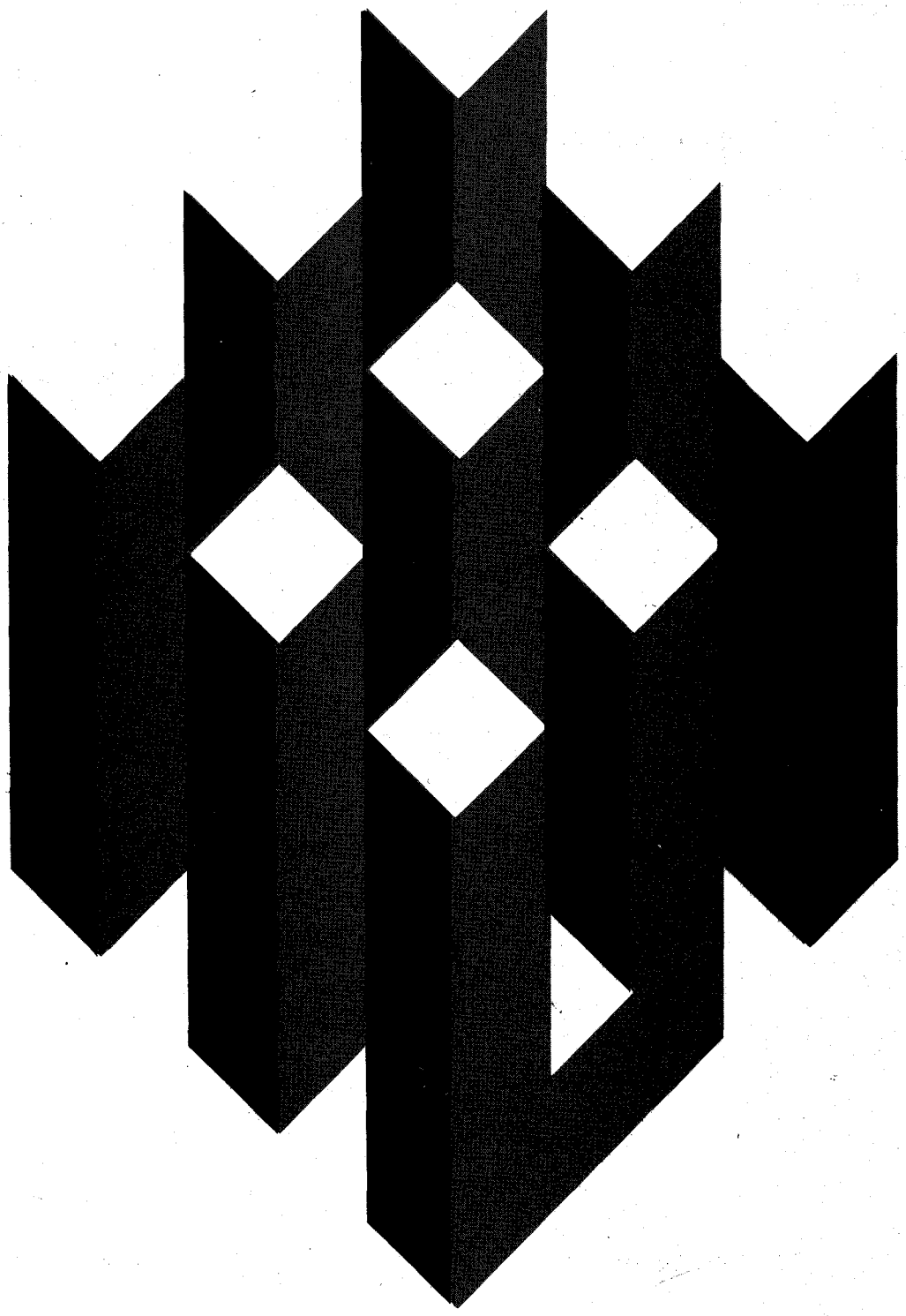
UI Research Exchange

Unemployment Insurance
Occasional Paper 84-1

U.S. Department of Labor
Employment and Training Administration



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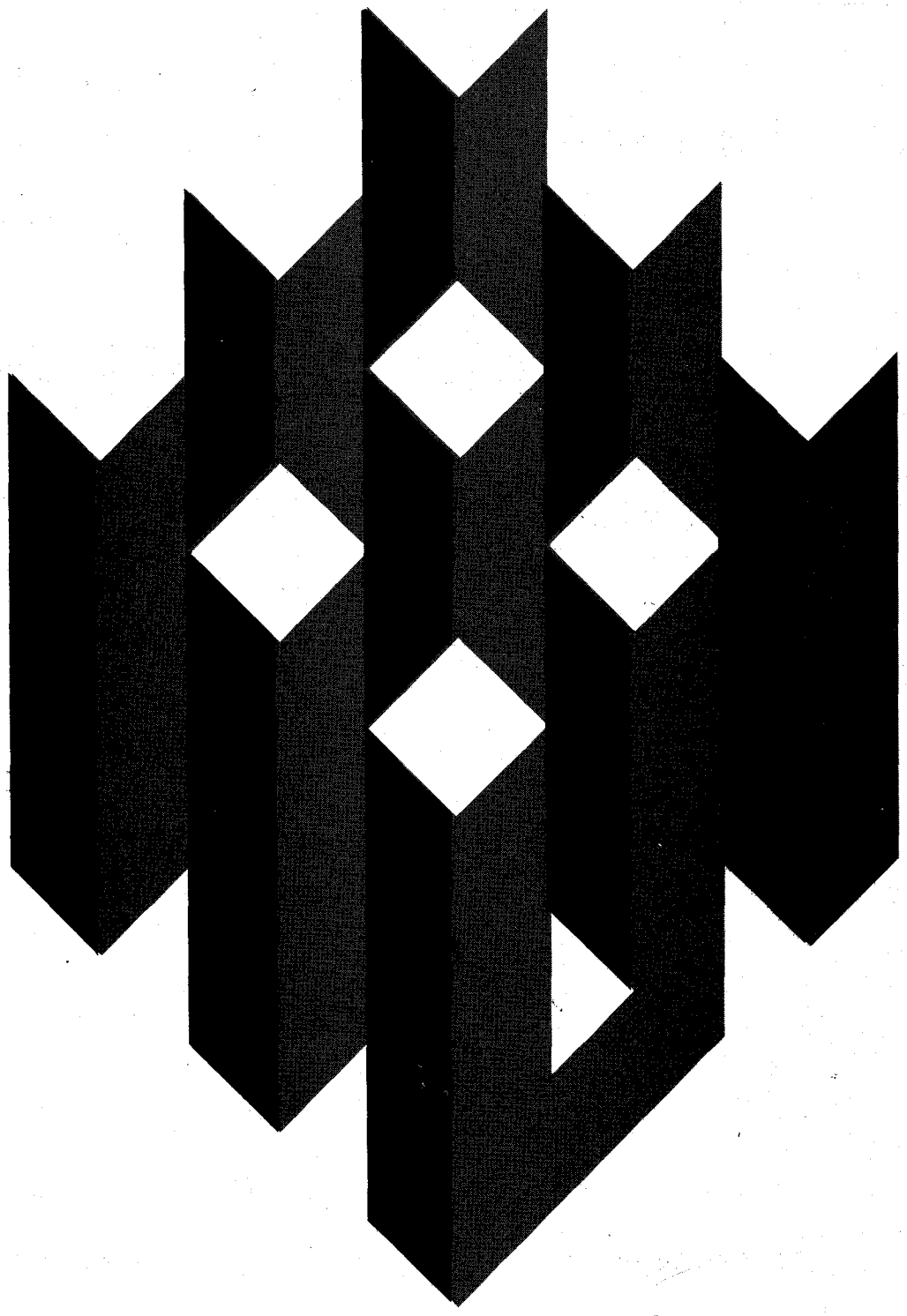

UI Research Exchange

Unemployment Insurance
Occasional Paper 84-1

U.S. Department of Labor
Raymond J. Donovan, Secretary

Employment and Training Administration
Frank C. Casillas, Assistant Secretary for
Employment and Training

Unemployment Insurance Service
1984

This publication was prepared by the Division of Actuarial Services, Office of Legislation and Actuarial Services, Unemployment Insurance Service, under the direction of Stephen A. Wandner. The editor of this issue is Helen Manheimer. The material in this document was contributed by Unemployment Insurance Service and State employment security agency staff and does not necessarily represent the official position or policy of the Department of Labor.

INTRODUCTION

The UI Research Exchange is published by the Unemployment Insurance Service to increase the effectiveness of research throughout the UI program. Toward this goal, the Exchange provides a means of communication among researchers and between researchers and policymakers. The Exchange is designed to be an open forum for all UI researchers.

This fifth issue contains a variety of research information. Announcements and reports are included on seminars, UI research personnel, and recent legislative and financial developments. There are descriptions of UI research projects --both in progress and completed--conducted and sponsored by the State agencies and the Unemployment Insurance Service. Research data and information sources, methods and tools are discussed, and several additional studies are summarized. A section has been introduced summarizing reports pertaining to UI that have recently been submitted to the Congress.

This issue includes two contributed papers. The first paper, contributed by Roy Meadows of the Missouri Division of Employment Security, describes the construction of an all-purpose model which has been very useful in Missouri for evaluating legislative proposals and the cash flow status of the UI trust fund. This example of how to build a financing model offers ideas and techniques that other States may wish to adapt to their situation. Second, Tom Hills of the Nevada Employment Security Department has updated a survey of the UI function in State Research and Analysis sections. Excerpts from an analysis of the 1980 survey by the Nevada agency appeared in the second issue of the Exchange in 1981. The current paper presents the results of a questionnaire sent to the Research and Analysis chiefs in 1984 to find out the scope of and problems incurred in UI research and compares the results to those of the earlier survey.

Thanks to those who contributed to this fifth issue. We look forward to broad based participation in the future. For a description of the format in which material should be submitted, see the Appendix.

Material for publication should be submitted to:

John Robinson
Actuarial Studies and Reports Unit
Division of Actuarial Services
Office of Legislation and Actuarial Services
Unemployment Insurance Service
Employment and Training Administration
Department of Labor
601 D Street, N.W., Room 7402
Washington, D.C. 20213

The Exchange is now published occasionally. I would appreciate your comments on the Exchange and any suggestions you have for improving its usefulness.

Stephen A. Wandner
Deputy Director
Office of Legislation and Actuarial Services
Unemployment Insurance Service

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I. ANNOUNCEMENTS AND REPORTS

A. Seminars and Personnel Information

Quantitative Methods Seminar

A quantitative methods seminar for State UI researchers, sponsored by the National Office, was held in Phoenix, Arizona during the week of May 20-25, 1984. The four and one-half day seminar included classroom and workshop instructions in basic statistics, linear and multiple regression, qualitative response variables and logistic regression. The instructors were Richard K. Burdick, Timothy J. O'Leary, and Robert D. St. Louis, Jr. of Arizona State University. Attending the seminar from the States and the national office were:

Region I	Thomas L. Allen	Maine
	Robert J. Langlais	Rhode Island
Region II	John Comiskey	New York
	Juan Hoyas	Puerto Rico
Region III	Stanley Selbe	West Virginia
	Rufus Daniels	District of Columbia
	Patrick J. Flanagan	Virginia
Region IV	James W. Henry	Alabama
	Joe Ward	South Carolina
	Gregory Maynard	Tennessee
Region V	James R. Kleinschmidt	Michigan
	Carole S. Keppler	Indiana
	John Berglund	Minnesota
	Richard Lowe	Illinois
	Robert Frank	Illinois
Region VI	Martin Reiter	New Mexico
	Robert Gantt	Texas
Region VII	Jerry Dickson	Missouri
	Pat Bruce	Kansas
	Bill Hokanson	Nebraska
Region VIII	Richard Dietrick Jr.	North Dakota
	Ward Stiles	Montana
Region IX	Stanley Gorodenski	Arizona
	Joe Manns	Nevada
Region X	Mike Clark	Oregon
	Jerry Fackrell	Idaho
USDOL	John G. Robinson	

Proposed Quantitative Methods Seminar

The Unemployment Insurance Service is sponsoring another in its series of seminars on quantitative methods. The proposed seminar is intended to equip SESA staff with the statistical and analytical tools to access and use UI administrative data and quality control (QC) data to assess UI operations. The instructor(s) will first present a brief overview of sampling theory and the techniques for designing and drawing samples of appropriate size for QC purposes. The major focus of the seminar, however, will be the statistical tools needed to perform sophisticated analyses of UI operations, including those required to carry out a QC program. Although simple tests may be reviewed, most of the course time will be spent explaining the various forms of multivariate analyses such as multiple regression, logistic analysis, and multiple classification analysis to help staff choose techniques appropriate to the task and to the nature of the data being analyzed. These tools will help staff conduct special studies, and analyze QC sample data to determine error rates, identify concentrations of errors and trends in errors, develop error-prone profiles and evaluate the effectiveness of corrective action plans.

Each of two sessions covering the same course content will extend for approximately 4 1/2 days within Fiscal Year 1985. A manual will be developed to serve as the course guide and as a reference for students before and after completion of the course.

When the seminar date has been set, the Regional Offices will ask SESAs to recommend potential seminar participants. The Unemployment Insurance Service will then select participants on the basis of their background and their potential for using the training. Background in mathematics and statistics is required. A total of 53 individuals will be selected for the two sessions.

Involved in UI Research in State Employment Security Agencies as of August 1984

Region and State	R&A Chief	Other Key Individuals
Region I		
Connecticut	Roger Skelly, Director Research & Information Tel. (203) 566-2120	
Maine	Ray Fongemie, Director Economic Analysis & Research Tel. (207) 289-2271	
Massachusetts	Marlene Seltzer, Deputy Director Research Planning & Evaluation Tel. (617) 727-7428	
New Hampshire	Wesley Noyes, Chief Economic Analyis & Reports Tel. (603) 224-3311	
Rhode Island	Raymond Mroz, Supervisor ES Research Tel. (401) 277-3704	Dennis Avila, Chief Research & Program Standards Tel. (401) 277-3700
Vermont	Thomas Douse, Chief Research & Statistics Tel. (802) 229-0311	
Region II		
New Jersey	Arthur O'Neal, Jr., Director Division of Planning & Research Tel. (609) 292-2643	Vivian Shapiro, Assistant Direct Office of Program Tel. (609) 477-2395
New York		Roger Gerby Program Research Specialist Tel. (518) 457-6398
Puerto Rico	Ignacio Febres, Director Research & Statistics Tel. (809) 754-5385	
Virgin Islands	Betty Deuterman, Director Bureau of Labor Statistics Tel. (809) 774-3650	Norma Simmonds, Assistant Direct for Unemployment Insurance Tel. (809) 776-3700
Region III		
Delaware	James McFadden, Chief Office of Occupational & LMI Tel. (302) 368-6962	
District of Columbia	Richard Groner, Director Division of LMI & Research Tel. (202) 639-1642	

Region and State	R&A Chief	Other Key Individuals
Maryland	Pat Arnold, Director Research & Analysis Tel. (301) 383-5000	
Pennsylvania	Carl Thomas, Chief Research & Statistics Tel. (717) 787-3265	
Virginia	Ralph Robinson, Director Research & Analysis Tel. (804) 786-5670	
West Virginia	Ralph Halstead, Assistant Director Labor & Economic Research Tel. (304) 348-2660	
Region IV		
Alabama	Douglas Dyer, Chief Research & Statistics Tel. (205) 261-5461	
Florida	Linda Frazier, Chief Bureau of Research & Information Tel. (904) 488-6037	
Georgia	Joe Wooddall, Director Labor Information Systems Tel. (404) 656-3177	
Kentucky	Ed Blackwell, Acting Manager Labor Market Research & Analysis Tel. (502) 564-7976	Donnie Hogan, Supervisor Statistical Services Section Tel. (502) 564-5403
Mississippi	Raiford Crews, Chief Labor Market Information Division Tel. (601) 961-7424	
North Carolina	Donald Brande, Director Labor Market Information Division Tel. (919) 733-2936	
South Carolina	Ray Drafts, Director Manpower Research & Analysis Tel. (803) 758-8983	
Tennessee	Joe Cummings, Chief Research and Statistics Tel. (615) 741-2284	
Region V		
Illinois	Harry Hardwick, Director Research & Analysis Tel. (312) 793-2316	Richard Low, Manager UI Research Tel. (312) 793-5391

Indiana	Charles Mazza, Chief Research & Statistics Tel. (317) 232-7701	Carol Keppler, Supervisor ES-UI Data & UI Research Tel. (317) 232-7704
Michigan	Von Logan, Director Research & Statistics Tel. (313) 876-5445	Mounir Deeb, Department Analyst Research & Statistics Tel. (313) 876-5424 or 5451
Minnesota	Rudolph Pinola, Director Research & Statistical Services Tel. (612) 296-6545	Bob Lowe Research Analyst Tel. (612) 296-6602
Ohio	Dixie Sommers, Director LMI Tel. (614) 466-8806	Jim Hemmmerly, Assistant Director for Administrative Data Tel. (614) 466-8806
Wisconsin	Hartley Jackson, Chief LMI Tel. (608) 266-7034	Harold H. White, Supervisor UI Subsection of Man. Information Tel. (608) 266-8080

Region VI

Arkansas	Coy Cozart, Chief Research & Analysis Tel. (501) 371-1541	
Louisiana	Oliver Robinson, Director Research & Statistics Tel. (504) 342-3140	
New Mexico	Robert Wells, Chief Research & Statistics Tel. (505) 841-8645	David Archibeque, Chief Actuarial Research Tel. (505) 841-8699
Oklahoma	Will Bowman, Chief Research & Planning Tel. (405) 521-3735	
Texas	Horace Goodson, Chief Economic Research & Analysis Tel. (512) 397-4540	Carroll von Roeder, Dep. Asst. Adm for Unemployment Insurance Tel. (512) 397-4521

Region VII

Iowa	Ernie Yetley, Manager Research & Statistics Tel. (515) 281-8181	Steve Smith, Chief Research & Analysis Tel. (515) 281-8181
Kansas	Fred Rice, Chief Research & Analysis Tel. (913) 296-5058	
Missouri	Tom Righthouse, Chief Research & Analysis Tel. (314) 751-3215	

Nebraska	Wendell Olson Research Administrator Tel. (402) 475-8451	

Region VIII

Colorado	Eugene Rusho, Chief Research & Development Tel. (303) 866-6316	Lowell Hall, Chief UI Research & Reports Tel. (303) 866-6174
Montana	Bob Rafferty, Chief Research & Analysis Tel. (406) 449-2430	Ward Stiles Economist Tel. (406) 444-2645
North Dakota	Tom Pederson, Chief Research & Statistics Tel. (701) 224-2868	
South Dakota	Mary Sue Vickers, Chief Research & Statistics Tel. (605) 622-2314	Gordon Larson Management Analyst Tel. (605) 622-2452
Utah	Richard Arnold, Chief Research & Analysis Tel. (801) 533-2014	Bill Horner Actuary Tel. (801) 533-2375
Wyoming	Bill Davis, Director Research & Analysis Tel. (307) 235-3646	

Region IX

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California	Jeanne Barnett, Chief Employment Data & Research Tel. (916) 445-4434	
Hawaii	Fred Pang, Chief Research & Statistics Tel. (808) 548-7639	Paul Dawson, Supervisor UI Research Unit Tel. (808) 548-4064
Nevada	James Hanna, Chief Employment Security Research Tel. (702) 885-4550	

Region X

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Region and State	R&A Chief	Other Key Individuals
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Washington	Jennie Piott, Chief Research & Statistics Tel. (206) 753-5224	Gary Bodeutsch, Supervisor Research & Analyis Tel. (206) 753-3809

Telephone Directory

This directory reflects changes made in the organization of the Unemployment Insurance Service in May, 1984.

Name	Room Number	Telephone
OFFICE OF DIRECTOR/UIS		
GOLDING, CAROLYN	7112	376-6636
BEST, LOIS K	7112	376-6636
LANCASTER, LORYN	7112	376-6636
SCHLICKEISEN, SUSAN	7112	376-6636
OFFICE OF DIRECTOR/OLAS		
DESLONGCHAMPS, ROBERT	7422	376-7400
JACKSON, BERTHA M	7422	376-7400
MCDAVID, MILDRED	7422	376-7400
WANDNER, STEPHEN	7422	376-7400
DIVISION OF ACTUARIAL SERVICES (DAS)		
MANNING, JAMES	7410	376-7231
AMBLER, CYNTHIA	7402	376-6162
CORBETT, CLAUDIA	7310	376-6120
DREW, WANDA	7306	376-7700
EDGE, SHERRYL	7402	376-6470
GRAY, DOLORES	7414	376-7066
HARVEY, NORMAN L	7402	376-6162
HOLLAND, MARVIN	7410	376-7231
INTELLINI, MARY	7306	376-7703
JONES, BETTY J	7402	376-6162
LEVY, JONATHAN	7413	376-7066
MANHEIMER, HELEN	7402	376-6162
MILLER, MICHAEL	7414	376-7066
MINTZ, LOIS	7306	376-7703
NOWELL, PAMELA D	7310	376-6120
O'DONOGHUE, JEAN	7414	376-7066
RICE, HAROLD	7409	376-7066
ROBINSON, JOHN	7402	376-6162
VAN ERDEN, JAMES	7414	376-7066
WILUS, RONALD	7410	376-7306
WOODARD, SHEILA	7411	376-7066
ZAJAC, WAYNE	7402	376-7291

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DIVISION OF LEGISLATION (DL)		
HICKEY, JOSEPH	7326	376-7120
CHUPP, VIRGINIA	7326	376-7120
COLEMAN, MARY	7325	376-7120
EHRLE, SALLY A	7326	376-7050
JOHNS, AUDREY M	7318	376-7100
JOHNSTON, ROBERT M	7326	376-7123
JOYCE, TOM	7318	376-7320
LANGBEHN, WILLIAM A	7326	376-7108
MCCLOUD, THOMAS	7318	376-7100
ROSBROW, JAMES	7326	376-7122
RUNNER, DIANA	7326	376-7109
SPRINGS, JEANNE	7326	376-7120
TURNER, JAMES	7318	376-7100
OFFICE OF DIRECTOR/OPM		
SCHAERFL, ROBERT	7030	376-7032
BRATT, HAROLD	7030	376-7228
CAUDELL, MILDRED B	7030	376-7032
HAENDLER, FRANK	7030	376-7034
VINES, MARY	7030	376-7032
DIVISION OF PROGRAM AND COST MANAGEMENT (PCM)		
THOMPSON, VIOLET	7014	376-6144
ALLEN, PEGGY A	7014	376-7195
BALDWIN, MARY	7011	376-6108
BRUNNER, PETER J	7208	376-7124
CAMPBELL, BARBARA	7014	376-6222
CLAY, ROBERT	7022	376-6718
CUMMINGS-ATWATER, LILLIAN	7014	376-6144
GILLHAM, ROBERT	7014	376-7195
HAMLIN, BRENDA	7022	376-6854
HOUFF, LOUIS A	7208	376-7124
JACKSON, WILLIAM	7022	376-6854
JOHNSTON, EDMUND	7022	376-6855
JONES, RONALD	7022	376-6855
LYNCH, CAROLYN	7022	376-6854
MANGHAM, MILDRED	7208	376-7124
MCKEE, JOSEPHINE	7014	376-7329

Name	Room Number	Telephone
DIVISION OF PROGRAM AND COST MANAGEMENT (PCM) (Continued)		
MEYER, MARY B	7208	376-7124
NICHOLSON, WILLIAM	7014	376-7329
SCRIBNER, DEWEY	7014	376-6222
SHARKEY, MARGARET	7208	376-7700
SILVA, SANTIAGO	7208	376-6160
SKEES, PATRICK	7014	376-6222
SKLAREVSKI, LEO	7009	376-7645
WEIGHT, A (GINGER)	7014	376-6222
WOOD, WALTER	7208	376-7700
DIVISION OF PROGRAM DEVELOPMENT AND IMPLEMENTATION (PDI)		
BIGLIN, GENE	7426	376-7062
ADAMS, PETE	7100	376-7104
ANDERSON, JUANITA	7430	376-7370
CARTER, ERNEST	7426	376-6194
COOK, NEAL	7100	376-7104
COWARD, GLORIA	7430	376-7366
ENTEN, MILDRED	7430	376-7370
GREEN, STERLING	7433	376-7637
HOWARD, LILLIAN	7433	376-7637
LEVEE, JOHN	7430	376-7370
LONGUS, CHARLES	7426	376-6195
MCCLOSKEY, NEAL	7430	376-7370
MONTGOMERY, MARY	7430	376-7370
PETERKIN, CONSTANCE	7100	376-7104
PRITCHETT, GLENDA	7108	376-7104
ROBERTS, LORENZO	7430	376-7366
STEPHENS, KERMIT	7100	376-7104
STROY, GWENDOLYN	7430	376-7370
WEEDEN, MARY T	7426	376-7062
OFFICE OF DIRECTOR/QCI		
ATKINSON, CHARLES	7122C	376-6704
HICKMAN, MARSHA J	7122	373-6704
DIVISION OF SYSTEM OPERATIONS AND ANALYSIS (SOA)		
VAN ERDEN, JAMES	7122A	376-6704
ABDULLAH, MUSLIMAH	7122F	376-6245
BOND, KEITH	7200	376-7462
CHERVENY, ALLEN E	7122F	376-6246

Name	Room Number	Telephone
DIVISION OF SYSTEM OPERATIONS AND ANALYSIS (SOA) (Continued)		
FORD, SHEILA K	7122	376-6245
HILDEBRAND, GERARD W	7122F	376-6245
MAKARA, SUSAN D	7119	376-7700
OLSON, RAYMOND C	7122F	376-6245
SHARKEY, JOHN	7122D	376-6704
SHEA, MOIRA M	7122F	376-6245
SKRABLE, BURMAN	7122B	376-6245
TIMMS, ROBERT	7122E	376-6245
DIVISION OF CORRECTIVE STRATEGIES AND TECHNIQUES (CST)		
STEN, JANET	7120	376-7086
COYNE, WILLIAM	7120	376-7087
GREEN, JULIUS	7120	376-6277
LYNN, IRENE	7120	376-7086
PATE, PAMELA	7120	376-7086
THOMPSON, LESLIE	7201	376-7086
WEST, LENORE	7120	376-7086
WHITING, ROBERT	7120	376-6277

B. Recent Financial and Legislative Developments

Financial Developments - Loan Status of States

When States are unable to pay unemplyment benefits due to insufficient funds in their account in the Unemployment Trust Fund, they may request Title XII advances to fund these benefits. These Title XII advances are made to States from the Federal Unemployment Account. Alaska, Michigan and Pennsylvania borrowed funds for benefits in the mid to late 1950s and all repaid before the end of the 1960s. Borrowing began again in 1972 and became heavy during 1975-76, with 23 States borrowing in 1976. Many of these loans were repaid but borrowing accelerated in the latest recession.

