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The Official SCSA/SMSA Definition: Concept and Practice[1]

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Conceptual Background

Is the metropolitan area concept a useful one? We have chosen to interpret this question in two parts. First, what *is* a metropolitan area conceptually? Second, how satisfactory is the system of officially defined Standard Consolidated Statistical Areas (SCSAs) and Standard Metropolitan Statistical Areas (SMSAs) as a realization of this concept?

Our objectives will be, first to outline what a metropolitan area is supposed to be, and then to assess whether the SCSA/SMSA system does identify and delimit with reasonable precision entities that correspond to that concept. Specifically, we shall examine the SMSAs from several aspects, to cast light on the nature and extent of disconformities that may exist between the concept and its realization in the official system.

The Bureau of the Census first defined Metropolitan Districts in 1910.[2] They were delineated for cities of 200,000 inhabitants or more and included surrounding territory on the basis of population density and proximity to the central city boundary. The resulting data were clearly specified as pertaining to cities and their suburbs.

In the 1930 census, the Metropolitan District concept was described as "constituting the 'greater' city" and was expanded to include population aggregates of 100,000 or more inhabitants containing one or more central cities of at least 50,000 persons.[3]

The census of 1950 marked the introduction of the Standard Metropolitan Areas (SMAs), aggregates of county units which, in addition to sheer population density, sought to identify the population in and around cities of at least 50,000 inhabitants whose activities formed an integrated social and economic system.[4] As Shryock[5] has pointed out, the SMAs were not intended to represent broad regions such as trading or newspaper circulation areas, nor were they to be limited to the built-up urbanized area. They were to consist simply of a dominant nucleus and a closely subordinated outlying area, as evidenced by the fact that the published criteria emphasized population density and commuting links. These same factors have formed the main basis for defining the standard metropolitan statistical areas (SMSAs) since their inception in 1960.

In sum, the SMSAs like the Metropolitan Districts before them have always conceptualized "metropolitan areas" as single concentrations (some with multiple centers) of dense urban development, larger than a stated size,

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[1] This paper was originally presented at the Annual Meeting of the Population Association of America, Montreal, Canada, April 29–May 1, 1976. A longer version of the paper will be published by the Bureau of the Census in the near future. The complete paper includes one map and 11 tables. Due to limitations of space, only 3 of the tables have been included here. Copies of all of the tables may be obtained upon request to (Mrs.) Marjorie Wilcox, Population Division, Bureau of the Census, Washington, D.C. 20233, telephone (301) 763-5161.

[2] U.S. Bureau of the Census, U.S. Census of Population: 1910, Volume I, *General Report and Analysis*, Washington, D.C., 1913, p. 73.

[3] U.S. Bureau of the Census, U.S. Census of Population: 1930, Volume II, *General Report, Statistics by Subjects*, Washington, D.C., 1933, p. 16.

[4] U.S. Bureau of the Census, U.S. Census of Population: 1950, Volume I, *Number of Inhabitants*, Washington, D.C., 1952, p. xxxiii.

[5] Henry S. Shryock, "The Natural History of Standard Metropolitan Areas," *American Journal of Sociology*, 1957, Vol. 63, No. 2, pp. 163–170.

with strong internal commuting ties and weak ties to any other densely developed areas.[6]

Before leaving this discussion of conceptual background, certain important aspects of the development of SMSAs should be stressed. From their origin they were an attempt to correct for the patent underboundedness[7] of municipalities—in many respects they represented a "Greater City" concept, and their definitional criteria were chosen to identify the extent of city-type settlement beyond the limits of the city. Also, because the SMSAs were created chiefly for aggregating statistical data of concern in an urban or metropolitan context, the definitions were made in terms of counties, the smallest units for which many types of statistical data are regularly available. (An exception was made for the definitions in the New England States. Chiefly for this reason, we will omit the New England SMSAs from most of our discussion in this paper.) Moreover, the concern with metropolitan statistics that prompted the establishment of SMSAs emphasized population density, nonagricultural labor force, and economic activity—not data with an extensive areal reference such as farm production. While the overboundedness inherent in a definition based on counties was recognized, it was not regarded as a serious problem since it was assumed that the overboundedness in population or labor force terms would usually be trivial, whatever the overboundedness in terms of land area.

The evolution of the SMSAs as officially recognized Federal statistical areas soon resulted in their adoption by other Federal agencies as units for the implementation of nonstatistical programs with a metropolitan orientation. This in turn led to a number of unforeseen side-effects, and notably a desire by certain semi-independent components of major metropolitan agglomerations to secure recognition as separate SMSAs. In 1959, this desire found a palpable expression when the existing New York and Chicago SMSAs were split into two or more distinct SMSAs. This was not done on the basis of any objective evidence that these major agglomerations had experienced an actual retraction of their boundaries. Some degree of official recognition of their continuing underlying unit was extended by the establishment of two Standard Consolidated Areas for New York and Chicago, with boundaries corresponding in each case to the SMSA prior to the split. Sixteen years later, in August 1975, official recognition was extended to 11 additional entities, retitled Standard Consolidated Statistical Areas (SCSAs). The 13 SCSAs represent combinations of SMSAs and are defined by criteria with a general similarity to those used to define the SMSAs themselves. They came closer than their 40 component SMSAs to the concept of a metropolitan area as a single large concentration of dense urban development, and we will emphasize them in our analysis rather than their component SMSAs.

Criticism.—A review of the literature indicates that criticisms of the SCSA/SMSA system have ranged from recommendations about secondary details of the existing criteria and complaints about inconsistencies in their application[8] to broad questions about the conceptual basis on which those criteria were developed.[9] For this paper, our approach has been to accept that "metropolitan areas" as conceptualized by the framers of the Metropolitan District, SMA, SMSA, and SCSA definitions do

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[6] Office of Management and Budget, *Standard Metropolitan Statistical Areas, 1975,* Washington, D.C., 1976.

[7] A city may be described as underbounded when the area encompassed by its political boundaries is smaller than the actual urban aggregate. Conversely, an overbounded city is one whose political boundaries embrace a territory larger than the true urban aggregate. An SMSA may also be described as underbounded or overbounded, depending on the relationship between its officially defined boundaries and the actual extent of dense metropolitan development. For further discussion of these concepts, see International Urban Research, *The World's Metropolitan Areas,* Berkeley and Los Angeles: University of California Press, 1959, pp. 6–15.

[8] For example, see Ira Rosenwaike, "A Critical Examination of the Designation of Standard Metropolitan Statistical Areas," *Social Forces,* 1970, Vol. 48, No. 3, pp. 322–333; and Claude C. Haren, "Today's Metropolitan Areas: The Need for Critical Re-evaluation," Paper presented at the Annual Meeting of the American Statistical Association, Atlanta, Georgia, August 25–28, 1975.

[9] For example, see Brian J. L. Berry, Peter G. Goheen, and Harold Goldstein, *Metropolitan Area Definition: A Re-Evaluation of Concept and Statistical Practice,* U.S. Bureau of the Census Working Paper No. 28, Washington, D.C., 1968; Otis Dudley Duncan, Richard R. Scott, Stanley Lieberson, Beverly Davis Duncan, and Hal H. Winsborough, *Metropolis and Region,* Baltimore: The Johns Hopkins Press, 1960; and Karl A. Fox, "Integrating National and Regional Models for Economic Stabilization and Growth," Paper presented at a Conference on National Economic Planning, University of Pittsburgh, March 25–26, 1964.

have an objective existence and that it is the main task of the criteria to discern and define them in an objective and standard fashion. Therefore, we will not consider whether some better criteria for defining "metropolitan areas" might conceivably be developed on an *a priori* basis. Instead we shall examine whether the existing SMSA criteria do a reasonably good job of delineating each individual "metropolitan area" in a fashion consistent with the original conception of a large concentration of dense urban development.

From this viewpoint most of the applicable comments of the critics can be paraphrased under four main heads:

1. There are too many SMSAs—many of them are not "metropolitan" in character and do not deserve the designation "metropolitan area."
2. However appropriate or inappropriate the official criteria, in practice they have not always been followed—there are many exceptions.
3. The SMSAs are overbounded—too many sparsely settled counties are included. Also, the use of county units results in the inclusion of too much nonurban (or at least nonmetropolitan) territory.
4. The SMSAs are underbounded—commuting and other ties now link most of the inhabited portions of the country to some metropolitan center, and these metropolitan regions, which often correspond to daily urban systems, are more meaningful than the SMSAs as units for data gathering and analysis.

We shall consider each of these four critical stances in turn.

Must A Metropolitan Area Have A Metropolitan City?

In evaluating the criticism of the SMSAs as too inclusive a concept, it is important to recognize that a semantic confusion has developed over two distinct meanings of "metropolitan." Originally, to be considered a metropolis or metropolitan city, an urban entity had to exercise economic, political, or cultural influence over an extensive surrounding region. On the other hand, "metropolitan area" has meant simply "sizeable city with suburbs" in distinction to "city proper." Most metropolises do have large populations and do tend to be underbounded and hence to have a "metropolitan area," but there is no necessary reason why this must be so. For example, Jacksonville, Florida, since a city-county consolidation in 1968 has relatively little suburban territory outside its corporate limits—but obviously it has not become less of a metropolitan city as a result. In contract, Lawrence, Massachusetts, an important industrial city with few if any claims to being a metropolis, is distinctively underbounded, with continuous urban areas adjacent to its corporate limits that have a larger population than the municipality itself. Therefore, although it is probably not a metropolis, Lawrence does have a metropolitan area, as the term is customarily used in the United States today.

It is unfortunate that the useful adjective "metropolitan" for "possessing major-city characteristics" also came to be applied to the concept "city with suburbs," but there is no help for it now. Once the semantic confusion is recognized, the criticism that there are too many SMSAs loses its force, because a definition of "cities with suburbs" is under no conceptual obligation to restrict itself to cities that are also metropolises, or even to cities of any particular size. The underlying concept of the SMSAs is simply "sizable city with suburbs". To say that there are too many SMSAs is much the same as saying that there are too many sizable cities.

Exceptions In The Existing SMSA Definitions

Many critics have laid stress on the existence of some exceptions to the published SMSA statistical criteria.[10] Such exceptions do exist; they are listed in the new edition of the Office of Management and Budget's publication on the SMSAs. They may be summarized under three categories.

First, there are 11 SMSAs that under the objective criteria should be merged with other SMSAs. For most statistical applications this has become a moot point, since the establishment of the SCSAs in 1975 has combined all of the non-qualifying areas outside New England into

[10] Rosenwaike, *op. cit.*, pp. 322–333.

Table 1. SELECTED DATA ON SMSA COUNTIES THAT DO NOT QUALIFY UNDER THE OFFICIAL SMSA CRITERIA: 1960 AND 1970[1]

County and SMSA	Date first included in SMSA	Land area (sq. miles) 1970	Population 1960	Population 1970	Percent change 1950-1960	Percent urban 1960	Population per sq. mile 1960	Percent change 1960-1970	Percent urban 1970	Population per sq. mile 1970	Percent of reported workers commuting to central county (ies) 1960	Percent of reported workers commuting to central county (ies) 1970
Salem, N.J.—Wilmington, Del.-N.J.-Md.	1950	365	58,711	60,346	18.6	49.8	167.7	2.8	54.2	165.3	5.7	7.04
Chester, Pa.—Philadelphia, Pa.-N.J.	1950	761	210,608	278,311	32.3	43.8	277.1	32.1	44.9	365.7	6.6	7.02
Douglas, Wis.—Duluth-Superior, Minn.-Wis.	1950	1,305	45,008	44,657	−3.7	75.4	34.4	−0.8	73.3	34.2	10.7	17.76
Total, Group I		2,431	314,327	383,314								
Butler, Kans.—Wichita, Kans.	10/63	1,442	38,395	38,658	23.9	49.4	26.6	0.7	47.3	26.8	18.1	29.05
Preble, Ohio—Dayton, Ohio	10/63	427	32,498	34,719	20.0	15.5	76.1	6.8	17.3	81.3	22.1	24.47
Adams, Pa.—York, Pa.	10/63	526	51,906	56,937	17.4	26.1	98.7	9.7	23.0	108.2	17.1	21.55
Total, Group II		2,395	122,799	130,314								
Herkimer, N.Y.—Utica-Rome, N.Y.	1950	1,435	66,370	67,633	8.1	59.2	46.0	1.9	53.3	47.1	15.5	25.09
Somerset, Pa.—Johnstown, Pa.	1950	1,078	77,450	76,037	−5.3	21.0	71.4	−1.8	21.7	70.5	16.4	19.09
Total, Group III		2,513	143,820	143,670								
Woodford, Ill.—Peoria, Ill.	10/63	528	24,579	28,012	15.2	10.3	45.8	14.0	10.8	53.1	15.6	19.81
Sullivan, Ind.—Terre Haute, Ind.	10/63	457	21,721	19,889	−8.2	22.9	47.5	−8.4	23.5	43.5	18.9	20.24
Perry, Pa.—Harrisburg, Pa.	10/63	551	26,582	28,615	7.3	9.7	48.3	7.6	8.1	51.9	25.7	29.88
Susquehanna, Pa.—Binghamton, N.Y.-Pa.	10/63	833	33,137	34,344	3.7	15.8	39.6	3.6	—	41.2	19.0	24.17
Total, Group IV		2,369	106,019	110,860								
Walker, Ala.—Birmingham, Ala.	3/67	805	54,211	56,246	−15.0	25.8	67.0	3.8	24.1	69.9	14.1	21.78
Marshall, Ind.—South Bend, Ind.	10/63	443	32,443	34,986	10.1	32.7	73.1	7.8	31.9	79.0	14.9	13.00
Cecil, Md.—Wilmington, Del.-N.J.-Md.	10/63	362	48,408	53,291	45.1	12.4	137.5	10.1	19.9	147.2	14.6	17.05
Putnam, Ohio—Lima, Ohio	3/67	486	28,331	31,134	12.2	11.5	58.3	9.9	11.6	64.1	14.0	15.62
Van Wert, Ohio—Lima, Ohio	3/67	409	28,840	29,194	6.9	50.5	70.5	1.2	50.1	71.4	11.6	12.83
Le Flore, Okla.—Fort Smith, Ark.-Okla.	10/63	1,560	29,106	32,137	−17.5	21.6	18.6	10.4	31.6	20.6	14.6	24.66
Liberty, Tex.—Houston, Tex.	3/65	1,180	31,595	33,014	18.2	48.5	26.9	4.5	45.5	28.0	5.9	21.42
Total, Group V		5,245	252,934	270,002								
Total, 19 nonqualifying counties		14,953	939,899	1,038,160								

[1]See notes for Table 1 on p. 9.

larger areas. This is one of several reasons why we believe that those concerned with the SMSAs as data-gathering entities will find it preferable to adopt the SCSAs where they exist, in other words to use the SCSA/SMSA definitions in combination.

