until about 5 years ago. Dr. Pakes suggested that most of those studies "flopped" because, aside from productivity measures, it was unclear what should be used for the studies; prices were of obvious interest, along with strategic investment, but a very clearly defined industry would be necessary for any such study.

Turning to possible subjects for future presentations to the subgroup, Dr. Gort commented that, at a previous meeting, the subgroup had discussed the importance of the preservation of historic data. He suggested that a session of a future meeting ought to be devoted exclusively to the preservation of historical data, especially as some of these data are rapidly disappearing.

Dr. Knickerbocker noted that, by October, the reports for the 1997 Surveys of Minority-Owned and Women-Owned Business Enterprises would be available. He wondered if the members might want to invest an hour in a presentation on these programs. Dr. Browne pointed out that wealth creation in minority communities is an important emerging issue, and it would be worthwhile to have a presentation on these surveys. Mr. Mesenbourg noted that a pending question for the next economic census cycle is the implementation of the multiracial category established by the Office of Management and Budget. Dr. Knickerbocker pointed out that for the next census, the agency will have to determine how to handle 63 possible combinations of racial categories.

Dr. Slesnick said his own particular area of interest is the social-labor issues, and the AEA subgroup has not talked much about them at this meeting. Dr. Knickerbocker noted that, while the agency likes to have all the members of the AEA attend the AEA subgroup sessions, if there is a session, or sessions, involving another of the subgroups, that is of particular interest, members can attend those sessions as well. Any member of any of the subgroups of the Committee may attend any component of the agenda.

Dr. Pakes commented that the AEA subgroup has not had a chance to discuss and review the agency's Governments Division and its activities. Mr. Mesenbourg said the U.S. Census Bureau and the U.S. Bureau of Economic Analysis are taking a fresh look at the whole governments program—both the annual programs and the census. In the next few months, the agency will be identifying priorities, and the agency should be able to report on that work. He pointed out that the census of governments is unique in that the data are all in the public domain, so there are no confidentiality concerns. The

governments surveys and census are very similar in the content collected, differing primarily in scale. The programs turn out an enormous amount of data on tax receipts, employment, expenditures, etc.

Replying to a question by Dr. Browne, Dr. Knickerbocker said the U.S. Census Bureau collects the census of governments from 91,000 government entities around the Nation, from the Federal Government (he noted that one of the most popular publications on Capitol Hill is the *Combined Federal Funds Report*, which provides data on Federal expenditures in each state) to sewer districts, school districts, and various special government districts.

Dr. Betancourt was nominated and unanimously elected co-chairperson of the subgroup for 2000.

(See Appendix A for the AEA subgroup's official recommendations and the U.S. Census Bureau's official responses.)

Develop Recommendations and Special Interest Activities (AMA)

(See Appendix A for the AMA subgroup's official recommendations and the U.S. Census Bureau's official responses.)

Develop Recommendations and Special Interest Activities (ASA)

Mr. Garrett read Dr. Binder's recommendation stressing the importance of supplementing and extending census-oriented ethnographic research at the U.S. Census Bureau to include more representative population groups and probability based sampling techniques. Mr. Garrett added that sample size for this research was much too small to justify making significant changes in questionnaire design or content or in census procedures. Dr. Stokes pointed out that most ethnographic projects are proposed by nonstatisticians and that statisticians tend to have a quantitative bias. Given the small sample size for this research, Dr. Stokes thought the agency should be very careful about generalizing its results to the general population. Dr. Binder added these modifications to his recommendation, and the revised version was adopted.

Dr. Bell pointed out that it was important to test some projects in an actual census environment. In addition, this type of testing is essential for benchmarking major survey changes. However, valid experiments can not be designed for some interventions because full-scale implementation would change the census environment (e.g., providing incentives for responding and requesting Social Security numbers). He added that the agency should look for opportunities to create a public-use data file from the experimentation and evaluation program after applying the appropriate disclosure-avoidance techniques to protect respondent confidentiality. Following a brief discussion, the subgroup adopted this recommendation.