This Federal Unemployment Account has also had insufficient resources and has had to borrow from the federal revenues of the U.S. Treasury. The Omnibus Reconciliation Act of 1981 (P.L. 97-35) provided for assessing interest on advances made to States on April 1, 1982 and after. These had all been interest free prior to April 1, 1982. The Social Security Amendments of 1983 (P.L. 98-21) made payment of interest a permanent part of the law. The interest rate is the lower of 10 percent or the rate paid by the Secretary of the Treasury in the last quarter of the preceding calendar year on the State accounts in the Unemployment Trust Fund. The 1982 and 1983 interest rate was 10 percent. The interest rate for calendar year 1984 is 9.78 percent.

Twenty-six States currently (as of July 31, 1984) have outstanding Title XII advances as follows:

STATES WITH OUTSTANDING TITLE XII LOAN BALANCES AS OF JULY 31, 1984

FIRST LOAN DATE		INTEREST FREE ADVANCES	INTEREST BEARING ADVANCES	TOTAL TITLE XII ADVANCES
1/76	ARKANSAS	$ 15,643,180.23		$ 15,643,180.23*
12/82	COLORADO		$ 83,337,456.98	$ 83,337,456.98
3/72	CONNECTICUT	$ 164,615,760.82	$ 63,806,407.43	$ 228,422,168.25*
11/75	DELAWARE	$ 35,518,314.32		$ 35,518,314.32*
11/75	DIST. OF COL.	$ 10,717,274.07	$ 42,360,723.27	$ 53,077,997.34*
12/75	ILLINOIS	$ 1331,624,011.83	$ 536,304,727.97	$ 1867,928,739.80*
7/82	IOWA		$ 74,484,000.00	$ 74,484,000.00
2/81	KENTUCKY	$ 79,148,490.13		$ 79,148,490.13*
10/82	LOUISIANA		$ 491,357,382.52	$ 491,357,382.52
4/75	MICHIGAN	$ 1422,325,446.96	$ 247,919,000.00	$ 1670,244,446.96*
7/75	MINNESOTA	$ 120,542,735.85	$ 163,516,116.82	$ 284,058,852.67*
1/82	MISSOURI	$ 89,825,000.00		$ 89,825,000.00
4/76	MONTANA		$ 14,825,028.46	$ 14,825,028.46
1/75	NEW JERSEY	$ 324,665,084.13		$ 324,665,084.13*
3/83	NORTH DAKOTA		$ 3,870,158.24	$ 3,870,158.24
3/77	OHIO	$ 812,333,610.41	$ 774,650,624.22	$ 1586,984,234.63*
10/75	PENNSYLVANIA	$ 1313,638,869.13	$ 846,556,175.61	$ 2160,195,044.74*
4/75	PUERTO RICO	$ 36,227,113.39		$ 36,227,113.39*
2/75	RHODE ISLAND	$ 75,950,904.48		$ 75,950,904.48*
11/82	TEXAS		$ 491,503,972.12	$ 491,503,972.12
2/74	VERMONT	$ 19,068,025.08	$ 34,659.04	$ 19,102,684.12*
2/75	VIRGIN ISLANDS	$ 928,754.05	$ 3,257,970.41	$ 4,186,724.46*
3/72	WASHINGTON		$ 26,782,621.74	$ 26,782,621.74
9/80	WEST VIRGINIA	$ 79,795,093.08	$ 228,723,000.00	$ 308,518,093.08*
2/82	WISCONSIN	$ 126,664,000.00	$ 468,809,939.87	$ 595,473,939.87
1/84	WYOMING		$ 3,373,640.90	$ 3,373,640.90
	# STATES	(18)	(19)	(26)
	TOTAL OUTSTANDING LOANS (JULY 31, 1984)	$ 6,059,231,667.96	$ 4,565,473,605.60	$ 10,624,705,273.56

*Indicates States making repayments through reduced employer credits.

NOTE: Total for Interest Bearing Advances does not include unpaid interest

FEDERAL LEGISLATION: 1980-1984

FUTA FEDERAL TAX

2 employee taxes paid by employer are taxable for FICA and FUTA

3 1 YEAR EXCLUSION OF CREWS OF CERTAIN FISHING VESSELS

5 FUTA taxable wage base increased to $7,000 (1/1/83)

5 FUTA tax rate increased to 3.5% (1/1/83)

5 FUTA tax rate increased to 6.2% (1/1/85)

5 Flood Act extended additional 15 years - states may restore funds paid for benefits after loans repaid

5 age limitation of 22 removed from exclusion for student interns

5 2 year extension of exclusion for alien farm workers

5 3 year extension for students working in summer camps

5 independent contractor exclusion re defined

5 2 year extension of exclusion of crews of fishing vessels

11 2 YEAR EXTENSION (TO 12/85) OF EXCLUSION FOR ALIEN FARM WORKERS

12 2-YEAR EXTENSION OF EXCLUSION OF CREWS OF CERTAIN FISHING VESSELS (THROUGH 1984)

12 TAX ON ALL TIPS (INCLUDING CREDIT CARDS) REPORTED TO THE EMPLOYER (1986 OR 1987)

FUTA STATE LAWS

1 change in pension deduction

4 REVISION IN LOAN REPAYMENT MECHANISM

4 INTEREST CHARGED ON NEW LOANS

5 States may make repayment of loans in lieu of FUTA credit reduction

5 deferral of interest in state with 7.6% TUR

5 optional state between terms denial for non-professional school employees extended to college level; all denials subject to retroactive benefits if not rehired

8 DEFERRAL OF INTEREST EXTENDED; ALSO 9 MOS. DEFERRAL FOR STATE WITH 13.6% TUR

8 SLIDING SCALE FOR CAP ON FUTA CREDIT REDUCTIONS

8 BETWEEN TERMS DENIAL MANDATORY FOR ALL EMPLOYEES IN EDUCATION

8 STATE MAY PROVIDE FOR VOLUNTARY DEDUCTION FOR HEALTH INSURANCE

10 NO INTEREST PAYABLE ON ALL CASH FLOW LOANS REPAID BY SEPTEMBER 30 IN WHICH LOANS WERE TAKEN OUT

12 WAGE RECORD SYSTEM REQUIRED IN EVERY STATE (1/30/88)

FUTA GENERAL REVENUES

2 EXTENDED not covered for UI reimbursement

TITLE III, SSA GRANTS TO STATES

4 CHILD SUPPORT INTERCEPT

EB STATE LAWS

1 2 wks. limit on UI claims

2 new federal requirements on e.s. and suitable work

2 waiting period requirement

4 NATIONAL TRIGGER ELIMINATED

4 EB CLAIMANTS ELIMINATED FROM CALCULATION

4 MODIFICATION OF STATE TRIGGERS

4 ENTITLEMENT REDUCED BY TRA

4 20 WKS OF WORK REQUIRED

8 ABLE & AVAILABLE WAIVED FOR HOSPITALIZATION AND JURY DUTY IF SO PROVIDED FOR REGULAR UI

UCX

1 require 365 days to qualify

4 NO ELIGIBILITY FOR VOLUNTARY SEPARATIONS

5 individual eligible if voluntary separation after a full term of enlistment

8 4 week delay before payment

8 duration limited to 13 weeks

8 payments charged to DOD (10/1/83)

TRADE

4 CHANGE TO "SUBSTANTIAL CAUSE"

4 CHANGE IN QUALIFYING REQUIREMENTS

4 EB SUITABLE WORK REQUIREMENT ADDED

4 STATE UBA USED

4 OLDER WORKER PROVISIONS DROPPED

4 TRAINING REQUIREMENTS TIGHTENED

4 "SECOND ROUND" OF PAYMENTS ELIMINATED

4 ELIGIBILITY PERIOD TIGHTENED

4 JOB SEARCH/RELOCATION ALLOWANCES INCREASED TO $600

4 FRAUD AND OVER-PAYMENT PROVISIONS STRENGTHENED

4 ACT EXTENDED UNTIL 9/30/83

8 change to "substantial cause" eliminated

8 ACT EXTENDED UNTIL 9/30/85

8 RETURNS TO "CONTRIBUTED IMPORTANTLY"

8 LOAN PREFERENCE TO FIRMS WITH EMPLOYEE STOCK OWNERSHIP PLAN (ESOP)

12 ADDITIONAL 26 WKS. TRA FOR TRAINING BEGINS WITH FIRST WEEK OF TRAINING

12 LIMIT ON JOB SEARCH & RELOCATION ALLOWANCES INCREASED TO $800

UCFE

2 costs borne by each federal agency

FSC

5 all federal program of supplemental unemployment compensation for exhaustees of regular and former payable EB benefits; 6 10 weeks; expires 3/31/83

7 increase to 8 16 weeks; change in triggers

8 EXTENSION TO 9/30/83; CHANGE IN TRIGGERS TO 8 14 WEEKS

10 EXTENSION TO 11/10/83

11 EXTENDS FSC PROGRAM TO MARCH 31, 1983
- *BASIC BENEFITS: 8 14 WEEKS (ALTERNATE TRIGGERS LONG TERM UNEMPLOYMENT FOR 12 AND 14 WEEK PERIODS
- *5 WEEK REACH BACK
- *2/4 WEEKS TRANSITIONAL BENEFITS
- *WEEKS PAYABLE IN A STATE CHANGES ONLY IN 13 WEEK INTERVALS, UP OR DOWN NO MORE THAN 2 WEEKS
- *ENTITLEMENT FOR CLAIMANT DOES NOT CHANGE, UP OR DOWN, AFTER ORIGINAL DETERMINATION

1 ERISA Amendments (P.L. 96-364) 1980
2 1980 Budget Reconciliation (P.L. 96-499) 1980
3 Tax Recovery Act (P.L. 97-34) 1981
4 1981 Budget Reconciliation (P.L. 97-35) 1981
5 Tax Equity and Fiscal Responsibility Act (P.L. 97-248) 1982
6 Miscellaneous Revenue Act (P.L. 97-362) 1982
7 Surface Transportation Act (P.L. 97-424) 1983
8 Social Security Amendments (P.L. 98-21) 1983
9 International Coffee Agreement Extension Act (P.L. 120) 1983
10 Federal Supplemental Compensation Extension (P.L. 98-118) 1983
11 Federal Supplemental Compensation Amendments of 1983 (P.L. 98-135) 1983
12 Deficit Reduction Act of 1984 (P.L. 98-369)

July 1984

Changes in unemployment insurance legislation during 1983

In response to continued high levels of unemployment, the Federal Supplemental Compensation Program was extended through March 1985; many States raised their taxable wage bases and amended laws dealing with selected worker groups to comply with new Federal standards

DIANA RUNNER

The Federal Supplemental Compensation (FSC) program, established by the Tax Equity and Fiscal Responsibility Act of 1982, was amended by the Surface Transportation Act of 1982 to increase the minimum and maximum weeks of unemployment benefits available and to change the triggers for which each level of benefits was payable. To ensure that the long-term unemployed will continue to receive assistance while looking for work, the FSC program was further amended by the Social Security Amendments and the Federal Supplemental Compensation Amendments of 1983 to extend the program through March 1985, but the maximum weeks of benefits available were reduced from 16 to 14.

Also as a result of the Tax Equity and Fiscal Responsibility Act, 35 States[1] amended their laws to deny unemployment benefits to nonteaching, nonresearch, and nonadministrative employees of colleges and universities during periods between academic years or terms, if there is reasonable assurance that such individuals will be employed by the institution at the beginning of the forthcoming academic year or term. If a school employee is denied interim benefits and is not offered an opportunity for reemployment during the succeeding school year or term, such individual shall be entitled to retroactive payment for each week for which a timely claim for benefits was filed and for which compensation was denied based solely on the between-terms criterion. Thirty-two States[2] amended their laws to round unemployment benefits down to the next lower dollar. Fifteen States[3] extended the period of time during which a State may use Reed Act[4] funds for costs of administration. Nineteen States[5] removed the age-22 limitation for exclusion from coverage of services performed by students in a work-study program. The exclusion from coverage of aliens performing agricultural labor was extended to January 1, 1984, by six States.[6]

The Tax Equity and Fiscal Responsibility Act also boosted the Federal taxable wage base from $6,000 to $7,000, effective January 1, 1983. In response, 18 States[7] increased their taxable wage bases to $7,000. Twenty-six States already have taxable wage bases that exceed $7,000, and the remaining eight States have an automatic provision to increase the wage base when the Federal base is increased. Also effective January 1, 1983, the residual tax rate[8] was increased from 0.7 to 0.8 percent. On January 1, 1985, the Federal tax will increase from 3.5 to 6.2 percent. However, the residual tax will remain at 0.8 percent.

The following is a summary of some significant changes in State unemployment insurance laws during 1983.

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Alabama

Benefits. The maximum and minimum weekly benefit amounts were increased to $120 and $22, respectively. The base-period wages needed to qualify for benefits were raised to $774.01. The amount of earnings disregarded in computing the weekly benefit for partial benefits was changed from $6 to $15.

Coverage. Excluded from coverage are services performed by qualified real-estate agents and direct sellers.

Disqualification. The disqualification for misconduct was changed to date from the week of discharge, and to last for not less than 3 nor more than 7 following weeks. An addition to the duration disqualification for gross misconduct specifies that an individual must earn wages equal to at least 10 times the weekly benefit amount and must have been separated from such employment for a nondisqualifying reason in order to purge the earlier disqualification.

Financing. The taxable wage base was increased from $6,600 to $8,000. The maximum basic tax rate for employers was increased from 3.6 to 5.0 percent, and to 5.4 percent as of 1985. The employee tax rate was increased from 0.5 to 1.0 percent. However, the employee tax will be abolished if at the end of any fiscal year beginning January 1, 1983, the trust fund balance reaches at least 75 percent of the minimum normal amount. The amount of a surety bond or cash deposit filed with the Director of the Department of Industrial Relations by a reimbursing nonprofit organization shall be a percentage of the organization's covered payroll (previously 2.7 percent) but not higher than the maximum percentage charged to contributing employers.

Penalties. No action to enforce recovery or recoupment of any overpayment may begin after 6 years from the date of final determination; the director is authorized to waive overpayments under regulatory authority.

Arizona

Benefits. The shared-work benefit program was extended indefinitely.

Disqualification. A National Guard member who is unemployed may not be considered employed or unavailable for work even though participating in drill, training, or other National Guard reserve activity that occurs on not more than one weekend per month or in lieu of a weekend drill or the equivalent.

Arkansas

Benefits. To qualify for benefits for the period July 1, 1983, through December 31, 1985, an individual must have earned wages equal to at least 35 times the weekly benefit amount and must have earned wages in at least two quarters of the base period. Beginning January 1, 1986, the qualifying requirement will be 30 times the weekly benefit amount and wages in at least two quarters. For benefit years beginning July 1, 1983, and ending December 31, 1985, an individual may requalify in a second benefit year if he or she has been paid wages of 35 (beginning January 1, 1986, 30) times the weekly benefit amount and has been paid wages in at least two quarters of the base period, with paid wages equal to 10 (beginning January 1, 1986, 6) times the weekly benefit amount subsequent to filing the claim in the previous benefit year. An individual's weekly benefit amount will be determined as 1/52 of the wages paid during the two highest quarters of the base period. The maximum weekly benefit amount for benefit years beginning July 1, 1984, will be determined as 60 percent of the 1982 State average weekly wage; beginning July 1, 1985, and ending December 31, 1985, 60 percent of the 1984 State average weekly wage; beginning January 1, 1986, and ending June 30, 1986, 66⅔ percent of the 1984 State average weekly wage; and beginning July 1, 1986, and thereafter, 66⅔ percent of the State average weekly wage for the previous calendar year. A seasonal employment provision was added to the law.

Coverage. The employment exemption for domestic service was changed from employers having fewer than three employees and paying less than $500 in any quarter to employers paying less than $1,000 in a quarter.

Disqualification. The temporary provision which requires an individual's maximum potential benefits to be reduced by an amount equal to 8 times the individual's weekly benefit amount if disqualified for misconduct or refusal of suitable work has been extended through December 31, 1985. The exemption from disqualification for voluntarily leaving work to accompany, follow, or join a spouse in a new place of residence if individuals demonstrated their availability for work no longer applies. An individual who refuses to report to work within 1 week after receiving notice of recall to the same job or to a job similar to the one from which he or she was laid off will be disqualified until, subsequent to filing claim, the individual has had at least 30 days of employment. However, no disqualification will apply if he or she refuses to report for recall because of being employed full time or because of circumstances of such nature and compelling urgency that it would be contrary to good conscience to apply it.

Financing. The taxable wage base was increased from $6,900 to $7,500. Employers who are not eligible for experience rating will pay a basic rate of 2.9 percent. A new tax rate (5.0 percent) was added for employers who have less than 2 years of negative account balances; however, an employer with more than 2 years of negative account balances shall continue to pay 6.0 percent. An advance interest tax of 0.5 percent for 1983 and 1984 and 0.14 percent for 1985 will be assessed on experience rated employers, to be used to pay any interest incurred on advances from the Federal Government. Benefits paid to an individual shall not be charged to the experience rating account of a base-period employer if the individual remained employed by that employer without a reduction in the number of hours worked or wages paid. Regulations providing for the noncharging of benefits paid in combined wage claims were repealed.

Administration. The period for appealing an appeal tribunal, board of review and judicial review decisions, and determinations in labor dispute cases was extended from 15 to 20 days.

California

Benefits. The shared-work benefits program was extended until December 31, 1986.

Connecticut

Benefits. The base period of an individual who is properly absent from work under the terms of the employer's sick leave or disability leave policy may be extended up to four quarters prior to the individual's benefit year. Holiday pay is included in the remuneration for determining partial benefits.

Disqualification. An individual will not be considered unavailable for work solely because of attending school as a regularly enrolled student during separation from work and will not be considered to be lacking in efforts to obtain work if, as a student, the individual restricts job search efforts to employment that does not conflict with regular class hours. However, this provision will not apply to any claimant who attends school as a regularly enrolled full-time student at any time during the 2 years prior to the date of separation from work, unless the individual was employed on a full-time basis during those 2 years.

Financing. The taxable wage base was increased from $7,000 to $7,100. A tax will be assessed on contributing employers at a rate established by the Administrator of the Employment Security Division for the payment of interest due on advances from the Federal Government.

Delaware

Benefits. The maximum weekly benefit amount was increased from $150 to $165. The computation of the weekly benefit amount was changed from 1/104 of base-period wages to 1/78 of wages during the highest three quarters of the base period. A provision to compute the maximum weekly benefit amount as 66⅔ percent of the statewide average weekly wage was delayed until 1985.

Coverage. Excluded from coverage were services performed by corporate officers when one-half or more of the ownership interest is owned or controlled directly or indirectly by the individual's spouse, child, or parent (if the individual is under 18); when one-fourth or more of the ownership interest is owned or controlled directly or indirectly by the individual; or when no more than four officers of a corporation request exemption from coverage.

Financing. The taxable wage base was increased from $7,200 to $8,000.

Administration. The number of individuals on the Unemployment Compensation Advisory Council was increased from 7 to 10.

District of Columbia

Benefits. The maximum weekly benefit amount has been frozen at $206 until January 1, 1986. Deleted was the requirement that the maximum weekly benefit amount be computed at 66⅔ percent of the State average weekly wage. The duration of benefit payments was decreased from 34 to 26 weeks. The amount of qualifying wages was changed from $300 in the high quarter and $450 in the base period to $600 in the high quarter and $900 in the base period.

Disqualification. The duration disqualification for voluntary leaving was increased to the duration of the claimant's unemployment and until he or she has been employed in 10 weeks and has earned remuneration equal to 10 times the weekly benefit amount. The disqualification for misconduct and refusal of suitable work was changed from a variable number of weeks (6 to 12 for misconduct and 4 to 9 for refusal of suitable work) to a duration disqualification and until the claimant has been employed 10 weeks and has earned remuneration equal to 10 times the weekly benefit amount.

Financing. The taxable wage base was increased from $7,500 to $8,000. The rate of contributions for new employers will be the higher of 2.7 percent (previously, 1.0 percent) or the average rate on taxable wages of all employers for the preceding year. The maximum contribution rate of 5.4 percent was deleted and the rates will range from 0.8 to 4.5 percent. Contributing employers shall be charged for extended benefits.

Administration. An Unemployment Compensation Study Commission was established to review all matters relating to the solvency of the unemployment fund and to make recommendations to the District of Columbia Council no later than December 31, 1983, to eliminate the deficit of the fund.

Florida

Benefits. The maximum weekly benefit amount was increased from $125 to $150. A temporary short-time compensation program was established, to expire December 31, 1989.

Financing. New legislation excludes from wages the value of meals or lodgings furnished to an employee or the employee's spouse or dependents by the employer on the business premises for the convenience of the employer and when lodging is included as a condition of employment. The probationary period during which an employer may discharge an employee for unsatisfactory work performance without subsequently incurring benefit charges was extended from 60 to 90 days. Also, good cause for refusal of suitable work will not, for noncharging purposes, include distance to work due to the individual's change of residence.

Georgia

Benefits. The maximum weekly benefit amount was increased from $115 to $125. However, if the Unemployment Trust Fund falls below $175 million, the maximum will revert to $115. The provision that $1 be added to the dollar amount of the quotient was deleted from the computation of the weekly benefit amount.

Idaho

Benefits. The maximum weekly benefit amount of $159 has been frozen until June 30, 1984, and until July 1 of any year in which the trust fund has not borrowed for two preceding quarters. Qualifying wages were increased to $1,144.01 in the high quarter and total base-period wages to at least 1½ times the high-quarter wages. The ratio of base-period wages to high-quarter wages for determining duration of benefits was changed to 1.50 for a minimum of 10 weeks and to 3.50 for a maximum of 26 weeks. The amount that an individual must have earned subsequent to the beginning of the first benefit year in order to qualify for benefits in a second benefit year was changed from 3 times the weekly benefit amount to 5½ times the weekly benefit amount.

Coverage. Aliens performing agricultural labor were excluded from coverage unless coverage is required by the Federal Unemployment Tax Act.

Disqualification. The amount of earnings needed to purge a duration disqualification for voluntary leaving, discharge for misconduct, or refusal of suitable work was increased from 8 to 20 times the weekly benefit amount. Claimants must be willing to expand their job search beyond their normal trade or occupation and to accept work at a lower rate of pay in order to remain eligible for benefits as their unemployment lengthens.

Financing. The fund requirements for the most favorable schedule will be 5.00 percent of payrolls, with rates ranging from 0.1 to 4.0 percent. The least favorable schedule will be less than 1.50 percent of payrolls with rates ranging from 2.9 to 6.8 percent. All contributing employers will be assessed a Federal advance interest repayment tax which shall be a percentage of the contribution payable for the quarter but not less than $1.

Illinois

Benefits. For weeks beginning April 24, 1983, and before July 7, 1986, an individual's weekly benefit amount will be computed as 48 percent of the claimant's average weekly wage up to 48 percent of the State average weekly wage. For the same period, the formula for dependents' allowances shall be either 7 percent of the claimant's prior average weekly wage (but not to exceed 55 percent of the State average weekly wage) if the claimant has a nonworking spouse or 14.4 percent (but not to exceed 62.4 percent of the State average) if he or she has any dependent children. For benefit years beginning April 24, 1983, and ending January 31, 1984, the statewide average weekly wage shall be $321 and beginning February 1, 1984, and ending June 30, 1986, $335. Therefore, the maximum weekly benefit payable to claimants without dependents will be limited to $154 and $161, respectively.

Financing. The taxable wage base was raised from $6,000 to $7,000 for the first quarter of 1983; $8,000 beginning April 1, 1983, and for 1984; $8,500 for 1985 and the first half of 1986; and $7,000 thereafter. The rate for new employers is the greater of 2.7 percent or 2.7 percent times the current adjusted State experience factor. For 1984 and 1985 and the first half of 1986, the benefit-wage ratio shall be determined on the liability in each of the 2 years (normally 3 years) preceding the year for which the contribution rate is determined.

Indiana

Benefits. The base period for individuals who have received workers' compensation for 52 weeks or less and who, as a result, did not earn sufficient wages to qualify for unemployment benefits will be extended up to four quarters preceding the last day the individual was able to work. A seasonal employment provision was added to the law.

Disqualification. An individual will be considered unavailable for work if he or she attends a regular established public or private school during the customary hours of the occupation or is in any vacation period between regular school terms during which the individual is a student. However, this does not apply to an individual who is attending school and has been regularly employed and upon becoming unemployed makes an effort to secure full-time work and remains available for full-time work with the last employer or for any other suitable employment.

Financing. If an individual voluntarily leaves a base-period employer without good cause connected to the work and later becomes employed by another base-period employer and is subsequently laid off, benefits paid to the individual based on wage credits of the employer from whom the individual quit shall be charged to the experience or reimbursable account of the base-period employer who laid the individual off. Also, if an individual who earns wages during the base period through employment with two or more employers is laid off by one of the employers but continues to work for one or more of the other employers after the end of the base period and continues to work during the benefit year on the same basis as during the base period, benefits shall be charged to the account of the employer who laid the individual off.

Iowa

Benefits. The maximum weekly benefit amounts were reduced to range from $143 with no dependents, determined as 53 percent of the statewide average weekly wage, to $176 with four or more dependents, determined as 65 percent of the statewide average weekly wage. To qualify for benefits, an individual must be paid high-quarter wages totaling at least 3.5 percent of the State average weekly wage in the high quarter and 1.75 percent of the State's average weekly wage outside the high quarter. The additional qualifying requirements in a second benefit year were changed from 10 times the weekly benefit amount to $250 in wages earned subsequent to the beginning of the individual's preceding benefit year. An individual's benefit year may be extended three or more quarters if he or she received workers' compensation or weekly indemnity insurance benefits for three or more quarters.

Coverage. Services performed by an individual as a licensed real-estate agent are excluded from coverage if substantially all of the remuneration for the services is directly related to sales or other output rather than the number of hours worked, and the services are performed pursuant to a written contract that provides that the individual will not be treated as an employee for Federal tax purposes.

Disqualification. The voluntary leaving disqualification and the "able to work," "available for work," and "actively seeking work" requirements will not be applied if an individual has left work in lieu of exercising a right to bump or oust a fellow employee with less seniority or priority from that employee's job.

Financing. The taxable wage base, which is determined annually as 66⅔ percent of the State average annual wage, will be further increased by $600 for 1984, $1,100 for 1985, and $1,600 for 1986. However, if on January 1, 1986, a contribution rate table other than the highest is in effect, the added increase in the taxable wage base will be repealed. The contribution rates for the least favorable schedule will range from 0.5 to 7.0 percent. Construction employers who have not qualified for experience rating will pay the maximum contribution rate assigned to any employer for the year, plus the additional surcharge required from certain negative-balance employers.

Kansas

Benefits. The maximum weekly benefit amount will be frozen at $163 until July 1, 1984.

Financing. Negative-account-balance employers will pay contributions at the rate of 5.4 percent. New employers shall pay contributions at an assigned rate equal to the sum of 1 percent plus the greater of the average rate assigned in the preceding year to all employers or the average rate assigned to the individual employer in previous year, but in no instance shall assigned rate be less than 2 percent.