Second, there are 19 counties now included in SMSAs which, as of 1970, did not meet one or more of the necessary objective criteria. These are listed in Table 1. Space does not permit us to detail the circumstances of these counties. Broadly speaking, for 8 of them there are good arguments for retention in the SMSAs even though they do not qualify as the objective criteria now read. For the other 11 counties, the justification for retention in SMSAs is less compelling. The quantitative impact of these 11 counties on the SMSAs as a whole is very small. They include only 0.3% of the SMSA population and 1.5 % of the land area.

Finally, there are various exceptions to the official criteria having to do with the identification of central cities. Again, we shall omit the details, but our conclusion is that these are not so much troubling in themselves as indicative that this portion of the criteria is a weak aspect of the SMSA system's realization of the metropolitan area concept.

Are The SMSAs Overbounded

Inclusion of Sparsely Settled Counties.—Are the SMSAs overbounded in that they include a good many rather sparsely settled counties, with a population density too low to qualify realistically as metropolitan? Table 2 categorizes the SMSA counties outside New England according to density, distinguishing counties containing a central city from other counties. The successive categories and subtotals in the table have been arranged so as to illustrate what the total area and population included in SMSAs would be if more restrictive density requirements were imposed.

For example, subtotal A portrays what would result if the SMSAs were limited to counties that had a 1970 population density of at least 150 per square mile, in addition to meeting all other existing SMSA criteria.[11] Included would be 215 counties containing an SMSA central city and 104 outlying counties. Together these counties comprise 36% of the aggregate land area of the SMSAs, but 86% of their 1970 population. Thus, Subtotal A represents in county-unit terms the densely populated central portions of the larger and medium-sized SMSAs.

Subtotal B adds counties that contain an SMSA central city and that also have at least 250,000 population, although their density is less than 150 per square mile. In other words, these 10 counties include large cities that happen to be within areally very large counties. These 10 counties alone constitute 15% of the total SMSA area (but only 3% of the SMSA population). It is difficult to see how any county-unit measure of U.S. metropolitan areas could fail to include them.

Likewise, Subtotal C adds the central counties with densities between 50 and 150; Subtotal D adds outlying counties with a density between 50 and 150; and Subtotal E adds central counties with less than 50 persons per square mile.

The final category on table 2 represents outlying counties with densities of less than 50. This category raises the aggregate SMSA area by 16%, the population by just over 1%. The low density of these counties suggests that in most cases they are beyond the edge of any visible suburban development. They have such high commuting, however, that their functional links with the metropolitan core are difficult to deny.

Such areas raise forcefully the question of whether the outer extent of the metropolitan area should be deemed to stop with the termination of visible urban settlement, or whether the outer boundary should be drawn in purely functional terms, irrespective of landscape characteristics. Whether or not these sparse outlying areas should be included in a particular metropolitan area should perhaps be left to the individual user to decide, in accordance with the emphasis of his application. The fact that the SMSAs do include numerous sparsely settled areas should not blind us to a more important fact. The great preponderance of the SMSA population does live in areas with a high population density. Modifications of the SMSA

[11] The 19 counties not currently qualifying for inclusion under the objective criteria have been retained in table 2.

Table 2. POPULATION, CHANGE, AND LAND AREA FOR DENSITY CATEGORIES OF SMSA COUNTIES: 1960-1970

(Populations in thousands. SMSA's outside New England as defined Dec. 31, 1975; central counties are those containing all or a significant portion of an SMSA central city. Density categories based on 1970 population per square mile)

Category	Number of counties	Population		Population change 1960-1970		Land area (sq. miles) 1970	Population per sq. mile 1970	Percent of SMSA total			Percent increase over preceding subtotal	
		Census 1970 [1]	Census 1960	Number	Percent			1970 population	1960-70 change	1970 land area	1970 population	Land area
Density 150 or more:												
Central counties	215	95,461	84,382	11,079	13.1	133,687	714	68.2	53.6	27.0		
Outlying counties	104	25,259	19,231	6,028	31.3	44,350	570	18.1	29.2	9.0		
Subtotal A	319	120,720	103,613	17.107	16.5	178,037	678	86.3	82.8	36.0		
Central counties of 250,000 or more with density less than 150	10	4.257	3,063	1,194	39.0	75,839	56	3.0	5.8	15.3	3.5	42.6
Subtotal B (cumulative)	329	124,977	106,677	18,301	17.2	253,876	492	89.3	88.6	51.3		
Central counties of less than 250,000 and density 50 to 149	46	4,816	4,090	726	17.7	45,996	105	3.4	3.5	9.3	3.9	18.1
Subtotal C (cumulative)	375	129,794	110,767	19,027	17.2	299,872	433	92.8	92.1	60.6		
Outlying counties of:												
Density 100 to 149	38	2,112	1,682	430	25.6	17,208	123	1.5	2.1	3.5		
Density 75 to 99	53	2,447	1,992	455	22.8	28,556	86	1.7	2.2	5.8	5.2	26.9
Density 50 to 74	64	2,158	1,854	303	16.4	34,969	62	1.5	1.5	7.1		
Subtotal D (cumulative)	530	136,510	116,295	20,215	17.4	380,605	359	97.6	97.9	76.9		
Central counties of density less than 50	15	1,543	1,364	179	13.2	46,226	33	1.1	0.9	9.3	1.1	12.1
Subtotal E (cumulative)	545	138,053	117,658	20,394	17.3	426,831	323	98.7	98.7	86.3		
Outlying counties of:												
Density 25 to 49	59	1.501	1,270	231	18.2	38,468	39	1.1	1.1	7.8		
Density less than 25	28	347	315	32	10.2	29,427	12	0.2	0.2	5.9	1.3	15.9
TOTAL, SMSA COUNTIES	632	139,901	119,244	20,658	17.3	494,726	283	100.0	100.0	100.0		

[1] Includes corrections determined after 1970 census complete-count tabulations were made.

Source: For discussion of categories, see text. Land area and population data from U.S. Bureau of the Census, *Census of Population, 1970*, Vol. 1, State Reports.

criteria to require a higher density in outlying counties could affect the aggregate land area in SMSAs significantly, but would actually not have a very large effect on the total population of metropolitan areas, nor of most individual SMSAs.

Effect of Using Counties as Building Blocks—Closely related to the question of sparsely settled portions of SMSAs are various problems associated with the use of entire counties as building blocks. We can assess the effects of this in quantitative terms by comparing the SCSA/SMSAs with a delimitation of metropolitan areas that is conceptually similar but that does not use county building blocks. These are the Ranally Metro. Areas (RMAs) defined and published by Rand McNally and Company.[12]

Table 3 presents a 1970 comparison of the RMAs with the SMSAs. It shows that at that time the RMAs defined for SMSA central cities included more than 93% of the SMSA's, population but only 31% of their area. At that date, the RMAs also included 3.4 million population outside SMSAs as then defined, so that on a net basis the RMAs altogether had 96% of the total SMSA population on the equivalent of 36% of their area.

Additional striking evidence of the concentration of population within a limited portion of the SMSAs is provided by an unpublished analysis of area and population data for individual census tracts recently prepared by Peter Francese of the National Planning Data Corporation. Francese's data show that census tracts with a 1970 density of 500 or more persons per square mile account for 86% of the total population in SMSAs but comprise only 10% of the total area of SMSAs.

These and other data suggest that if the SMSA areas were to be redefined in terms of minor civil divisions, at least two-thirds of their area could be dispensed with, while their population would be reduced by a mere 6 to 8%. Again this emphasizes that variations in criteria by which boundaries are drawn at the outer edges of metropolitan areas tend to have relatively little effect on their total population but a major effect on their areal extent.

[12] Rand McNally and Company, *Commercial Atlas and Marketing Guide*, Chicago, 1976.

Are The SMSAs Underbounded

In all situations where the boundaries of SCSA/SMSAs adjoin nonmetropolitan counties, the existing SMSA criteria have been applied in full and without exceptions. What do the official rules leave out? Is there a significant level of commuting to SMSAs from nonmetropolitan counties outside their boundaries? If so, is this associated with high population densities? Do the SMSA boundaries as now established mark a sharp break between metropolitan and nonmetropolitan commuting and density patterns? It is also interesting to inquire how far from the typical SMSA significant commuting extends. Is it really true that most of the counties in the country could be assigned with some confidence to the commuting field of a metropolitan city, as Berry and others have contended[13]

Tables 4, 5, and 6 examine these questions, first for all nonmetropolitan counties and then for those comprising a 1-in-10 sample of the Bureau of Economic Analysis (BEA) Economic Areas. The BEA areas are metropolitan-centered regions that some have suggested would be an improved alternative to the SMSAs themselves.

Space does not permit us to review these data in detail. They suggest that in 1970 the impact of commuting to SMSAs from the nonmetropolitan portion of the nation was still quite moderate. About half the nonmetropolitan population—more than 25 million—lives in counties with less than 3% commuting to metropolitan territory. Only about 6 to 8% of the nonmetropolitan population—perhaps 4 million in all—lives in counties with enough commuting to qualify for inclusion in an SMSA. This group of high-commuting counties closely resembles the low-density group of counties that are currently included within SMSAs. Both have strong commuting links to the metropolitan center, but both have a settlement pattern in sharp contrast to that center, whose high population density is many times greater than theirs.

[13] Brian, J. L. Berry, Peter G. Goheen, and Harold Goldstein, *Metropolitan Area Definition: A Re-Evaluation of Concept and Statistical Practice*, U.S. Bureau of the Census Working Paper No. 28, Washington, D.C., 1968.

Table 8. SCSA/SMSA PAIRS WITH COMMUTING INTERCHANGES OF 5,000 OR MORE WORKERS OR WITH INTERCHANGE INDEX SCORES OF 10 PERCENT OR HIGHER: 1970

(Excludes New England. Large SCSA/SMSA is in CAPS. First-named SCSA/SMSA is the net gainer from the interchange. Some SCSA/SMSA names abbreviated for convenience in presentation)

Rank of interchange volume	SCSA/SMSA Pair	Total interchange	Gainer to loser flow	Loser to gainer flow	Interchange as percent of pair's total resident workers [1]	Interchange index [2]	Percent outcommuters—gainer to loser [3]	Percent outcommuters—loser to gainer [4]
1	WASHINGTON/Baltimore	43,601	18,980	24,621	2.36	5.79	1.73	3.27
2	NEW YORK SCSA/Philadelphia SCSA	29,504	10,831	18,673	0.39	1.58	0.19	1.00
3	HARRISBURG/York	14,498	4,954	9,544	5.18	11.50	3.22	7.57
4	Dayton/CINCINNATI SCSA	14,470	3,972	10,498	1.75	4.92	1.35	1.97
5	DAYTON/Springfield	14,248	1,377	12,871	3.99	22.57	0.47	20.39
6	SAN FRANCISCO SCSA/Santa Rosa	11,269	1,684	9,585	0.69	18.52	0.11	15.75
7	CLEVELAND SCSA/Canton	10,938	2,182	8,756	0.95	8.26	0.22	6.62
8	NORFOLK/Newport News	10,661	4,441	6,220	2.67	8.45	1.63	4.93
9	DETROIT SCSA/Toledo	10,442	2,232	8,210	0.59	3.90	0.15	3.07
10	RICHMOND/Petersburg	10,133	4,933	5,200	3.90	20.56	2.34	10.55
11	Flint/DETROIT SCSA	9,011	2,862	6,149	0.54	5.65	1.79	0.41
12	San Diego/LOS ANGELES SCSA	9,003	4,129	4,874	0.23	1.78	0.81	0.14
13	PHILADELPHIA SCSA/Reading	8,872	3,043	5,829	0.45	8.08	0.16	5.31
14	West Palm Beach/MIAMI SCSA	8,155	3,100	5,055	1.07	6.79	2.58	0.79
15	Steubenville/WHEELING	7,563	2,673	4,890	6.68	14.32	5.06	8.10
16	PORTLAND/Salem	7,303	3,076	4,227	1.73	12.39	0.85	7.17
17	Anderson/INDIANAPOLIS	7,263	3,180	4,083	1.59	15.06	6.59	1.00
18	Vineland/PHILADELPHIA SCSA	7,044	2,695	4,349	0.37	17.98	6.88	0.23
19	HARRISBURG/Lancaster	7,041	1,983	5,058	2.50	5.50	1.29	3.95
20	CHICAGO SCSA/Kenosha	7,004	737	6,267	0.26	18.43	0.03	16.49
21	SAGINAW/Bay City	6,695	1,672	4,923	6.17	17.58	2.41	13.12
22	Bakersfield/LOS ANGELES SCSA	6,326	1,893	4,433	0.18	6.27	1.88	0.13
23	PHILADELPHIA SCSA/Atlantic City	6,036	2,528	3,508	0.31	10.90	0.14	6.33
24	Utica/SYRACUSE	5,851	2,887	2,964	1.74	4.92	2.43	1.36
25	MILWAUKEE SCSA/Kenosha	5,824	2,787	3,037	0.94	15.32	0.48	7.99
26	PHILADELPHIA SCSA/Allentown	5,775	2,824	2,951	0.28	2.71	0.15	1.38
27	SAN FRANCISCO SCSA/Sacramento	5,646	2,065	3,581	0.31	2.09	0.13	1.33
28	Lakeland/TAMPA-ST. PETERSBURG	5,335	1,541	3,794	1.32	7.48	2.16	1.14
29	PHILADELPHIA SCSA/Baltimore	5,306	2,569	2,737	0.20	0.70	0.14	0.36
30	NEW YORK SCSA/Poughkeepsie	5,166	1,769	3,397	0.09	7.21	0.03	4.74

31	NEW YORK SCSA/Allentown	5,146	1,320	3,826	0.09	2.41	0.02	1.79
32	CLEVELAND SCSA/Youngstown	5,118	1,965	3,153	0.43	2.92	0.19	1.80
	BILOXI/Pascagoula	4,695	1,385	3,310	5.66	17.11	2.50	12.06
	DENVER/Greeley	4,660	1,398	3,262	0.94	15.14	0.30	10.60
	CHICAGO SCSA/Kankakee	3,682	716	2,966	0.14	12.71	0.03	10.23
	SAN FRANCISCO SCSA/Santa Cruz	4,565	796	3,769	0.28	11.69	0.05	9.65
	SALT LAKE CITY/Provo	4,782	1,469	3,313	1.65	11.23	0.59	7.78
	GREENSBORO/Burlington	4,325	1,415	2,910	1.32	11.00	0.49	7.40

[1] Total interchange between the pair as a percent of the pair's total resident workers who reported place of work.