Mr. Garrett suggested that some of the findings from the Census 2000 testing and research program may not be applicable to the 2010 census because of changes in the general environment in which that census will take place. Dr. Clark (U.S. Census Bureau) stated that the agency plans to conduct the 2010 dress rehearsal in 2007 (rather than in 2008) and expects to conduct a major test in 2005. The dress rehearsal for Census 2000 took place in 1998. The agency determined that it did not have enough time following the dress rehearsal to evaluate the findings and to develop and test appropriate modifications to the Census 2000 plan before beginning Census 2000 operations. Dr. Bell thought that moving the dress rehearsal up 1 year was an excellent idea. Dr. Binder added that some of the Census 2000 research may not apply in the census environment of the 2010 census because of the

dynamic nature of some population groups. Instead of developing a recommendation on this topic, the subgroup decided to fashion a “general comment” dealing with the schedule of 2010 census testing and the applicability of Census 2000 research in the 2010 census environment.

Mr. Garrett recommended that the subgroup encourage the agency to expand its efforts to produce official estimates of e-commerce from retail trade into other areas of the economy, especially into the services sector, and to determine whether the U.S. Census Bureau’s sampling and estimation procedures are as applicable in this emerging economic enterprise as they are in more traditional businesses and industries. After a brief discussion, the subgroup adopted this recommendation.

Dr. Ghosh urged the agency to provide Professional Committee members with more technical details concerning the Census 2000 testing and experimentation program (e.g., the models being tested, measures used for model validation, methods used for estimating model parameters, and so on). Dr. Binder added that the Professional Committee needed more details on the agency’s plans to evaluate the Census 2000 research program. Dr. Stasny and Mr. Garrett suggested that the agency needed to arrive at a balance between providing too little documentation and too much. The subgroup determined that this comment would be labeled a “closing remark.”

(See Appendix A for the ASA subgroup’s official recommendations and the U.S. Census Bureau’s official responses.)

Develop Recommendations and Special Interest Activities (PAA)

Dr. Jacobsen said she was frustrated that the U.S. Census Bureau continues to present the Professional Advisory Committee summaries on what has already been done, affording the Committee little opportunity to provide input. If the Committee cannot offer advice, then the agency is not making good use of the Committee. The Committee’s sessions should be focused on issues that can have an impact upon.

Dr. Jacobsen stressed that the materials associated with the sessions must be supplied in advance for the members to review. She said she was dismayed that the Committee’s members are not being provided with materials pertinent to the subject being discussed. Too often, they are told by the agency that materials will be available after a session or mailed to them after the meeting. The time to have these materials is prior to the session for which the materials are needed, so meaningful discussions can take place. Dr. Jacobsen noted that this problem is reminiscent of the past, when they were given little, if any, advanced opportunity to review the meetings’ materials.

In response to a question by Dr. Klerman, Mr. Long (U.S. Census Bureau) said the subgroup should write a recommendation that addresses Dr. Jacobsen’s concerns. He said he can convey her comments to the U.S. Census Bureau’s staff; however, an official recommendation would have a greater impact.

Dr. Jacobsen said the subgroup should address the lack of ethnographic research on the undercount of children.

Dr. Denton said the table drafts for the summary files and the plans for the data products should have been shared with the Committee before being finalized. Dr. Klerman clarified that the Committee was given an opportunity to comment on Summary Files 1 and 2 at the previous meeting.

Dr. Weinberg (U.S. Census Bureau) said the PAA subgroup can be provided with proposed tabulation plans for the sample data. A recommendation would not be necessary to request this information.

Dr. Klerman said he was disturbed that even with the computational abilities of the American FactFinder, it is still difficult for researchers to determine standard errors. The subgroup was told earlier that standard errors for each matrix would be an enormous computational task. Dr. Klerman said that such computational tasks are exactly what computers are for. There is no reason why standard errors cannot be obtained by simply "clicking" a button on the American FactFinder screen.

In response to a question by Dr. Denton, Dr. Klerman said that the issue of listing the standard error for each matrix had been discussed previously; however, these discussions were focused upon the American Community Survey (ACS). The subgroup's wrote a recommendation following this discussion.

In response to a question by Dr. Waters, Dr. Klerman said that deciding whether a 5-percent or 1-percent national file would be created is a difficult decision. He said the subgroup must help the U.S. Census Bureau make this decision. Dividing the percentages for the Public Use Microdata (PUMs) will likely be the most important decision the Professional Advisory Committee can make because of the importance of PUMs to the Committee's members. The subgroup should recommend that a discussion of the division of this percentage be included at the next Committee meeting.