Louisiana

Benefits. The maximum and minimum weekly benefit amounts shall be frozen definitely at $205 and $10, respectively. Wages in excess of 50 percent of an individual's weekly benefit amount or whichever is lower, shall be disregarded when computing partial benefits. The maximum duration of benefits was reduced from 28 to 26 weeks. The qualifying wages changed from 30 times the weekly benefit amount to 1½ times the high-quarter wage. Repealed was the waiting week provision that allowed benefits to be paid for the first week if the individual had been unemployed for 6 consecutive weeks or longer and provided that there would be no interruption of benefits for consecutive weeks of unemployment continuing into a new benefit year.

Disqualification. A disqualification for voluntary leaving will not apply if an individual left part-time or interim employment to protect full-time or regular employment. No individual may be disqualified for refusing suitable work if the offered work pays less than 60 percent of the individual's highest rate of pay in the base period.

Financing. Any benefits paid to an individual who left part-time or interim work to protect full-time or regular employment shall not be charged to the experience rating account of a part-time or interim employer. The contribution rates for positive balance employers shall range from 0.1 to 3.9 percent. Negative-balance employers will pay a maximum rate that will escalate from 4.5 percent in 1983 to 5.0 percent in 1984, 5.4 percent in 1985, and 6.0 percent for 1986 and thereafter. Beginning in 1987 the minimum rate will be 4.0 percent.

Maine

Disqualification. No individual will be ineligible for benefits nor disqualified for refusing suitable work if he or she is unable to accept employment on a shift, the greater part of which falls between the hours of midnight to 5 a.m., because of marital obligation, the need to care for an immediate family member, or the unavailability of a personal care attendant required to assist the unemployed handicapped individual. Also, an individual may not be denied benefits for refusal of suitable work if the position offered is the same one previously vacated by the claimant for good cause.

attributable to that employment or is the position which the employee left for reasons attributable to that employment but which were found insufficient to relieve disqualification for voluntary leaving, provided that, in either instance, the specific good cause or specific reasons for leaving have not been removed or changed. The wages needed to purge a disqualification for discharge for conviction of a felony or misdemeanor in connection with an individual's work were increased from $400 to $600.

Penalties. The penalty for fraudulent misrepresentation will be a Class D crime.

Administration. The period for appealing a claim redetermination was increased from 15 to 20 days. An Unemployment Fund Study Commission was created to study the financial condition of the fund.

Maryland

Benefits. The maximum weekly benefit amount for new claims filed after July 3, 1983, was raised from $153 to $160 and will increase to $165 for claims filed after December 25, 1983. The earnings disregarded for computing partial benefits were raised from $10 to $25. The State additional benefits program was extended until June 9, 1984.

Financing. The computation date for new rates was changed from March 31 to May 31 of each year.

Administration. The Department of Employment and Training was established to administer the unemployment insurance program under the direction and supervision of the Secretary of Employment and Training. Currently the program is administered by the Department of Human Resources.

Massachusetts

Benefits. An individual's weekly benefit amount will not be reduced if an individual received holiday pay in any week of total or partial unemployment.

Michigan

Benefits. The maximum weekly benefit amount will be frozen at $197 until January 1, 1987. The weekly benefit amount will be computed as 65 percent (increases to 70 percent for 1987 and thereafter) of the claimant's after-tax earnings up to a maximum of 58 percent (53 percent for 1987, 55 percent for 1988, and 58 percent for 1989 and thereafter) of the State average weekly wage. For the period beginning January 2, 1983, through December 31, 1986, the qualifying requirements will be 20 weeks of employment at 30 times the State minimum hourly wage, and for 1987 and thereafter, 20 weeks of employment at 20 times the State minimum hourly wage. Added was an alternate qualifying requirement for 15 weeks of regular benefits and 7½ weeks of extended benefits for individuals having at least 14 weeks of employment at 20 times the State average weekly wage. A 10-week limit was placed on benefits payable based on services performed in a family corporation of which the individual or his or her son, daughter, spouse, or parent owns more than 50 percent of the proprietary interest.

Disqualification. An individual will not be disqualified for voluntary leaving if he or she left unsuitable work within 30 (previously, 60) days after beginning work. An individual shall be disqualified for 13 weeks and until he or she returns to work and earns 30 times the State minimum hourly wage in each week, if the individual committed a theft which occurred subsequent to a notice of layoff or discharge resulting in loss or damage to the employer of more than $25. The disqualification for voluntary leaving and discharge for misconduct was changed from the week of occurrence plus 13 weeks to the duration of the claimant's unemployment and until the claimant earns the lesser of 7 times the weekly benefit amount, or 40 times the State minimum hourly wage times 7. Also, the disqualification for an individual discharged for theft connected with work resulting in loss or damage of $25 or less or for willful destruction of property in an amount of $25 or less was changed from the week of occurrence plus 12 weeks to a duration disqualification and until claimant earns the lesser of 7 times the weekly benefit amount or 40 times the State minimum hourly wage times 7.

Financing. The taxable wage base was increased to $8,000 in 1983, $8,500 in 1984, $9,000 in 1985, and $9,500 thereafter. All newly liable construction employers will pay a tax rate equal to the average rate for all construction employers for 2 years, be partially experienced for the next 2 years, and be rated as fully experienced-rated thereafter. Any benefits paid to an individual disqualified for voluntary leaving, discharge for misconduct, and gross misconduct shall be noncharged to the account of the employer who was involved in the disqualification.

Administration. The period for appealing a monetary determination and referee and board of review decisions has been extended from 20 to 30 days.

Penalties. The fine for fraudulent misrepresentation was increased from $100 to $1,000 and claimants must pay restitution of benefits plus a penalty of 100 percent of restitution, not to exceed $1,000 in a benefit year established within 2 years after cancellation before receiving additional benefits.

Minnesota

Benefits. When computing an individual's partial weekly benefit amount, up to $200 in earnings from service in the National Guard or military reserves and pay received for jury duty will be excluded from the benefit computation. The base period may be lengthened up to 52 weeks if the claimant received compensation due to illness under a worker's compensation law or under any other State law for more than 26 weeks within the base period.

Disqualification. An individual serving as a juror will be considered available for work and actively seeking work for each day the individual is on jury duty. An individual will not be disqualified for voluntary leaving if the separation occurred under a collective bargaining agreement or if the individual left part-time work with a base-period employer while continuing full-time work and subsequently attempted to return to part-time work that was not available after being separated from the full-time work. Abuse of a patient or resident of a health care facility was included in the definition of gross misconduct. An individual shall be disqualified for refusal of suitable work if he or she fails to accept reemployment with a base-period employer offering the same or better hourly wages and if the same conditions of work apply.

Financing. The standard rate of contributions will increase from 2.7 to 5.4 percent on January 1, 1985. Also, beginning January 1, 1985, new employers, except employers in construction, will pay a contribution rate determined as the higher of 1.0 percent or the State's 5-year benefit cost rate but not more than 5.4 percent. All contributing employers will be assessed a surcharge equal to 10 percent of contributions due, which will be used to pay interest on loans advanced from the Federal Government.

Administration. The first-stage appeal body and judicial review were changed to a referee and the court of appeals, respectively.

Mississippi

Benefits. Cotton ginning was established as a seasonal industry.

Montana

Benefits. If an individual fails to meet the qualifying wage requirements because of a temporary total disability, the base period will be extended up to four quarters preceding the disability if the claim was filed within 18 months of the individual's last employment.

Disqualification. An extended-benefit claimant who is disqualified under the regular program for gross misconduct will be denied extended benefits until the individual earns 8 times the weekly benefit amount. If an individual voluntarily leaves work to attend school under the regular program and requalifies for regular benefits, such individual may not receive extended benefits unless he or she earns at least 6 times the weekly benefit amount.

Nebraska

Benefits. The maximum weekly benefit amount was increased from $106 to $120.

Disqualification. An individual who voluntarily leaves work to accept a better job will be disqualified for the week of leaving and 1 additional week.

Nevada

Disqualification. The disqualification for refusal of suitable work was changed from a variable number of weeks (1 to 15) to the duration and until the individual earns wages equal to or exceeding the weekly benefit amount in each of the number of weeks determined by the director, but not to exceed 15 weeks.

Financing. On January 1, 1985, the maximum contribution rate will increase from 3.6 to 5.4 percent.

New Hampshire

Benefits. The maximum weekly benefit amount was increased from $132 to $141. Excluded from wages for benefit purposes are payments from a supplemental unemployment plan. Also, partial benefits may not be reduced if an individual receives supplemental unemployment payments. The pension offset provision will apply only if both the unemployment benefits and the pension payments are based on the same period of unemployment.

Disqualification. An individual will not be disqualified if a work stoppage was caused by a lockout or the failure of the employer to live up to a provision of any agreement or contract entered into between the employer and the employees.

New Mexico

Disqualification. No individual may be denied benefits for voluntary leaving solely on the basis of pregnancy or termination of pregnancy.

New York

Benefits. The maximum and minimum weekly benefit amounts were increased from $125 and $25 to $170 and $35, respectively, and will increase to $180 and $40 on July 9, 1984. The minimum average weekly wage necessary to qualify for benefits was increased from $42 to $67 and will increase to $90 on July 19, 1984. The qualifying requirements were changed to 20 weeks of employment at the minimum average weekly wage, or 40 weeks of employment in the period of 104 consecutive weeks preceding the filing of a claim and earnings of at least the minimum weekly wage. The provision suspending the waiting period requirement during a period of natural disaster was repealed.

Disqualification. The amount of work and wages needed to purge a disqualification for voluntary leaving, misconduct, or refusal of suitable work was changed to at least 3 days' work in each of 5 weeks and earnings of at least 5 times the weekly benefit amount. A new provision specifies that the period of suspension of accumulated benefit rights during a strike will also be triggered by concerted activity not authorized or sanctioned by the collective bargaining unit.

Financing. The present experience rating system was extended indefinitely.

North Carolina

Benefits. The fraction used to compute the weeks of duration was changed from the individual's base period wages divided by high-quarter wages multiplied by 8⅓ to that quotient multiplied by 8. An individual's weekly benefit amount will be computed as 1/52 of the wages paid during the highest two quarters (previously, 1/26 of high-quarter wages) of the base period. The maximum weekly benefit amount will be computed as 60 percent of the average weekly insured wage rather than 66⅔ percent if, on August 1, 1983, or on any August 1 thereafter, the fund ratio is less than 5.5 percent. However, in no event may the maximum weekly benefit amount be less than the maximum in effect during the preceding 12 months. The earnings disregarded in computing the weekly benefit for partial unemployment will be 10 percent of the average weekly wage in the highest two quarters (previously the high quarter).

Disqualification. An individual is d
qualified for substantial fault on the part
the claimant that is work-related but
rising to the level of misconduct. The d
qualification may vary from 4 to 13 wee
depending on the circumstances.

Financing. Effective January 1, 1984,
taxable wage base will be the greater of
tax base required by Federal law or 60 p
cent of the average yearly insured wag
rounded to the nearest multiple of $1(
The amount allocated (previously charge
to a base-period employer's account will
multiplied by 120 percent and charged
that employer's account. An employer's
count will not be charged for benefits pa
if an individual is discharged for substant
fault, or for the inability to do the work
which hired pursuant to a job order w
the agency for a probationary period of
days. Also, benefits will be noncharged
a result of a reversed decision.

Administration. The period for appeali
an Employment Security Commission d
cision was extended from 10 to 30 da
after notification or mailing. The comm
sion may waive overpayments if good cau
is found.

North Dakota

Benefits. The maximum weekly bene
amount will be computed as 62 perce
(previously 67 percent) of the State avera
weekly wage. The percentage will increa
to 65 percent on July 1, 1984, and to
percent on July 1, 1985. The base-peri
qualifying requirements changed from
times the minimum weekly benefit amou
to 1½ times the individual's high-quart
wages. The ratio of base-period wages
high-quarter wages for determining wee
of duration changed to 1.5 for a minimu
of 18 weeks and to 3.5 or more for a ma
imum of 26 weeks.

Disqualification. The beginning date of
disqualification for voluntary leaving
discharge for misconduct will be the wee
of leaving or discharge. An individual ma
not be disqualified for voluntary leaving
the individual left employment or remai
away from employment but furnishes sic
leave notification from a physician; hov
ever, no benefits may be paid unless th
employee notifies the employer of the phy
sician's finding and offers to return to wor
when capable within 60 days of the last da
of work.

Financing. The contribution rates fo
positive-balance employers will range fro
0.5 to 4.3 percent, and from 0.5 to 5.
percent for negative-balance employers.

Ohio

Benefits. The maximum weekly benefit amount will be frozen within a range of $147 to $233 until January 1986. For 1985 and 1986, the maximum weekly benefit amount will be computed with an additional increase equal to one-half of the percentage increase in the average weekly earnings of all covered workers in Ohio over the year ending June 30, 1983. For the period beginning December 26, 1982, and ending December 31, 1985, an individual must work 20 weeks at 37 times the minimum hourly wage to qualify for benefits. For 1984 and 1985, an individual will not be paid benefits for the waiting week.

Disqualification. For 1984 and 1985, a duration disqualification will be 6 weeks of work and earnings of 6 times the amount required to establish a credit week. An individual will meet the able, available, and actively seeking work requirements if he or she is participating and advancing in a training program for which an enterprise is paying all or part of the cost with the intention of employing the individual for at least 90 days after completion of the training.

Financing. The taxable wage base for 1984 and 1985 will be $8,000.

Administration. The Advisory Council was changed to the Unemployment Compensation Advisory Commission and the number of members was increased from 7 to 12.

Oklahoma

Benefits. The maximum weekly benefit amount decreased from $197 to $185. Beginning July 1, 1984, the maximum weekly benefit amount will be the greater of $197 or 60 percent, 57.5 percent, 55 percent, 52.5 percent, or 50 percent of the State average weekly wage of the second preceding calendar year, depending on the condition of the unemployment fund. The weekly benefit amount will be computed as 1/25 of the taxable wages (previously 1/25 of total wages up to 66⅔ percent of the State average weekly wage) paid during the high quarter of the individual's base period. The formula for determining weeks of duration changed from the lesser of 26 times the weekly benefit amount or 1/3 of base-period wages to the lesser of 26 times the weekly benefit amount or 50 percent of the taxable wage. Beginning January 1, 1986, it will be the lesser of 26 times the weekly benefit amount or 40 percent of the taxable wage. Also beginning January 1, 1984, the weeks of duration shall be no greater than the number of weeks worked in the base period. The base-period wages needed to qualify for benefits increased from $1,000 to $3,000. Beginning January 1, 1986, an individual will need 40 percent of the taxable wages and 1½ times high-quarter wages to qualify for benefits. For the period January 1, 1986, through December 31, 1987, notwithstanding any other provision, an individual will be eligible for benefits if he or she worked at least 20 hours in each of 20 weeks.

Financing. The maximum contribution rate increased from 3.0 to 5.4 percent. Beginning January 1, 1986, the taxable wage base will be computed as 50 percent of the average annual wage for the preceding calendar year, rounded to the nearest $100. If an employer recalls a laid-off or separated employee and the employee continues to be employed, or voluntarily terminates employment or is discharged for misconduct within the benefit year, benefit charges may be reduced by the ratio of remaining weeks of eligibility to the total weeks of entitlement.

Oregon

Benefits. A temporary State additional benefits program, which will expire on June 29, 1985, was established.

Disqualification. An individual will not be disqualified for voluntary leaving, failure to accept work, or because of a labor dispute if he or she ceases to work or fails to accept work when a collective bargaining agreement between the bargaining unit and employer is in effect and the employer unilaterally modifies the amount of wages payable under the agreement, in breach of the agreement. Deleted from the definition of disqualifying income are dismissal or separation allowances and guaranteed wage payments. Holiday and vacation pay may or may not be deductible depending on the circumstances under which the claimant received them.

Financing. The maximum rate of contributions for the most favorable schedule increased from 2.7 to 5.4 percent and for the least favorable schedule, from 4.0 to 5.4 percent. A base-period employer's account will not be charged for benefits if the employer furnished part-time work to the individual during the base period and if the individual was collecting benefits due to loss of employment with one or more employers, so long as the employer continues to employ the individual in part-time work to the same extent as in the base period and the employer requests relief of charges.

Administration. The period for appealing an appeals board decision to the courts was increased from 20 days after the decision is final to 30 days after the decision is served.

Pennsylvania

Benefits. The maximum duration of benefits was reduced from 30 to 26 weeks (if claimant had 18 or more weeks of work), and an individual with 16 or 17 weeks of work can now collect 16 weeks of benefits. Deleted were provisions suspending the waiting week if the Governor declares a state of emergency because of a major disaster, and those specifying that the waiting week would become compensable after receipt of benefits equaling 4 times the weekly benefit amount.

Coverage. Officers of a corporation deemed to be self-employed because they exercise a substantial degree of control over the corporation who become unemployed because of bankruptcy will be entitled to receive unemployment benefits, provided that the wages paid to the officers were mandatorily subject to the law.

Financing. The taxable wage base will be increased to $8,000 on January 1, 1984. A tax on all employees of 0.1 percent of all wages paid for employment was imposed. Successor employers may pay the maximum tax rate if the transferring employer elected to transfer the business. Also added was an interest tax on contributing employers at the rate of 1.25 percent in 1984, 0.5 percent in 1985, and 1 percent in 1986 for the payment of interest on outstanding advances from the Federal Government. The maximum contribution rate (excluding interest or solvency taxes) increased to 8.5 percent for 1984, 8.8 percent for 1985, and 9.2 percent for 1986 and thereafter, based on a combination of the reserve-ratio factor, benefit-ratio factor, and the State adjustment factor (currently based on funding, experience, and State adjustment factor).

Administration. The advisory council, which formerly had no specific number of members, now is required to have 13 members.

South Carolina

Benefits. The minimum weekly benefit amount increased from $10 to $20.

South Dakota

Benefits. The maximum weekly benefit will be frozen at $129 until July 1, 1984. Any individual who receives primary social security retirement benefits or payments made under a plan contributed to by a base-period employer will have his or her unemployment benefits reduced by the prorated weekly amount of such pension.

Financing. The maximum contribution rate for negative-balance employers was increased to 9.0 percent and the minimum rate will be 0.1 percent. The rate for employers not qualifying for a reduced rate based on experience also was raised to 3.5 percent. The maximum contribution rate will increase to 10.5 percent on January 1, 1984.

Tennessee

Benefits. The maximum weekly benefit amount will increase from $110 to $115 on January 1, 1984, and to $120 on January 7, 1985. The minimum weekly benefit amount was increased from $20 to $30. An individual must earn $754.01 in the highest two quarters of the base period in order to qualify for benefits. Also, for benefit years beginning July 4, 1983, through July 6, 1985, claimants must have base-period wages outside the two high quarters which equal or exceed $135. The requirement that an individual must have earned in some quarter other than the high quarter wages equal to or more than 6 times the weekly benefit amount to qualify for the maximum weekly benefit amount was deleted. For benefit years beginning July 4, 1983, and through July 6, 1985, the proportion of base-period wages for computing weeks of duration will be one-fourth. An individual will not be eligible for benefits if 65 percent of the wages were earned in the highest quarter of the base period.

Financing. The rates for the most favorable schedule will range from 0.15 percent to 10.0 percent, and from 0.50 percent to 10.0 percent for the least favorable schedule.

Texas

Coverage. An individual will not be eligible for benefits from the date of the sale of a business until reemployed and eligible for benefits based on the wages received through new employment if the business was a corporation and the individual was an officer or a majority or controlling shareholder in the corporation and was involved in the sale of the corporation; if the business was a limited or general partnership and the individual was a limited or general partner who was involved in the sale of the partnership; or if the business was a sole proprietorship and the individual was the proprietor who sold the business.

Financing. The fund requirements for the least favorable schedule were increased from $225 million to an amount equal to the greater of $400 million or 1 percent of the taxable wages for the four quarters ending the preceding June 30. The fund requirements for the most favorable schedule changed from over $500 million to 2 percent of the total taxable wages for the four calendar quarters ending the preceding June 30. Nonprofit organizations, the State, and political subdivisions which elect to be reimbursable employers shall pay a fee for each valid claim for payment of administrative costs.

Utah

Benefits. The maximum weekly benefit amount will be frozen at $166 until July 1, 1984, at which time the maximum will be computed as 60 percent (currently 65 percent) of the State average weekly wage. The computation for potential weeks of duration changed from a ratio of base-period wages to high-quarter wages, to 27 percent of base period wages. Beginning July 1, 1984, an individual must have earned 1½ times the high-quarter wages and total base period wages of 8 percent of the State average annual wage to qualify for benefits. Beginning January 5, 1986, the base period will be the first four of the last five completed calendar quarters; until that time, it will remain the four completed calendar quarters preceding the benefit year. Beginning October 1, 1984, the State will change from wage request to wage reporting.

Disqualification. The pension offset provision will apply to pensions maintained or contributed to by a base-period employer.

Financing. The taxable wage base will increase from $12,000 to $13,300 on January 1, 1984. The rate of contributions for new employers will be 4.5 percent for 1983 and 1984 and an amount equal to the average benefit cost rate experienced by employers of the major industry to which new employers belong for 1985 and thereafter. A contributing employer's account will not be charged for benefits paid to an individual who was discharged for misconduct, or who voluntarily quit after December 31, 1984, and who would have been denied benefits but subsequently requalified for and actually received benefits. Also, base-period employers shall not be charged with the State's share of extended benefits, uncollectible benefit overpayments, and reimbursements on combined wage claims when the claimant could not have qualified solely on the basis of Utah wages. The following changes will become effective on January 1, 1985: the taxable wage base will be computed as 75 percent (currently, 100 percent) of the State insured average annual wage, rounded to the higher multiple of $100; an employer's tax rate shall be based on three factors—the reserve factor, social tax, and experience; benefits shall be charged against all base-period employers in proportion to the wages earned by the claimant with each employer; and the contribution rate for employers who do not qualify for a rate based on experience will be decreased from 10 8 percent.

Vermont

Benefits. The maximum weekly benefit amount will be frozen at $146 until July 30, 1986. On the first Sunday in July subsequent years, the maximum shall adjusted by a percentage equal to the percentage change in the State average weekly wage during the preceding calendar year

Financing. The taxable wage base was increased from $6,000 to $8,000.

Virginia

Disqualification. An individual will not be deemed to have voluntarily quit when the separation is in accordance with a seniority-based policy. The Director the Virginia Employment Commission may modify the active search-for-work requirment if such modification is warranted due to economic conditions.

Washington

Benefits. The State additional benefit program was extended to March 31, 1984. A shared-work compensation plan was established.

Coverage. A corporation may elect not to cover all of its corporate officers, and if it does not elect coverage, the employer must notify the corporate officers that they are ineligible for benefits; if the employer fails to notify any corporate officer, that person shall not be considered a corporate officer

West Virginia

Disqualification. An individual who is unemployed and a member of the State National Guard or other reserve component of the Armed Forces may not be considered to be employed or unavailable for work because he or she is engaged in inactive duty for training; any remuneration the individual receives for participation in such training may not be deducted from the unemployment benefits to which he or she may otherwise be entitled.

Wisconsin

Benefits. The minimum and maximum weekly benefit amounts will be frozen indefinitely at $196 and $37, respectively. The following changes will be effective January 1, 1984: The number of weeks of employment needed to qualify for benefits will increase from 15 to 18 in 1984 and 1985, and to 19 in 1986 and thereafter; an

individual will have to earn weekly wages equal to 30 percent of the State average weekly wage in each of the qualifying weeks; and the maximum potential duration will be reduced from 34 to 26 weeks. Effective with weeks of unemployment beginning after June 1, 1984, the partial benefit formula will change so that if an individual earns weekly wages totaling less than his or her weekly benefit amount, the first $20 per week will be disregarded and the weekly benefit amount will be reduced by 67 percent of the wages over $20. If the individual's wages are at least one-half of his or her weekly benefit amount, the individual may not be paid less than one-half of that amount, and if the wages are less than one-half of the weekly benefit amount, the individual must be paid the full weekly benefit amount. A supplemental benefits program will begin on January 1, 1984, and end with the week beginning May 27, 1984.

Disqualification. A number of changes will become effective January 1, 1984. The requalifying requirement for purging a duration disqualification for voluntary leaving will change from 4 weeks of work and wages of $200 to 8 weeks of work and wages equaling at least 16 times the weekly benefit amount. Potential weeks of benefits are reduced to 1. An individual will not be subject to the voluntary quit disqualification if he or she terminates part-time employment of no more than 30 hours per week with weekly wages of less than his or her weekly benefit amount based on wages earned with an earlier employer; after benefits are exhausted based on the previous job, the individual may then claim benefits based on the part-time employment. The requalifying requirement for purging a duration disqualification for failure to apply for or accept employment without good cause or failure to accept a recall from a layoff that occurred within the preceding 52 weeks will change from 4 weeks with wages of at least $200 to 8 weeks and wages equaling at least 16 times the weekly benefit amount, and the potential weeks of benefits will be reduced to 1.

Financing. The taxable wage base was increased from $6,000 to $8,000; it will increase to $9,500 for 1984 and 1985, and to $9,700 for 1986 and thereafter.

Penalties. The penalties for fraudulent misrepresentation were changed from a fine of not less than $25 or more than $100 or imprisonment for not longer than 30 days, or both, to a fine of not less than $100 or more than $500 or imprisonment for not more than 90 days, or both.

Wyoming

Benefits. Effective September 5, 1983, whenever trust fund revenues are insufficient to pay benefits or repay loans, the weekly benefit amount received by any individual normally entitled to more than $90 will be reduced to 3.4 percent of the individual's high-quarter wages. Also, until the trust fund solvency is restored, the maximum weekly benefit amount will be reduced from 55 to 46.75 percent of the State average weekly wage. The earnings disregarded when computing partial benefits will be the greater of $15 or 50 percent (formerly 25 percent) of the weekly benefit amount.

Disqualification. An individual who leaves the most recent job voluntarily without good cause or fails to apply for or accept available suitable work will be disqualified for a period equal to 90 percent of the number of weeks of entitlement and will forfeit 90 percent of all benefits. The provision which required an individual, after 4 weeks of unemployment, to seek and accept employment other than his or her customary occupation if it paid 75 percent of the wage received in the previous employment was repealed. Also, when considering the suitability of work, the Employment Security Commission may not consider the individual's customary occupation, previous earnings, experience, or training.

Financing. The taxable wage base was increased from $7,000 to $9,525. The maximum basic contribution rate was increased from 2.7 to 5.4 percent. □

FOOTNOTES

[1] Alabama, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Minnesota, Mississippi, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, North Carolina, North Dakota, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

[2] Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Idaho, Iowa, Kansas, Maine, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, North Dakota, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Washington, West Virginia, and Wyoming.

[3] Alabama, Arkansas, Colorado, Idaho, Indiana, Kansas, Minnesota, Mississippi, New Mexico, Oregon, Pennsylvania, Utah, Washington, Wisconsin, and Wyoming.