[2] Total interchange as a percent of the reported workers living in the smaller SCSA/SMSA.

[3] Percent of reported workers living in net gainer SMSA who commute to net loser SCSA/SMSA.

[4] Percent of reported workers living in net loser SMSA who commute to net gainer SCSA/SMSA.

Source: U.S. Bureau of the Census, *Census of Population: 1970*, Final Report PC(2)-6D, "Journey to Work," and unpublished data.

Notes to Table 1:

Explanation of Groups—Group I. These counties all contain parts of the central city's urbanized area, but have insufficient commuting to qualify for the SMSA. Portions of them were included in Metropolitan Districts as long ago as 1930. They may be described as satellite areas that arguably belong in the SMSA, even though for special reasons their commuting is not very high. *Groups II and III.* These counties qualified in 1960 under the criteria then in use and came close to qualifying in 1970 under the current criteria. The Group II counties would also have qualified in 1960 by the current criteria; portions of the Group III counties were in Metropolitan Districts in 1930. For such cases, a rule requiring disqualification by two successive censuses before a county is dropped seems quite appropriate (see current Criterion 5). *Groups IV and V.* These counties have less justification for continued inclusion. The Group IV counties did qualify in 1960 by the then rules, but not in either 1960 or 1970 by the current rules. The Group V counties have never actually qualified, although circumstances at the time they were added to SMSA's in the 1960's may have suggested that they would do so by 1970.

Source: Land area and population data from U.S. Bureau of the Census, *Census of Population: 1960*, Vol. 1, State Reports, Table 6; and *Census of Population: 1970*, Vol. 1, State Reports, Table 9. Identification of nonqualifying counties and date first included in SMSA from Office of Management and Budget, *Standard Metropolitan Statistical Areas, 1975*, parts VIII and IX. Data on worker commuting from 1960 and 1970 census data on place of work, mostly unpublished.

Together, then, these counties on both sides of the SMSA boundary constitute a metropolitan penumbra of low density, extending outward from the high-density metropolitan core. This penumbral zone exists around practically every large American city. It is characterized by high commuting and low density, and is largely rural in appearance however metropolitanized it may be in terms of economic support. In one sense the penumbral zone has only limited significance to the metropolitan area as a whole, since it accounts for only a small fraction of its population or workers. It has a somewhat greater importance as part of the growing edge of the metropolitan area. Its chief significance is probably the picture of extensive metropolitan areal spread that is conveyed if these counties are included in the metropolitan definition. Broadly speaking, the total areal extent of SMSAs, which is currently about 500,000 square miles, could be either reduced or increased by 100,000 square miles, or 20%, by changes in the criteria that would affect the total SMSA population by less than 3% in either direction.

The present SMSA criteria divide the penumbral zone, but our evidence does not suggest that these criteria are distinguishing two sharply differentiated groups of counties on either side of the SMSA boundaries. Rather, the criteria have simply adopted one possible set of rules for establishing a linear boundary, within what is actually a transitional belt between the metropolitan core and nonmetropolitan territory.

Intermetropolitan Commuting.—Distinct from the question of the character of the nonmetropolitan counties contiguous to SMSA's is the problem of contiguous SMSAs and the criteria for determining whether two adjadent SMSAs should be combined or kept separate. As a measure for examining intermetropolitan commuter flows, we have adopted the *interchange index*, the total flow of commuters between any two areas (that is, residents of either area who work in the other area) as a percentage of the workers living in the smaller area. Also, we have adopted the SCSAs as single metropolitan entities, so that our presentation deals with 224 SCSA/SMSAs outside New England, instead of 246 SMSAs outside New England.

Even with the recognition of the SCSAs as statistical equivalents to SMSAs, many will expect to find that commuting links between other contiguous metropolitan areas are often strong. Indeed, some professional critics, journalists, and laymen have been sufficiently exposed to the curiously attractive concept of megalopolitan development as to suggest that the individual SMSA definitions are sometimes arbitrarily partitioning essentially continuous belts of metropolitan development, on the northeastern seaboard, around the southern shore of the Great Lakes, on the Pacific Coast, and elsewhere.

In fact, however, table 7 shows that commuting interchanges between contiguous SCSA/SMSAs are mostly rather small. Of 131 pairs of contiguous area, only 18, or 14%, had interchange indices of 10 or greater in 1970. For two-thirds of the pairs, the interchange index was below 5. In other words the total intermetropolitan commuter flow did not even amount to 5% of the workers residing in the smaller member of the pair.

Figure 1 locates geographically the 73 interchanges of 3% or more. Interchanges of some significance do not especially concentrate in the megalopolitan belt of the Northeast nor along the Great Lakes or the Pacific Coast. They are about as likely to occur between relatively isolated pairs of SMSAs in other parts of the country as is indicated by the geographical location of 73 interchanges of 3% or more.

Table 8 lists the inter-SCSA/SMSA interchanges with the largest total volume of workers, and shows a few numbers of considerable magnitude. The two largest interchanges are both in Megalopolis. The largest, involving 43,600 workers, occurs between the Washington and Baltimore SMSAs. The second largest, with 29,500 workers, occurs between the New York and Philadelphia SCSAs. Even 43,000 workers is not a very large number between entities with 1,097,000 and 753,000 workers respectively. The Washington-Baltimore commuter interchange represents less than 6% of Baltimore's workforce and a mere 2.4% of the combined workforces of the two SMSAs.

Several of the entries in table 8 will probably come as a surprise to most. Few would suspect, for example, that the third highest intermetropolitan commuting interchange in terms of

volume occurs between Harrisburg and York, Pennsylvania. The fact is that large-scale commuting interchange is rather exceptional between SCSA/SMSAs. When it does occur it often reflects unusually unlucky positioning of county boundaries, such that one city's urbanized area overflows into another's SMSA.

Tables 9 and 10 give the same data as tables 7 and 8, but using the SMSAs as separate entities and ignoring the SCSAs. They underscore that high commuting interchanges between SMSAs are concentrated in the areas now recognized as SCSAs.

Total Intermetropolitan Commuting.—Table 11 presents a summary of commuting between contiguous SCSA/SMSAs. Total intermetropolitan commuting flow between these SCSA/SMSAs was 509,000 in 1970. This represented barely 1% of their reported workers, providing further evidence of the high degree to which the SCSA/SMSAs correspond to separately identifiable metropolitan labor markets.

Conclusion

All in all, our data indicate that the official SCSAs/SMSAs provide demographers and other statistical consumers with a satisfactory identification and county-unit delimitation of the Nation's larger metropolitan areas, which is exactly what they are supposed to do. That the system's identification of separate metropolitan areas is quite satisfactory is demonstrated by the high degree of mutual independence evidenced by our data on intermetropolitan commuting.

The official system's determination of specific metropolitan boundaries is somewhat less satisfactory. Neither conceptually nor in practice must metropolitan area boundaries exclude zones of low-density settlement. The conceptual justification for the way the official criteria now divide the intermediate penumbral zone is not entirely clear. Besides this conceptual problem, the use of county units results in the inclusion of extensive areas that would otherwise not be metropolitan.

The official treatment of the penumbral zone and the limitation to county lines both produce large-scale overbounding. For more demographic and statistical purposes this does not constitute a serious disadvantage because the zone added by overbounding in most cases is sparsely populated and therefore comprises only a small share of the total metropolitan area population.

The effects of overbounding on metropolitan land area or extent are much more serious. Statistical consumers who overlook this weakness do so at the risk of introducing serious bias into their data. For example, only a demographer of extraordinary temerity or insouciance would attempt to draw any conclusions from data on population density for individual SMSAs or groups of SMSAs.

For related reasons, the official SMSA map itself needs to be viewed with a good deal of caution. It shows many instances of contiguous SMSAs, and several zones, some compact, some elongated along a lake or ocean coastline, where successive SMSAs are continuous and nonmetropolitan counties are rare. It has proved tempting to many to discover in these patches of continuous SMSA territory some new forms of metropolitan life, and to assign them names, sometimes grand and awe-inspiring like Megalopolis, sometimes uncouth and pejorative like Chipitts or Boswash. But many of these entities would never have been discovered without the areal exaggerations of metropolitan territory that are reflected in the official SMSA map.

In conclusion, then, the official SCSA/SMSA definitions are acceptable renditions of the actual metropolitan areas for statistical purposes. Nevertheless, consumers must take care not to mistake them for the metropolitan areas themselves.

Long-Term Economic Growth Models

EDITOR'S NOTE

In previous issues of *Statistical Reporter* there have been several discussions of the planning process associated with preparing *A Framework for Planning U.S. Federal Statistics, 1978–1989*. The text of the plan will be reviewed and revised by statistical agencies during the balance of this year. A revised draft will be the subject of public review and comment during 1977.

Selected drafts of various sections of the Framework will appear in *Statistical Reporter* during the coming months. While preliminary in nature, these drafts will be published in order to facilitate wide review of these materials. The chapter on Long-Term Economic Growth Models, which is one of the crosscutting issues of Section IV of the Framework, is published in this issue. Section I of the Framework was published in the September issue. For a full outline of the overall Framework, see pages 207 and 208 of *Statistical Reporter* for May 1976.

For background statements on the planning process, see Joseph W. Duncan, "Developing Better Long Range Plans for Federal Statistics," *Statisical Reporter*, No. 75-4, October, 1974; Robert W. Raynsford, "The Interagency Statistical Planning Effort, 1975," *Statistical Reporter*, No. 76-3, September, 1975; Paul O'Neill, "OMB's Role in Planning and Coordination of Federal Statistics," *Statistical Reporter*, No. 76-11, May, 1976.

Comments on these materials should be sent to the Statistical Policy Division, Office of Management and Budget, 726 Jackson Place, N.W., Washington, D.C. 20503.

Introduction

The development of long-term economic projections is not a new activity. There have been several long-term economic forecasting initiatives including the Paley Commission effort in 1952 and the Interagency Long-Term Growth Project in the early 1960's. Recently, however, the interest in long-term growth projections has accelerated. For purposes of this review long-term models are those which deal with developments over five or more years. The Statistical Policy Division of the Office of Management and Budget, with its responsibility for establishing statistical policy for all Federal Government agencies, has recognized the need for improved long-term statistical forecasting models. As a result, an Ad Hoc Interagency Committee on Long-Term Growth Projections was established in 1975 to review existing efforts in Federal agencies, to identify areas of common interest, and to examine options for improved coordination and integration of some of the various models.

At the outset, it is appropriate to recognize the limitations and difficulties of long-term economic forecasting. In a recent report, Data Resources, Inc. (DRI) discussed several sources of instability in the economy at present, including the disequilibrium of the international relations system, the world commodity situation, the legacy of double-digit inflation, the rapid changes of relative prices, and the overall financial condition of the economy. DRI concluded that:

> "Under these circumstances, it is very difficult to develop serious long-range plans for government and business. Economic planning is offered as one of the solutions to our difficulties. There are long-range matters which deserve better attention from our government. But increasing frequency of shocks and the continued uncertainties make it totally inappropriate to draw up elaborate plans which assume that the future can be known. The rational strategy for businesses and governments in an environment such as this one is quite different: to develop quick responsive capabilities to new shocks as they may come along, and to devise policies which at least partially insulate institutions and systems from the many sources of instability."[1]

Thus, in discussing and evaluating long-term economic growth projections, one must always keep in mind the fact that, under the present

[1] Quoted from "Data Resources, U.S. Long-Term Review-Summer 1975" in *National Energy Outlook*, February 1976, Federal Energy Administration, FEA-N-75/713, pp. B-1 to B-3.

economic instability, the best forecasting efforts may not be accurate enough in retrospect. It is important, however, to try to forecast the impact of current Government actions and outside events on the level of economic activity as a whole, on individual sectors and regions of the economy, and on the Federal budget in particular. Some guide to the potential effect of proposed programs derived from long-term forecasting can be an important policy tool when used in combination with other factors in comparing the impact of several possible alternative programs. Thus, the present use of long-term economic projections lies more in contributing an additional analytic dimension to the decisionmaking realm than in the area of actual knowledge of the future.