Dr. Weinberg said that a discussion of the percentage used for PUMs at the next meeting would be too late. If the Committee is to have an impact on this decision, this discussion must take place soon.

In response to a question by Dr. Myers, Dr. Weinberg said the 6-percent threshold for the PUMs was decided upon by the disclosure review board following the last meeting of the Professional Advisory Committee. The disclosure review board consists of U.S. Census Bureau employees. Dr. Klerman said he was angry that the Committee's members were not privy to this decision. He said he would write a recommendation expressing the Committee's concern and request a discussion before this decision is finalized.

Dr. Myers said there needs to be a clear definition of the role of the Committee. Some employees of the U.S. Census Bureau treat the Committee as a policy making group, while others see the Committee as an audience for "show and tell."

Dr. Waters suggested a recommendation be included on the imputation flags. Dr. Jacobsen said imputation flags could be more important than ever following Census 2000 because of the low response rates on the long-form questionnaire.

(See Appendix A for the PAA subgroup's official recommendations and the U.S. Census Bureau's official responses.)

Closing Session

Following the reading of the Committee's recommendations, Ms. Schneider (U.S. Census Bureau) solicited public comments.

There were no public comments.

In response to a question by Dr. Etzel (American Marketing Association [AMA]), Dr. Knickerbocker (U.S. Census Bureau) said the quarterly estimates are generated from the monthly Survey of Retail Sales. This permits comparability between e-commerce sales data and the U.S. Census Bureau's quarterly monthly statistics. The monthly sales data are collected according to the Standard Industry Classification (SIC) coding system until the end of 2000. Beginning in 2001, these data will be collected on a North American Industry Classification (NAICS) basis. Dr. Knickerbocker said annual surveys are currently collecting data for 1998 and 1999 on a NAICS basis. When these annual data are returned, they will help make the conversion of the monthly data easier. In 2001, all data will be collected on a NAICS basis.

Mr. Garrett (American Statistical Association [ASA]) asked the Committee members for topic suggestions for future meetings.

Ms. Schneider suggested that a discussion of the role of the Professional Advisory Committee would benefit its members. Subgroup members may discuss how the time spent as a Committee could be made more valuable to its members and to the agency. Ms. Shea (AMA) said such a discussion would be useful.

Dr. Etzel said a discussion of the role of the Committee should be directed by the U.S. Census Bureau. The Committee was established for the benefit of the U.S. Census Bureau not for the benefit of its members. He also suggested presentations on e-commerce would be welcomed at a future meeting, since this is critically important to the economy and of interest to the Committee.

Dr. Bell (ASA) said the members should provide feedback on the future role of the Professional Advisory Committee. Presentations may not be necessary; however, the Committee may want to offer ideas that could be delivered to the U.S. Census Bureau through each subgroup's chairperson.

Dr. Klerman (Population Association of America [PAA]) recommended the agency present an outline of issues and plans for the 2010 census.

Dr. Pechmann (AMA) said she would be interested in learning about response rates to various questions, which the U.S. Census Bureau is currently studying. She would like to know how people have responded when asked to provide personal data, such as Social Security numbers.

The meeting adjourned at 4:55 p.m.

I hereby certify that the above minutes are an accurate record of the proceedings of the meeting held on April 13, 2000, by the Census Advisory Committee of Professional Associations.

Joseph Garrett, Chairperson
Census Advisory Committee of
Professional Associations

Appendix A.

RECOMMENDATIONS OF THE CENSUS ADVISORY COMMITTEE OF PROFESSIONAL ASSOCIATIONS MADE AS A RESULT OF THE MEETING ON APRIL 13, 2000

Recommendation 1

Planning for Census 2000 Ethnographic Research

"We commend the Census Bureau for including the ethnographic research program. Qualitative research offers opportunities to gain a deeper understanding of behavior through in-depth interviews. It is useful in studying groups other than traditional hard-to-enumerate populations, and, for purposes of comparison, we encourage the application of similar methods to mainstream groups. This research program might be expanded in any of several directions.