[4] By the terms of the 1954 Reed Act, funds in excess of the legal maximum in the Federal Unemployment Account are distributed to the States to be used for administrative costs.

[5] Alabama, Colorado, Florida, Illinois, Indiana, Iowa, Maryland, Minnesota, Nebraska, Nevada, New Mexico, North Dakota, Rhode Island, South Dakota, Tennessee, Texas, Virginia, Wisconsin, and Wyoming.

[6] Alabama, Colorado, Nebraska, Tennessee, Virginia, and Wyoming.

[7] California, Florida, Indiana, Kansas, Maine, Maryland, Mississippi, Nebraska, New Hampshire, New Jersey, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Virginia, and Wyoming.

[8] The residual tax is what remains of an employer's obligation to the program after receiving a tax offset credit for payment of the State tax.

II. RESEARCH PROJECT SUMMARIES

A. Research Projects Planned and in Progress

Study Title	Affiliation of Investigator	Page
Characteristics of Chronic Repeaters Among Unemployment Insurance Beneficiaries: New York State 1977-1982	New York State Department of Labor	26
Benefit Adequacy of Unemployment Compensation in New York State	New York State Department of Labor	28
A Study of Exhaustees of Unemployment Insurance Benefits During 1984	Washington Employment Security Department	29
An Evaluation of Experience under the Federal Compensation Program	Mathematica Policy Research	30
Ex-Ante and Ex-Post Employment and Earnings Experience of Unemployment Insurance Claimants	Minnesota Department of Economic Security	31
Insured Workers in West Virginia	West Virginia Department of Employment Security	33
Analysis of the Widening Gap Between the Total Unemployment Rate and the Insured Unemployment Rate	New York State Department of Labor	34
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Qualifying Requirements

Study Title:

Characteristics of Chronic Repeaters
Among Unemployment Insurance Beneficiaries
New York State
1977-1982

Problem to be Studied:

A significant group of UI beneficiaries repeatedly registers for UI benefits. A better understanding of the characteristics of these individuals may help UI administrators deal with this costly problem by examining the underlying causes of frequent and repeated layoffs.

Method:

The characteristics of individuals who collected UI benefits in at least three years of a seven year period will be studied and any consistent patterns will be identified The data will be taken from a ten percent random sample of UI claimants.

Expected Completion Date:

September 30, 1984

Name, Address and Telephone Number:

Norman A. Steele
Chief, ES Research and Evaluation
Room 452 - Bldg. #12
State Office Campus
Albany, NY 12240
Telephone (518) 457-6638

Disqualifications

Impact on the UI Fund of Various Labor Dispute Provisions (See Benefit Financing)

Benefit Adequacy

Study Title: Benefit Adequacy of Unemployment Compensation in New York State

Problem to be Studied: How adequate are UI benefits in replacing lost individual and household income.

Method: A 1.0 percent historical sample of UI beneficiaries will be analyzed. Pre-layoff and post layoff incomes of individuals and households will be examined and compared to determine the extent to which UI benefits and other income replace income lost through loss of employment.

Expected Completion Date: June 29, 1984

Name, Address and Telephone Number:

Thomas Corban
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Albany, NY 12240
Telephone (518) 457-5757

STUDY TITLE

"A Study of Exhaustees of Unemployment Insurance Benefits During 1984"

PROBLEM TO BE STUDIED

The last study of UI exhaustees in Washington was conducted in 1971. This study will focus on labor market experience and educational experience of exhaustees. Those individuals involved in structural changes in the labor market will be identified and specifically studied.

METHOD

Data Source

The Continuous Wage and Benefit History (CWBH) data files will be used to identify employment information prior to and after exhaustion and for summarizing individual benefit histories since 1979. A questionnaire will be mailed 20 weeks and 52 weeks after exhaustion of all entitlements.

Method of Analysis

The CWBH file contains a 10% sample of UI exhaustees. It is estimated that there will be about 6,000 individuals for the 1984 study period. The CWBH files will be linked to the questionnaire data and other files as available (JTPA, ES, social services, etc).

EXPECTED COMPLETION DATE

Preliminary reports in December of 1984 and 1985 and final report Spring 1986

CONTACT PERSON

Gary Bodeutsch
UI Research, T-8
Employment Security Department
Olympia, Washington 98504

206-753-3809

Duration of Benefits

Study Title

An Evaluation of Experience under the Federal Supplemental Compensation Program

Problem to be Studied

The study is intended to evaluate the Federal Supplemental Compensation (FSC) Program as a whole, with emphasis on the phase of the program following March 1983.

More specifically, the investigators will:

(1) describe the overall activity level in the program over time, compare the level of activity among States, and contrast the experience under FSC with program experience in previous recessions;

(2) assess the size and importance of the counter-cyclical stimulus to the economy, its pattern relative to the recession, and how it compares to alternative fiscal policies;

(3) examine and document administrative and managerial problems encountered and examine available data on the costs of operating the program;

(4) determine characteristics of FSC recipients, their experience under FSC, and the impact of the program on their unemployment spell lengths and subsequent wages; and

(5) draw implications for future policy initiatives.

Method

A variety of methods will be utilized, including tabulations, construction of exhaustion rates, regression, and simulation models.

Data sources are the CWBH files, aggregate quarterly unemployment statistics by State since 1964, and information on administrative costs and problems gathered through discussion with federal and State staff members.

Expected Completion Date

November 1985

Investigators

Walter Corson and Jean Grossman
Mathematica Policy Research
P.O. Box 2393
Princeton, New Jersey 08540
Tel. (609) 799-2600

Labor Market Experience

Study Title

Ex-Ante and Ex-Post Employment and Earnings Experience of Unemployment Insurance Claimants.

Problem to be Studied

To determine whether Job Service and Unemployment Insurance records can be effectively used to track the post-Unemployment Insurance employment and earnings experience of claimants and to evaluate the labor market experience of claimants who have obtained employment either on their own or through the Job Service.

Method

A sample of Job Service and Unemployment Insurance records will be analyzed to determine whether, taken together, they provide adequate information for conducting timely and accurate follow-ups of claimants who have been either placed in jobs by the Job Service or obtained employment on their own. Records will be matched and inconsistences in claimant status identified and corrected before a sample is drawn for follow-up study. Questionnaires will be developed and mailed to sampled former claimants and to employers (when known) to ascertain post-unemployment insurance employment and earnings experience. Telephone follow-ups and second mailings will be used to promote high response rates. Evaluations will then be conducted based on ex-ante and ex-post employment and earnings experience of claimants by age, sex, education, and occupational and industry attachment of claimants.

Projected Time Horizon of Project

The project is planned for completion in one year, commencing with July 1, 1984.

Name, Address, and Telephone Number of Principal Contact Person

Dr. Rudy Pinola, Director of Research, Minnesota Department of Economic Security, 390 North Robert Street, St. Paul, Mn. 55101, Telephone Number (612) 296-6545

Labor Market Experience

A Study of Exhaustees of Unemployment Insurance Benefits During 1984 (See Duration of Benefits)

Claimant Characteristics

Study Title

Insured Workers in West Virginia

Problem to be Studied

The study identifies significant characteristics of West Virginia workers and unemployment insurance claimants.

Method

The source of data is the Unemployment Compensation Benefits and Wage Record files, and is currently based on a 100 percent sample of the workers and claimants.

Data for fiscal year 1983 will be combined with that of former years in a time series format in order that changes can be observed in the characteristics over time. This publication (printed under various titles) is a continuous wage and benefit series, commencing in 1961 and published annually.

Expected Completion Date

November 1984

Name, Address, and Telephone Number of Investigator/Contact Person

Ralph E. Halstead
Assistant ES Director
Labor and Economic Research Section
Department of Employment Security
112 California Avenue
Charleston, West Virginia 25305

Telephone: (304)348-2660

Unemployment Indicators and Statistics

Study Title: Analysis of the Widening Gap between the Total Unemployment Rate and the Insured Unemployment Rate

Problem to be Studied: There has been a recent divergence in the trends of the Total Unemployment Rate (TUR) and the Insured Unemployment Rate (IUR). This has reduced the credibility of both measures and has raised questions regarding the reliability of the IUR as a trigger of extended benefit provisions.

Method: Trends in the TUR and the IUR as well as other UI related indicators such as the UI exhaustion rate will be examined statistically to discover their underlying relationships. Economic theory will be used to explain how the relationships uncovered through the statistical analysis have caused the widening gap between the TUR and IUR series.

Expected Completion Date: June 29, 1984

Name, Address and Telephone Number:

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Benefit Financing

Study Title

A Short-Term Forecast Model for Estimating Unemployment Insurance Cash Flows.

Problem to be Studied

To examine the efficacy of developing a short-term model for forecasting quarterly unemployment insurance (UI) cash flows up to four quarters ahead based on varying policy options. This study is directed toward supplementing the projection model that we developed in 1979 for making long-term projections of U.I. cash flows.

Method

Multiple regression analysis is being employed to develop forecasts of Minnesota tax-rated employment, compensable unemployment, and the average weekly wage up to four quarters ahead. These three variables are critical for estimating UI cash flows. The other variables, such as the average weekly benefit, are readily estimated once the average weekly wage and level of compensable unemployment are developed by using historical relationships and taking into account the current benefit formula in the UI law.

Expected Completion Date

August 1, 1984

Name, Address, and Telephone Number of Principal Contact Person

Dr. Rudy Pinola, Director of Research, Minnesota Department of Economic Security, 390 North Robert Street, St. Paul, Mn. 55101, Telephone Number (612) 296-6545

Benefit Financing

STUDY TITLE

The Financing of Unemployment Insurance Benefits--Mississippi 1984-1989

PROBLEM TO BE STUDIED

The purpose of this study is to update the study completed in 1982 and to study the effects of a favorable, an intermediate and a least favorable economic scenario on Mississippi economy to attempt to keep Mississippi's trust fund solvent.

DATA SOURCES

Records and reports of the Mississippi Employment Security Commission.

METHODS OF ANALYSIS

(1). Mississippi's experience in the collection of taxes and the payment of benefits.

(2). The size of the trust fund past, present and future.

(3). The effects on the size of the trust fund of three economic projections: a favorable, an intermediate and a least favorable scenario.

EXPECTED COMPLETION DATE

September 30, 1984.

NAME, ADDRESS, AND TELEPHONE NUMBER OF CONTACT PERSON FOR THE PROJECT

Fred Williams, Mississippi Employment Security Commission
P. O. Box 1699
Jackson, Mississippi 39205-1699

Telephone Number (601) 961-7444

STUDY TITLE

"Impact on the UI Fund of Various Labor Dispute Provisions"

PROBLEM TO BE STUDIED

Washington presently uses the work stoppage model for its labor dispute provision, but nearly every legislative session sees attempts to change the language. Recently, a legislative study resolution has requested an analysis of the relative impact on the UI Fund and employer accounts under current and proposed provisions.

METHOD

Sample

All labor disputes for the three-year contract cycle, 1981 through 1983.

Data Sources

A database will be constructed using information from Labor Dispute Activity Reports, determinations, appeals and review documents, news articles and personal interview. It will contain employer information, number of workers affected, exceptions, and actual and potential benefit costs.

Method of Analysis

Each dispute analyzed to determine "critical dates" which could define duration, such as work stoppage beginning and ending, settlement date, return to work, permanent replacement, etc. Summation of duration and cost under all variations of language, overall and by employer.

EXPECTED COMPLETION DATE

Reports available to legislature by August of 1984.

CONTACT PERSON

Kathy Countryman
UI Research, T-8
Employment Security Department
Olympia, Washington 98504

206-753-3809

Benefit Financing

Study Title

Debit Balances

Problem to be Studied

The study depicts the characteristics of those covered employers that have debit balances in their unemployment insurance accounts.

Method

The source of the data is the Unemployment Compensation employer account files. Data from the Employment and Wages and Contribution Report (ES-202) will also be used. It is a 100 percent sample of debit firms.

In order to observe changes in the characteristics of debit firms over a period of years, the data for fiscal year 1983 will be combined with that for previous years. This is an annual publication.

The method of analysis is time series.

Expected Completion Date

March 1985

Name, Address, and Telephone Number of Investigator/Contact Person

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Labor and Economic Research Section
Department of Employment Security
112 California Avenue
Charleston, West Virginia 25305

Telephone: (304)348-2660

STUDY TITLE

Suspension of Benefits: Resolving Weekly and Continuing Eligibility

PROBLEM TO BE STUDIED

A recent lawsuit in Washington has established that the delay in benefits caused by the practice of pending is a violation of due process and property rights. By court order, this state is eliminating the practice of pending while fact-finding prior to resolution of an issue, instead changing to a system of conditional payments. This constitutes an opportunity for a detailed pre- and post-implementation study of disposition and timeliness in determining continuing and weekly eligibility issues by local office. A later phase would study the additional activity and cost associated with conditional payment.

METHOD

Using information from the Benefit Automated System:

1. All pended claims from the first quarter of 1984 (prior to conditional payment) would be analyzed by week, by local office, by disposition, and by duration of pend.

2. A file would be created for two representative weeks containing certain information by SSA on all claimants pended during those weeks. Additional data gathered from local office files would be entered, This file would then be analyzed by reason for pend, eventual disposition (allow or deny) and days to resolution.

3. Following implementation of conditional payment, there would be tracking within the payment system by issue for comparable data elements.

EXPECTED COMPLETION DATE

Preliminary results in September of 1983 should indicate frequency and disposition of issues affecting eligibility. The data file can be used to analyze other questions which arise.

CONTACT PERSON

Kathy Countryman
UI Research, T-8
Employment Security Department
Department
Olympia, Washington 98504

206-753-3809

Miscellaneous

STUDY TITLE

Mississippi's Business Population--Births, Deaths, and Changes in Ownership 198

PROBLEM TO BE STUDIED

This study attempts to determine the types of new industries being established in Mississippi; the types of businesses ceasing operation; and the types of business changing ownership within the State and the counties.

DATA SOURCES

Computer tabulations on employer registrations and terminations, by-products of employer status operations, and employment and wages data from the ES-202, Employment Wages, and Contributions Report, are used in the analysis of business patterns in the State and its counties.

EXPECTED COMPLETION DATE

This study report is being prepared for publication, and it probably will be available December, 1984.

NAME, ADDRESS, AND TELEPHONE NUMBER OF CONTACT PERSON FOR THE PROJECT

Eugene C. Brown, Mississippi Employment Security Commission
P. O. Box 1699
Jackson, Mississippi 39205

Telephone Number (601) 961-7436

Miscellaneous

Study Title

Unemployment Compensation Claimant Trace

Method

A statistical file of all claimants who filed an initial claim during a specified time frame was created. This file contains all personal information, such as age, ethnic group, sex, as well as data on all transactions, such as payments, disqualifications, and exhaustions. A computer system has been developed to trace claimants from their initial claim until they leave the system through exhaustions, return to work, disqualifications, etc. This system will be used for many research projects.

Availability

There are no plans to publish this information.

Name, Address, and Telephone Number of Investigator/Contact Person

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B. Research Projects Completed

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Nonmonetary Eligibility

Application of the Unemployment Insurance System Work Test and Nonmonetary Eligibility Standards (See Continuing Eligibility)

STUDY TITLE

"Impact of a Seasonal-Work Provision on UI Benefits in Washington State"

AUTHORS Gary Bodeutsch and Mary Foley

REPORT DATE September 1983

RESULTS

The results of simulating this seasonal-work provision were as follows:

1. 14% of UI beneficiaries would have been affected.
2. Benefit payments would have been reduced by 5%.
3. Minority ethnic groups and females had proportionally larger representation.
4. The average beneficiary affected by this provision would have had benefits reduced by 38%.
5. Industry groups of fishing and agriculture had the largest proportional representation while construction, manufacturing, and finance were proportionally less represented.
6. Eastern Washington was proportionally more represented than Western Washington.

The simulated provision was introduced in the Washington State Legislature to limit the amount of UI benefits which an individual could collect in a calendar quarter to not greater than the amount of wages earned in the highest of the two corresponding calendar quarters in the previous two years. Exceptions would be made for illness in the past two years or new entrants into the labor force.

A number of variations were also studied in the course of consideration by the Legislature. A law was passed that flagged UI claimants with certain patterns of employment (no limitation on benefits).

METHOD

Data Source: The Continuous Wage and Benefit History (CWBH) data files, matching wage files with benefit files.

Method of Analysis:

The longitudinal files were used to simulate the effect of such a limitation on past UI beneficiaries.

AVAILABILITY: Gary Bodeutsch (Phone: 206-753-3809)
UI Research, T-8
Employment Security Department
Olympia, Washington 98504

Study Title

Application of the Unemployment Insurance System Work Test and Nonmonetary Eligibility Standards

Authors

Walter Corson, Alan Hershey, and Stuart Kerachsky
with Paul Rynders and John Wichita
Mathematica Policy Research

Date of Report

March 1984

Principal Findings and Conclusions

The investigators point out that conclusions must remain somewhat tentative because of the inability to demonstrate causality clearly through process analysis, the small scale of the study, and the nature of what can and cannot be observed. (While denial rates can be observed, the deterrence of individuals from applying for benefits can not be observed.)

1. The importance of issue detection relative to fact-finding and adjudication. The ability of a State to deny benefits to the ineligible population will depend on the effectiveness with which it detects determination issues rather than on the consistency with which its determinations lead to denials. There is considerably more room for policy and management initiatives to improve the detection of determination issues than to improve the adjudication process.

2. Factors that affect success in detecting potential eligibility issues. For detecting separation issues, two important practices seem to contribute to high determination rates. One is to initiate the determination process on the basis of the information from claimants, employers, or the agency itself, rather than restricting acceptable sources for identifying particular issues. The second practice is to obtain simple factual information from employers about separation reasons.

Determination rates for nonseparation issues seem to pertain to three general factors that may vary from State to State. First, a formal requirement stipulating that claimants engage in their own active work search seems necessary for effectively assessing their exposure to the labor market as a measure of their availability for work. Second, determination rates and denial rates also seem to depend on the "purposefulness and frequency with which claimants' ongoing eligibility is questioned". Questions on claims cards should request simple factual statements from claimants rather than subjective judgements. Eligibility Review Program interviews should be scheduled relatively frequently and should include a careful review of the extent to which a claimant is meeting the State's eligibility standards. Third, the way in which ongoing claim reports are reviewed by UI staff also seems to be an important factor in the ability of States to detect issues. The investigators conclude that the reports should be reviewed rigorously and consistently.

Some evidence suggests that the option of milder penalties may increase the frequency with which agency staff deny benefits. Although less severe penalties may lead to more denials, the investigators do not recommend milder penalties. They may simply encourage a greater number of applications from ineligible individuals, and, to the extent that an agency has different degrees of violations and penalties to choose from, issues which warrant denial under more demanding standards may be inadequately pursued.

4. The importance of clear policies and procedures. In States that have more comprehensive and detailed written policies and procedures, the staff's understanding of State policy tends to be more accurate and consistent.

5. Organization of the fact-finding and adjudication process. Identifying more issues, rather than simply trying to justify only those issues that stand a good chance of leading to denial, seems more likely to lead to the effective denial of a high percentage of ineligible cases. Observations show the importance of maximizing the information available to the adjudicator responsible for making determination decisions.

The investigators suggest that extension of the research in three ways might be useful--increasing the scale of the study, focusing more narrowly on documenting exemplary State programs, or, focusing on the behavior of actual or potential claimants.

Method

The first study approach was to use extensive quarterly data sets covering the period from 1964 to 1981 to evaluate statistically the relationship between each major category of nonmonetary eligibility, as measured by denial rates, and a set of variables representing easily identifiable provisions of State UI laws, quantifiable descriptors of the administration of nonomonetary eligibility rules, indicators of the generosity of State programs, and descriptors of the economy and various other aspects of each State. As a great deal of the variation in denial rates by State could not be explained by the equations estimated with the model, the investigators collected primary data to evaluate the relationship between program characteristics and nonmonetary eligibility in greater detail by carrying out a process analysis in selected States. For this purpose, site visits were carried out in six States representing a range of denial rates for each issue. The investigators collected data from documents and interviews with State and local program officials.

Availability

This publication will be available from the National Technical Information Service (NTIS). See Section VIII for information on obtaining papers from NTIS.

Duration of Benefits

Study Title

An Analysis of the 1981-82 Changes in the Extended Benefits Program

Authors

Walter Corson and Walter Nicholson
Mathematica Policy Research, Inc

Date of Report

March 1984

Aggregated State Data Findings

(1) Other things being equal, regular UI exhaustion rates were about 4 percentage points higher when EB was in effect than when it was not. Availability of benefits beyond EB (such as those provided by FSB or FSC) tended to increase exhaustion rates by an additional 3 percentage points.

(2) Availability of benefits beyond EB raised the fraction of UI exhaustees who collected an EB first payment by about 3 percentage points. It was estimated that the new EB work test may have reduced the fraction by as much as 10 percentage points,

3) High wage replacement ratios and availability of benefits beyond EB tended to raise EB exhaustion rates, whereas enforcement of the UI work test (as measured by disqualification for refusals of suitable work) tended to reduce EB exhaustion rates.

CWBH Data Findings

(1) The change in the EB work test was found to have reduced the fraction of UI exhaustees who collect EB by 6 percentage points compared with the 10 percentage points found using the aggregated State data. The change in the EB work test was found to have reduced EB exhaustion rates. (This was not found in the estimates from the aggregated data.)

(2) Availability of benefits beyond EB increased the number of weeks of EB collected by about 4 weeks whereas the change in the EB work test reduced these weeks by about 1.5.

(3) The change in the EB work test seems to have increased use of the employment service by EB recipients. This was based on State observations in only three States. The likelihood of job placement, however, did not increase in the States examined.

(4) Relatively few, approximately 5 percent, of the UI exhaustees were barred from EB eligibility by the new EB qualifying wage provisions. But the fraction of ineligible claimants varied widely from State to State depending on the correspondence between existing State laws and the EB provisions.

State Administration Operations Survey Findings

(1) The States generally reported that the new EB provisions required relatively few additional administrative resources. For some States, there was an indication that some modest resource shifts had occurred between administration of eligibility review to regular UI recipients and to EB recipients and that implementation of the new qualifying wage standard required some extra computer programming.

Simulation Model Findings

(1) Trigger changes introduced in PL 97-35 would have reduced EB first payments by more than two-thirds had they applied to 1978-81. Changes in the EB work test would have reduced EB first payments by 6-7 percent during the period whereas the changed EB eligibility rules would have reduced EB first payments by 5 percent,

(2) During high unemployment in the period starting in the fourth quarter of 1982 to the third quarter of 1983, the EB program changes reduced EB first payments by about 24 percent relative to what they would have been had the program remained unchanged. Sixty percent of the decline was attributed to the trigger change, and the remainder resulted from the work test and eligibility modifications.

(3) The simulation of several hypothesized recessions suggested that the recent EB program changes (especially those related to the trigger) had the effect of sharply reducing the size of the EB program during mild recessions. During relatively severe recessions, the effects were less but the changes focused the EB program on the recession's low points while cutting back significantly on benefits paid early in the recession and later during the recovery.

Overall Evaluation

The recent changes achieved their primary goals of reducing total EB expenditures and focusing the program more tightly in areas and time periods where labor markets are weakest.

Even with the recent EB cutbacks, little evidence was found that total UI exhaustion rates (the fraction of claimants who exhausted their UI and EB entitlement) rose rapidly during the 1982-83 recession. However, one reason overall exhaustion rates were not increased substantially by the EB cutbacks is that some of the changes eliminated many claimants before they reached EB exhaustion. That fact, combined with the more general decline in UI eligibility of the unemployed during 1982-83, resulted in a large shortfall in EB program caseloads and costs over what might have been anticipated, given the weakness in the labor market. The welfare consequences of the reduced eligibility of the unemployed remain ambiguous.

Study Method

Quarterly aggregated data on each State's UI system for the 1964-1984 period were used to develop a detailed simulation model of EB program operations. The CWBH data were used to estimate the behavioral effects of the EB program changes, thus providing a check on the results from the analysis using the aggregated data. The CWBH data were also used to examine the impact of the new EB eligibility rules. A small study of administrative operations was also conducted.

Availability

This report will be available from the National Technical Information Service (NTIS). See Section VIII for information on obtaining papers from NTIS.

Duration of Benefits

Study

The Effect of the Duration of Unemployment Benefits on Work Incentives: An Analysis of Four Data Sets

Author

Robert Moffitt
Mathematica Policy Research

Date of Report

March 1984

Objectives of Study

The purpose of this study is to develop a model and specifications that can be used to make better estimates than have been made in past studies of the impact of benefit extensions on the length of unemployment spells, on nonwork spells (which include periods of unemployment and periods out of the labor force), and on reemployment wages.

Results

(1) A one week increase in potential UI duration was estimated to increase the unemployment spells of males by 0.17 to 0.45 weeks. This means that a 13 week extension would increase duration between 2 and 6 weeks. The estimated effect on the unemployment spells of females was 0.10 to 0.37 weeks. This translates to a range of one to five weeks for a 13 week extension for females. These ranges are considerably narrower than those obtained from past studies. The overall range of the impact of potential duration in this study is 0.10 to 0.45 compared with the 0 to 0.8 effect found in past studies. A comparison of the upper limits of the estimated effect of potential duration on unemployment spells between this study and past studies reveals that the estimated work disincentive effect of unemployment insurance has almost been cut in half. There is also a possibility that some of the suggestions made by Moffitt for future research may further reduce the estimated work disincentive effect.

(2) The estimated effects of potential duration on nonwork spells are greater than those on unemployment spells. The effect of a one-week increase in potential duration on mean nonwork spell length is estimated to be .52 for males and .66 for females, using data from one of the data sets.

(3) No significant pattern of effects of increases in potential duration on the work effort of other members of the UI recipient's household was found.

(4) The effect of a sudden introduction of a benefit extension on the average unemployment spell duration is smaller than the effect of an increase in potential duration that occurs at the beginning of the spell or before the spell begins.

(5) There was no significant effect of increases in potential duration on reemployment wages.

(6) There was some weak evidence that the impact of potential duration on unemployment spells increases when the unemployment rate is high.

Method

The study approach was to use the same model on several different data bases similar to those used in past studies to determine if the results obtained in previous analyses were caused by different model specifications or different data bases. A "hazard rate" model of D. R. Cox was used to make the estimates. This model has the advantage of allowing the use of time-varying variables. Therefore, a change in potential duration during an unemployment spell can be incorporated into the model. In past studies, the potential duration has been assumed to be constant throughout the spell. The "hazard rate" model also avoids the truncation problems of unemployment insurance data. Truncation of spells in unemployment insurance data has caused serious biases in previous studies using such techniques as ordinary least squares.

Data Sources

The four data sets used in this study were (1) the Continuous Wage and Benefit History Data Bank, (2) the Job Search Assistance Research Project, (3) Federal Supplemental Benefit data, and (4) the Newton-Rosen Georgia UI data set.