A list of several of the agencies presently involved in long-term projections illustrates the present scope of such activities within the Federal Government. The Economic Growth Branch and the Regional Economic Analysis Division of the Bureau of Economic Analysis of the Department of Commerce, the Economic Growth Division of the Bureau of Labor Statistics of the Department of Labor, the Economic Research Service of the Department of Agriculture, the Federal Energy Administration, the Energy Research and Development Administration, the National Science Foundation, the Environmental Protection Agency, various Bureaus of the Department of the Interior, and the Office of Preparedness of the General Services Administration all engage in long-term forecasting at some level. They have participated in the review of existing efforts presented in the next section.

Specific Project Descriptions [2]

BEA Growth Model. The Bureau of Economic Analysis (BEA) of the Department of Commerce is engaged in continuing development of, and projections with, a moderate-sized annual growth model of the U.S. economy. The BEA Model provides a[3] projection of Gross National Product (GNP) and its components, productivity, inflation rates, income items, and other aspects of the National economy. The BEA group maintains communications with other governmental units interested or involved in related work, especially the Bureau of Labor Statistics (BLS), in arriving at assumptions to be used for the projections.

The BEA model has also been applied within BEA to analyze the sensitivity of the economy to changes in various fiscal policy instruments and to determine capital requirements for full employment production. In addition, the model projections are used to assist other units within the Department of Commerce and other Federal agencies in their analyses of future economic conditions.

BLS Economic and Employment Projections Model.—The program of economic growth studies in BLS develops 5- to 15-year economic and employment projections of the U.S. economy by industry. The projections involve a detailed study of the growth of the U.S. economy under alternative scenarios, embodying assumptions about Federal economic policy and other factors which shape the future economic environment.

Attention is given to labor force and productivity growth, capital and material requirements, and changes in technology and the patterns of demand from individuals, governments, business and foreigners. Projections of output levels as well as labor and material requirements are currently made using a 125-sector disaggregation of the U.S. economy. In addition, staff capabilities, data bases and models developed for the projection effort are regularly employed to estimate the impacts of various Federal programs, legislative proposals, and other current or anticipated developments which may affect distribution of demand, rate of economic growth, or level and distribution of employment.

The major use of the projections within the Department of Labor is to supply an economic and manpower framework upon which esti-

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[2] For more detailed descriptions of these models, see Joseph W. Duncan, "Long-Term Economic Growth Forecasts in the Federal Government," a paper in the study series *U.S. Economic Growth from 1975–1985: Prospects, Problems, and Patterns*, by the Joint Economic Committee, U.S. Congress, to be published in late 1976; or *Computer Simulation Methods to Aid National Growth Policy*, Staff Report prepared for the use of the Subcommittee on Fisheries and Wildlife, Conservation, and the Environment of the Committee on Merchant Marine and Fisheries, U.S. House of Representatives by the Futures Research Group, Congressional Research Service, Library of Congress, July 30, 1975, Serial 94-B (56-725 0).

[3] Recent uses of the model involve projections to 1985, although projections as far as 2000 have been made.

mates of future occupational requirements are made. The Bureau of Labor Statistics regularly publishes detailed information on the outlook for employment in a large number of occupational categories.

The projections have also been used within the Labor Department and other parts of the Federal Government as a framework for assessing a number of diverse economic problems such as capital requirements, manpower utilization, and energy policy. In addition, several State and regional agencies, private research groups, and business organizations have used the projections as a "national" framework within which to develop their own, generally more disaggregated, projections. In order to make the projections as generally available as possible, a large amount of detail is published and, in addition, historical and projected data bases are made available on computer (magnetic) tape.

BEA-BLS Coordination.—In the early 1960s the Interagency Growth Project (consisting of BLS, BEA, and OMB, and chaired by the President's Council of Economic Advisers) guided and funded the development of a basic projection model by Dr. Lester Thurow, then at Harvard. Both BLS and BEA have enlarged and modified this basic model to reflect their separate needs for detail and focus in economic projections. They maintain close communications to ensure comparability of results from the two models in the sense that, given the same fiscal policy assumptions, the models will project the same growth rates of GNP and the same unemployment levels.

Frequently, their uses of the models differ in that BLS sets an unemployment assumption and modifies the fiscal policy assumption to achieve the assumed level of employment. BEA's model can be used this way, but BEA generally assumes various proposed fiscal policy packages and observes what the resulting unemployment rate would be for each.

The OBERS Program (BEA/ERS).—The Regional Economic staff of the Bureau of Economic Analysis has a separate projection effort in cooperation with the Economic Research Service (ERS) of the Department of Agriculture to produce area economic projections of population, employment, personal income, and earnings for 37 industry groups. BEA produces the major economic projections, while ERS produces projections only for the agricultural sector of the economy. This subnational projection program was begun at the request of, and with financing by, the U.S. Water Resources Council which uses the projections to assess water resources requirements and to evaluate programs. The projections involve a combination of econometric modeling and judgment.

The ERS Economic Projections Program.—The agriculture portion of the OBERS projections is derived from a larger program within ERS. When ERS was reorganized in 1973, the National Economic Analysis Division (NEAD) was given responsibility for developing an additive, ERS-wide Economic Projections Program with a quick-response capability. NEAD has developed the core of the National-Interregional Agricultural Projections (NIRAP) system which provides OBERS data as one of its functions.

The NIRAP system is a computerized simulation of the food and fiber system, with a 10-year horizon for most projections. It can simulate alternative futures economic conditions based on scenarios differing with respect to major uncertainties which have an impact on food and fiber and with respect to policy decisions and programs designed to alleviate specific problems. By systematic scenario development and comparative analysis of alternative future economic conditions, the range of possible adjustment paths for food and fiber can be bracketed, an early warning of potential difficulties provided, and possible solutions to potential problems and trade-offs between policy goals evaluated.

Federal Energy Admninistration Forecasts.—Long-term Federal Energy Administration (FEA) projections are made through the Project Independence Evaluation System (PIES). This system generates planning estimates depicting possible states of the energy system. The model is used in two ways: (1) to help the Administrator of FEA in his policy role by analyzing the impact of various energy policies and (2) to develop a set of projections of what the energy picture will be in the future. The principal result of PIES is the determination of equilibrium prices and quantities of energy by type and region at specified future time points, based on specified alternative energy policies.

Energy Research and Development Administration (ERDA) Projections.—Energy-related projections have been published as a part of "A National Plan for Energy Research, Development and Demonstration: Creating Energy Choices for the Future."[4] These projections are the product of a system created for ERDA by the Brookhaven National Laboratory (BNL), which uses as its macroeconomic framework the DRI projections. The projections, which are for the years 1985 and 2000, include total energy demand, imports required, electricity used, and other factors of the national energy system, projected under a variety of scenarios.

Projections of the energy system in 1985 and 2000 based on alternative assumptions have been used extensively by ERDA in developing the substance of their Plan for Energy Research, Development, and Demonstration. Implications of various alternatives, such as (1) conserving energy by developing greater efficiencies at end-use or (2) extracting more coal and oil from current locations by developing more effective recovery technology, are examined in terms of projected imports, demand, and other facets of the energy system. The results suggest which approaches are best for long-term and intermediate-term periods.

Environmental Protection Agency.—The Environmental Protection Agency (EPA) established the Strategic Environmental Assessment System (SEAS)[5]. It is a collection of interdependent models used to forecast the state of the environment which would result from alternative environmental policies and socioeconomic trends. Forecasts are presented annually through 1985. The socioeconomic trends are predicted outside the SEAS system, and the environmental policy alternatives are generated by decisionmakers in EPA.

Other Modeling Efforts.—Throughout the Federal Government many agencies prepare projections about particular sectors of the economy or industries with which they are directly concerned. One example is the Office of Preparedness of the General Services Administration (GSA) which develops projections of future needs for various critical materials in order to determine proper amounts to stockpile.

Another example is the Department of the Interior. Within this Department there are several long-range projection programs. These are all single-sector efforts. Some can be used as policy analysis models to see the effect on particular sectors of certain policy alternatives, but most are basically attempts at projection based on current programs. These programs include: the Minerals Availability System, projecting amounts of various minerals which will be available at certain times in the future; energy projections from the Bureau of Mines thorugh the year 2000; regional electricity supply and demand forecasting by the regional power administrations; recreation site use forecasting by the National Park Service; and analysis of regional impact of offshore drilling by the Bureau of Land Management.

Additional Model Users: Treasury, OMB, CEA, FRB.—The discussion thus far has focused on long-term economic growth models built and utilized by the Federal Government from a model builder's perspective. Many governmental groups use long-term forecasting as input to their decisions, as a basis for policy advice to the President, or even to make projections of their own, without actually developing a large econometric model within their own agencies. Examples include the Department of the Treasury, the Federal Reserve Board (FRB), the Office of Management and Budget (OMB), and the Council of Economic Advisers (CEA). Each, for reasons that vary, finds it impractical to develop an internal long-term model, but uses the results of other modeling efforts to shape its views of the future.

Each agency has different needs for long-term projections and different ways of dealing with those needs. The CEA, for instance, is an advisory body to the President. It is asked for expert opinions on complicated economic questions, usually with a very short time to develop these opinions. Because the questions it investigates are so diverse, a model suitable for all of them would be infeasible. Instead of attempting to build an in-house model, the CEA

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[4] ERDA-48, Vol. 1: *The Plan,* GPO No. (1975) 0-579-905. More recent projections are contained in ERDA-76-1, *A National Plan for Energy Research, Demonstration, and Development: Creating Energy Choices for the Future: 1976.* Vol. I: *The Plan.* GPO No. (1976) 052-010-00478-6.

[5] It should be noted that the President's Budget for FY 1977 contains no funds or personnel for the SEAS project.

relies on many external efforts, both public (BEA, BLS) and private (DRI, Wharton, Chase). This works well because different models are suited to answering different questions, and CEA is able to draw on the strengths of each model.

Each year the CEA, Treasury and OMB develop five-year projections of major economic variables (such as national output, rate of inflation, and unemployment rate) by extrapolating the effects of the President's proposed fiscal policy as reflected in the budget. These projections use both the BEA and private models.

The use of models by CEA and OMB offers an illustration also of how long-term models and analyses affect policy decisions. In CEA's case, a question is posed whose answer requires long-term projections. The question may be "what would be the effect of various alternative policies?". By running the proposed alternatives on an appropriate model, or on two models and combining their results, such a question can be answered fairly accurately. Some of the more special-purpose models (e.g., the energy-related models of FEA or ERDA) can likewise be used to answer "what if?" questions. In addition, the projections obtained from using the models can be used as input. On the other hand, models can be used by policymakers to show what actions must be taken now to achieve a particular policy goal. Thus, in the Project Independence Report, the policy goal was the achievement of energy independence. The PIES model enables policymakers to evaluate what steps would best encourage achievement of that goal by showing how much independence could be gained, how quickly, under various possible energy policies.

The existence of several large-scale long-term modeling efforts in the Federal Government is thus useful to the policymakers of the agencies involved and also to other agencies.

Issues and Recommendations

Since mid-1975, the Ad Hoc Interagency Committee on Long-Term Growth Models, chaired by the Statistical Policy Division of OMB, has met on several occasions to exchange information on existing modeling efforts and to discuss potential areas for improved coordination. These discussions and the material presented earlier have highlighted three important points:

1. *A greal deal of informal communication already occurs between modeling teams as a result of the need to find solutions to complex problems.* Hence, a set of outputs from one model frequently becomes useful input to a second model focused on a different set of issues, so that the models are often complementary rather than redundant. Similarly, complex modeling techniques or data problems are often discussed, resulting in improvements to the various models considered.

2. *A permanent Interagency Committee on Long-Term Growth Models is appropriate, with regularly scheduled meetings to ensure that information exchange occurs on an timely basis.* The Ad Hoc Committee displayed an interest in improved coordination through a standing and active committee to enhance the collaboration which currently occurs on an informal basis.

3. *The diverse objectives of agencies require considerable freedom in specifying model objectives and selecting methodological approaches.* Thus, the Committee feels that a single central model would not be an effective way to meet the Federal Government's needs for long-term analysis.

These points are elaborated in the next sections.

1. *Informal Coordination*

The selected projects described in this paper illustrate the diversity of existing Federal Government efforts to develop long-range models and related models in selected key policy areas. These models have not all been developed independently. When long-range modeling was first initiated through the Interagency Growth Project, it was clearly a coordinated approach involving continuing participation of key agencies, especially BEA and BLS. Over time, as the program matured and the critical methodological issues were resolved, the efforts became more specialized, with primary attention being given to refinements of procedures and the production of updated versions of the results. Thus the need for a final coordinating effort diminished, and the Committee became inactive.

The BEA model projections also incorporate projections of other Government agencies for a number of the necessary exogenous inputs. For

example, the Bureau of the Census population projections and the labor force projections of the Bureau of Labor Statistics are significant inputs to the demographic assumptions in the BEA model. Also, BEA consults the Social Security Administration, the Civil Service Commission, the Department of Defense, and the Bureau of the Census for projections of Social Security developments and retirements of Federal, State, and local government employees.

Coordination between the Interagency Growth Project and other agencies generally takes the form of informal technical exchanges. In many cases, these exchanges provide valuable insights which enhance the quality of the projections. For example, BLS has recently held discussions with the Commerce Department's Regional Economics Division, the Federal Energy Administration, and the Environmental Protection Agency in order to help provide consistency in the macroeconomic environment assumed for the different studies and to avoid duplication of effort.

The OBERS project is another program which was developed as a cooperative effort. The OBERS, in fact, is an acronym derived from BEA's former title, the Office of Business Economics (OBE), and ERS. OBERS also directly uses Census population projections by age and sex group and the Bureau of Labor Statistics' projections of the labor force by age and sex group as the national controls for projections of related data.

Another example of close coordination is that the ERDA projections made by Brookhaven National Laboratories and the FEA/PIES projections are checked for consistency as far as 1985, the farthest year for which FEA makes projections.