1. Higher-income groups may become less willing to participate, especially if they live in buildings or communities that restrict access to census takers. Methods for studying their attitudes toward the census and privacy are needed.
2. Under enumeration of children is a large component of overall census undercount, and we encourage ethnographic studies of how children in different cultural settings are identified as members of a particular household and how they are listed and rostered.
3. The current studies on "Protecting Privacy" and "Gen X" might consider recruiting a sub-segment of participants who are heavy users of privacy technology.
4. In some cases the scope of research might be expanded beyond understanding undercounts to such areas as why people refuse to answer specific items, give inaccurate responses, or fail to mail in their forms but cooperate with enumerators.
5. Other issues that may be researchable by ethnographic methods include attitudes regarding time constraints, responses to various incentives, and willingness to reply by phone or the Internet.

Qualitative research also has disadvantages, especially when moving away from obtaining deeper understanding to implementation. A major issue is small sample sizes and whether respondents who are studied are really representative of larger groups. We believe that the Census Bureau must follow up the conclusions from ethnographic research with representative samples, using quantitative, probability-based analyses, especially for conclusions related to recommended changes in census procedures and operations. Within the race/ethnic groups included in ethnographic research, we are concerned about getting a range of people with varied socioeconomic backgrounds and levels of education. Issues of sample representativeness are important because procedural changes that improve coverage for one subpopulation may be detrimental to other groups. These effects need to be measured with representative samples that are of sufficient size."

Census Bureau Response

The Census Bureau thanks the Committee for its support and guidance regarding the ethnographic research program. In the next few months, we will develop a series of proposals for ethnographic

research in fiscal year 2001. The Committee's recommendations touch on key issues that have important implications for coverage and data quality. To the extent possible, given limited staff and other resources, the Committee's suggestions will be incorporated into our research proposal for fiscal year 2001. Sometimes the Census Bureau uses qualitative techniques to conduct exploratory research. The Census Bureau also uses qualitative research—for example, focus groups, in-depth interviews, and ethnographic observations—to develop survey questions before they are used in large scale surveys or to obtain insight that cannot be obtained through quantitative methods. We agree that, where possible, findings generated by these methods should be verified in large-scale tests with representative samples before implementation in the decennial census and demographic surveys.

Recommendation 2

Chief Economist/CES Update

"We support the Center for Economic Studies in providing external researchers access to micro research data for several reasons. It is our judgment that this research:

1. Sheds light on important economic issues of policy relevance. Moreover we endorse the project selection process, a process which uses internal and external knowledge to select those projects that are most likely to benefit our understanding of the economy and related policy issues.
2. It is likely to be increasingly important to understand the dynamics of the change in any economic environment.
3. Enhances the quality of the Census data collection programs.

We are concerned that additional oversight by the IRS will be detrimental to these goals, will be administratively costly without yielding positive product, and will significantly delay the Census' ability to provide high-quality measures of important economic data. For example, the Committee was disappointed to learn that the work on comparing the SSEL to the BEL was discontinued due to IRS intervention after considerable effort and just as it was starting to bear fruit.

Examples of the research projects that have been undertaken using this database are studies of manufacturers' adoption of new technologies, documenting the extent of increases in productivity following deregulation, and the extent to which employment shifts among establishments within firms contribute to job creation and destruction. Ongoing research is using this database to explore the contentious issue of how changes in credit availability contribute to economic fluctuations. Projects such as these clearly improve our understanding of the economy and its dynamics, and they have potentially important public policy implications.

Working on such projects also can reveal inconsistencies in existing Census data and opportunities for improvement. A case in point was the industry affiliation responses in the 1990 decennial census. From a sample of the micro data, John Haltiwanger of the University of Maryland, and formerly Chief Economist of the Census Bureau, discovered that about one-third of respondents had reported their industries incorrectly.

The uncertainty arising from IRS' demands that new RDC projects be put on hold and ongoing projects involving other agencies be suspended sends a chilling message to the research community that goes beyond the specific projects affected. If research projects that make use of administrative records are

at risk of being unexpectedly interrupted, researchers will not make the investment in designing the projects. Yet only such innovative, micro-level approaches can shed light on many questions of importance, including the expansion in e-commerce and the contribution of small business to economic growth.”

Census Bureau Response

The Census Bureau appreciates the members’ continued support for the work of the CES. The Census Bureau appreciates the members’ recognition of the importance of the research program at the Center for Economic Studies and the Research Data Centers. We will continue to update the members on the Center’s activities and developments with regard to the Internal Revenue Service Safeguard Review.