Availability

This publication will be available from the National Technical Information Service (NTIS). See Section VIII for information on obtaining papers from NTIS.

Study Title

Characteristics of FSC I/II Recipients

Author

Walter Corson
Mathematica Policy Research, Inc.

Date of Report

March 1984

Objective

This report provides information on the characteristics of individuals who received FSC benefits during the FSC I or II period (September 1982 - March 1983).

Findings

Demographic Characteristics

The age and sex distribution of FSC recipients was quite similar to the distribution of UI recipients who did not receive these extended UI benefits. This finding contrasts with the experience in the 1974-75 recession when extended benefit recipients were more likely to be older and more likely to be women than other groups of the unemployed.

On most other demographic dimensions, FSC recipients were similar to UI recipients except that they were less likely to be married, to have a working spouse, or to be white than regular UI recipients.

Data on subsets of the FSC population show that FSC exhaustees were generally similar to the FSC population. Individuals who also received EB or whose benefit year ended prior to the beginning of FSC were also similar except that all these groups had higher proportions of males than FSC recipients in general.

These demographic findings show that the recession's extended benefit recipients are quite similar to the unemployed in general, which was not the case in the 1974-75 recession.

Timing of Layoff and the Pre-UI Job

Three-quarters of the FSC recipients began their UI benefit years between October 1981 and June 1982. Thus, the majority of FSC I/II recipients were individuals who became unemployed during the beginning of the recession.

The pre-UI jobs of FSC recipients were more likely to be in durable goods manufacturing than the jobs of regular UI recipients who did not collect FSC. Comparing FSC recipients to extended benefits recipients during the 1974-75 recession (i.e., FSB recipients), a lower proportion of FSB recipients were in durable manufacturing. This difference in the nature of the two recessions helps explain the demographic differences.

FSC recipients collected, on average, 39 weeks of UC benefits and $4,400 in total UC. No differences were observed in potential durations or the wage replacement rate between FSC recipients and regular UI recipients who did not collect FSC.

Exhaustion rates for regular UI were high early in the recession, but this rate dropped substantially later in the recession. Among regular UI exhaustees, the rate of receipt of extended benefits rose substantially once FSC was enacted, but it never rose much above 80 percent despite the fact that FSC was available in all States. Therefore, it appears that some FSC eligibles may not have collected these benefits.

The special qualifying requirements for FSC had a modest impact (under 5 percent) on the percent of UI recipients who were eligible for these extended benefits.

Household Income

In the year prior to UI benefit receipt, FSC recipients had lower mean household incomes than UI recipients who did not receive FSC, and their incomes were more likely to be below the poverty line. However, these differences were small.

The UI recipient's income represented a major fraction of household income, and, thus, UI benefits were an important source of income to these households. Among FSC and regular UI recipient households, the percentage with poverty level incomes dropped substantially with the receipt of UI benefit.

Method

The data come from the fourteen States participating in the UI's CWBH project. The data for the 14 States have been weighted so that the samples are representative of the States but not of the nation. FSC recipients were compared with regular UI recipients who were laid-off at approximately the same time as FSC recipients but who did not collect FSC. Another comparison was between the group of EB recipients who did not collect FSC with the group who did. The EB group who did not collect FSC could have collected if they had remained unemployed long enough.

Duration of Benefits

The Impact on Local Area Unemployment Statistics of the Application of Area Specific Survival Rates to Exhaustees (See Unemployment Indicators and Statistics)

Work Disincentive

The Effect of the Duration of Unemployment Benefits on Work Incentives: An Analysis of Four Data Sets (See Duration of Benefits)

Claimant Characteristics

Study Title: Benefit Year Experience of Unemployment Insurance Beneficiaries 1980-81

Author: Gerald Clayman

Date of Report: October 1983

Results This report provides data on characteristics and benefit experience of unemployment insurance beneficiaries in New York State for benefit year 1980-81. It also makes comparisons with earlier years.

Method: The report is based on a ten percent sample of persons who drew one or more unemployment benefit payments in the 1980-81 benefit year.

Availability:

Sanford Fialkoff
Assoc. Economic Research Editor
Division of Research and Statistics
Bldg. #12 - Room 455
State Office Campus
Albany, NY 12240
Telephone (518) 457-6649

Claimant Characteristics

Study Title

Displaced Workers

Method

The statistical file described in Unemployment Compensation Claimant Trace was used for this project. Summary reports on claimants by personal information (age, sex, marital status, ethnic group, etc.) were prepared. Reports on total unemployment and on exhaustees were also generated. Reports were by area for quarterly time periods.

Availability

Reports were prepared for the Appalachian Regional Commission and were not published by the Department of Employment Security.

Name, Address, and Telephone Number of Investigator/Contact Person

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Department of Employment Security
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Telephone: (304)348-2660

Unemployment Indicators and Statistics

PROBLEM STUDIED

The main purpose of the study was to determine the cause of the widening gap, or difference, between the insured unemployment rate (IUR) and the total unemployment rate (TUR) --- more precisely, the cause of the relative decline in the number of insured unemployed under the regular State UI program.

STUDY TITLE

The Decline in Insured Unemployment During the 1980s.

AUTHORS

Gary Burtless, The Brookings Institution, with Daniel H. Saks, Vanderbilt University.

REPORT DATE

March 1984.

RESULTS

The authors found that during the 20 years prior to 1980, a number of reasonably well understood factors caused the IUR to decline in comparison to the TUR: an increase in UI coverage after 1970 to groups of workers who did not experience as much unemployment as workers who had been covered previously; an increase in the number of unemployed workers (teenagers, young workers, and women) who were less likely to be insured; and a change in the industrial composition of the work force, reducing the significance of industries where UI coverage was common (manufacturing, mining, and construction). The net effect of these factors was a growing difference between the TUR and IUR after 1950.

Most of the report is devoted to an examination of hypotheses to explain the sudden and unexpected drop in the ratio after 1979. The study showed there is no evidence that States have cut down on the legally permitted duration of awards or that new initial applicants in the recent recession were somehow different from applicants in earlier recessions; the composition of the unemployed during the recent recession was not substantially different from that during the previous severe recession in 1974-76; the regional distribution of unemployment has had no effect on the expected ratio of UI

claimants to job losers. Regression analysis showed that the varying composition of the unemployed across time and across States provides no explanation for the recent pattern of decline in UI coverage ratios.

In view of the above, the authors believe that legal and administrative changes in UI provide the main explanation for the recent decline in insured unemployment relative to total unemployment. In examining such specific changes, they found evidence of "pervasive and persistent tightening in eligibility criteria and systematic reduction in the net value of UI benefits." The authors believe that the most important legal and administrative changes are: toughened eligibility criteria, tightened enforcement of previous regulations, and the imposition of harsher disqualification provisions; federally required pension offset; taxation of UI; State modification of waiting week provisions; federal tightening of extended benefit eligibility requirements (indirect impact); and the length and severity of the recent recession.

Because of the above changes, many potential UI claimants may now perceive that toughened eligibility criteria, tighter administrative control, and stricter and more burdensome reporting requirements exist. The chance of a valid claim and the value of net benefits may appear to be smaller and consequently, many applicants (eligible and ineligible) may not even file for benefits. While this effect is unmeasurable, the report states it may be the most important single factor in explaining the drop in initial UI claims relative to new job losers and, hence, the most important reason that continued UI claims are low in relation to the number of job losers, causing the widening gap.

The report also addresses the issue of the economic effectiveness of the UI program (individual income protection and countercyclical stimulus) considering the impact of legislative and administrative changes since 1979.

In terms of the near future, the authors expect the present relationship of insured unemployment to job losers to hold steady. While it is conceivable that recent reforms could be reversed or some liberalization could occur, it is not likely because of the current status of State trust fund accounts. In the longer run, they believe the IUR will move closer to the TUR.

AVAILABILITY

This report is available from the Brookings Institution, 1775 Massachusetts Avenue NW, Washington, D.C. 20036. Tel. (202) 797-6130.

STUDY TITLE:

The Impact of Delays in the Monetary Determination Process on the LAUS Estimating System

AUTHOR:

Robert Furgerson, Arizona Department of Economic Security

DATE OF REPORT:

1982

RESULTS:

Estimating procedures for Local Area Unemployment Statistics (LAUS) do not currently include UI claimants who are monetarily ineligible for UI benefits. If such claimants are to be included in the procedures for estimating local area unemployment, then the need for up-to-date statistics will be affected by the variation in the amount of time required to determine a claimant's monetary eligibility. A case with no wage protest might take only one day to process, while a case which must be carried through the appeals process might take as long as a year before a determination can be resolved. A compromise might be needed between the desire for accuracy and the need for prompt statistical output; however, the results of the study indicate that taking a count of the monetary ineligibles sixty days after their effective dates should be sufficient for LAUS purposes.

The characteristics of the UI claimants seemed to have little effect on the rate of revisions to their monetary eligibility status. Geographical location, as measured by the county of residence, also had little effect.

More than half of the claim revisions were caused by either combined wages (5,355) or delinquent reports (4,800). A wrong Social Security number from the employer was the third most frequent cause (2,004).

Revisions to a claimant's base period earnings will have a serious impact on LAUS estimating procedures only if the revision changes that person's eligibility status. The percentage of revisions which resulted in a change in eligibility status was 36.9. In most (88.1 percent) of those cases, a monetarily ineligible claimant became monetarily eligible. The revisions which resulted in eligibility status changes tended to occur sooner than did revisions overall.

The percentage of all claims with an eligibility status change was 6.24 percent. Indian claimants had a higher percentage (8.9) of eligibility status changes than did other ethnic groups. Among industry groups, workers from the agricultural/forestry/fishing industries had the highest percentage of claims (9.8) with an eligibility status change.

As later times of enumeration are used, the number of monetarily ineligible claimants decreases and the number of monetarily eligible claimants increases. For example, if a count was taken thirty days after each claimant's effective date, then the number of monetary ineligibles would be 17,540 and the number of monetary eligibles would be 94,632; whereas, if the count occurred ninety days after each claimant's effective date, monetary ineligibles would number 16,291 (a 7.1 percent decrease) and monetary eligibles would number 96,683 (a 2.2 percent increase).

Increasing the duration between the time of a claimant count and the claimants' effective dates from thirty to sixty days had significantly different effects on the number of monetary ineligibles and monetary eligibles in some counties. An increase in the duration from sixty to ninety days did not lead to significantly different changes in the number of monetarily eligible claimants among Arizona's various counties. However, the number of monetarily ineligible claimants in one county (Yuma) did not increase at all, whereas monetary ineligibles decreased by 1.3 percent for the state overall.

These results indicate that Arizona's current system which includes counting monetarily eligible claimants approximately thirty days after the week in which they filed and performing a revised count about thirty days after the first count adequately measures the number of those claimants within each county. The results also give some indication that a revised count of monetarily ineligible claimants in each county should be done more than sixty days after the claimants' effective dates. However, the bias in county estimates caused by having a revised count of monetary ineligibles approximately sixty days after the claimants' effective dates would be miniscule. Using a previously devised method of including monetary ineligible claimants in the LAUS estimating system, the effect of a 1.3 percent bias in the enumeration of monetary ineligibles (as was the case with Yuma county) would be to lower the estimated unemployment rate for that county by one-hundredth of a percent. Clearly a count of monetarily ineligible claimants sixty days after the claimants' effective date would be sufficient for the LAUS estimating system.

METHOD:

The study used computer punched data cards for all persons who filed for UI benefits in Arizona with a calendar year 1980 effective date and received a determination of monetary eligibility for those benefits during the time period from January 1, 1980, through March 31, 1981. The total number of monetary revisions used in the study was 18,829.

Availability:

Robert Furgerson
Arizona Department of Economic Security - 910B
1300 W. Washington
Phoenix, AZ 85007
Telephone: (602) 255-3591

Study Title: The Impact on Local Area Unemployment Statistics of the Application of Area Specific Survival Rates to Exhaustees.

Authors: Jerry R. Haupt and Robert W. Furgerson, U.I. Research and Reports Section, Arizona Department of Economic Security

Date of Publication: September, 1983

Results, Conclusions, and Policy Implications:

The largest estimated component of unemployed persons who are covered by the Unemployment Insurance system is survived exhaustees. Survived exhaustees are individuals who receive their final UI payment and have yet to find suitable employment. These survivors account for nearly 20 percent of the estimates of covered unemployment annually. Currently, the estimate of the number of exhaustees utilizes final pays data (the number of UI claimants receiving their final benefit check), and a single, national survival rate. The survival rate reflects the probability of experiencing at least one more week of unemployment after receiving a final payment. The Bureau of Labor Statistics currently employs a single survival rate in all areas of the country. The deficiencies of this approach lie mainly with the application of a single rate to areas with distinctly different socioeconomic environments. These differing conditions would tend to affect the relative survivability of the exhaustees and result in different unemployment rates than would be obtained using one survival rate. During the period beginning January 31, 1981, and ending January 23, 1982, over 18,000 Arizona claimants exhausted their UI benefits. A contract with the Bureau of Labor Statistics enabled us to study a group of these exhaustees to determine the extent to which the above deficiencies affected published state unemployment estimates. We were able, via a survey, to track the post-exhaustion labor force status of the exhaustees for a 26 week period.

We found that there were substantial differences between the characteristics of the exhaustees and those of the total claimant population. Older workers, women, lower income groups, and minorities were more apt to exhaust their benefits. The women had a higher survival rate than the men and they were more likely to drop out of the labor force. Whites and Hispanics had lower rates than did the other ethnic classifications. Overall, nearly 50 percent of all exhaustees were unemployed 26 weeks after exhaustion.

Of major interest in the calculation of Local Area Unemployment Statistics (LAUS) are survival rates at the county level. We found survival rates to vary significantly at the county level and unemployment rates utilizing these local area survival rates were found to be significantly different from the unemployment rates obtained using the single rate. The usage of the area specific rates resulted in unemployment rates which differed from the published rates by over 1 percent in 9 of Arizona's counties. This finding indicates the magnitude of the change realized from using area specific survival rates in the calculation of county unemployment rates.

An econometric model was developed to estimate survival rates by county. The model revealed a very strong relationship between the local area survival rate and the average claimant dropout rate (the average percentage of regular UI claimants who collect benefits in a given week and do not collect benefits the following week), the ethnic group, and the average time it takes an exhaustee to file a new eligible UI claim. This result is of significance as this is the first time a methodology has been developed to estimate survival rates which is area specific, relatively inexpensive, and changes with fluctuating economic conditions. Detailed results of the study as well as ways to implement the results in the LAUS estimating system are discussed in the report.

Methodology

Data Sources:

Data used to track the survivors was derived from samples of the exhaustees in the 26 week post exhaustion period.

Data used to determine the characteristics of the claimant population was derived from the UI claimant data stored in the UI database.

Sampling Design

A stratified random sample of the state was employed. A census was used in the 14 smaller counties while a random sample was used for the largest metropolitan county. The samples were taken in two 13 week intervals; the criterion for selection in the second 13 week period required being a respondent in the first 13 week period. An adjustment was made to the second 13 week sample to correct for a slight recollection problem on the part of the respondents. A three stage follow up involving both written and telephone contact resulted in an overall response rate of nearly 70 percent.

Methods of Analysis

To test for sampling response bias both two-tailed t tests and Chi-square goodness of fit tests were employed. A weighting scheme to correct for differential response rates was made in four Arizona counties. The weights were proportional to the inverse of the given subclass response rate. Multiple and simple linear regression models were used to derive the survival rates used to recalculate the county unemployment rates.

Contact Person

For additional information contact either Jerry Haupt or Robert Furgerson at (602) 255-3591.

Benefit Financing

Study Title

Developing a Cash Flow Model of Minnesota's Unemployment Insurance Program.

Authors

R. Pinola and John Berglund.

Date of Report

Unpublished report, August 1981.

Results

This was a study to provide long-term projections of unemployment insurance cash flows under varying economic scenarios and policy options regarding benefit standards and employer taxes. The model was developed to address the need for estimating Unemployment Insurance (UI) cash flows up to 10 years ahead based on the prevalence of assumed economic scenarios, together with policy changes in the benefit amount and tax rates. Work on the model was completed in late 1979 and has since been used to advise policy makers on the long-term effects of legislative changes in the law under four different economic scenarios. Revisions in the economic scenarios are made as additional data on the performance of the Minnesota economy becomes available. Modest changes are also made in some of the behavioral relationships that occur. For example, the relationship between the compensatory and total unemployment rate are continuously monitored and periodically reviewed.

Method

Specification of economic scenarios was based largely on historical data regarding the behavior of three critical variables; namely, Minnesota nonagricultural employment, total unemployment, and the wage drift. Additionally, the effects of inflation, employment growth, and unemployment on wage drift were examined. Similarly, studies were done on the relationship between total and compensatory unemployment. The behavior of the average weekly benefit amount and employer tax rates under different economic conditions was also investigated.

Availability

A brief report on the projection model is available from Dr. R. Pinola, Director of Research, Minnesota Department of Economic Security, 390 North Robert Street, St. Paul, Mn. 55101, Telephone Number (612) 296-6545.

Benefit Financing

PROBLEM STUDIED

Financing Unemployment Insurance - The purpose of this contract was to analyze long-range future costs of the Ohio unemployment compensation system. This was accomplished by development of a computer model capable of forecasting UC syste parameters over a ten-year period. The model also has the capability of predicting the impact by one-digit SIC industry groups. It was undertaken to assist state legislators in making Ohio self-sustaining and to help Ohio repay its $2 billion outstanding loan.

STUDY TITLE

1983 Actuarial Project Conducted for the Unemployment Compensation Advisory Commission of the State of Ohio

METHODOLOGY

Data Source

Records and reports of the Ohio Bureau of Employment Services

Methods of Analysis

Three separate programs comprise the model. The first program concerns itself with the Ohio economy over the ten year period, five different scenarios from very optimistic to very pessimistic. This is accomplished by using covered wages and civilian unemployment rates for each of the ten years. The second program deals with the benefit and tax provisions of the Ohio UC law. The third program uses the output from the first two to predict UC financing, such as tax receipts and fund balance levels, for the ten year period, plus an option, if desired, to evaluate the impact of Ohio's UC law on ten one-digit SIC industries.

Contact Person

Dixie Sommers
Director, Labor Market Information Division
Ohio Bureau of Employment Services
145 S. Front Street
Columbus, Ohio 43216

Benefit Financing

Study Title: Report of the Advisory Council Task Force - Trust Fund to the Advisory Council of the Indiana Employment Security Board

Author: Don Schlehuser, Chairman

Date of Report: August 5, 1983

Results: The Task Force Report defined the goals and objectives as follows:

Goals: There are approximately 2.0 million employees to insure for unemployment compensation. A percentage of these employees from time to time will be unemployed due to termination of their jobs, seasonal layoffs and economic recessions. An adequate Trust Fund reserve must be established to provide a reasonable and affordable unemployment compensation program that will not be detrimental to the expansion of employment in Indiana.

Objectives:

1. Define an adequate Trust Fund reserve level.
2. Determine a method of maintaining a Trust Fund that will be sensitive to and adjust to changing economic conditions.
3. Establish an equitable method of financing the Trust Fund by employers.
4. Determine at what level unemployment becomes a matter other than an unemployment insurance problem.

Based upon the stated goals and objectives, the Task Force further concluded that the requirements of an adequate unemployment insurance trust fund are:

1. Provides adequate unemployment insurance benefits for employees.
2. Can be financially funded by employers.
3. Will not be detrimental to the expansion of employment in Indiana.
4. Adjusts automatically to economic conditions.
5. Provides automatic funding of benefits within certain limits.

6. Minimizes legislative lag.

7. Prevents excessive borrowing from the Federal government.

8. Creates an emergency safeguard in extreme high levels of unemployment to protect the Fund.

9. Compensates for rate slippage due to the experience rating system.

10. Adjusts for rate base deterioration due to loss of jobs.

11. Meets Federal standards.

12. Provides for a minimum collection amount.

13. Establishes a maximum collection amount.

14. Shall be administratively feasible.

15. Requires minimal legislative attention.

16. Maintains an equitable dispersion curve of the experience rating system which provides an equitable method of taxing employers.

The Task Force proposed a variable tax rate method that would assure a targeted yield that will more adequately adjust for the problems of rate slippage and tax base deterioration. Any amount required in excess of the targeted yield should be generated from other than the unemployment insurance system.

Method: Data used were trust fund and tax data from the past eleven years. Empirical analyses of that data were used to determine trust fund requirements over time.

Availability: Director's Office
Indiana Employment Security Division
10 North Senate Avenue
Indianapolis, IN 46204

Benefit Financing

Study Title: The Financing of Unemployment Insurance in Indiana

Authors: Prof. John L. Mikesell
Prof. Kurt Zorn

Date of Publication: October 31, 1983

Results: A review of the Indiana unemployment insurance fund in the years since World War II shows that solvency can best be insured through a system combining adequate reserves with substantial and quick replenishment of reserves when benefit cost rates (annual benefits paid divided by annual total wages in covered employment) increase. Because potential benefit liabilities are closely related to total wages paid, the level of reserves can best be measured by the reserves to total wages ratio (the fund reserve ratio). Whether a particular ratio is adequate can be determined by comparing it with the highest twelve month benefits cost rate in system experience. Experience indicates that a ratio of 1.5 times the high rate at the start of a recession will be adequate under normal circumstances. Unfortunately, even that ratio is not an absolute defense against any economic catastrophe.

The reserve system has become more difficult to operate in recent years because the economic cycle in Indiana, as reflected in quarterly movements of the benefit cost rate, has gotten shorter, sharper, and more irregular. System solvency must rely more heavily on a revenue structure designed to restore revenue to the fund as quickly as possible. Fund history shows that, in recent years, as the benefit cost rate fluctuated, the reserve ratio was continually drawn down. The system became insolvent because reserve ratios were not restored when benefit cost rates were falling.

The evidence indicates the need for some revisions in the Indiana financing mechanism. The major improvements would be: an automatic mechanism to allow taxable wages to grow with total wages, a computation process that reduces the lag between fund condition and rate schedule adjustment, heavier emphasis on account experience in application of contribution rates, and a rate schedule trigger based on the fund reserve ratio as compared with the historic high benefit cost rate.

Method: An econometric forecasting model prepared for the Indiana fund clearly demonstrates that both economic and legislative variables affect the level of the trust fund balance. Aggregate personal income, the insured unemployment rate, the taxable wage base, and the presence of extended benefits are among the factors that significantly influence end-of-year reserves. Although forecasts of the trust fund balance over the 1983-86 period indicate a return to solvency in the absence of a severe recession, the system will not build an adequate reserve ratio through the period.

Availability: Director's Office
Indiana Employment Security Division
10 North Senate Avenue
Indianapolis, Indiana 46204

STUDY TITLE

Tennessee Employment Security Insurance Forecasting Model

AUTHORS

William Fox, Richard Hofler and John Mayo, University of Tennessee
Center for Business and Economic Research, Knoxville, Tennessee

DATE OF REPORT

January, 1984

RESULTS

A model was developed to aid in forecasting revenues and benefits which affect the UI Trust Fund. The forecast extends eight quarters into the future and is updated every quarter. The model is linked to forecasts of national macroeconomic data from the Wharton Econometric Forecasting Associates and to state macroeconomic data from the Tennessee Quarterly Econometric Model.

METHOD

Regression analysis was performed using statewide aggregate UI data from department records, state and national macroeconomic data, and various microeconomic, technical and institutional data. Fourteen equations were developed to estimate premiums, reimbursements and interest on the trust fund. Benefits were forecast using seven equations to estimate compensable weeks of unemployment and average weekly payments.

AVAILABILITY

Martha Miles, Statistical Analyst
Tennessee Department of Employment Security
Research and Statistics
519 Cordell Hull Building
Nashville, TN 37219
(615) 741-2284

UI Reporting System Update

The Internet double-by-pass system, which became effective in April 1983, allows liable States to send information on their interstate mail claims back to the appropriate agent State in a timely manner. The agent State then includes these counts in the ETA 5210, ETA 539, ETA 5159, ES 203, and LAUS.

In April 1984, Gary Crossley of the South Carolina Employment Security Commission, prepared a report entitled, "UI Internet Statistical Exchange Report" for the Seatttle Regional Office. This report explores problems in the administrative aspects of gathering and reporting UI statistical data used in the Internet system. The report contains specific instructions on how to use Internet data to construct required reports. Internet reporting deficiencies are pointed out and solutions suggested. This report is "must reading" for those involved in producing required reports. Multiple copies of the report have been sent to each State Employment Security Agency. Additional copies are available from Gary Crossley, South Carolina Employment Security Commission, P.O. Box 995, Columbia, SC 29202. Tel. (803) 758-8983.

UI Research Database and Bibliography

During Fiscal Year 1984, the UIS Division of Actuarial Services has initiated a a comprehensive annotated listing of recent unemployment insurance research. This computerized database is intended to provide a readily accessible reference to research sources and findings for response to congressional and other inquiries as well as for intramural use. Emphasis is being placed on research completed since the publication of the annotated bibliography prepared for the National Commission on Unemployment Compensation. The database will be periodically updated to include current research literature. Listings of research in specific areas can be retrieved through the use of key words.

In order to disseminate this information to UI researchers and research users, the UIS expects to publish a bibliography containing the listings with brief annotations during Fiscal Year 1985.

For additional information relating to the database, you may contact Norman Harvey at (202) 376-6162.

Benefit Financing Model Status

At present, twenty-four States have access to the Benefit Financing Model -- three benefit ratio States (Texas, Vermont, and Virginia) and twenty-one reserve ratio States (Arkansas, Georgia, Idaho, Indiana, Iowa, Kentucky, Louisiana, Maine, Michigan, Missouri, Nebraska, New York, North Carolina, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, West Virginia, and Wisconsin). Georgia, Kentucky, and New York worked closely with William Mercer, Inc. to help develop an early version of the model. A benefit-wage ratio simulation model has also been developed for Illinois and awaits completion of data sets before it becomes operational.

The model has undergone significant modification in order to accommodate loans and repayments, interest deferrals, discounts, delays, and partial and full caps for credit reductions including caps resulting from a transfer of funds. A graphics option will be added in the near future.

For additonal information about the Benefit Financing Model, contact Ron Wilus on 202-376-7306.

Cost Information System Update

The Cost Information System (CIS) is an automated system designed to provide State and regional UI managers with improved administrative cost control information. CIS takes data from existing operating systems, e.g., cost accounting and federally required reports, and, through an automated system, produces customized worksheets/reports which meet the needs of UI managers. The system produces reports in the areas of budget control, staff utilization, appeals, time lapse, nonmonetary determinations, overpayments, taxation and fiscal matters. To ensure accurate and consistent data, CIS has built-in edit controls. Data are provided in decision-oriented formats designed for specific managers.