The Interior Department programs involve varying degrees of coordination. The Minerals Availability System has been coordinated with the Geological Survey in collecting supply data and uses demand projections from outside the system. The study, *U.S. Energy Through the Year 2000,* draws extensively on all information available from other agencies, including the FEA, FPC, and FTC. The recreation site forecasting project uses Census and OBERS projections. The Continental Shelf program uses some energy forecasts from the Bureau of Mines and the PIES study and some analysis done by SEAS.

So throughout the area of long-term forecasting, extensive and rather successful coordination is found—in both formal and informal terms.

2. *Interagency Committee on Long-Term Growth Models*

Although a great deal of informal interagency communication now takes place, the discussions of the Ad Hoc Committee demonstrated that a formal committee would be extremely helpful. Its most important function would be to facilitate the exchange of information between model builders at several levels. Meetings could be organized around particular technical issues of interest to all long-term economic growth modelers. Such topics include what population projections are available and how they were arrived at, what range of productivity assumptions are reasonable, and other discussions of data or assumptions that are essential to nearly all models.

One aspect of these discussions would be that modelers who use, for example, energy forecasts from ERDA, would be able to discuss with ERDA modelers the assumptions behind those forecasts and their limitations. They would then be better able to judge how much they should lean on those energy forecasts in their own models or what changes they should make to be consistent with particular assumptions implicit in their own efforts. ERDA uses inputs from other models as well. Thus, the process would be one of mutual information exchange. These discussions should occur at regularly scheduled intervals and are expected to be of interest and value primarily to the technicians who are actually building and running the models.

An active and continuing Interagency Committee should also have a larger role to play in relation to major users of the models. This would involve coordinating and emphasizing the policy purposes and user needs for the models. There should be periodic meetings between the policymaking users within the Departments which build the models and outside users such as CEA, Treasury, and the Federal Reserve Board to explore specific uses of existing models. This would result in an exchange of ideas and greater understanding of the powers and limitations of the available models. These meetings should also focus on unmet

needs that users have—a discussion which could be very helpful to the model builders in their efforts to improve the utility of their models.

There are other tasks this Committee might wish to undertake. One is the publication of a User's Guide to Long-Range Growth Models in the Federal Government. Another task might be to survey public and private model users to discover unmet needs. A very important function would be defining data gaps—types of data which many models require, yet which are not currently available.

As a result of the discussion of these ideas by the Ad Hoc Committee, the need for and a purpose of a formal interagency committee became clear. Since the needs for improved data and data standards are a direct product of such a committee, the Statistical Policy Division of the Office of Management and Budget plans to establish an Interagency Committee on Long-Term Growth Models as a continuing activity with regularly scheduled meetings. These meetings will be designed to ensure a more intensive effort to share data needs and results and to serve the needs of model users.

3. *Problems With A Single Central Model*

There are two major points in favor of building only one macro-economic model within the Federal Government. The first is that it could serve as an "official" forecast. All the single-sector or smaller-scale models could use the same national-level estimates as input, and this would be a major step towards coordination of these smaller-scale forecasts. It would also lead to much greater comparability among the forecast results. The second major advantage in theory would be efficiency. By concentrating the Government's macro-economic modeling ability in one place, it seems reasonable to assume that a better model could be developed, at less total cost than is required to develop separate macro models in different agencies.

Unfortunately, these advantages are not likely to be realized. Against the prospect of a single set of predictions for all models to use, is set the diversity of needs evidenced by model users. The BLS model requires labor force projections in great industry detail, while the ERDA models require a fine breakdown of energy demand by end-use, for example. To include this degree of detail for all sectors would overburden a model to the point of infeasibility.

The potential gain in efficiency of building only one model is likely to be more than off-set by the technical impracticality of trying to generate data in great detail from one model in one agency to be used as input into a specific sector model in another agency. The details of data transfer are difficult enough when the transfer is between two programs in one computer. The agencies of the Federal Government not only have different computers, but different models and types of computers, so the problems involved in data transfer alone would make a single central model extremely expensive. Furthermore, different sectoring may be appropriate for models used for varying purposes. Finally, although fiscal assumptions may be standardized for some purposes, in other cases the end product desired is fiscal impact, so that a model whose purpose was to investigate the impact of one set of fiscal policies could not use forecasts based on assuming a different set. The conflict of inputs in one case being outputs in another case is found throughout the variables used in the various models.

While the importance of improved coordination in modeling efforts is evident, it was a clear consensus of the Ad Hoc Interagency Committee that it would be inappropriate and, in fact, counterproductive to attempt to achieve a single general-purpose model and single standard set of assumptions to meet the needs of all the different agencies. In fact, most participants believe that pluralistic analysis and conflicting assumptions strengthen the opportunities for effective policy debate, and that a restriction of assumptions or methodology raises a high risk of sterilizing that debate. While rejecting the practicality of a single model, the Ad Hoc Committee discussions stressed the importance and value of a formal interagency committee in performing a centralizing role. For example, consensus values of GNP growth or labor force size could be reached which most modelers would feel comfortable in using at least as baseline figures.

It should be noted, however, that if the Committee were to develop consensus values and assumptions that would be guides for individual models, these would change over time as

knowledge of events changed. This process of adjustment is common to all forecasting efforts, even in fields as well understood as demography. Between 1967 and 1975, changes in fertility rate trends have caused the projected 1990 population to be lowered by 20% in the category of people born after 1965. Similarly, the abundant energy assumptions concerning economic growth made a decade ago have been largely replaced by the energy-constrained assumptions that characterize current estimates. Thus even agreed-on assumptions will change over time, and any effort to reach consensus estimates must be designed to be highly flexible and subject to frequent modifications. Hence, it seems inevitable that different reports by different agencies at different times will result in diverse projections of the future. The proposed Interagency Committee, however, should be able to surface and to transmit such changes in assumptions and trends to Federal model builders more quickly.

Summary of Findings

1. The major forecasts of the national economy are made by the Bureau of Economic Analysis of the Department of Commerce and the Bureau of Labor Statistics of the Department of Labor. Many other Federal agencies (including the Federal Energy Administration, the Environmental Protection Agency, the Economic Research Service of the Department of Agriculture, the Energy Research and Development Administration, the Department of the Interior, and the Office of Preparedness of the General Services Administration prepare long-term forecasts for more narrowly defined sectors of the economy.

2. There is a high degree of informal coordination between forecasting groups of various agencies, but there is a growing need for a more formal "Interagency Committee on Long-Term Growth Models," which would meet on a regularly scheduled basis for the timely exchange of information and discussion of technical and data developments of interest to modelers. The Statistical Policy Division of the Office of Management and Budget plans to establish this committee.

3. There is a strong feeling that the establishment of a central economic forecasting model would be counterproductive and too binding in developing helpful decisionmaking tools. One reason for this is that the purposes of each model are so diverse that no one model could serve them all. Another reason is that the technical difficulties of interface between separate models are such that a central model would not be efficient.

CURRENT DEVELOPMENTS

VINCENT BARABBA FIRST RECIPIENT OF STATISTICAL POLICY DIVISION DISTINGUISHED SERVICE AWARD

At a recognition reception for Vincent P. Barabba held on September 20, 1976, Joseph W. Duncan, Deputy Associate Director for Statistical Policy, presented Mr. Barabba with the first Certificate of Distinguished Service which was recently established by the Statistical Policy Division of the Office of Management and Budget to recognize persons who have made outstanding contributions to the Federal Statistical System. Mr. Barabba, who resigned as Director of the U.S. Bureau of the Census effective September 27, was cited for his leadership as Director of the Bureau of the Census from 1973 through 1976.

The Certificate of Distinguished Service will be periodically granted by the Deputy Associate Director for Statistical Policy to individuals who provide outstanding service to the Federal Statistical System in one or more of the following ways:

1. A sustained period of leadership of a major statistical agency program.
2. Major contributions to the development of methodology or statistical techniques.

3. Substantial contribution to the quality of Federal statistics through service or leadership in providing outstanding review of the Federal Statistical System.

Recommendations for the Certificate of Distinguished Service can be made by any individual or organization. Recommendations should be forwarded to the Deputy Associate Director for Statistical Policy. The recommendations will be reviewed by the Statistical Policy Division Management Committee and/or the OMB/American Statistical Association Advisory Committee on Statistical Policy.

A roster of recipients of the Certificate of Distinguished Service will be maintained by the Statistical Policy Division. Recipients will be announced periodically in *Statistical Reporter*.

OMB, CENSUS BEGIN PUBLISHING STATUS

The U.S. Bureau of the Census and the Office of Management and Budget, with the cooperation of members of the Federal statistical system, inaugurated a four-month trail period in July 1976 of *STATUS—A Monthly Chartbook of Social and Economic Trends*. The publication of *STATUS* on a regular subscription basis will start with the November issue.

The purpose of *STATUS* is to present selected current and important social and economic statistical information from all agencies in the Federal Statistical System in a readily understandable form, quickly and accurately. The magazine uses colorful and concise statistical charts based on computer graphic techniques. Each issue of *STATUS* contains five major sections: People, Community, Economy, Other Trends (such as science and the environment), and a Special Feature providing more extended treatment of a subject of major public interest (recent examples: public health, the elderly population, and education.).

Annual subscriptions to *STATUS*, at $43 per year (or single copies at $3.60 each), may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (JOHN C. DESHAIES, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-2490 and C. LOUIS KINCANNON, OFFICE OF MANAGEMENT AND BUDGET, EXECUTIVE OFFICE OF THE PRESIDENT, telephone (202) 395-3211.)

PRESIDENT'S REPORTING BURDEN REDUCTION PROGRAM

TEXT OF MEMORANDUM TO THE HEADS OF EXECUTIVE DEPARTMENTS AND ESTABLISHMENTS REGARDING PRESIDENT'S REPORTING BURDEN REDUCTION PROGRAM, SEPTEMBER 1, 1976.

At the Cabinet meeting on July 23, 1976, the President indicated that he was pleased with the objective of reducing the number of Federal reporting forms had been achieved. The President also expressed his continuing concern about the burden on the American public of providing information to the Federal Government. He was particularly concerned that the reporting burden had increased, despite the reduction in the number of forms.

The President's July 23, 1976 memorandum set as a goal for 1977 a five percent reduction in the hours required to respond to the Government's requests for information from the public. He set a further goal of an additional 15 to 20 percent reduction in reporting burden by the end of Fiscal Year 1978. The higher goal for Fiscal Year 1978 is designed to offer each agency the opportunity to recommend and obtain enactment of legislative changes which will permit significant reductions in reporting burden.

At the direction of the President, the following steps are being taken to secure the achievement of his goals for Fiscal Years 1977 and 1978:

1. Ceilings for the number of repetitive and single-time reports have been established for each department and independent establishment in order to assure that the gains which have already been achieved in reducing the number of reporting forms are not lost.
2. Guidelines to assist you in your efforts to control the number of reports used by your department or agency and to help you to reduce the burden of reporting have been prepared.

The monthly inventory of OMB approved reports will be used as a basic tool to monitor progress toward the achievement of the President's goals.

A copy of your department or agency inventory of repetitive and single-time reports approved for use as of June 30, 1976, is enclosed.

This is the base from which savings in reporting burden will be calculated

This inventory should be reviewed carefully. If the estimated number of responses or the estimated number of hours of reporting burden is inaccurate, notify the Clearance Officer, Statistical Policy Division, in order that corrections may be made. Corrections which result in increases or decreases in the number of responses or reporting hours will not be regarded as increases or decreases for the purposes of any measurement of results of the President's program.

If, during the course of the President's program, the usage of a report rises or declines for reasons not under the control of the department or independent establishment, the resulting increase or decrease in reporting hours will not be regarded as an increase or decrease for the purpose of evaluating the results of the program.

Twenty major agencies are participating in the President's management initiatives program. Each of these agencies was requested to supply, by August 23, 1976, a tentative plan for reducing paperwork burden. This plan should identify actions to be undertaken through December 31, 1976, though FY 1977 and through FY 1978. Each agency is encouraged to adopt goals or targets in excess of the minimums required by the President. The plan should identify specific targets and the timetable for achieving those targets. If you can now identify specific reporting requirements which deserve immediate attention, your plan should indicate what actions you intend to take regarding these requirements and when you intend to take them.

The OMB Associate Director for Management and Operations, Mr. Fernando Oaxaca, will shortly establish a series of burden reduction workshops to more fully explain what is expected of departments and agencies in the fulfillment of the President's objectives and to discuss any problems which departments and agencies may encounter in securing them. Agency planning and actions to achieve these objectives should not wait, however, on participation in these workshops.

James T. Lynn, *Director*
Office of Management and Budget.

GUIDELINES FOR REDUCING PUBLIC REPORTING TO FEDERAL AGENCIES

I. *Guidelines for Controlling the Number of Reports*

Objective: To control the number of reports used by executive agencies while permitting a degree of flexibility.

A. A ceiling of 4,700 repetitive reports and 600 single-time reports is established for agencies in the executive branch subject to the provisions of the Federal Reports Act (44 U.S.C. 3501-3512).

B. Each department and independent agency has a ceiling on the number of repetitive reports and a ceiling on the number of single-time reports.

C. The following guidelines come into effect for any department or agency which reaches its ceiling. They will remain in effect until the number of repetitive reports and single-time reports used by the department or agency are reduced to the number in use on June 30, 1976.

(1) No request for clearance of a new report is to be made unless:

(a) the report is *specifically required* by law, or

(b) the report is required to obtain information *specifically requested* by Congress, or

(c) the request for clearance of the proposed new report is accompanied by a request for the elimination of an existing report. The elimination of an existing single-time report is not acceptable as an offset to the introduction of a repetitive report, or

(d) an exception is granted per guideline I-C(3).

(2) No request for clearance for the continued use of an existing report is to be made unless:

(a) the report is *specifically required* by law, or

(b) the request for clearance is accompanied by a request for the

elimination of an existing report. The elimination of an existing *single-time* report is not acceptable as an offset to the continued use of repetitive report, or

(c) an exception is granted per guideline 1-C(3).