Recommendation 3

The Census 2000 Testing and Experimentation Program

“On the one hand, we appreciate being updated on the testing and evaluation programs. We recognize that these programs will provide input to the 2010 census, that some can be tested only in a ‘census environment,’ and that testing during Census 2000 is essential for benchmarking major surveys, like the American Community Survey, and for evaluating the change in the race question before its implementation in surveys.

On the other hand, in the absence of detailed descriptions, we cannot provide comprehensive comments on each of the studies identified. In general, we are frustrated because:

1. The updates have been provided ‘after the fact,’ when it is too late for us to provide any input into the design of the studies.
2. The information was too broad and too general to enable us to offer any substantive input.

For the future, we recommend:

1. That sessions focus on issues and programs that have not already been formalized.
2. That detailed information, such as the Program Master Plans, be provided in advance of the meeting.
3. That sessions be structured so as to provide information about the actual models, the methods to be used for estimating model parameters, and the measures employed in evaluation models. Sessions need to achieve a proper balance between presenting too much and too little information.

We offer the following general observations on the evaluations based on our review of the information provided which was too broad and too general to enable us to offer any substantive input.

1. A project should state a theory or hypothesis to be tested and should identify relevant literature drawn upon by the study.

2. Projects should clearly state the problem(s) that led to the research and the objective(s) of the work, especially as they relate to solving problems.
3. In providing a list of research projects, the Census Bureau needs to state the research priorities that the list reflects, with information on relative costs of the various projects and which projects were rejected or postponed.
4. The Census Bureau should consider combining small studies into larger studies that might include more variables to analyze treatments or outcomes.
5. Research projects should be considered in terms of their relevance at the time of implementation; this means, whenever possible, attempting to consider environments that may affect future censuses or data collection.

We recommend that the Census Bureau create public data files from these experiments and other evaluations after masking the data sufficiently to protect confidentiality. Outside analyses may prove very valuable, especially for complex questions where modeling assumptions are likely to matter.”

Census Bureau Response

We value the Advisory Committee’s input to our projects and products, and we are mindful of the need to present information to the Committee at an appropriate and early stage. We appreciate the Advisory Committee’s recommendation for the Census Bureau to create public data files from the Census 2000 experiments and evaluations. This suggestion requires careful consideration by the Census Bureau given our need to ensure complete confidentiality of the data. We have begun discussions related to this topic and plan to look at possible options. We assure the Committee members that we will give your recommendation full consideration.

Recommendation 4

The Changing Supply Chain—A Research Update

1. "We support the goal of measuring activities/functions at a disaggregated level on a large scale, as well as exploring the extent to which they match real world institutions. In so doing, special attention should be paid to the characteristics of different industries.
2. We support undertaking similar studies in other areas, for example, as suggested for e-commerce in retail trade."

Census Bureau Response

1. We are focusing on the characteristics of e-businesses to help us determine alternative aggregations for the 2002 Economic Census. We also plan to use this information as we prepare for a revision of the distribution channel industries (wholesale, retail, and transportation) in the 2007 North American Industrial Classification System (NAICS).
2. We appreciate the need for similar studies in other areas such as retail trade; as resources and funding permit, we will undertake such studies. This work will be important as we move forward to the 2007 NAICS revision.

Recommendation 5

Retail E-Commerce Sales Estimates—Methods and Results

1. "The members of the American Statistical Association (ASA) welcome the Census Bureau's efforts in starting to produce official estimates of e-commerce activity. While initial estimates are only for retail trade, we encourage the Census Bureau to continue expansion of this effort into other sectors (especially the services sector) of the U.S. economy. The Census Bureau should continue to examine critically whether existing samples, estimation procedures and other survey methods are as applicable in measuring emerging e-commerce activity as they are in measuring more traditional businesses and industries.
2. The members of the American Economic Association (AEA) support the Census Bureau's efforts to measure electronic commerce in the retail sector. The methods seem appropriate, but asking respondents how they identify their e-commerce retail sales would be useful.

We recommend that the Census Bureau consider ways to reduce the nine-month lag in incorporating new firms into the survey.

In attempting to understand e-business processes in this sector, as well as other sectors, we encourage the Census Bureau to consider research projects which take advantage of outside experts.