CIS permits State managers of the UI system to make the following types of cost control decisions quickly and reliably:

1. Periodic performance achievement

    a. Critique of weekly staff utilization

    b. Monthly quarter-to-date and year-to-date reviews of first benefit payment time lapse performance against the Desired Level of Achievement as established in the ETA Programs and Budget Plan

    c. Monthly and quarterly review of audit penetration rates for each State showing proportion and number of firms audited, amount of recovery and delinquent taxes

2. Periodic budget reviews

    a. Tracking of FUBA expenditures in relation to obligational authority issued to the States

    b. Review of UI accrued expenditures, resources on order and obligations in relation to obligational authority

3. Special studies and evaluations

    a. Analysis of the impact of claimant eligibility reviews on weeks claimed and benefits saved

    b. Analysis of the effectiveness of the benefit payment control function by comparing benefit payment control staff used with cases investigated and overpayments investigated and recovered

Another goal of CIS is the automation of required Federal reports. The system provides a mechanism for States to submit their required report data electronically to the regional office which, in turn, telecommunicates to the national office.

Regional CIS is operational on Wang-based computers in Regions III, IV, VII, and VIII. It is operational on Vax-based computers in Region X and is in the process of implementation using the Vax system in Regions I, II, V, VI, and IX.

State CIS is being implemented on a region-by-region basis. In Regions III, IV, and VIII, a State CIS system had been completed in previous years. In Region VII, State CIS was completed early in FY 1984, and, in Regions I, IX, and X, during the second and third quarters of FY 1984. A State system is being implemented in Region V during the fourth quarter of FY 1984, and in the remaining regions--II and VI--will be completed during the first two quarters of FY 1985.

Further information about CIS is available from Wayne Zajac, Division of Actuarial Services, Unemployment Insurance Service. Tel. (202) 376-7291.

The following article has been reprinted from the July 1984 issue of the NBER Digest of the National Bureau of Economic Research, Inc.

Copies of the Working Paper summarized may be obtained, on prepayment of $1.50, from: Working Papers, NBER, 1050 Massachusetts Avenue, Cambridge, MA 02138; Telephone (617) 868-3900.

Effects of Taxing Unemployment Benefits

In 1979, Congress decided to begin taxing the unemployment insurance benefits of persons in higher-income families. Some economists had argued that the previous policy of taxing earned income but not unemployment benefits encouraged some of the jobless to prolong their unemployment. In *NBER Working Paper No. 1260,* **Work Incentive Effects of Taxing Unemployment Benefits,** Faculty Research Fellow **Gary Solon** finds that the economists were right: taxing benefits did reduce the duration of unemployment.

In 1979, Congress made unemployment insurance benefits taxable on joint tax returns reporting at least $25,000 of adjusted gross income (counting the benefits) and on single returns reporting at least $20,000. In 1982, these income thresholds were lowered to $18,000 and $12,000, respectively. To drop the thresholds even further might prompt the unemployed to find work faster.

Previous research examined the impact on unemployment duration of changes in the weekly unemployment benefit level, not changes in benefit taxation. The typical finding, that duration went up along with benefit levels, agreed with predictions of economic theories that paying people more to be unemployed would increase the length of their joblessness.

In his study, Solon examines data on a sampl persons who filed for unemployment insuranc 1978 or 1979 to see whether high-income claima collected benefits for shorter periods after the change than did claimants before benefits beca taxable. The data were collected as part of the C tinuous Wage and Benefit History program, a j effort by the U.S. Department of Labor and sev state employment security agencies to develop c banks on samples of workers covered by the un ployment insurance program. This project used sampled individuals' claims records to obtain d on prior earnings, benefit entitlements, and h long they collected benefits. It also administere questionnaire that obtained, among other thin sufficient income data to impute which claima had high enough income to be subject to ben taxation. Only Georgia data were used becau Georgia was the only state with extensive questi naire data from as early as the beginning of 197

Solon notes that after the 1979 change in the la income taxes were not deducted from the ben checks but claimants were formally notified of t tax change. This was apparently sufficient to chan their job-seeking behavior. Among the sampled lo income claimants whose benefits were not taxal in either 1978 or 1979, the mean unemployment d ration was 8.7 weeks in both years. Among the hig income claimants, however, mean duration fell fr 10.8 weeks in 1978, when their benefits were not ta able, to 8.4 weeks in 1979, when their benefits we taxable. This simple comparison, states Solon, "su gests the possibility that the introduction of bene taxation did indeed affect unemployment duratior

Solon goes on to use more elaborate means examining the same question. Although the resul vary somewhat, they all come to the same basic co clusion—that the tax change did trim unemployme among the high-income claimants by about o week. As a result, the government pays out less unemployment insurance benefits and collects mo in income taxes. The Georgia sample indicates th benefits paid to high-income claimants droppe $115 on average, an 11 percent reduction from th $1030 average benefit income they would have co lected in the absence of taxation of benefits.

Finally, the author cautions that, although the ta change may speed the return of the unemployed t work and may reduce government costs, it may als undercut the key objective of the program—to mair tain the income of individuals who are out of work

V. REPORTS TO CONGRESS

Within the past year, in response to Congressional requests to the Secretary, the Department of Labor has submitted three reports to the Congress pertaining to aspects of the unemployment insurance system. This section of the Exchange includes executive summaries of two of these reports and the complete text of the third.

First, we present a synopsis of a report that discusses the issues relevant to the feasibility of using substate areas for payment of unemployment benefits. The report, written by UIS staff members, was submitted to the Congress by the Department in June 1984 in response to a mandate in the Federal Supplemental Compensation Amendments of 1983, P.L. 98-135.

The second summary describes the methodology and results of, as well as recommendations from, a study also carried out in accordance with a mandate in P.L. 98-135. The legislation requested a report on the feasibility of determining whether or not individuals filing claims for unemployment insurance are structurally unemployed. The study, which investigates methods to identify dislocated workers utilizing unemployment insurance administrative data, was conducted by Robert L. Crosslin, then President of Sigma Analytic Information Systems, Inc.; James S. Hanna, Chief of Employment Security Research in the Nevada Department of Employment Security; and David W. Stevens, Professor of Economics at the University of Missouri-Columbia. The report was prepared jointly for the National Commission for Employment Policy and the Department of Labor, and was submitted to the Congress by the Secretary of Labor in June 1984.

Third, we reprint the complete paper (excluding appendices) on State Employment Security Agency automation written by UIS staff members in response to a request for a report on the need for automated systems development in State unemployment insurance and Employment Service operations and on the adequacy of Federal funding to meet automation needs. This request was made in the House portion of a Conference Committee report on 1984 appropriations for the Departments of Labor, Health and Human Services, and Education and Related Agencies. The report was submitted to the Congress by the Secretary of Labor in July 1984.

The first two reports were distributed to the regions in June 1984 as UIS Information Bulletin No. 20-84, and the third will be distributed as a UIS Information Bulletin.

THE FEASIBILITY OF USING SUBSTATE AREAS FOR THE PAYMENT OF UNEMPLOYMENT BENEFITS

EXECUTIVE SUMMARY

The issue of providing unemployment insurance (UI) benefits on a local basis has been raised a number of times in recent years. As a result of the continuing interest in this important subject area, the Congress included in Public Law 98-135 a request that the Secretary of Labor submit a report on the feasibility of using area triggers in unemployment compensation programs. This report examines the issues relevant to this subject. While the specifications of particular proposals may vary, it is not currently feasible to implement a substate program which follows the generally accepted principles upon which current UI programs are based and meets reasonable standards of accuracy and timeliness. To develop such a program would require a significant increase in resources, an extensive amount of time (probably at least two years), and resolution of difficult policy and technical issues. In addition, the costs of implementation are likely to be substantial. This paper deals with known implementation issues. In the course of determining whether a specific proposal is workable, unforeseen problems may arise which would affect the feasibility of the program.

There are a number of components currently in place which could be used in the design of a specific program. Unfortunately, any combination of these would lead to a program which would be extremely difficult and costly to administer, would be open to potential overpayments and fraud, and would lead to a host of equity questions among claimants and employers. The paper reviews these various components and discusses problems and issues which need to be dealt with if considering a substate area UI program.

The current Federal and State data collection system drawing on UI administrative records provides some data at the county level for the calendar week including the 12th of the month (the same week as the Current Population Survey sample week): claims for UI by place of residence and covered employment by county of work. Data are not currently available on unemployment by county of work, which is a key element needed to develop an acceptable substate UI program. Most employers report employment by county, but if certain conditions are met, they may report all employment as being in a single county, even though it is not.

The above unemployment and employment data are used to develop total rates of unemployment (TURs) and insured rates of unemployment (IURs). Both have problems, but each are useful in measuring, at the State and national levels, conditions in different components of the labor market.

TUR estimates are not based on direct measurement of unemployment, except for the ten largest States and two metropolitan areas. All other TURs are calculated through a multistep method which yields rates less soundly based statistically than the rates for the ten largest States and two areas. The accuracy of data used to compute the TUR for an area diminishes even further as areas below the State level are used. An expansion of the Current Population Survey to a size sufficient to generate reliable monthly TURs for all but rural areas would be extremely costly. Area and other State TUR estimates are built up from assumed relationships between other labor market data and unemployment. It is not practical to test the validity of the assumptions used. While IURs are potentially more accurate than TURs because they are based on actual claims counts, rather than estimates, problems still may occur because of failure to assign all UI claims to the correct week or because of the use of a lagged covered employment figure. Also, IURs are not comparable across State lines because of differences among State laws.

TURs are developed monthly for all States and substate areas. State and substate TURs are currently computed based on place of residence, while State IURs are based essentially on place of work. Except for TURs for the ten largest States, neither IURs nor TURs are seasonally adjusted at the State level.

In many States the proper computerized data base cannot be developed without an unknown, but probably significant, increase in resources and an extensive amount of time for implementation. The use of computers among the States varies widely. Some States rely on hand tabulation of county level estimates and program reporting, while other States are completely automated.

Regarding the currently defined substate areas, several presently used by the Federal Government for data collection and other purposes offer various advantages and disadvantages as potential areas for targeting unemployment benefits to locations experiencing a high degree of labor surplus. The best known of these areas are Metropolitan Statistical Areas (MSAs), Bureau of Economic Analysis (BEA) Economic Areas, and Labor Market Areas (LMAs). Regardless of the area definition chosen, there are numerous issues which must be dealt with,

including the feasibility of data collection, differences in State law determining eligibility (applicable if areas cross State lines), and the increase in administrative costs and potential for increased errors as the number of areas increases.

Interstate agreements currently allow for the payment of benefits across State lines. However, in an area program, the problem of determining eligibility for claimants who have moved would be greatly magnified.

The basic data elements necessary for creation of a substate benefit program do not exist in a form which makes establishment possible within existing administrative, program, or political constraints. It is possible to define areas and to identify individuals who either live or probably work in those areas, but it is not possible to measure with sufficient accuracy the unemployment rates for those areas and create a program which is similar to existing UI programs without extensive revisions in the amount and type of data collected and in UI administrative mechanisms. The necessary combination of elements may be obtainable in the future with careful program design, sufficient resources, and adequate lead time to put each in place.

A series of issues must be addressed in order to begin the design of any program which uses substate areas:

- Trigger rate options: IURs, TURs, combination or variation thereof.
- Rate computation and trigger criteria: frequency of computation updating, handling seasonal fluctuations in the economy, differences among State laws.
- Individual eligibility, by location: place of work, place of residence, place of filing.
- Area definition: size and number of areas, crossing State boundaries, complete division of States.
- Administrative problems and costs: implementation lead time provided, reporting burden, eligibility verification, single or multiple duration, frequency of duration change, cost impact.
- Other issues: complement or substitute for present programs, mandatory or optional State participation, financing of benefits.

In conclusion, while implementation of substate programs may be technically feasible if proper lead time and resources are made available, many major issues remain to be dealt with and answered before implementation may be considered. These include: administrative complexities associated with operating a program of extended benefits in areas far outnumbering the current 53; uncertain, but greatly increased, costs related to data collection and the time required to establish the collection process; and the degree of equity among claimants, among areas, and among States.

IDENTIFICATION OF DISLOCATED WORKERS UTILIZING UNEMPLOYMENT INSURANCE ADMINISTRATIVE DATA: RESULTS OF A FIVE STATE ANALYSIS

EXECUTIVE SUMMARY

A. Introduction

The 98th Congress requested the Secretary of Labor, in the Federal Supplemental Compensation Amendments of 1983, to report on the feasibility of determining whether or not individuals filing claims for unemployment insurance (UI) are structurally unemployed. This paper responds to that mandate, recommending ways in which all states can identify structurally unemployed (dislocated) workers. The paper uses UI administrative data in five states - Missouri, Nevada, Pennsylvania, South Carolina, and Washington. The results are sufficiently stable and consistent across the five states and their substate areas to allow generalization of the results to most other states.

This report defines structurally unemployed workers as individuals out of work due to permanent job elimination - referred to as "dislocated workers". The paper further identifies those dislocated workers most likely to experience labor market hardship, in terms of post-unemployment earnings, and therefore most likely to benefit from readjustment assistance provided under Title III of the Job Training Partnership Act.

B. Defining Worker Dislocation

Various researchers have sought to define and measure "dislocation". These definitions have generally involved either plant closings, industry decline, geographic employment decline, or mixtures thereof. We pose "permanent job elimination" as the definition and hypothesize that greater "concentrations" of permanent job elimination will result in dislocated workers experiencing greater "labor market hardship".

Except in the case of permanent plant closings, permanent job elimination for an individual worker is difficult to ascertain. We use as our proxy for permanent job elimination whether or not the individual was terminated from an industry experiencing economic decline in the worker's local labor market. The degree of concentration is measured by the industry's level of economic (employment) decline.

C. Analytical Methodology

We define three models of labor market hardship experienced by dislocated workers, in an effort to derive identifiers for those dislocated workers most likely to benefit from adjustment assistance. Labor market hardship is measured by three "outcome" variables:

- o average quarterly post-unemployment earnings
- o UI-compensated duration of unemployment
- o percent of UI benefit entitlement drawn.

These outcome variables are statistically analyzed in terms of their associations with:

- o concentrated permanent job elimination, and UI benefit exhaustee/nonexhaustee status
- o pre-unemployment earnings
- o economic and personal characteristics
- o work incentive factors.

Data to estimate these relationships come from routinely available administrative data. Quarterly earnings and other information on workers were taken from state-submitted data files on sample workers and claimants maintained by the U.S. Department of Labor's Unemployment Insurance Service - the Continuous Wage and Benefit History (CWBH) program. These data files are longitudinal and therefore amenable to building earnings histories, both pre- and post-unemployment, for individual workers.

Information on local industry employment decline or growth was obtained from the ES-202 Report of Employment, Wages and Contributions maintained in each state employment security agency (SESA) on a quarterly basis. Taken together these data allowed us to identify the personal and economic characteristics which signal potential labor market hardship experienced by dislocated workers.

D. Summary of Findings

The results of our analysis indicate stable and consistent relationships across the five diverse states and their substate areas. The most important findings are:

1. Compared to those workers who neither exhausted their UI benefits nor were terminated from a declining industry:
   a. UI benefit exhaustees from non-declining industries earned from $400 to $800 less per quarter in their subsequent job.
   b. UI benefit exhaustees from small-employment-decline (less than 5 percent) industries earned from $500 to $1,400 less per quarter.

c. UI benefit exhaustees from large-employment-decline (5 percent or more) industries earned from $660 to $1,800 less per quarter.

d. Non-exhaustees from small- and large-decline industries earned about the same per quarter.

2. Separate analyses within age groups revealed that workers over 44 fared worst, by about $1,000 lower earnings per quarter.

3. Dislocatees whose local industry declined the first year, and then "rebounded" the second year, did no better in terms of quarterly earnings in their next job, than dislocatees whose industry continued to decline in the second year.

4. Attempts to identify characteristics associated with both length of unemployment and percent of UI benefits drawn were unsuccessful.

E. Identifying Structurally Unemployed (Dislocated) Workers in all States

The stability and consistency of the results lend support for their generalization to other states. All states can identify declining-employment industries, at the county or metropolitan area level, through the use of ES-202 report data. Also, long-term unemployed claimants (i.e., 16 to 26 weeks) can be identified through the state UI program. Possibly combined with age, this methodology represents a potentially valuable and administratively feasible way to identify dislocated workers most in need of adjustment assistance. All states can do this now.

Most states (about 40) have the potential data for replicating the analysis in this study to determine if other personal or labor market characteristics are also important correlates of labor market hardship for dislocated workers in their states. States which require employers to submit quarterly reports of earnings for each UI-covered worker to the SESA - "wage record states" - have the ability to build earnings histories for workers, and therefore can follow the analytical methodology in this study. However, the personnel time and computer resources necessary to accomplish this analysis are large, and will not be independently undertaken by many states. Seven states, in addition to the five used in the study, participating in the Department of Labor's CWBH program have the files to perform this analysis currently.

The remaining ten states that only obtain earnings information when a worker files a claim for UI - "wage request" states - will not be able to replicate the analysis in this study. They may, of course, generalize the results of this study to their states, and identify long-term

claimants from declining local industries as described herein.

F. Funding Allocation Formulas Under Title III of JTPA

We utilized the results of our analysis to apply identification screens to the unemployed population in the five states, yielding estimates of the number of dislocated workers potentially to be served by JTPA Title III. The "UI exhaustees only" screen gave from 24 to 45 percent of the total unemployed as potentially eligible for services. Limiting eligibility to exhaustees from declining industries yielded from 11 to 19 percent of all unemployed workers. Adding an age screen of 45-and-over to the prior two screens reduces the eligible pool to between two and four percent of all unemployed workers. These estimates are one-and-a-half to two times higher than previous estimates of the number of dislocated workers - estimates which used more aggregated data than ours.

We then divided our estimates of the number of dislocated workers in each state, using each screen, by each state's FY 1984 funding allocation for JTPA Title III to arrive at "available dollars per dislocated worker". Assuming a 25 percent participation rate by eligible dislocated workers, the "exhaustees from declining industries" screen yields from $210 to $355 per participant, depending on the state. Adding the 45-and-over age screen yields from $1,000 to $1,510 per participant, and also changes the rank ordering of the states.

G. Recommendations

All states should consider using the methodology described in this study to identify dislocated workers - long-term UI claimants from locally declining industries. The data are available from SESA administrative records.

Disaggregated data on individuals and local labor markets should be used to analyze the magnitude and impact of the dislocated worker issue. Statewide, and national data, especially at the one-digit SIC industry classification level, mask the underlying dynamics of labor market employment flows.

Research should continue on the important task of identifying reliable predictors of UI benefit exhaustion, so that dislocated workers in need of assistance may be identified earlier in their unemployment spell before benefits run out.

JTPA Title III funding formulas should be evaluated in light of the results of this study, after receiving FY 1984 expenditure and program effectiveness data.

REPORT TO CONGRESS

UNEMPLOYMENT INSURANCE STATE AUTOMATION

STATUS, OBJECTIVES, RESOURCES, EXPERIENCE

AND FUTURE DIRECTIONS

U.S. DEPARTMENT OF LABOR
EMPLOYMENT AND TRAINING ADMINISTRATION
UNEMPLOYMENT INSURANCE SERVICE
JULY 1984

A. EXECUTIVE SUMMARY

STATE EMPLOYMENT SECURITY AGENCY AUTOMATION REPORT

1. Legislative Mandate

The Conference Committee report on the 1984 appropriation for the Departments of Labor, Health and Human Services, and Education, and Related Agencies addressed State Employment Security agency (SESA) automation. The House portion (Report No. 98-357) requested the Department of Labor to report on the need for automated systems development in State Unemployment Insurance (UI) and Employment Service operations and on the adequacy of Federal funding to meet existing and expected needs.

2. Surveys to Identify Status

In order to address this requirement two separate surveys have been conducted. The first survey was part of a regular budget submittal and concerned central processing units (CPU's). The survey provided State-by-State information and was limited to equipment inventory maintained by the States. The second survey was aimed at collecting information on the degree of automation of the UI benefit payment process.

3. Survey Results

The data received as a result of these surveys provided considerable information that allowed some analysis of the States' computer hardware and tentative analysis of the degree to which a State had automated its benefit payment process. Although the information from the benefit payment survey needs further validation and preliminary review has shown that some responses are in error, it does show that nine States can be considered highly automated in their benefit payment process, seventeen moderately automated, seventeen partly automated and that eight are operating at a low level of automation.

4. Other Department of Labor Actions to Provide Automation Resources

In addition to the collection of the basic information on machine capability and degree of automation for the benefit payment process, the Department of Labor's Employment and Training Administration (ETA) took steps to assist States in automating functions that States deemed important. First, a directive was issued on September 16, 1983 which allowed States to convert personal services to nonpersonnel services resources that can be used for automation purposes.. Second, States were allowed to use Reed Act funds for Employment Service and Unemployment Insurance automation purposes. Third, three model systems - Crossmatch, Recovery, and Fictitious Employer - were funded to allow States to enhance the UI system's integrity by identifying claimants who were improperly paid, collecting overpayments, and uncovering fictitious employer schemes.

Beyond these steps the Department awarded $20 million appropriated for SESA Automation for requests from States for Unemployment Insurance purposes, supplementing them with monies from the former ETA automation investment fund.

B. OVERVIEW

1. Legislative Mandate

In its Fiscal Year 1983 appropriation activities, the Congress appropriated $20 million to the Department of Labor for the automation of State Employment Security Agency (SESA) activities. In the accompanying Reports, the Appropriations Committee addressed several concerns related to SESA automation. In House Report 98-357, the Congress requested that the Department report to the Committee on Appropriations about the need for developing automated systems in SESA operations and on the adequacy of Federal funding to meet present and expected needs. The purpose of this report is to respond to this request.

2. Recent Automation Activities Prior to 1983

Until the mid-1970s, the degree of automation of State UI systems was determined largely by the States. It was financed with Federal grants for SESA administration. The inauguration of the Employment Security Automation Project (ESAP) resulted in the development of specific multi-year agreements between individual SESAs and the Department of Labor to enhance automation by procuring more hardware than could be financed with normal level of administrative grants. ESAP funds were provided each year, 1977 through 1980. In FY 1980, major problems with the manner and purposes of these grants and the effectiveness of some of the new systems which had implemented with them were identified by the General Accounting Office as well as the Department. Criticisms led to discontinuance of the special grants although a few SESAs continued to receive ESAP funding under ongoing agreements through FY 1984. Since 1980 SESAs have used combinations of their regular grants, automation grants or investment funds and other State-generated funds (e.g. penalty and interest) to enhance automation.

The Department continued to develop automated systems for export after the termination of ESAP. In particular, it continued to finance a design center operated by the Louisiana Employment Security Agency, which was developing an automated tax system enabling States to computerize employer master files, debt memo calculation, addressing tax reports, etc. Ten States had adopted this model system giving them greater control over their tax accounts. Other computerized model systems designed to enhance system integrity, such as crossmatching claimants' benefit requests with employers' wage records, recovering improperly paid benefits, and detecting fictitious employer schemes, were also developed for export.

3. Fiscal 83 and 84 Activities

During the last year, ETA has taken several automation-related actions. These include the development and promulgation of a policy for converting direct staff resources to nonpersonal services (NPS) resources for automation activities (described more fully below); the conduct of two surveys, described immediately below, to ascertain the status of automation resources in the States; the allocation of $20 million appropriated by the Congress for automation; and the initial development of both interim and long-range plans for increasing the automation of State UI functions.

C. ASSESSING THE NEED FOR AUTOMATION

Although the Department had some general knowledge of the degree of State automation, much more specific knowledge was needed to begin a detailed assessment of total State automation needs. The adoption of the Wagner-Peyser Amendments in 1982 gave the States broader discretion in the conduct of their labor exchange activities. Instituting a statutorily enacted formula for Employment Service Resource allocation, the amendments placed the Employment Service and Unemployment Insurance on different funding bases and required more precise (and discrete) accounting for resources.

D. HARDWARE AND SOFTWARE SURVEYS

Information has been obtained on the status of State UI automation through two surveys. The hardware survey was conducted as part of the regular budget planning submittal (State Program Budget Plan (PBP) plans), and concerned the Department's attempts to establish an inventory of the computer equipment maintained by the States. Responses were received during the first months of FY 1984. Staff followed up the budget submission responses by telephone to eliminate as many ambiguities as possible.

The second survey concerned the state of computer software (processes and instructions for using computer equipment) for conducting benefit payment processes. The survey questionnaire was transmitted to States in early February 1984. State responses were received by May 15; four State responses were not received or were incomplete.

1. Results of the Hardware Survey

Although some ambiguities regarding details remain from the hardware survey, the basic picture is quite clear and the details are presented in Appendix I.

The survey classified equipment by age. In the case of State central ADP facilities which provide services to SESAs as well as other State agencies, the State determins which equipment it uses; thus no vintages show for this category. The responses showed the following vintages for CPUs:

. SESA CPUS

Relatively new equipment	(0-4 years old)	13 States
Aging Equipment	(5-7 years old)	12 States
Old Equipment	(8+ years old)	15 States

. State Central CPUS 11 States

2. Results of the Software Survey

The software survey consisted of 83 items grouped into 8 sections, dealing with management and control of UI data processing, such as languages used; structure and organization of the automated benefit system; data elements automated in the claimant benefit file; initial claims processing; automation of the eligibility review process; automation of the continued claims process; and automation of the nonmonetary determinations process. The summary responses to each question are contained in appendix II. Although the findings discussed below and presented in Appendix III are considered to give a broadly accurate overview of the status of this aspect of States' UI automation, they should not be considered accurate in all respects and must therefore be considered preliminary. This is because not all

States responded fully to all questions, and it not clear that all questions were fully understood or interpreted the same way by all States. The extent to which these deficiencies are significant can only be determined by further analysis which links the various responses together. Follow up on many questions will also be required before the data can be considered final.

Because of the limitations of these preliminary data, the data have been grouped for analysis and presentation. This grouped analysis is presented in detail in Appendix III. The object was to classify States by degree of automation with respect to the four major subject categories examined in the survey: Structure and Organization, Benefit Files, Initial Claims Processing, and Eligibility Review Program. Based on its answers to the questions in each category, a State was given a ranking of Highly, Moderately, Partly, or Not Automated/No Response. To obtain an overall ranking of States, these four categories were weighted and then summed.

a. Structure and Organization. The questions in this section concern the degree to which a State has automated the various UI subprograms (e.g., regular intrastate program, Unemployment Compensation for Federal Employees and Ex-servicemen, interstate, etc.), the extent to which local offices have on-line access to computer files, and the degree of automation of basic bank accounting functions such as overpayments and check reconciliation. For this section, a highly automated State is one receiving a score of at least 16 out of a possible 19 highly automated points, indicating that local office operations have a high degree of online access for all programs.

The survey shows the following degree of automation for this category:

High	26 States
Moderate	16 States
Partly	9 States
Low/No Response(NR)	--

b. Claimant Benefit File. This section determines the extent to which the typical data elements used in UI benefit functions are contained in the computer files. It also measures the degree of on-line access by local offices to central computer files for the major UI benefit functions (e.g., initial claims, monetary determinations, weeks claimed, etc.). A highly automated State would indicate that the central or local offices, or both, would have on-line inquiry capability covering over 80 percent of the typical data elements used in UI benefit processes. Moderately and partly automated States would include progressively lower degrees of inclusion of/access to these data elements.