(3) If the head of a department or agency determines that there is *no* approved report which can be eliminated in order to meet the requirements of C(1)(c) or C(2)(b) above, he may request an exemption from these guidelines by certifying his determination to the Director of the Office of Management and Budget. It is intended that this determination, certification, and request for exemption be made by the head of the department or agency and not by any person to whom he has delegated his clearance authority.

(4) If an exemption is granted by the Director, it will apply only to a specific request for clearance. A separate determination, certification, and request for clearance must be made for each case for which an exemption is sought.

D. In some cases one agency collects information on behalf of another. In such a case, if the data collection involves a separate survey, the ceiling of the sponsoring agency will be reduced by one and the ceiling of the collecting agency will be increased by one.

11. *Guidelines for Reducing Reporting Burden*

Objective: To reduce the burden of public reporting by 7,000,000 hours by September 30, 1977. The reduction is to be achieved in the burden of reporting associated with repetitive reports. The burden of reporting associated with single-time reports is to be no higher on September 30, 1977 than it was on June 30, 1976.

A. Guidelines for agency use in achieving a reduction in reporting hour burden of existing or prospective data collections.

(1) Review the essentiality of the report. Request clearance only for those reports which are *essential* to policy decisions, program planning, management, or evaluation.

(2) Review the practical utility of the information collected. If it is not used for reasons beyond the agency's control, do not collect it even though it may be "needed." (See paragraph 4, Attachment A, OMB Circular No. A-40, Transmittal Memorandum No. 1, February 10, 1976.)

(3) Reexamine use of samples, cutoffs, and similar techniques which can reduce reporting burden. If these techniques are not being used, why can't they be used? If they are being used, can the samples be reduced or cutoff levels raised?

(4) Reexamine the need for frequency of data collection. Would less frequent data collection adequately serve minimum department or agency needs?

(5) Consider the possible use of "short" forms for use by individuals or by small organizations when an inquiry is addressed to a universe or sample containing large organizations, small organizations, and/or individuals.

(6) Address special efforts to a reexamination of the use of information collected by "large burden" programs such as medicare and medicaid, the food stamp program of the Department of Agriculture, and the like. Such special efforts should concentrate on an evaluation of the practical utility of the information collected.

B. Guidelines to be used by OMB in review of requests for clearance.

(1) *Applications.* No request for clearance of a new application form or for the continued use of an existing application form will be granted for forms which contain anything other than the information necessary to determine (1) whether the appli-

cant is eligible to receive the benefit applied for or (2) the amount of benefit to which an eligible applicant is entitled.

When narrative statements are required as part of an application, reporting instructions are to be explicit as to what is needed.

An agency which required the name or names of project directors/principal investigators (and information on their staffs) as part of an application is required to present a specific justification for such information in its request for clearance under the Federal Reports Act and to describe the consequences of not receiving it.

(2) *Program evaluation.* Reporting and data collection required for program evaluation must directly contribute to the assessment of the degree to which program goals have been achieved or to the assessment of the effects of programs or their processes or management. Acquisition of large amounts of descriptive data not directly relevant to these purposes is to be avoided.

(3) *Other management reports.* No report is to be required of an employer of fewer than 100 employees unless the report is specifically required by law or unless the report is consequent to a benefit received.

(4) *Statistical surveys or reports.* No statistic program which collects information annually or more frequently shall be designed to produce geographic detail below national totals for the United States unless:

(a) the information is required by law more frequently than would be provided by a census *and*

(b) cannot be obtained from existing administrative records *or*

(c) the data collection is an integral part of a specific Federal-State cooperative program or of a specific Federal-local government cooperative program.

*Federal agencies are not to engage in any data collection activities which are not financed wholly by Federal funds, *except* data collection which is undertaken as a consequence of cooperative efforts with State and/or local governments.

It is expected that data collections for statistical purposes will have a response rate of 75 percent. Proposed data collections having an expected response rate of less than 75 percent require a special justification. Statistical data collection activities having a response rate of under 50 percent should be terminated. Proposed statistical data collection activities having an expected reponse rate of less than 50 percent will be disapproved.

An agency will make every reasonable effort to assure that no individual and no employer of fewer than 100 is included in more than one of its statistical samples at the same time.

(5) *Data collection for research purposes.* Data collections for research purposes will be approved only if (1) they test a stated hypothesis or (2) they are part of an investigation designed to discover new facts or principles in a specified area of knowledge. The anticipated benefits expected from the data collection and the consequences of not engaging in the proposed data collection are to be specified.

(6) *Grant-in-aid reporting.* Grant-in-aid programs are expected to use the uniform grant reporting procedures set forth in FMC 74-7 and OMB Circular Nos. A-110 and A-111. Agencies may ask for less information than is included in the uniform grant reporting procedures, but may not ask for more in-

*This provision has been suspended until December 31, 1976. A hearing was held by the Office of Management and Budget on September 15, 1976 to hear industry comment on this provision.

formation unless (1) the additional information is specifically required by law or (2) is specifically required by Congress even though not required by law.

Grant-in-aid reporting shall be required only of the grant recipient. Reports from subgrantees, projects, or ultimate beneficiaries are not be required unless specifically required by law or by Congress.

(7) *Exemptions from these guidelines.* The head of a department or independent agency may request an exemption from any of these guidelines for a particular case. A request for such an exemption may be made only by the head of the department or agency and may not be made by anyone to whom clearance responsibilities may be delegated. A request for exemption must describe why the particular exemption sought is necessary to the proper performance of the department's or agency's functions.

III. *Guidelines for Reducing Reporting Burden by 20,000,000 Hours Subsequent to September 30, 1977*

Objective: To recommend changes in legislation which would achieve an additional 20,000,000 hours reduction of reporting burden.

A. During FY 1977 identify legislative sources of specific reporting and recordkeeping requirements which the department or agency regards as excessive.

B. Recommend specific changes in legislation which could reduce the excessive reporting or recordkeeping requirement. These recommendations are to be reported quarterly to OMB, beginning December 31, 1976, together with an estimate of the savings in reporting burden which could be secured if the recommendations were enacted.

(ROYE L. LOWRY, STATISTICAL POLICY DIVISION, OFFICE OF MANAGEMENT AND BUDGET, telephone (202) 395-3772.)

BANKING AND MONETARY STATISTICS, 1941—1970

The Board of Governors of the Federal Reserve System has recently released *Banking and Monetary Statistics, 1941–1970.* An earlier volume, *Banking and Monetary Statistics, 1914–1941,* has been reprinted and is also available.

These two volumes were designed to assemble in convenient form statistics previously published in the Board's Annual Reports and the Federal Reserve *Bulletin.* In combination they present a wealth of information covering a period of more than 60 years.

Included are most of the financial series for which current data are published in the *Bulletin* and some series that are no longer shown but that are of historical interest. The statistics relate in large part to the condition and operation of the Federal Reserve Banks and member banks, but there are also data on the condition and operation of all banks, including nonmember State banks, and on bank debits, bank income, bank suspensions, and bank holding companies. In addition, there are statistics on nonbank financial institutions, currency, money rates, securities markets, Treasury finance, consumer credit, gold, and international financial developments.

Copies of both volumes are available from Publications Services, Division of Administrative Services, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. The cost per copy is $5.00 for the 1914–1941 reprint and $15 for the 1941–1970 volume. (BETTY SETTE, DIVISION OF RESEARCH AND STATISTICS, FEDERAL RESERVE BOARD, telephone (202) 452-1567.)

REVISED MORTGAGE DEBT STATISTICS

The Board of Governors of the Federal Reserve System has revised the mortgage debt statistics presented on page A42 of the Federal Reserve *Bulletin* to reflect new benchmark information for property-type totals and recent developments in the structure of the mortgage finance industry.

The revised historical data are available upon request from the Mortgage and Consumer Finance Section, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. (DAVID SEIDERS, DIVISION OF RESEARCH AND

STATISTICS, FEDERAL RESERVE BOARD, telephone (202) 452-3179.)

BENCHMARK SURVEY OF FOREIGN DIRECT INVESTMENT IN THE UNITED STATES, 1974

A benchmark survey of foreign direct investment in the United States in 1974 has been completed by the Bureau of Economic Analysis. The survey covered some 10,200 U.S. legal entities owned 10% or more by foreign persons. The data provide measures of direct investment activity for the year 1974, including extensive breakdowns by industry of U.S. affiliate and by country of foreign parent for the direct investment position; the directly measurable balance of payments transactions between U.S. affiliates and their foreign parents; the shares of the foreign parents in the earnings of their U.S. affiliates and the portion of those shares reinvested in the U.S. affiliates; and other financial and operating data of U.S. affiliates, including balance sheet and income statement data.

Data are given by State on acres of land owned and leased, property, plant, and equipment, employment, and wages and salaries.

The benchmark survey results are published in Volume 2 of the Commerce Department's nine volume *Report to the Congress* pursuant to the Foreign Investment Study Act of 1974. The 132 tables in Volume 2 present the generally most useful data obtained in the survey. More detailed data are on magnetic tape, and BEA can make additional tabulations or do statistical analyses, such as regressions, at cost, within the limits of available resources and subject to the legal requirement of statistical anonymity for data supplied by individual reporters.

Volumes 1 and 3-9 were prepared by the Office of Foreign Investment in the United States. Volumes 3-9 contain the results of a series of analytical studies, performed by Commerce staff members, contractors and other agencies, on various aspects of foreign direct investment in the United States. Volume 1 of the full report provides an overview of foreign direct investment in the United States, summarizes the studies in Volumes 2-9, and provides the Commerce Department's conclusions and recommendations to the Congress.

Below is a brief description of the contents of each volume of *Report to Congress: Foreign Direct Investment in the United States,* along with information for ordering. These volumes are available from the U.S. Government Printing Office, Division of Public Documents, Washington, D.C. 20402.

Volume 1—Report of the Secretary of Commerce

Volume 2—Report of the Secretary of Commerce: Benchmark Survey, 1974
Volumes 1 and 2 are sold only as a set, for $6.00. Stock No. 003-010-00044-9.

Volume 3—Industrial and Geographic Concentration. Price: $4.00. Stock No. 003-010-0045-7.

Volume 4—Energy, Selected Natural Resources, Commercial Fisheries, Grain Trade, and Banking. Price: $2.00. Stock No. 003-010-00046-5.

Volume 5—Investment Motivation, Financing, and Management and Labor Practices. Price: $7.00. Stock No. 003-010-00047-3.

Volume 6—Taxation. Price: $4.00. Stock No. 003-010-00048-1.

Volume 7—Federal and State Law. Price: $5.40. Stock No. 003-010-00049-0.

Volume 8—Foreign Investment in Land, Land Law. Price: $4.00. Stock No. 003-010-00050-3.

Volume 9—Policies and Laws of Other Countries, Transfer of Technology, Accounting, Federal Agency Sources of Data, Bibliography. Price: $3.85. Stock No. 003-010-00051-1.

(GEORGE R. KRUER, BUREAU OF ECONOMIC ANALYSIS, DEPARTMENT OF COMMERCE, for Volume 2, telephone (202) 523-0657; MILTON A. BERGER, DIRECTOR, OFFICE OF FOREIGN INVESTMENT IN THE UNITED STATES, DEPARTMENT OF COMMERCE, for Volumes 1 and 3-9, telephone (202) 377-2175.)

1978 AGRICULTURE CENSUS PLANNING STAFF

Public Law 94-229, signed March 15, 1976, provides for synchronization of the agriculture census with the censuses of the other economic sectors of the Nations.

To achieve the same reference year for all economic censuses, the next two censuses are required by the Act to be taken on a 4-year cycle, rather than the customary five. Thus, the next census of agriculture will be for 1978.

Accordingly, a Planning Staff has been established in the Office of the Assistant Director for Agriculture and Economic Census to work full time in coordinating preparation for the 1978 Census of Agriculture, Irrigation, and Drainage. Formation of the Planning Staff signifies the Bureau's commitment to a thorough review of the content and methodology of the agriculture census, for the purpose of substantially reducing respondent burden and improving the coverage and timeliness of publication of agriculture census results. (SHIRLEY KALLEK, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5274.)

1974 AGRICULTURE CENSUS REPORTS

Four-page preliminary reports of the 1974 Census of Agriculture are being published for each county in the United States with 10 farms or more. The county reports are being issued on a flow basis with State summaries following release of the last county report for each State. Regional and United States totals are a part of the series.

Final, more detailed data for all counties will appear in the State reports, scheduled for publication during the remainder of this year. The appendix of Volume 1 will provide a complete discussion of how the census was taken along with pertinent definitions and explanations.

Copies of the *Preliminary Report, 1974 Census of Agriculture,* are 25 cents for each county and for each State. Order forms may be obtained from the Agriculture Division, Bureau of the Census, Washington, D.C., 20233. (ORVIN L. WILHITE, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5230.)

CHARACTERISTICS OF HOUSEHOLDS PURCHASING FOOD STAMPS

The Bureau of the Census recently released a report entitled "Characteristics of Households Purchasing Food Stamps." The report deals mainly with the socioeconomic characteristics of households and shows data for five points in time: May 1973, July and December 1974, and March and July 1975. The report also gives estimates of the number of families with income below the poverty level in 1974 that participated in the food stamp program during 1974.

A profile of households purchasing food stamps in July 1975 shows: 1) 36% of all food stamp households were headed by Blacks, 2) 58% were headed by women, 3) 65% were located in metropolitan areas, 45% inside the central cities of metropolitan areas, 4) 60% had annual incomes of less than $4,000, and 5) the average monthly bonus value received by food stamp households was $69.

Copies of this report, "Characteristics of Households Purchasing Food Stamps," *Current Population Reports,* Series P-23, No. 61 (45 pages, $1.15) may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. (JOHN F. CODER, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5060).