We encourage the Census Bureau to consider methods that compare these estimates with estimates obtained from other sources, for example, having BLS add a question to the CES on e-commerce retail purchases."

Census Bureau Response

1. The Census Bureau began collecting e-commerce data in its 1999 annual surveys of the retail, wholesale, services, and manufacturing sectors. For retail, wholesale, and services industries, data will include some amount of e-commerce commodity and product data, and an e-commerce purchases indicator, as appropriate. For the manufacturing sector, data will include e-commerce shipments and purchases as a percent of the corresponding totals. In addition, information on e-business processes and integration with suppliers and customers will be asked of manufacturers. The Census Bureau will continue to examine the samples and methods it uses for measuring e-commerce and e-business activity. The Census Bureau recently began to implement a new method for more rapid identification of businesses engaged in e-commerce.
2. We have contacted a number of respondents to clarify their interpretation of our request for e-commerce sales and will continue as warranted. We will explore the issue further through our customer relations program. We also will explore the use of cognitive research and evaluation forms to better understand how respondents interpret and respond to our request for e-commerce sales.

We have recently begun exploring the possibility of identifying potential e-commerce businesses several months sooner than possible through our usual procedures. Essentially, this involves bypassing one stage of the traditional two-stage sampling for new business births.

We currently have contracts with IBM global and Pembroke Consulting to assist in the understanding of e-business processes. We will develop an e-business impact framework and an e-business taxonomy. Pembroke Consulting is addressing supply chain issues. We will continue to contract future research, if appropriate.

We will continue comparing our e-commerce data with publicly available sources including macro-level press releases issued by private firms and micro-level data from individual firm accounting data and Securities and Exchange Commission filings. The best alternative is to compare to other official measures of e-commerce. We will inform the Bureau of Labor Statistics representative on our e-business steering committee of your suggestion.

Recommendation 6

Census 2000 Products—Some Recent Developments

1. “We express strong concern about the upcoming decisions regarding the number and size of Public Use Microdata Samples (PUMS). The presentation did not include enough background for us to provide input on this very important issue. Further discussion is needed before making irrevocable decisions on this matter.
2. We urge the Census Bureau to make standard errors easily available for all tables in the American FactFinder. One approach would be to have a link in each table to a corresponding table with standard errors. This approach should become feasible as computing power increases; in the short term, rough approximations will be better than nothing.
3. We are not convinced that abolishing the imputation flags will protect confidentiality. Given concern with possible increased nonresponse to some questions on the Census 2000 long form, analysts may need to pay even greater attention to imputation. We urge the Census Bureau to use other methods to protect confidentiality.

4. We urge the Census Bureau to consider the role of research data centers and other secure facilities in balancing confidentiality concerns and needs for data access. We urge the Census Bureau to consider expanding the number of such facilities and reassessing the criteria for allowed projects, including options that are now limited by interpretations or laws or by administrative practices.
5. In general, we recommend developing a formal marketing plan for Census 2000 products, including objectives, strategies, and positioning (e.g., for specific targets, such as repackagers, the general public, or other public use). Using testimonials from users might be considered.
6. For general users, we support making short profiles for cities and counties available from the American FactFinder, with corresponding data from the 1980 and 1990 censuses, a glossary of terms, and previews of requested data (for tables). For more sophisticated users, we recommend downloading files with standard errors."

Census Bureau Response

1. The Census Bureau's task in designing the PUMS and all our data products is to balance the needs of our users with our obligation to protect the privacy of our respondents. Always a key factor in our actions, the need to protect individual confidentiality is heightened by recent public concerns about the Census 2000 long form. We must adhere to our contract with respondents to preserve their confidentiality in return for their cooperation.

Since the meeting of the advisory committee on April 13, we have discussed the form and content of the PUMS files in a number of venues, one of which was a meeting we convened in the Washington, DC, suburbs on May 22. That meeting included several members of the advisory committee and other stakeholders. We have received valuable information about the many uses of the PUMS and suggestions for alternative methods for designing the files for Census 2000. We will be using that information and your comments to develop a proposal for the Census 2000 PUMS. Our goal is to develop plans for a set of files that will maximize their utility for research purposes while protecting the confidentiality of individual respondents.