Based on the survey results and our tabulation, the rankings are as follows:

Highly Automated	8 States
Moderately Automated	16 States
Partly Automated	11 States
Low/NR	16 States.

c. Initial Claims Process. Automation of the initial claims process is obtained by determining the degree to which initial claims operations are entered directly by the local office staffer taking the claim. In highly automated States, nearly all these operations are entered directly by the claims-takers; manual operations are avoided. In less highly automated States, at least some of the functions are handled manually by the claims-taker, and thus require clerks, checkers, and keypunchers/data entry personnel to enter them into the central computer system at some point after the claim has been handled.

According to the survey, the rankings are as follows:

Highly Automated	15 States
Moderately Automated	--
Partly Automated	33 States
Low/NR	3 States.

d. Eligibility Review Program (ERP). The questions in this section measure the degree that the computer initiates, schedules, and tracks the results of eligibility review program activities as opposed to their being handled manually in the local office. In a highly automated State, at least six of seven ERP functions are handled centrally by the computer -- determining, scheduling, preparing the ERP notices, preparing lists of claimants, maintaining number and results of the ERP review. A "moderate" State would have four or five elements, and partly automated States between one and three elements. Low or not reported (NR) States indicated no response to the questions. It is not clear whether the ranking below results from an inability to automate ERP or simply reflects a lower priority accorded ERP Automation by many of the States.

According to the survey, the rankings are as follows:

Highly Automated	4 States
Moderately Automated	15 States
Partly Automated	11 States
Low/NR	21 States.

e. Composite Rankings on Automation. As noted, the scores from the four categories were weighted to obtain an overall ranking for the responding States. In this process Structure and Organization (weight of 2) and Initial Claims activities (weight of 3) received greater weights than the other two elements (1 each). The weights reflected the rough judgement of ETA staff about the relative importance of the various processes in overall benefit efficiency. As Appendix III shows (see page III-6), nine States were considered to be Highly Automated, seventeen moderately automated, seventeen automated partly, and eight automated only to a low degree.

Of particular interest and concern to the Department is the fact that several high-workload States fall into the low and partly-automated categories. This suggests that focusing attention on these States, urging them to submit proposals to automate further, can realize great gains in system-wide efficiency, especially because their deficiencies are in software and implementation, not in the high-cost equipment, particularly CPUs, which absorbs so much automation funding.

E. ETA RESOURCES FOR AUTOMATION

1. An Overview of SESA/UI Funding.

SESA UI operations have involved the transfer of over $1 billion annually to the States for several years. It is estimated that funding will exceed $1.7 billion for FY 1985. The bulk of these funds is direct grants for direct personal services ($1 billion in FY 1985). Grants for overhead staff ($100 million) and Nonpersonal Services or NPS ($240 million) make up most of the difference. The bulk of ADP costs are financed from NPS. ADP staff are included in the grants for staff. Special grants for all purposes, including automation, total $66 million.

Until recently, the bulk of these funds--particularly those available for direct services personnel--were allocated for specific purposes and were so managed. Personal services grants could be used only for salaries and benefits of direct staff; if not spent, they were recovered by the Treasury. Allocation formulas gave States no financial incentive to economize on these funds to use them for automation. However, the Department has recently moved to broaden the use of many of the sources of UI administrative funds so that they can be rechannelled toward automation. A policy on NPS conversion is now making it possible for States to use some personal services funds for automation purposes. Other UI-related funds, such as the Reed Act and penalty and interest funds, may also be devoted to automation. Finally, special grants for automation have been created. These automation funding sources are discussed below.

2. NPS Conversion

In September 1983, ETA issued a directive providing a method for States to convert direct personal services resources to NPS as long as it was part of a planned management action to increase their degree of automation. This action was taken in response to the perceived need to increase the amount of flexibility available to States to manage their resources, and to respond to House Report 98-357. The conversion procedure requires that the shift of resources will lead to savings in direct staff-years in future years, and ensures that States will not be penalized through the allocation formula for these lower requirements.

3. Reed Act and Penalty and Interest

In contrast to grants funds, which the SESA controls, both Reed Act and penalty and interest (P&I) funds have been outside SESA control. Reed Act funds could only be used to acquire premises. In FY 1984, ETA broadened the use of Reed Act funds by indicating to States that they may use the balances to acquire automation systems if their trust funds are not in deficit. At present, however, few States have Reed Act funds available due to trust fund deficits or prior commitments to acquiring premises.

ETA has also required States to explore the use of P&I funds for automation before applying for automation grants. In many States, P&I funds are retained by the courts or the State general fund.

4. Automation Grants

The FY 1984 appropriation made available $20 million for automation grants. These were combined with automation investment funds (about $2 million) into a single grants pool for distribution in FY 1984. On January 13, 1984, ETA initiated a process for distributing these funds. States were provided with explicit guidelines and time frames for formulating and submitting proposals.

Twenty-six States submitted proposals reqesting a total of $35,546,375 in grants. The Department funded 21 proposals at a cost of $20,752,392. Five States received grants of about $2 million each; six were for amounts ranging from $1.3 million to $700,000, and the remainder were for less than $500,000.

A critical element in the review was payback. Eleven of the proposals contained payback provisions totalling $11.4 million over a 5-year period.

The awards will provide funding to replace CPUs which are over 10 years old and are difficult or expensive to maintain. They will also provide for the replacement of obsolete on-line terminals, disk systems, control units, and card systems which are no longer being manufactured. For some States, existing systems, such as security software and benefit payment systems, will be upgraded. In several States, obsolete benefit payment systems will be completely replaced.

Funding was provided for all but two States which were rated in the partly or low automation categories from the survey who submitted proposals. A total of 9 States are in this categroy. Page III-6 and appendix IV provide further details.

Among the findings from the review are that many States have only rudimentary plans for automating their UI functions. To address this problem, ETA is recommending that States utilize the Federal Computer Evaluation and Simulation Center (FEDSIM) as a resource for assessing their computer capacity needs. ETA has pledged its assistance by making funds available to States out of the balance of the automation pool for this purpose.

F. CONCLUSIONS

1. Uncertainty About Automation Needs

At this point the exact magnitude of the UI automation needs is by no means clear. Further follow up on the ETA surveys is needed to verify the data on many States' current status of automation. Future needs must be determined through basic simulations, which are grounded in data on current status of ADP equipment and software. More important than simulations, however, is the need for States to develop plans which address their ADP requirements over near-, medium-, and long-term horizons based on projected workload, age of equipment, and ability to effect staff savings through changes in procedures.

The recent request for proposals for automation grants and the ADP surveys demonstrated the lack of analysis and attention many States have given to their ADP needs. The fact that five States shown to be minimally automated could not provide a comprehensive view of their needs and were granted no funds serves to underline this problem.

2. ETA's Automation Strategy

The ETA strategy for enhancing State UI automation has both interim and long-term aspects.

As an interim strategy, ETA plans to continue automation grants in FY 1985 at the FY 1984 level of $20-million. Although it is difficult to ascertain the exact amounts needed, the FY 1984 solicitation for automation grants reveals that this level is adequate.

For the longer run, ETA is working toward the development of a more comprehensive strategy for promoting automation in the States. This will involve regular updating of the States' ADP status through periodic revisions of the surveys reviewed in this report; establishing a work group of managers of the system to better ensure that everyone's understanding is the same in this most critical area; working with the States on developing their own long-range plans for automation based on their own or national-level simulations; and quantifying these needs and establishing time frames for their accomplishment. These explorations of ADP needs would be accompanied by a more detailed examination of various funding sources, including the use of greater incentive mechanisms built into the basic UI administrative funding formulas, NPS conversion, and the like.

VI. CONTRIBUTED PAPERS

The Missouri UI Financing Model, A Practical, Mathematical Approach

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July 1984

THE MISSOURI U.I. FINANCING MODEL, A PRACTICAL, MATHEMATICAL APPROACH

This report begins by immediately displaying on the next page a printout of one year of the Missouri U.I. financing or cash flow model. The page following shows a diagram of the model. The next page gives the equations for the model. The overall model is non-linear and introduces new techniques requiring non-linear adjustment equations.

The objective is to create an all-purpose model for evaluating legislative proposals and for evaluating the cash flow status of the U.I. trust fund for loans, loan payments and other purposes. Building such a model requires the use of multiple and polynomial regression analysis and a facility with some programming language along with some knowledge of the working of a U.I. financing system. No off-the-shelf methods were used, everything being put together from scratch.

Unlike most published models, this one is modest and was built up from day-to-day requirements over a period of about two years, though some of the basic research goes back much farther. Some auxiliary models and programs are required in order to obtain equations and data for the model. There is also a small separate model discussed later to evaluate the impact of various tax measures on the experience rated tax tables. These results are fed into the model as adjustments as needed.

No effort has been made to bring these auxiliary models into one automated system at this point. Lack of equipment is one reason, but a more important one is the belief that such a complete model at this time would be over-ambitious and superficial. Reality is very difficult to simulate even with a human component in the model. And, in particular, U.I. financing is so complex that human intervention should remain a part of the model for a long time to come. We do not intend to suggest that this model be used by other States. This is an example of how to build a financing model. It may, however, be of use to states with similar U.I. systems.

The remark should be added that it takes rather strong faith in the mathematical way of doing things to push through such a model to completion. In other words, it is not for the faint-hearted in either mathematics of programming.

Note: The equipment used is an old Texas Instruments SR-60A programmable desk calculator/computer. The machine uses a Fortran-like language and has 100 data registers and 2,000 programming steps in standard partition. (See the appendix for the model program listing).

1984
UI FINANCIAL
PROJECTION 68

2.5% IUR SCENARIO

UI FINANCIAL
PROJECTION 68

CONTR INPUT
TOTAL WAGES
34.
WAGE BASE
70.
COV EMP
1.89
CONTR RATE
2.65

CONTR OUTPUT
TAXABLE WAGES
10.66
CONTRIBUTIONS
282.59
ADJ FACTOR
1.
ADJ CONTRIBUTIONS
282.59

BEN INPUT
MAX BEN
105.00
TIMES
30.00
TOTAL WAGES
34.00
% HQ
4.50
HQ MIN
300.00
COV EMP
1.89
INS UNEMP RATE
2.50

BEN OUTPUT
AWBA
90.80
YEARLY BEN
177.58
BEN ADJ FACTOR
1.
ADJ YEARLY BEN
177.58

BENEFITS
177.58
BEG FUND
55.00
INT RATE
0.1007

CASH FLOW

JAN
BEG BAL
55.00
CONTR
13.95
BEN
-17.04
INT
0.00
BAL
51.91

FEB
BEG BAL
51.91
CONTR
16.88
BEN
-17.84
INT
0.00
BAL
50.95

MAR
BEG BAL
50.95
CONTR
0.79
BEN
-19.43
INT
0.00
BAL
32.32

APR
BEG BAL
32.32
CONTR
45.29
BEN
-13.92
INT
0.00
BAL
63.68

63.68
CONTR
90.10
BEN
-12.22
INT
0.00
BAL
141.57

JUN
BEG BAL
141.57
CONTR
1.27
BEN
-12.20
INT
0.00
BAL
130.64

JUL
BEG BAL
130.64
CONTR
33.67
BEN
-13.22
INT
0.50
BAL
151.59

AUG
BEG BAL
151.59
CONTR
36.32
BEN
-14.39
INT
0.00
BAL
173.51

SEP
BEG BAL
173.51
CONTR
0.94
BEN
-14.52
INT
0.00
BAL
159.93

159.93
CONTR
22.00
BEN
-11.38
INT
1.69
BAL
172.24

NOV
BEG BAL
172.24
CONTR
20.48
BEN
-14.09
INT
0.00
BAL
178.63

DEC
BEG BAL
178.63
CONTR
0.90
BEN
-17.35
INT
0.00
BAL
162.19

LOAN BALANCE
89.83

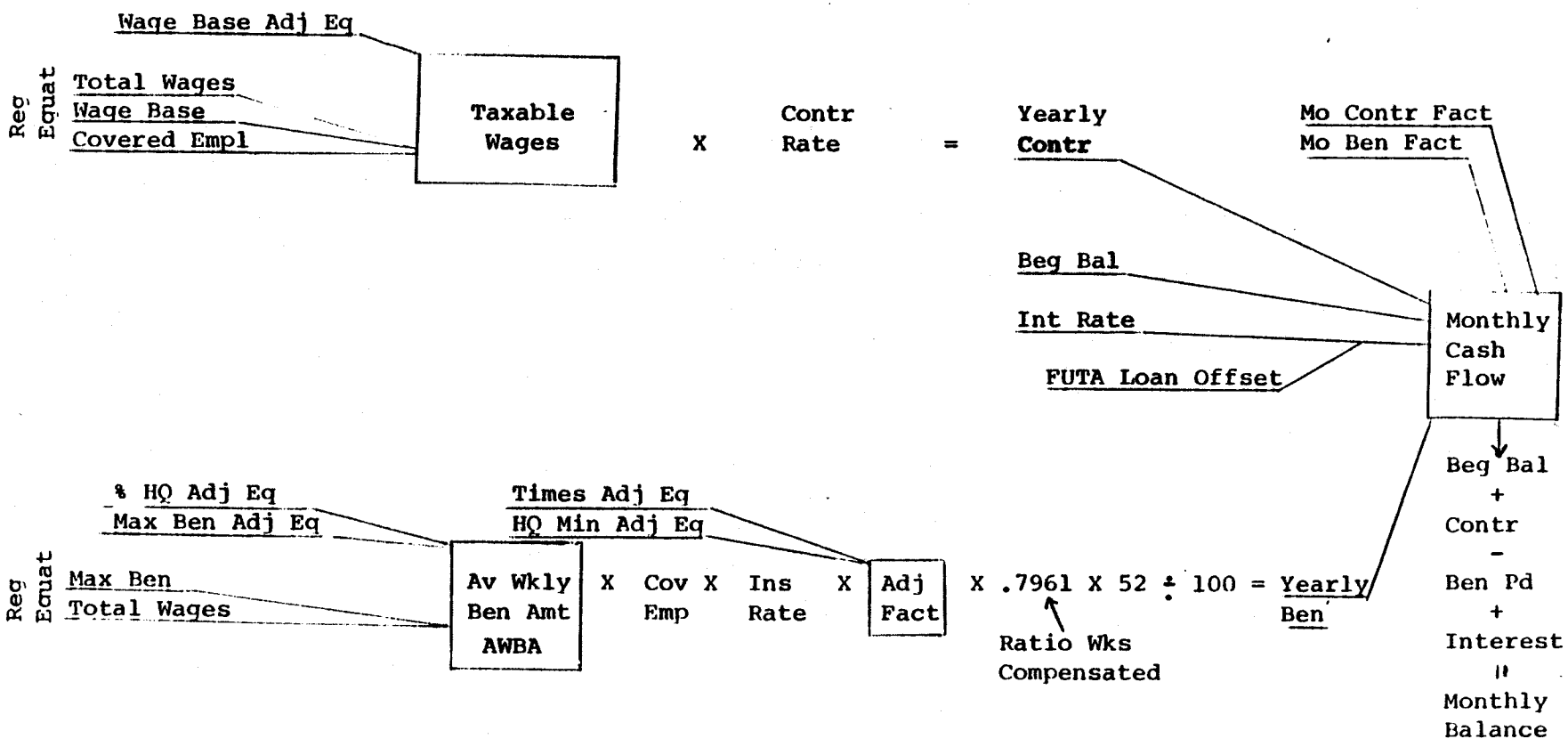
ANNUAL CONTR
282.59

ANNUAL BEN
177.58

ANNUAL INTEREST
2.18

6/'83 BEN;5/'84
CONTR FACTORS

Figure 1
Missouri
UI CASH FLOW MODEL



MODEL EQUATIONS

Contributions Section

Contributions Regression Equation

Taxable Wage Est= A0 + A1 x (Cov Wages)+A2 x (Wage Base)+A3 x (Cov Emp)

Wage Base Adj Equation

Wage Base Adj Ratio= P^5(Wage Base), where P^5 is a fifth-degree polynomial

Adj Taxable Wage Est= Taxable Wage Est x Wage Base Adj Ratio

Contributions Equation

Annual Contributions Est= Contr Rate x Adj Taxable Wages

Benefits Section

Benefits Regression Equation

AWBA Est= A0 + A1 x (Max Ben)+A2 x (Cov Wages)

Benefit Adjustment Equations

Max Ben Adj Ratio = P^3 (Max Ben)

%HQ Adj Ratio = P^5 (%HQ)

Times Adj Ratio = P^2 (Times Wkly Ben Amt)

HQ Min Adj Ratio = P^3 (HQ Min)

Adj AWBA Est = AWBA Est x Max Ben Adj x %HQ Adj

Benefits Equation

Yearly Ben Est = Cov Emp x Ins Unemp Rate x Adj AWBA Est
x HQ Min Adj Ratio x Times Adj Ratio x 52
x Compensated Ratio/100.

Cash Flow Section

Monthly Cash Flow Bal= Beg Bal + Annual Contr Est
x Monthly Contr Factor-Yearly Ben
Est x Monthly Ben Factor +
(Beg Bal + Monthly Bal)/2 x
Monthly Interest Rate

At this point, a brief run-through of the input and output of the model should be in order. The model printout is in column form. As shown in the example on page 2, the first section, "CONTR INPUT", "TOTAL WAGES" of 34 means 34 billion dollars. This figure is an easy projection based on ES-202 data. "WAGE BASE" of 70 means 70 hundred or $7,000, the current Missouri wage base. "COV EMP" 1.89 means covered employment of approximately 1,890,000, again as obtained and projected from ES-202 figures. "CONTR RATE" 2.65 is the contribution rate as estimated from the latest ETA-204, Table 4. We have a special program to run these estimates for various tax tables from taxable wages stored on magnetic cards. The agency data processing unit also makes special runs of ETA-204 figures, for example, eliminating our special 5 year credit rating for deficit employers or changing the experience rating to 10 years instead of total experience.

Next comes the heading "CONTR OUTPUT." "TAXABLE WAGES" 10.66 means the model has computed the taxable wages as $10.66 billion based on the input data. "CONTRIBUTIONS" 282.59 means $282.59 million, the result of multiplying the taxable wages by the contribution rate. "ADJ FACTOR" is used to adjust contributions. For example, a factor of 0.975 was used when a lawsuit invalidated the deficit employer tax rates and reduced them all to a flat 3.6% rate.

The next section of the program example is "BEN INPUT." "MAX BEN" 105.00 means Missouri's current maximum benefit amount of $105.00 per week. "TIMES" refers to the cut-off provision that a claimant must have earned 30 times his weekly benefit amount to be eligible for benefits. "TOTAL WAGES" 34.00 is a repeat from the contributions section but is a variable in the benefit regression equation. "% HQ" 4.50 means that the claimant's maximum weekly benefit is 4.5% of his high quarter earnings subject to the 30 times requirement and the $105.00 maximum. "HQ MIN" 300.00 means that the claimant must have earned at least $300.00 in his high quarter in order to be eligible for benefits. "COV EMP" is also a repeat from the contributions section. "INS UNEMP RATE" 2.5 means a 2.5 percent insured unemployment rate. We generally use the current seasonally adjusted insured rate to set the level for a flat projection and something higher than the long-term average insured rate to "stress-test" legislative proposals. The monthly benefit costs are seasonalized by the monthly benefit factors in the model. How all this benefit material is utilized will be explained in considerable detail later.

The next section of the program is "BEN OUTPUT." The first item "AWBA" 90.80 means the average weekly benefit amount for all benefits paid as computed by the model equations. "YEARLY BEN" 177.58 means a yearly benefit estimate of $177,580,000. As the

cash flow model, Figure 1, shows, this is computed by multiplying the AWBA times covered employment times the insured rate times an adjustment factor times the ratio of weeks compensated to claimed times 52 weeks divided by 100, the latter to get the decimal point in the right place. The ratio of weeks compensated is obtained by using data for the most recent year in the Yearly Ben Est equation and solving for this variable. It is not necessary to consider average duration as is done in micro models. Duration is used in one of the auxiliary models used to determine adjustment equations for AWBA. "BEN ADJ FACTOR" is used for such things as extended benefits. Based on historical data, this factor is usually taken to be 1.15 for the duration of the extended benefit period.

"CASH FLOW INPUT" again lists the contribution and benefit amounts plus the beginning fund in millions and the annual interest rate for interest paid on and into the trust fund. There is an offset branch which first deducts any loan outstanding before any interest is paid on the trust fund. Loan additions or repayments are entered manually into register 35 by stopping the program at the appropriate month. Also, interest payments are accumulated and credited in the program the month following each quarter.

It should be noted that the model is on a cash rather than an accrual basis. If there is a large change in wage base or contribution rate, the first quarter of the calendar year is run using those data from the fourth quarter of the previous year for the contributions section. The model can be stopped at any month for changes, followed by a resumption of the program.

As the final item concerning the program, monthly contribution and benefit factors are computed from monthly ETA2-112 historical data by a separate program and are stored for use in this program. Which years to use is a topic in itself, but fairly flat ones of recent vintage are usually chosen. For close tracking and loan estimates, the most recent contribution factors are usually chosen and the most recent flat benefit factors are chosen, using quarterly changes in insured rate to change the benefit pattern appropriately. By flat factor we mean factors from years in which the economy is fairly stable and neither benefits nor contributions are changing much as shown by the 12 month moving average.

Originally, an effort was made to build a model of total disbursements and receipts, which included reimbursable and various federal funds. After a little experience, it became evident that this was not the approach to take. In the current model, benefits and contributions are net regular U.I., even though the fund balance contains all these other funds. This generally works out with no problem except that the actual fund balance tends to be a little lower than the model computed balance during the middle of the year and then catches up at the end of the year when the reimbursable contributions come in.

THE CONTRIBUTIONS MODEL
TAXABLE WAGES

The contributions model portion of the financing model starts with a multiple regression equation to compute taxable wages. These computations are displayed in Table 1 on the next page. As shown in the flow chart, Figure 1, a wage base adjustment equation for taxable wages is also required. This will be discussed later.

As shown in Figure 1, the input variables to estimate taxable wages are: total covered wages, wage base, and covered employment. All other variables were eliminated for one reason or another except the ones shown.

Total wages includes federal and reimbursable since these were readily available from the ES-202 at the time. These could be removed, but it really doesn't matter much in regression analysis if the data are consistent, i.e., as long as the proportions remain the same. Covered employment includes reimbursables but not federal, again because the figures were readily available. Historical wage bases (in hundreds) were readily available.

Projections of total wages and covered employment must be made as input into the contributions model, but such projections are quite easy to make from graphs or linear or exponential equations and great accuracy is not crucial. These variables are used in both the benefits and contributions sections, and any errors in projection will tend to offset each other as far as the cash balance is concerned.

The statistical analysis from a simple home-made program is shown for the regression analysis below in Table 1. As can be seen, the plotbacks are quite good and the multiple R is very high. The equation is revised each year as the 4th quarter ES-202 becomes available in May or June.

While the regression equation deals quite accurately with the historical wage base variable, the projections to higher wages bases are not accurate and must be adjusted as dealt with in the next section.

TABLE 1
CONTRIBUTIONS MODEL, MISSOURI
TAXABLE WAGES
REGRESSION EQUATION

	X1 (Inc. Fed & Reimb) Total Covered Wages	X2 Wage Base (00)	X3 Covered Emp.	Y Taxable Wages	$\hat{Y}$ Projected Taxable Wages
70	8.69	30	1.189	3.80	3.76
71	9.06	30	1.173	3.75	3.73
72	10.75	42	1.373	5.35	5.26
73	11.89	42	1.446	5.58	5.59
74	12.83	42	1.461	5.68	5.71
75	14.30	42	1.412	5.52	5.65
76	15.93	45	1.472	6.13	6.16
77	17.72	45	1.531	6.50	6.49
78	22.14	60	1.835	8.71	8.75
79	24.54	60	1.891	9.16	9.11
80	26.30	60	1.850	9.12	9.10
81	28.57	60	1.839	9.23	9.23
82	29.81	66	1.799	9.56	9.55

RX1X2
.9600600366
RX1X3
.9413726277
RX1Y
.9749434649
RX2X3
.9771613953
RX2Y
.9929007014
RX3Y
.9895103274
N
13.

X1 MEAN
17.88692308
X2 MEAN
48.
X3 MEAN
1.559307692
Y MEAN
6.776153846

SD X1
7.238319381
SD X2
11.46902182
SDX3
.2449343349
SD Y
2.027509038

RX1X2Y
.9959249185
RX1X3Y
.9978548817
RX2X3Y
.9970400945
RX1X2X3Y
.9996883627

STD ERR EST
.0506137652

Y=A0+A1X1+A2X2+A3X3

A0
-2.718048242
A1
.0729075423
A2
.0607964821
A3
3.380910241

B1
.2602839575
B2
.3439078035
B3
.4084327052

F
4811.038522
DF NUM
3.
DF DENOM
9.

WAGE BASE ADJUSTMENT FOR TAXABLE WAGES EQUATION

The wage base adjustment procedure in this section was previously discovered and developed by my predecessors in actuarial work in the Research and Analysis Section in Missouri.

A formula was first brought in from private insurance sources for this adjustment and was subsequently verified by special studies done on large samples of Missouri data. Table 2 and Figures 2 and 3 show the adjustment procedure now in use, but a detailed description of the formula is now in order.

The formula requires the use of 4 quarters of total and taxable ES-202 data. In this case, total wages includes reimbursable but not federal wages. The procedure might best be explained by an example and as shown in the printout in Figure 2.

MISSOURI
CALENDAR YEAR 1982
QUARTER

(Billions)	I	II	III	IV	Total
Total Wages (TOW)	6.771	7.143	6.981	7.460	28.356
Taxable Wages (TXW)	4.750	2.557	1.349	0.900	9.557

The wage base for these data was $6,600 or 66 hundred as it appears in the formula and program.

These figures then are computed and tabulated as follows:

$TOW_1 - TXW_1 = 6.771 - 4.750 = d_1;$ $d_1 = 2.021$

$TOW_2 - TXW_2 = 4.586 = d_2;$ $d_1+d_2 = 6.607$

$TOW_3 - TXW_3 = 5.632 = d_3;$ $d_1+d_2+d_3 = 12.239$

$TOW_4 - TXW_4 = 6.560 = d_4;$ $d_1+d_2+d_3+d_4 = 18.799$

Then the following arithmetic is done:

a_1 = 2.021 X 4 = 8.084; X_1 = 66 X 4 = 264

a_2 = 6.607 X 2 = 13.214; X_2 = 66 X 2 = 132

a_3 = 12.239 X 1 1/3 = 16.319; X_3 = 66 X 1 1/3 = 88

a_4 = 18.799 X 1 = 18.799; X_4 = 66 X 1 = 66

With the final step thus:

Total Wages		ai		
28.356	-	8.084	=	20.272
28.356	-	13.214	=	15.142
28.356	-	16.319	=	12.037
28.356	-	18.799	=	9.557

The results are assembled as follows:

Wage Base (00's) Xi	Taxable Wages Yi
66	9.557
88	12.037
132	15.142
264	20.272

This rather mysterious arithmetic procedure yields results that are in almost perfect agreement with large-scale studies and is quite easy to do if written into a small program as displayed in Figure 2.