STATISTICS FOR THE ELDERLY

The Center for Census Use Studies of the Bureau of the Census has released its *Social Statistics for the Elderly, State Level System, Nebraska Social Report,* the second in a series of reports on the elderly. The report describes a prototype systematic data base to monitor the physical, mental, social, and economic status of the elderly, using Nebraska and its substate planning and service areas for delivery of services to the elderly. Under the aegis of the Administration on Aging in the Department of Health, Education, and Welfare, this project has explored the use of both local and Federal agency data in planning for the elderly. Subsequent reports to be released will document the development of the system and the conditions for transferring it to other States.

Inquiries about the report or the project should be addressed to the Center for Census Use Studies, U.S. Bureau of the Census, Washington, D.C. 20233 (JOHN F. SPEIGHT, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE telephone (301) 763-7094.)

PREMARITAL FERTILITY

This report presents selected highlights and findings from the 1970 census on the fertility of single women and of women who married while pregnant. Topics covered include the proportion of women who had children while single, the extent to which these women subsequently married, and their age at marriage. Also featured are data on women who had a first child at an interval soon enough after marriage to imply a premarital conception, and data for the great majority of women who had their first child at an

interval long enough after marriage that did not imply a premarital conception. The findings include comparisons by characteristics such as race, educational attainment, the current (1970) life style as indicated by the occupation of the woman and her husband (if any), family income in 1969, and poverty status. Some information is also presented on the proportion of unmarried mothers who eventually married and on the stability of the marriages of women who married after a premarital conception. An appendix discusses how fertility histories were derived from census questionnaires and indicates the extent of nonreporting and other limitations of the data.

Copies of the report, "Premarital Fertility," *Current Population Reports*, Seires P-23, No. 63 (52 pp., $1.30) may be purchased rom the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. (MAURICE J. MOORE, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301)-763-5303.)

AMERICAN STATISTICAL ASSOCIATION FELLOWS, 1976

The following Federal Government statisticians were among the 27 named as "Fellows of the American Statistical Association" in a ceremony on August 23, 1976 at the Association's annual meetings held this year in Boston, Massachusetts:

Vincent P. Barabba, Director, U.S. Bureau of the Census; for outstanding skills as statistical administrator, for strong and able presentation of statistical issues to public policy bodies, and for contributions to efficient utilization of modern computers, especially for graphic and cartographic uses.

Manning Feinleib, Chief, Epidemiology Branch, Division of Heart and Vascular Diseases, National Heart, Lung and Blood Institute; for innovative work on the theory of disease screening and on the methodology of twin studies, and for many contributions to the advancement of Federal statistical activities in the health field.

Joseph Albert Greenwood, Chief Mathematician and Statistical Advisor, Drug Enforcement Administration, U.S. Department of Justice; for inspired contributions to statistical and probabilistic methodology for problems in quality control, operations research, and drug abuse, and for developing outstanding statistical programs in these fields in Federal agencies.

Robert H. Hanson, Principal Researcher, Statistical Research Division, U.S. Bureau of the Census; for leadership in adapting modern statistical theory to problems of large scale sample surveys and for major contributions to the effective use of electronic computers in statistical sampling and analysis of census and survey data.

Anders Steen Lunde, Director, Office of International Statistics, National Center for Health Statistics; for exceptional contributions to the improvement of statistical competence in public health offices, through the training and education of state and local personnel in vital and health statistics, and for service to the profession.

Sally S. Ronk, Financial Economist, U.S. Department of the Treasury; for pioneering work in the development of the flow-of-funds approach to the analysis of credit markets, and for innovative use of statistical methods in forecasting interest rates and money market conditions.

Harry Weingarten, Mathematical Statistician, Automotive Fuel Economy Working Group, U.S. Department of Transportation; for pioneering efforts in statistical methods for reliability of the Polaris missile system, for important work in acceptance sampling and quality control, and for outstanding contributions to the employment of statistical techniques in assessing highway safety programs.

RECENT NATIONAL SCIENCE FOUNDATION REPORTS

National Patterns of R&D Resources. Funds & Manpower in the United States, 1953–1976 (NSF 76–310), an annual report, contains information from a series of National Science Foundation surveys and provides a summary of the allocation of R&D funds and manpower among the four sectors of the economy—Federal Government, industry, universities and colleges, and other nonprofit institutions.

R&D funding data include basic research, applied research, and development over the period 1953–76. Time series data on R&D scientific and engineering manpower employed by each sector are presented for 1954–75.

Summarized data of the report were published in *Science Resources Studies Highlights*, "R&D Spending to Top $38 Billion in 1976" (NSF 76–309), May 21, 1976.

Copies of *National Patterns of R&D Resources. Funds & Manpower in the United States, 1953–1976* are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for 95 cents per copy.

Manpower Resources for Scientific Activities at Universities and Colleges, January 1975 (NSF 76–311) represents the first NSF report within the last 10 years with sole emphasis on employment levels of professional and technical personnel in the sciences and engineering at universities and colleges. Previously, such information was presented in combination with scientific and engineering expenditures at universities and colleges but because of different time frames for the two sets of data, they are now handled as separate surveys.

This report presents the results of NSF's Survey of Scientific and Engineering Personnel Employed at Universities and Colleges, January 1975 and includes employment figures for scientists and engineers (S/E), graduate students receiving stipends for part-time S/E services, and S/E technicians.

Part I presents data on universities and colleges and part II reports on associated Federally Funded Research and Development Centers.

The data for these personnel are shown by field of science, type of activity, sex, and their geographic distribution. Also discussed are the type and control of institutions in which they are employed.

Summarized data of this report were published in *Science Resources Studies Highlights*, "Employment of Academic Scientists and Engineers Increased From January 1974 to January 1975 (NSF 75–331), November 3, 1975. *Detailed Statistical Tables* (NSF 75–329) were released in November 1975.

Copies of *Manpower Resources for Scientific Activities at Universities and Colleges, January 1975* (NSF 76–311) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for $1.45 per copy.

Detailed Statistical Tables have been released prior to the two final analytical reports for the following: *Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1975, 1976, and 1977,* Volume XXV (NSF 76–315); and *Expenditures for Scientific Activities at Universities and Colleges, Fiscal Year 1975* (NSF 76–316).

Copies of these tables are available upon request from the Division of Science Resources Studies, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550.

The following *Science Resources Studies Highlights* have been released: "Federal R&D Funding Shows Moderate Increase in FY 1977" (NSF 76–317) summarizes data from the forthcoming annual report, *Federal Funds for Research, Development, and Other Scientific Activities, Fiscal Years 1975, 1976, and 1977,* Volume XXV. Federal R&D obligations are shown by agency, character of work, field of science, and State distribution.

"Real Increases Seen for Federal R&D Funding of Energy, Education, Science, and Defense in FY 1977" (NSF 76–319) briefly discusses the 15 functional catagories chosen to make visible the chief objectives reflected by R&D programs in the 1977 budget.

A final report, *An Analysis of Federal R&D Funding by Function, Fiscal Years 1969–1977,* will be forthcoming.

Copies of these *Science Resources Studies Highlights* are available gratis upon request from the Division of Science Resources Studies, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550. (CHARLES E. FALK, DIVISION OF SCIENCE RESOURCES STUDIES, NATIONAL SCIENCE FOUNDATION, telephone (202) 282-7714.)

BIBLIOGRAPHY OF CENSUS BUREAU METHODOLOGICAL RESEARCH

The Bureau of the Census has recently released *Census Bureau Methodological Research, 1975.* This is an annual publication which lists published and unpublished papers, memoranda, and reports on methodological research. The listed papers and publications describe research in process and give research results when advanced sufficiently enough to be available.

Copies of *Census Bureau Methodological Research, 1975: An Annotated List of Papers and Reports* (19 pp., 50 cents) may be purchased from Subscriber Services (Publications), Bureau of the Census, Washington, D.C. 20233. Single copies for official use are available upon request to the Statistical Research Division,

Bureau of the Census, Washington, D.C. 20233. (DEANE H. HARRIS, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-5460.)

WORLD POPULATION 1975

The Bureau of the Census has recently released a report entitled, *World Population: 1975*. This publication represents reported and estimated demographic data from 1950 to 1975 for all countries of the world with a population of at least 2000 persons, and for world regions. Copies of this report, *World Population: 1975–Recent Demographic Estimates for the Countries and Regions of the World,* ISP-WP-75 (270 pp., $3.90) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402, or from Commerce District Offices in major cities. (SAMUEL BAUM, BUREAU OF THE CENSUS, DEPARTMENT OF COMMERCE, telephone (301) 763-2870.)

UN STATISTICAL YEARBOOK, 1975

The Statistical Office of the United Nations has recently released *Statistical Yearbook, 1975*. This is the twenty-seventh issue of a comprehensive collection of international statistics for approximately 235 countries and territories. The first 17 tables comprise the world summary, leaving the detailed subject-country information in the subsequent 201 tables which present statistical series on economic and social subjects such as: population; manpower; production of commodities in agriculture, forestry, fishing, mining and manufacturing; construction; energy; internal and external trade; transport and tourist travel; postal, telegraph and telephone services; consumption; balance of payments; wages and prices; national accounts; finance; budget accounts and public debts; development assistance; health; housing; education; science and technology and culture.

This publication contains information received up to the end of 1975. The majority of the tables cover 1965–1974. It also includes annexes showing country nomenclature, conversion coefficients and factors, as well as an alphabetical country index.

Copies of *Statistical Yearbook, 1975* (Statistical Papers, Series S, No. 3, xix+914 pp., UN Sales No. E/F.XVII.1; clothbound, $42.00; paperbound, $34.00) may be purchased from the Sales Section, United Nations, New York, New York, 10017. Government agencies should request the discount to which they are entitled as it is not automatically given. When ordering please use sales number and prices given above.

NEW REPORTING PLANS AND FORMS

The following listing gives brief descriptions of a selected group of new reporting plans and forms approved between August 12 and September 15, 1976 by the Office of Management and Budget under the provisions of the Federal Reports Act. The description refers to surveys and data collection programs which are just being started or are soon to be started so results are not yet available.

Department of Agriculture

Extension Service

Vermont Woodland Owner Study (singletime).—The Vermont Extension Service will conduct a survey of approximately 1,000 woodland owners in Windham and Windsor counties to provide information concerning forest landownership characteristics and timber supplies. The forest landownership data for the two-county area will be used (1) in Extension Service landowner and forest-industry educational programs, (2) by local decisionmakers in their consideration of future economic growth in the community, and (3) to supplement a similar Forest Service study conducted in 1972–73. (For further information: R.K. TOWSEND, VERMONT EXTENSION SERVICE, DEPARTMENT OF AGRICULTURE, telephone (802) 457-2664.)

Economic Research Service

Survey of the Feed Manufacturing Industry. (singletime).—The commercial feed industry is the largest input industry serving agriculture, accounting for one-fifth of total production expenditures. Countless changes have altered the structure of the mixed feed industry in the past few years and adjustment continues. This study is designed to determine the impact these forces have had on the structure of the feed industry and to determine major characteristics of the manufacture of feed and the physical distribution of the finished feed through various marketing channels to the farm level. (For further information: CARL J. VOSLOH, ECONOMIC RESEARCH SERVICE, DEPARTMENT OF AGRICULTURE, (202) 447-4943.)

Farmer Cooperative Service

Questionnaire on Transportation by Farmer Cooperatives. (singletime)—The Farmer Cooperative Service will survey a sample of the nation's 7500 farmer cooperatives to determine the extent of trucking activities being carried out by these firms and to add information on operating costs, administrative practices, leasing and ownership arrangements and extent of equipment utilization. Similar studies were conducted in 1960 and 1966. (For further information: ELDON E. BROOKS, FARMER COOPERATIVE SERVICE, DEPARTMENT OF AGRICULTURE, (202) 447-8939.)

Department of Health, Education, and Welfare

Social Security Administration

Survey of Utilization Review Procedures and Practices (singletime).—This survey of 1000 acute-care short-stay hospitals is designed to ascertain the structure of existing utilization review programs. Although legislation requiring utilization review was adopted in 1965, this survey represents the first nationwide attempt to determine the types of programs, procedures followed, levels of effort and effects of utilization review. In addition to these immediate benefits, the data will be used to develop a sample of hospitals for a national evaluation of the impact of utilization review. (For further information: MAURA KOLINS, SOCIAL SECURITY ADMINISTRATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, telephone (301) 594-5890.)

Department of Labor

Bureau of Labor Statistics

Reporting of labor force and unemployment data under OMB Circular No. A-46 (monthly).—The Bureau of Labor Statistics (BLS) is expanding its collection of local area labor force and unemployment statistics to include data for all States, SMSAs, Comprehensive Employment and Training Act (CETA) prime sponsor areas, CETA program agent areas, CETA areas of substantial unemployment and all counties or county equivalents not separately covered above. These data are to be compiled by State Employment Security Agencies, in accordance with methods and procedures provided by BLS, including benchmarking of State-level data to data independently obtained through the Current Population Survey. The data are to be reported monthly to BLS. These data are needed for multiple purposes including determinations of eligibility for and allocation of Federal funds under various laws. (For further information: DUDLEY YOUNG, BUREAU OF LABOR STATISTICS, DEPARTMENT OF LABOR, telephone (202) 523-1694.)

OTHER REPORTING PLANS AND FORMS

Shown below, by agency, is a list of *new* forms approved between August 12 and September 15, 1976 excluding those described above. Questions, requests for additional information about any of the forms listed below should be addressed in writing to Marsha Traynham, Statistical Policy Division, Office of Management and Budget, Washington, D.C. 20503. Your comments on the usefulness of this feature will be welcomed.

During August approximately 138 forms reached their expiration dates and are no longer approved for use.