2. Generalized variances for decennial data can be calculated by the user with the standard error/variance documentation currently provided as a link for all detailed tables for the decennial summary files in American FactFinder. Similar documentation will be made available for Census 2000 detailed tables.
3. Abolishing imputation flags on the PUMS files was one of several proposed methods for providing additional confidentiality protection. That method was judged to be unnecessary, as other methods are being used instead. Current plans call for including imputation flags on the Census 2000 PUMS.
4. We concur that the Research Data Centers (RDCs) can provide another important avenue for accessing data from Census 2000. The Census Bureau, in partnership with the National Science Foundation, recently expanded the number of RDCs. Because the RDCs are supported by our RDC partners and the research community, we need to make sure that funding is secure for existing centers and adequate for support of any expansion. We are exploring various opportunities to expand the centers.
5. We are currently in the process of developing such a formal marketing plan, looking at ways of reaching the various audiences that use or might use Census 2000 data.

6. We will make Census 2000 profiles for cities and counties available to users through the American FactFinder. Links to decennial demographic profiles will be available directly from the American FactFinder Main Page. Links to general profiles will be available directly from the Census Bureau's Home Page. We support developing a short profile with historical data and are investigating what variables to include and other technical considerations. There is currently a glossary of census terms in the Help Me function of the American FactFinder. The glossary has been expanded for the next release of the American FactFinder, scheduled for this fall. Previews of the format of the requested data table also will be available in American Factfinder's metadata. The Census Bureau staff is investigating how best to inform users about standard errors.

Appendix B.

Agenda for the April 13, 2000 Meeting of the
Census Advisory Committee of Professional Associations*

Sheraton Crystal City Hotel
1800 Jefferson Davis Highway
Arlington, VA 22202

Thursday, April 13

PLENARY (9:00 - 9:30 a.m.)

Joint Session

Introductory Remarks

Paula Schneider, Principal Associate

Director for Programs, and

Kenneth Prewitt, Director

Ballroom A&B

Chief Economist/CES Update, *Brad Jensen*, Director, Office of the Chief Economist
Crystal Room VI

ASA, PAA, AMA (11:15 a.m. - 12:30 p.m.)

PLENARY (9:30 - 9:45 a.m.)

Census Bureau Responses to Committee

Recommendations/Report on the

October 1999 Meeting, *Joseph Garrett*,

Chairperson

Ballroom A&B

The Census 2000 Testing and Experimentation Program, *Deborah Bolton*, Assistant Division Chief for Coordination, Planning, Research, and Evaluation Division, and *Joan M. Hill*, Mathematical Statistician, Planning, Research, and Evaluation Division
Chair: ASA
Ballroom A&B

BREAK (9:45 - 10:00 a.m.)

AEA (11:30 a.m. - 12:30 p.m.)

ASA, AMA, PAA (10:00 - 11:15 a.m.)

Planning for Census 2000 Ethnographic

Research, *Eleanor Gerber*, Social Science

Analyst, and *Manuel de la Puente*,

Assistant Division Chief for Survey

Methodology, Statistical Research

Division

Chair: ASA

Ballroom A&B

The Changing Supply Chain—A Research Update, *Adam Fein*, Pembroke Consulting, Inc.
Crystal Room VI

LUNCH (12:30 - 1:30 p.m.)

Atrium

AEA (10:00 - 11:30 a.m.)

ASA, AEA (1:30 - 2:30 p.m.)

Retail E-Commerce Sales
Estimates—Methods and Results,
Ruth Detlefsen, Assistant Division Chief,
Service Sector Statistics Division
Chair: ASA
Ballroom A&B

Continue Committee and Staff
Discussions
Public Comment
Ballroom A&B

ADJOURN (5:00 p.m.)

AMA, PAA (1:30 - 2:30 p.m.)

Census 2000 Products—Some Recent
Developments, *John Kavaliunas*, Chief,
Marketing Services Office, and
Louisa Miller, Assistant Division Chief,
Population Division
Chair: AMA
Ballroom C

BREAK (2:30 - 2:45 p.m.)