DEPARTMENT OF COMMERCE

1976 National Survey of Scientists and Engineers
Survey County Government Finances
Survey of Municipal or Township Finances
Employment and Remuneration of Expenditures
Local Public Works Application
Past Participation Statement

DEPARTMENT OF DEFENSE

Civilian Rifle Club Weapon Security/Accountability Checklist
A and E Firms Identification of Former DOD Employees

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

State Management Information Needs Study
Indian Student Enrollment Certification
Request for Approval as a Supplier of End Stage Renal Disease in the Medicare Program and Request for Advance Approval as a Supplier of ESRD in the Medicare Program
Early and Periodic Screening, Diagnosis and Treatment Developmental Assessment Survey
Evaluation of the Dissemination of Professional Information from Human Resources Administration Program Activities
Health Professions and Nursing Student Loan Repayment Programs
Letter to Local Educational Agencies Verifying Effectiveness of Services Provided by General Assistance Centers and Consultants
Questionnaire for Recontact of SSI Beneficiaries
Head Start Parent as Educator Study
Tribal Evaluation Guide: Urban Evaluation Guide
Program Progress Review Report
State White House Conference Report Form
Bureau of Community Health Services Common Reporting Requirements
Report of Construction Progress and Claim for Cost Reimbursement

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Default Counseling Contractor's Monthly Report
Statistical Data Sheet for Co-Insurance Claims
Low Rent Public Housing Tenant Data Survey
State Sex-Based Discrimination Laws

DEPARTMENT OF THE INTERIOR

Special Recreation Application and Permit
Claim for Relocation Payments Under P.L. 91-646

DEPARTMENT OF JUSTICE

Application for Registraiton and Renewal (Type B)
High Crime Area Survey

DEPARTMENT OF LABOR

Questionnaire for Producers of Hanging Planters
1976 Industrial Price Program Survey
Application for Authority for an Institution of Higher Education to Employ Its Full-Time Students
UMTA, 13(C) Transit Organization Questionnaire
Job Search and Relocation Assistance Pilot Project

DEPARTMENT OF STATE

Application for Grant of an Annuity Pursuant to Section 523 (C) P.L. 94-350

DEPARTMENT OF TRANSPORTATION

Flight Instructor Refresher Clinics
National Accident Sampling System Occupant Interview

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

Unit Operation Equipment Survey

NATIONAL SCIENCE FOUNDATION

Survey to Evaluate the Science Information Program

SMALL BUSINESS ADMINISTRATION

Disaster Loan Application: Business
Disaster Loan Application: Home

U.S. CIVIL SERVICE COMMISSION

Survey of Compensation Practices for Unusual Work Conditions

U.S. INTERNATIONAL TRADE COMMISSION

Hanging Planters—Purchasers' Questionnaire
Hanging Planters—Producers' Questionnaire

VETERANS ADMINISTRATION

Evaluation of VA Day Treatment Center Program

NATIONAL COMMISSION ON LIBRARIES AND INFORMATION SCIENCE

Photocopying Characteristics Survey Forms: Volume Log, Characteristic Form, Ill Borrowing Form

Photocopying Characteristic Survey Forms—Screening Form

Questionnaire on Vendor Related EFT Issues

PERSONNEL NOTES

DEPARTMENT OF AGRICULTURE

Statistical Reporting Service: W. WARD HENDERSON, Statistician-in-Charge of the California State Statistical Office, has retired and been replaced by ROBERT A. MCGREGOR, formerly Statistician-in-Charge of the Florida State Statistical Office. RICHARD D. ALLEN, formerly Assistant Statistician-in-Charge of the Illinois State Statistical Office has been transferred to the Methods Staff in Washington, D.C., and Mr. Allen has been replaced by FRED A. VOGEL, formerly of the Research Division. PAUL V. HURT, formerly Assistant Statistician-in-Charge of the Ohio State Statistical Office has also transferred to the Methods Staff and has been replaced by MARK EVANS of the Estimates Division.

DEPARTMENT OF COMMERCE

Bureau of the Census: VINCENT P. BARABBA, Director of the Bureau of the Census from 1973 to 1976, has resigned his position, effective September 27, to accept a job in private industry.

Bureau of Economic Analysis: ALBERT A. HIRSCH, formerly Chief of the Econometrics Branch, Business Outlook Division, has been designated Assistant to the Director for Econometrics. DANIEL H. GARNICK, formerly Chief of the Regional Economic Analysis Division, has been designated Associate Director for Regional Economics. CHARLES A. WAITE, formerly Chief of the Government Division has been designated Chief Economist, BEA. VINCENT J. KAMENICKY, formerly with the Bureau of Labor Statistics, has joined the Government Division as an economist.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

National Center for Health Statistics: SAMUEL MARCUS, formerly statistician with the Office of the Assistant Secretary for Health has recently joined the staff of NCHS as assistant to the Director.

FEDERAL RESERVE BOARD

Division of Research and Statistics: JOHN T. SCOTT, THOMAS SIMPSON, and PATRICIA DAVIS have joined the staff as economists in the Banking Section. JOSHUA GREENE and DONALD SAVAGE have joined the staff as economists in the Financial Structure Section. EILEEN MAUSKOPF and FLINT BRYTON have joined the staff as economists in the Econometric and Computer Applications Section. DAVID WYSS and DAVID LINDSEY have been promoted to senior economists in the Econometric and Computer Applications Section. JAMES BRUNDY, formerly of the Federal Reserve Bank of San Francisco, has been appointed an Associate Adviser in the Division of Research and Statistics. DAVID PIERCE has been promoted to senior economist in the Special Studies Section and DONALD HESTER has joined the staff for a year as a visiting professor in this section. SHELDON CHENG, formerly of the United Nations, has joined the staff as an economist in the Business Conditions Section. PETER LLOYD-DAVIES has joined the staff for a year as a visiting professor in the Financial Studies Section and JANICE DECKER has been transferred to this section. IRA KAWALLER has joined the staff as an economist in the Mortgage and Consumer Finance Section. JOHN ROSINE, formerly on the staff of the Federal Reserve Bank of Minneapolis, has joined the staff as an economist in the Wages, Prices, and Productivity Section. WILLIAM JONES has been transferred to the Banking Section. GEOFFREY WOGLOM has joined the staff for one year as an economist in the Banking Section. CAROL ANDERSON has joined the staff as an economist in the National Income Section.

NATIONAL SCIENCE FOUNDATION

Division of Science Resources Studies: DONALD E. BUZZELLI, formerly with the Office of Planning and Resources Management is now Staff Associate in the Office of the Division Director. LARRY W. LACY, formerly an Economist with the Health Resources Administration, is now Program Analyst in the Science Education Studies Group. BARBARA LEACH, formerly a Manpower Planning Specialist in the Office of the Mayor, D.C. Government, is now Program Analyst in the Government Studies Group.

AWARDS

ARTHUR J. MCDOWELL director, Division of Health Examination Statistics, has been presented with the Public Health Service Superior Service Award. ALICE TAYLOR, recently retired medical classification training specialist, Division of Operations has been presented the Public Health Superior Service Award.

SCHEDULE OF RELEASE DATES FOR PRINCIPAL FEDERAL ECONOMIC INDICATORS

November 1976

Release dates scheduled by agencies responsible for the principal economic indicators of the Federal Government are given below. *These are target dates* that will be met in the majority of cases. *Occasionally agencies may be able to release data a day or so earlier or may be forced by unavoidable compilation problems to release a report one or more days later.*

A similar schedule will be shown here each month covering release dates for the following month. The indicators are identified by the title of the releases in which they are included; the source agency; the release identification number where applicable; and the *Business Conditions Digest* series numbers for all BCD series included, shown in parentheses. Release date information for additional series can be found in publications of the sponsoring agencies.

(Any inquiries about these series should be directed to the issuing agency.)

Date	*Subject*	*Data For*
November 1	Defense Indicators, Bureau of Economic Analysis (BEA) (625)	September
1	Construction Expenditures (Press release), Census, C-30 (69)	September
2	Open Market Money Rates and Bond Prices, Federal Reserve Board (FRB) G.13	October 20
3	Manufacturers' Shipments, Inventories, and Orders, Census, M3-1 (20, 65, 852)	September
3	Condition Report of Large Commercial Banks, FRB, H.4.2	Week Ending October 27
4	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week Ending October 27
4	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1 (93)	Week Ending November 3
4	Wholesale Price Index (Press release), Bureau of Statistics (BLS) (55, 58, 750, 751, 752)	October
5	Consumer Credit, FRB, G.19 (66, 113)	September
5	The Employment Situation (Press release), BLS (1, 21, 40, 41, 42, 43, 44, 740, 841–848)	October
5	Manufacturers' Export Sales and Orders, Census M4-A (506)	September

Date	Subject	Data For
November 9	Monthly Wholesale Trade (Press release), Census, BW	September
10	Advance Monthly Retail Sales (Press Release), Census, (54)	October
10	Condition Report of Large Commercial Banks, FRB, H.4.2 (72)	Week Ending November 3
11	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week Ending November 3
11	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1 (93)	Week Ending November 10
15	Selected Data on International Transactions of the United States (BEA)	3Q'76
15	Industrial Production and Related Data, FRB, G.12.3 (47, 853)	October
15	Yields on FHA Insured New Home 30-Year Mortgages, HUD (118)	November 1
15	Manufacturing and Trade: Inventories and Sales, BEA (31, 56, 71, 851)	September
16	Housing Starts (Press release), Census, C-20 (28, 29)	October
17	Personal Income, BEA (52, 53)	October
17	Condition Report of Large Commercial Banks, FRB, H.4.2 (72)	Week Ending November 10
18	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week Ending November 10
18	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1 (93)	Week Ending November 17
18	Corporate Profits, BEA (16, 22, 68)	3Q'76
18	Federal Receipts and Expenditures, NIPA basis, BEA (600, 601, 602)	3Q'76
18	Gross National Product (Revised) BEA (200, 205)	3Q'76
19	Advance Report on Durable Goods, Manufacturers' Shipments and Orders (Press release), Census (6, 24, 25, 96, 647, 648)	October
19	Consumer Price Index (Press release), BLS (781, 782, 783, 784)	October
19	Real Earnings (Press release), BLS (741, 859)	October
23	Average Yields of Long-Term Bonds, Treasury Bulletin (115, 116)	November
24	Productivity and Costs in Non–Farm Businesses and Non–Financial Corporations (Press release) BLS	3Q'76

Date	Subject	Data For
November 24	Condition Report of Large Commercial Banks, FRB, H.4.2 (72)	Week Ending November 17
26	Money Stock Measures, FRB, H.6 (85, 102, 103)	Week Ending November 17
26	Factors Affecting Bank Reserves and Condition Statement of Federal Reserve Banks, FRB, H.4.1 (93)	Week Ending November 24
26	Work Stoppages (Press release), BLS	October
29	Export and Import Merchandise Trade, Census, FT-900 (500, 502, 512)	October
30	Labor Turnover in Manufacturing (Press release), BLS (2, 3)	October
30	Advance Business Conditions Digest, BEA. (12, 33, 69, 813, 817)	September
	(5, 10, 17, 45, 59, 62, 810, 811, 814, 815, 816, 820, 825, 830, 853, 860)	October
30	Agricultural Prices, Agriculture	Mid-November
30	Food Assistance Programs Results, Agriculture	October

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.
Price 85 cents (single copy). Subscription Price: $9.70 domestic postpaid; $3.30 additional foreign mailing.
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AGENCY REPRESENTATIVES FOR DISTRIBUTION AND NEWS ITEMS

		Telephone
Agriculture:	Donald W. Barrowman Statistical Reporting Service	447–6201
Commerce:	John Wearmouth (distribution only) Office of Publications	337–4233
	Alternate: Tim Coss	377–4233
Census:	Harold Nisselson	763–2462
	Larry Hartke (news items)	763–7454
BEA:	Ago Ambre	523–0777
	Ann Winkler (personnel notes)	523–0890
Defense:	Rose Glubin, OSD Comptroller	OX7–0476
HEW:	Wray Smith, Office of Sec	245–7616
PHS:	Gooloo Wunderlich, OAS for Health	443–2660
	Louise Kirby, NCHS (news items)	443–1202
	Evelyn W. Gordon, Food and Drug	443–4190
NCES:	O. Jean Brandes	245–8812
SSA:	John J. Carroll, Asst Comsnr for Research & Statistics (news items)	763–5602
	Robert Robinson, ORS (distribution)	673–5576
HUD:	Douglas C. Brooks	755–9086
	Alternate: Robert E. Ryan	755–5190
IASI:	Susana Moncayo	381–8285
Interior:	William L. Kendig (distribution) Office of Management Consulting	343–2195
	Arthur Berger, Bureau of Mines (news items)	343–8511
Labor:	Joan Hall (distribution only) Office of the Secretary	961–2001

		Telephone
Labor		
BLS:	Henry Lowenstern	523-1327
	Constance McEwen (news items)	523-1660
ETA:	Howard Rosen, Office of Manpower Research	376-7335
	Bernard Rein	376-7258
	Robert Yerger, Office of Research and Development	376-6456
Transportation:	Doris Groff Velona	426-4138
FHA:	Thomas Hyland, Public Affairs (news items)	426-0662
FAA:	Patricia Beardsley	426-3323
Treasury:	Jack Flood, Jr., Printing Procurement (distribution only)	964-5381
	John Garmat (news items)	964-2006
IRS:	Robert Wilson (news items)	964-6615
FEA:	Pamela H. Kacser	961-7686
Fed Reserve:	Robert M. Fisher, R & S	452-2871
NASA:	W.A. Greene	755-8439
NSF:	Charles E. Falk, Div. of Science Resources Studies	282-7706
	Mary M. Boyden	282-7714
U.S. Civil Serv. Comm.		
	Philip Schneider	632-6808
USPS:	James R. Duffett, Special Stat. Projects Division	245-4182
VA:	Howard J. Sharon, Director of Reports and Statistics Service	DU9-2423

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