AEA (2:45 - 4:15 p.m.)
Develop Recommendations and Special
Interest Activities
Crystal Room VI

AMA (2:45 - 4:15 p.m.)
Develop Recommendations and Special
Interest Activities
Ballroom C

ASA (2:45 - 4:15 p.m.)
Develop Recommendations and Special
Interest Activities
Crystal Room V

PAA (2:45 - 4:15 p.m.)
Develop Recommendations and Special
Interest Activities
Ballroom A&B

CLOSING SESSION (4:15 - 5:00 p.m.)

Appendix C.
Census Bureau Personnel Present

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Kenneth Prewitt, Director
Paula J. Schneider, Principal Associate Director for Programs
Gloria Gutierrez, Assistant Director for Marketing and Customer Liaison
Frederick T. Knickerbocker, Associate Director for Economic Programs
Thomas L. Mesenbourg, Assistant Director for Economic Programs
Paul Muroff, Special Assistant
John H. Thompson, Associate Director for Decennial Census
Nancy M. Gordon, Associate Director for Demographic Programs
Cynthia Z. F. Clark, Associate Director for Methodology and Standards

Administrative and Customer Services Division

Shelby Folger
Lourdes Hartman
Kathy Italiano

Census 2000 Publicity Office

Jennifer Marks, Assistant Chief

Census Redistricting Office

Marshall Turner, Chief, Redistricting Data Office
Cathy McCully, Assistant Chief, Redistricting Data Office

Chief Economist's Office

Mark Mildorf, Assistant Chief
Kim Bayard
Brad Jensen

Company Statistics Division

Ewen Wilson, Chief

Decennial Management Division

Jane Ingold, Chief, Contents and Products Branch

Decennial Statistical Studies Division

Raj Singh, Assistant Chief, Statistical Communications

Demographic Surveys Division

Ken Bryson
Tim Jones

Demographic Statistical Methods Division

Nancy Torrieri

Economic Statistical Methods and Programming Division

Charles Pautler, Chief

Housing and Household Economic Statistics Division

Daniel Weinberg, Chief
Larry Long, Special Assistant
Gloria Peebles-Butler

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Les Solomon, Chief, Customer Services
Vera Barnes
Michael C. Cook
Victoria Currie
Joanne C. Dickinson
George Selby
David Wycinsky, Jr.

Policy Office

Gerald Gates, Chief
George Gatewood
Jason Gauthier
David Hendricks
Michael A. Hovland
David Pemberton

Population Division

Louisa Miller, Assistant Chief for Census Programs
Sherry Pollock

Planning, Research, and Evaluation Division

Ruth Ann Killion, Chief
David L. Hubble, Assistant Chief for Evaluations
Deborah Bolton
Susan Carodisky
Joan Hill
Charlene Leggieri
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Tammie Shanks
David M. Stemper

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Carole Ambler, Chief
Thomas E. Zabelsky, Assistant Chief for Current Service and Transportation Programs
John Trimble, Chief, Redesign Team
Ruth Detlefsen

Statistical Research Division

Tommy Wright, Chief
Manual de la Puente, Assistant Chief
Easley Hoy, Assistant Chief, Mathematical Statistics
Eleanor Gerber
Barbara Palumbo
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Appendix D.

APRIL 2000

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Appendix E.

List of Background Documents

Agenda for the April 13, 2000 Meeting of the Census Advisory Committee of Professional Associations. February 15, 2000. 2 pp.

Census 2000 Products. April 13, 2000. 17 pp.

The Census 2000 Testing and Experimentation Program. February 4, 2000. 8 pp.

The Changing Supply Chain: A Research Update. April 12, 2000. 10 pp.

Membership List Census Advisory Committee of Professional Associations (American Economic Association). March 2000. 1 p.

Membership List Census Advisory Committee of Professional Associations (American Marketing Association). March 2000. 1 p.

Membership List Census Advisory Committee of Professional Associations (American Statistical Association). March 2000. 1 p.

Membership List Census Advisory Committee of Professional Associations (Population Association of America). March 2000. 1 p.

Planning for Census 2000 Ethnographic Research. April 13, 2000. 15 pp.

Retail E-Commerce Sales Estimates-Methods and Results. April 13, 2000. 7 pp.

Status Report on the Center for Economic Studies. April 13, 2000. 2 pp.

U.S. Census Bureau—Confidentiality Guarantee—ANR Feature s/Dr. Ken Prewitt [audio tape]
3 Spanish Actualities. n.d.