The next requirement as shown in Figure 2 is to fit a quadratic least squares polynomial to these 4 data points and then obtain a plotback over the range of needed wage bases from 66(00) to 240(00) as shown. These results can be seen in the graph in Figure 2A (To get the right results, the equation must be quadratic and not quartic, for example).

Table 2, column #1, shows the next step in the procedure. Taxable wages from the equation, Figure 2, are computed into percentage increase factors associated with the various wage bases as shown in Table 2, column #1. For example, 10.1028 billion is associated with wage base 70(00) and 9.5567 is associated with the then current wage base of 66(00) for the year. 10.1028 ÷ 9.5567 yields 1.05714 as shown in Table 2 opposite wage base 70.

Column #2 in Table 2 shows the taxable wage increase factor produced by the multiple regression equation and percentage calculations, with factors other than wage base held constant in the equation at the current level. The last column labeled Y is the ratio of column #1 ÷ column #2, which is the wage base adjustment

factor to be applied to the multiple regression equation output. The X and Y columns are labeled in Table 2, and Figure 3 shows the graph of these data and the coefficients of the 5th degree polynomial fitted to these data points. This equation, as shown in the model flow chart, is used to adjust the regression equation to agree with the wage base formula. After the multiple regression equation is run in the program, the result is multiplied by the adjustment factor produced by the polynomial, giving the adjusted contribution estimate.

In the computer progam, a branch is used to skip over the adjustment equation for wage base values below 66(00) in agreement with historical data.

Just how accurate this adjustment is in conjunction with other values of the other variables, total wages and covered employment, is impossible to say, but the results seem to work out satisfactorily as far as we can tell. Perhaps others have worked in this area and could offer some comment. Whatever the case, it seems to offer a rough and ready model suitable to the requirements. Also, these other two variables do not increase very much in the four to five year projections we are required to make; so any adverse interactions should be small.

This completes the general description of the contribution section of the model. The somewhat more complex benefits section follows.

Figure 2
MISSOURI
Taxable Wage Base Adjustment Study

```
[illegible] 1982 DATA
TAX WAGE BASE PROG
     INPUT
TOW 1Q
 [illegible]1098427.
TXW 1Q
 4749746358.

TOW 2Q
 7143417722.
TXW 2Q
 2557446899.

TOW 3Q
 6981344734.
TXW 3Q
 1349134630.

TOW 4Q
 7460341251.
TXW 4Q
  900411390.

TOW
 2.835620213 10
TXW
 9556739277.

     OUTPUT
BASE 26400
 2.027079386 10

BASE 13200
 1.514155635 10

BASE 8800
       1.204 10

BASE 6600
 9556739277.

REGRESSION INPUT
        264. X
 20.27079386 Y

        132. X
 15.14155635 Y

         88. X
       12.04 Y

         66. X
 9.556739277 Y
```

```
A0
 2.132774035
A1
 .1301629252
A2
-0.000232933

QUADRATIC R RSQ
 0.999201009
 .9984026564

        264. X
 20.27079386 Y
 20.26128564 Ŷ

        132.
 15.14155635
   15.255655

         88.
       12.04
 11.78327804

         66.
 9.556739277
 9.708870806

         66. X
          1.
 9.708870806 Ŷ

         70. X
          1.
 10.10280694 Ŷ

         75.
          1.
 10.58474511

         80.
          1.
 11.05503664

         85.
          1.
 11.51368151
```

```
         90.
          1.
 11.96067974

         95.
          1.
 12.39603131

        100.
          1.
 12.81973623

        110.
          1.
 13.63220611

        120.
          1.
 14.39808939

        130.
          1.
 15.11738606

        140.
          1.
 15.79009612

        150.
          1.
 16.41621958

        160.
          1.
 16.99575643

        170.
          1.
 17.52870667

        180.
          1.
 18.01507031

        190.
          1.
 18.45484734
```

```
        200.
          1.
 18.84803776

        210.
          1.
 19.19464158

        220.
          1.
 19.49465879

        230.
          1.
 19.7480894

        240.
          1.
 19.9549334
```

Figure 2A
WAGE BASE ADJUSTMENT EQUATION

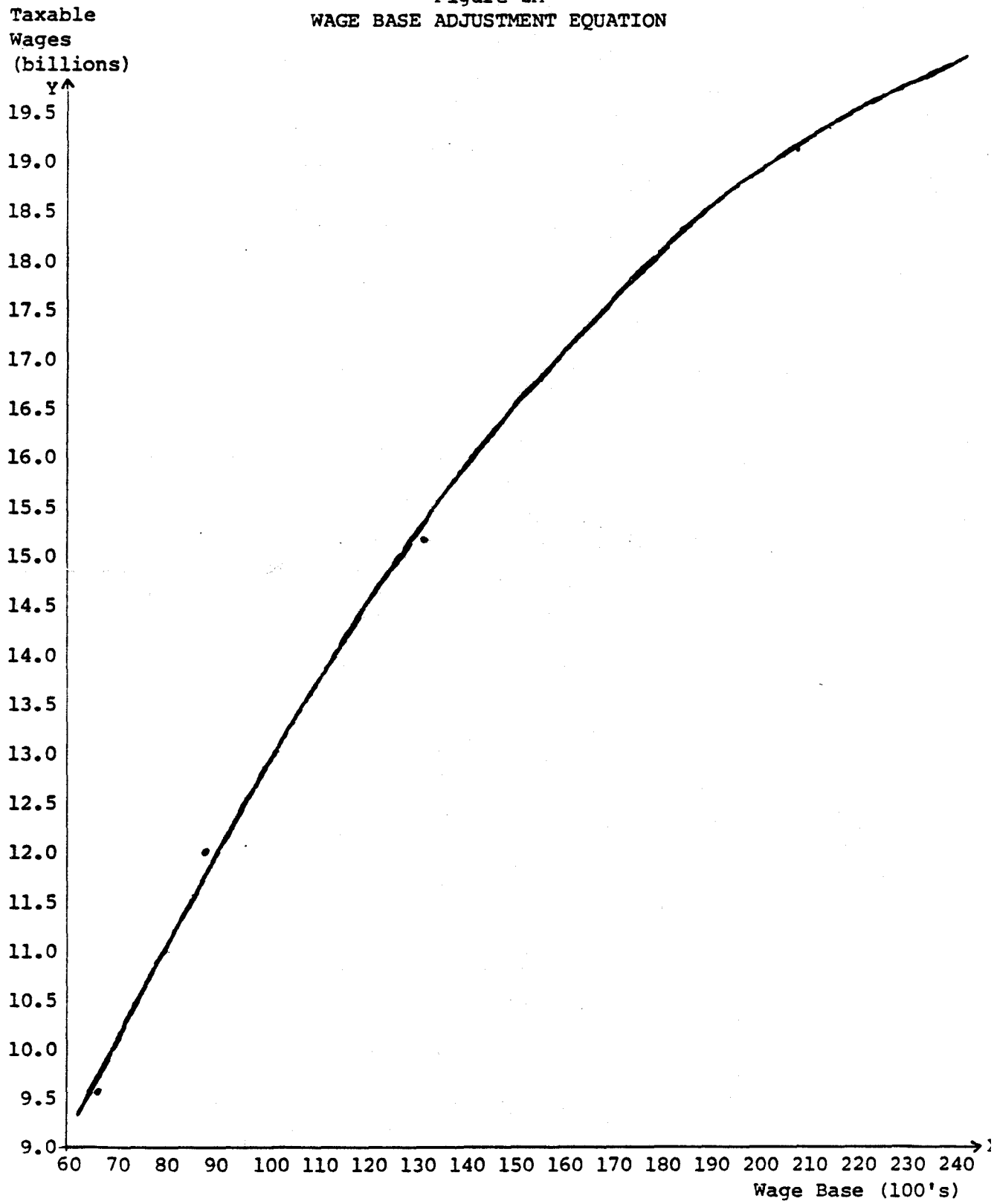


TABLE 2
CONTRIBUTIONS
CY-'82 WAGE BASE ADJUSTMENT
MISSOURI

X WAGE BASE (100's)	1 FORMULA % CHANGE FACTOR OF TAXABLE WAGES	2 REGRESSION EQUATION % CHANGES FACTOR	Y ADJ. RATIO (1÷2)
66	1.00000	1.00000	1.00000
70	1.05714	1.02546	1.03089
75	1.10757	1.05729	1.04756
80	1.15678	1.08912	1.06212
85	1.20477	1.12095	1.07478
90	1.25154	1.15279	1.08566
95	1.29710	1.18461	1.09496
100	1.34143	1.21644	1.10275
110	1.42645	1.28011	1.11432
120	1.50659	1.34377	1.12117
130	1.58186	1.40743	1.12394
140	1.65225	1.47109	1.12315
150	1.71776	1.53475	1.11924
160	1.77841	1.59841	1.11261
170	1.83417	1.66207	1.10355
180	1.88506	1.72573	1.09233
190	1.93108	1.78939	1.07918
200	1.97222	1.85305	1.06431
210	2.00849	1.91671	1.04788
220	2.03989	1.98037	1.03005
230	2.06640	2.04403	1.01094
240	2.08805	2.10769	0.99068

N
22.
LINEAR R
-.2270537628

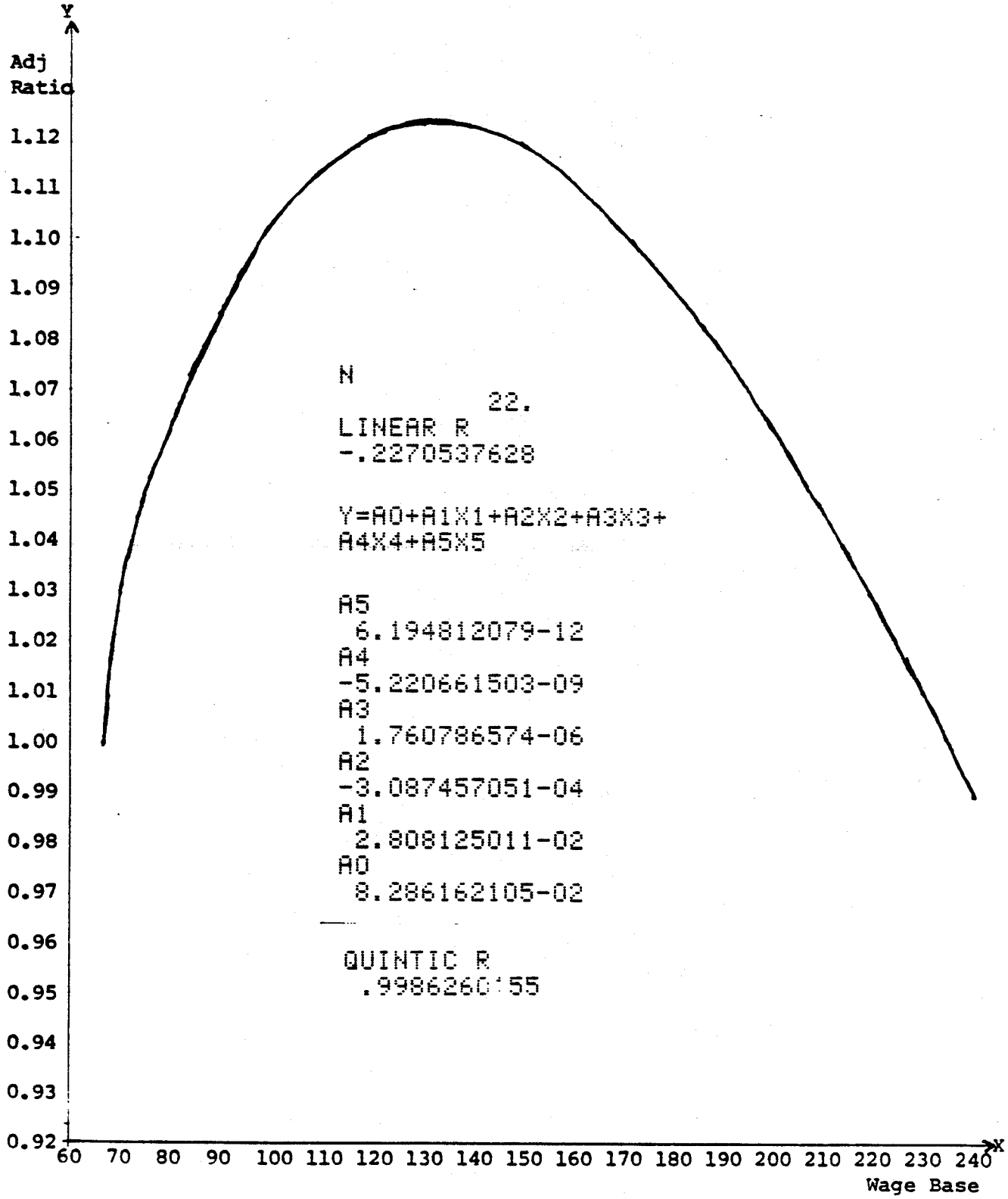
Y=A0+A1X1+A2X2+A3X3+
A4X4+A5X5

A5
6.194812079-12
A4
-5.220661503-09

A3
1.760786574-06
A2
-3.087457051-04
A1
2.808135011-02
A0
8.286162105-02

QUINTIC R
.9986260155

Figure 3
ADJ RATIO TO WAGE BASE



THE BENEFITS MODEL
AVERAGE WEEKLY BENEFIT AMOUNT EQUATION

Table 3 shows the data for the benefits regression equation. All variables were eliminated for one reason or another except the three variables shown: maximum benefit, total covered wages, and the dependent variable, average weekly benefit amount, AWBA. There were several other benefit variables to be dealt with, but it became apparent through lengthy cut and try efforts that they would best be dealt with as adjustment variables.

The two independent variables in the regression equation, "MAX BEN" and "TOTAL COVERED WAGES", were straightforward historical data, but the "AWBA" figures were quite another matter. There were several changes in the percent of high quarter in the benefit formula over the years and an inituitive arithmetic adjustment had to be made for this. Also, the benefit records did not include reimbursables, but the claimant records did and an adjustment had to be made for this. As can be seen, there is a marvellously high correlation of the data.

The next item, Figure 4, called the "TOTAL BENEFITS" program, displays some of the printout. This program is essential to the rest of the benefits model story. This small program is an adjustable model of the Missouri benefits formula as it applies to data on the ES-206 printout. In other words, it is not quite a complete model in that it assumes the data have already been screened by the ES-206 process. Other than that, it is a micro model of the benefits formula.

The sections of the program are the following: A preliminary section allows changes in the Percent High Quarter, Maximum Benefit, and the Times multiplier. The next section takes high quarter earnings and base period earnings as input. The next four items are output items, namely: weekly benefit amount, potential weeks duration, expected weeks, and expected benefit amount. The final item takes the number of recipients as input.

A word might be in order about the computation of expected weeks. This comes from the old Labor Department Cost Estimating Notebook and is as follows:

Expected weeks $= \frac{1-r^p}{1-r}$, where r= the survival rate and p= the potential weeks.

In turn, $r = \frac{c-f}{c-x}$, where c = the number of weeks compensated, f= the number of first payments and x= the number of exhaustions. This should be computed on an annual basis and for many years the value of r has hovered around 0.95 for Missouri. So the formula boils down to $\frac{1-(.95)^p}{.05}$.

In the first example in the printout, potential weeks = $\frac{1-.95^{24.67}}{.05} = \frac{1-.2821}{.05} = 14.36$ as shown.

Other parts of this program are quite straight forward:

Weekly Benefit Amount = HQE X PCT HQ≤MAX BEN
Potential Weeks = BPE ÷ 3 ÷ WKLY BEN AMT≤26
EXP BEN AMT = WKLY BEN AMT X EXP WKS (0 if 30 x WKLY BEN AMT > BPE)

The final section of the program sums the various entries giving total receipts, total benefits paid, and average duration. Total benefits paid is the item used to evaluate the ES-206 printout in order to construct benefit adjustment equations.

It should be pointed out further that while r does change and the duration is quite sensitive to r, the adjustment made using the Total Benefits Program are all ratios, with the effects of r present in both numerator and denominator. Experiments have thus shown that rather large changes in r have little effect on the final adjustment equations.

TABLE 3
BENEFITS REGRESSION EQ

	X_1	X_2	Y	$\hat{Y}$
	MAX BEN	TOTAL COVERED WAGES	AWBA	AWBA
73	63	11.9	51.57	51.35
74	67	12.8	54.64	54.58
75	81	14.3	65.40	65.12
76	85	15.6	68.12	68.51
77	85	17.7	69.33	69.45
78	85	22.1	71.65	71.40
79	85	24.5	71.82	72.47
80	105	26.3	87.42	87.38
81	105	28.6	87.77	88.40
82	105	30.0	89.96	89.02

RX1Y
.9948146407
RX2Y
.9424152569
RX1X2Y
.9993519171
RX1X2Y SQ
.9987042542

N
10.

MEANS
X1
86.6
X2
20.38
Y
71.768

SD'S
X1
14.13647764
X2
6.414483611
Y
12.62198621

SEST
.4543469466

BETA X1
0.789852627
BETA X2
0.225959093

Y=A0+A1X1+A2X2

A0
1.633333673
A1
.7052328894
A2
.4446269925

F
2697.647001
DF1
2.
DF2
7.

FIGURE 4

TOTAL BENEFITS PROG

PCT H Q
0.045
MAX BEN
105.
TIMES
30.

H Q EARN
550.
BASE PER EARN
1850.
WKLY BEN
25.
POTENTIAL WKS
24.67
EXP WKS
14.36
EXP BEN AMT
358.91
NO. RECIPIENTS
4.

H Q EARN
3000.
BASE PER EARN
5000.
WKLY BEN
105.
POTENTIAL WKS
15.87
EXP WKS
11.14
EXP BEN AMT
1169.69
NO. RECIPIENTS
4.

H Q EARN
3000.
BASE PER EARN
3100.
WKLY BEN
105.
POTENTIAL WKS
9.84
EXP WKS
7.93
EXP BEN AMT
0.00
NO. RECIPIENTS
2.

H Q EARN
1500.
BASE PER EARN
6000.
WKLY BEN
68.
POTENTIAL WKS
26.00
EXP WKS
14.73
EXP BEN AMT
1001.61
NO. RECIPIENTS
3.

TOTAL RECIP
11.00
TOTAL BEN PD
9119.27
AV DURATION
13.29

MAXIMUM BENEFIT ADJUSTMENT EQUATION

Tables 4a and 4b show how the maximum benefit adjustment equation is obtained from ES-206 tables 5a, b and c.

The MAX BEN value is entered into the Total Benefits Program and the HQ and Base Per Earn values for each ES-206 median value are entered and run (see Table 5a). Since the maximum benefit of $105.00 or more is not reached for high quarter earnings less than $2,400, the same total benefits figure is carried across in Table 4a to save work. At and above $2,400, the total Benefits Program must be run on the earnings values at the ES-206 medians for each maximum benefit setting of the program. These results are then tabulated in Table 4a. In the last line they are converted into percentages of total benefits of each maximum benefit to the current benefit amount of $105.00. Since this is a practical, working model, the procedure throughout is to peg all estimating equations to current values.

Table 4b shows how the maximum benefit adjustment equation is derived, and the proccedure is exactly the same as that used in Table 2 for the contributions wage base adjustment equation. The regression equation is first used to compute the projected AWBA's for each MAX BEN as shown in columns 1 and 2 of Table 4b. The percent change for the AWBA from the $105.00 base for regression is then shown in the third column. The percent changes from the ES-206 study as shown in Table 4a are then recorded in the fourth column, and the column labeled 2 is divided by the column labeled 1 to give the adjustment ratio. The first and last columns labeled X and Y are then the data points for constructing the adjustment equation.

As the graph and the regression analysis show, this is almost a simple linear relationship. However, a cubic least squares polynomial is used since the fit is slightly better and no extrapolation is intended (experience has shown that we should have taken the wage base somewhat higher, which we intend to do in the annual revision). The percentage adjustments of the AWBA for each MAX BEN are now ready for use from the adjustment equation, which goes into the UI financial model program (see Figure 1 or program listings in the appendix).

In a revised version of the computer program, a branch is used to skip over the adjustment equations for MAX BEN values below $105 for research on historical data.

As can be seen in Table 5c, the Missouri ES-206 has been extended to higher wage levels in order to permit evaluation of much higher benefit maximums.

TABLE 4a
FY-1982 MAX BEN STUDY
(Source: ES-206, FY-82, and Total Ben Program on Sample Medians)
Total Benefits

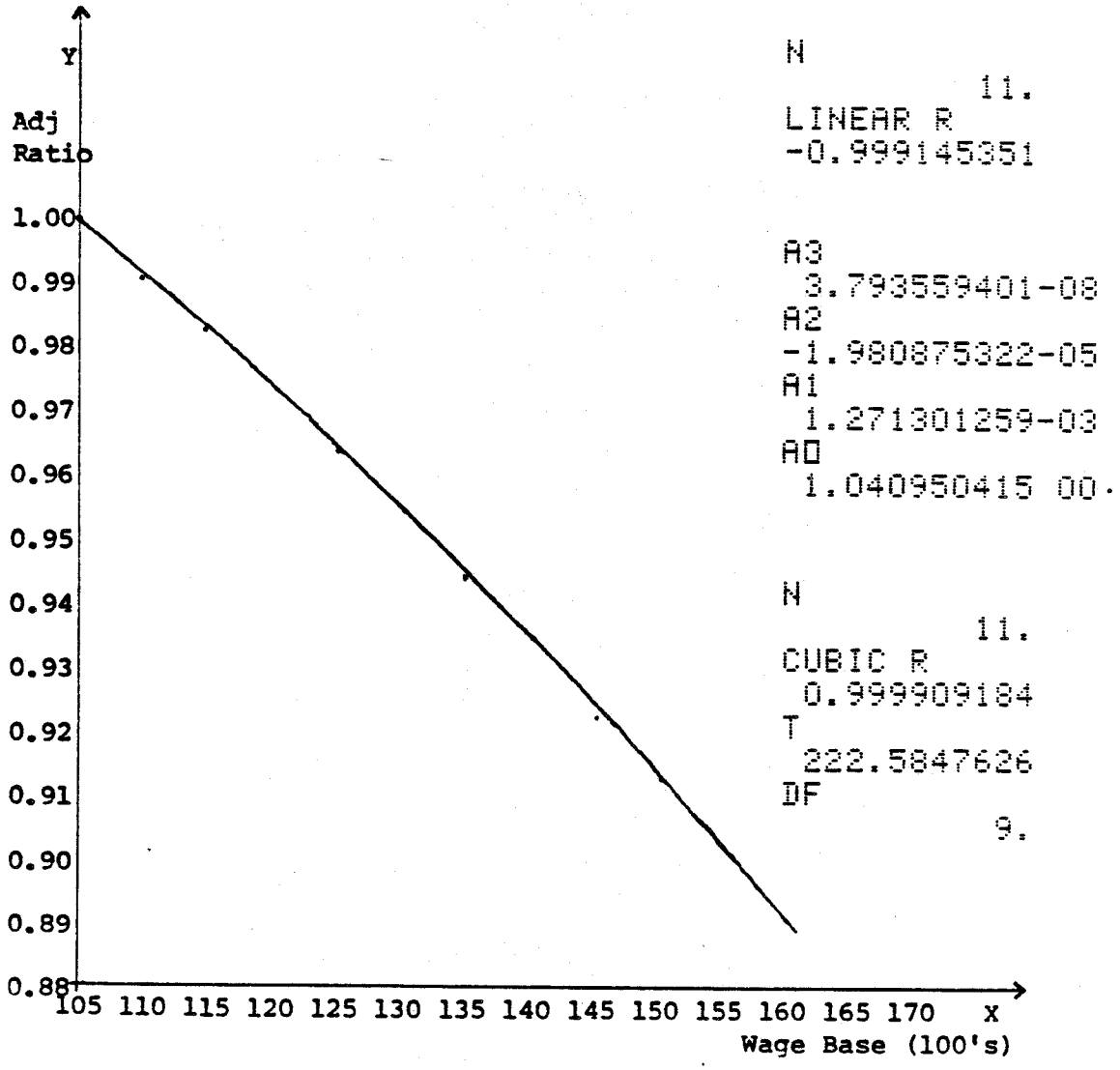
HQ/MAX BEN	105	110	115	120
300-2300	5,186,092	5,186,092	5,186,092	5,186,092
2500-6750	14,148,442	14,743,292	15,324,559	15,883,319
TOTAL	19,334,534	19,929,384	20,510,651	21,069,411
% 105 MAX BEN	1.0000%	1.03076619	1.06082986	1.08972944

HQ/MAX BEN	125	130	135	140
300-2300	5,186,092	5,186,092	5,186,092	5,186,092
2500-6750	16,411,764	16,929,126	17,429,464	17,909,239
TOTAL	21,597,856	22,115,218	22,615,556	23,095,331
% 105 MAX BEN	1.11706111	1.14381955	1.16969750	1.19451190

HQ/MAX BEN	145	150	160
300-2300	5,186,092	5,186,092	5,186,092
2500-6750	18,323,810	18,804,731	19,590,509
TOTAL	23,509,902	23,990,823	24,776,601
% 105 MAX BEN	1.21595390	1.24082758	1.28146874

TABLE 4b
FY-82 MAX BEN STUDY

X MAX BEN	REG. EQ. AWBA	1 REG. EQ. % CHANGE FROM $105 AWBA	2 % CHANGE ES 206 STUDY AWBA	Y 2÷1 ADJ. RATIO
105	89.02	1.00000000	1.00000000	1.000000
110	92.55	1.03965401	1.03076619	.991451
115	96.07	1.07919569	1.06082986	.982982
120	99.60	1.11884970	1.08972744	.973971
125	103.13	1.15850370	1.11706111	.964227
130	106.65	1.19804538	1.14381955	.954738
135	110.18	1.23769939	1.16969750	.945058
140	113.70	1.27724107	1.19451190	.935228
145	117.23	1.31689508	1.21595390	.923349
150	120.76	1.35654909	1.24082758	.914694
160	127.81	1.43574478	1.28146874	.892546



ES-206 TABLE A - 1982

BPE	NO. CLAIMANTS	HIGH QUARTER EARNINGS $0	$100	$200	$300	$400	$500	$600	$700	$800	$900	$1000	$1100	$1200
TOTAL	14692	0	1	1	46	60	95	92	115	153	150	184	195	197
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	1	0	0	1	0	0	0	0	0	0	0	0	0	0
300	1	0	1	0	0	0	0	0	0	0	0	0	0	0
400	7	0	0	0	7	0	0	0	0	0	0	0	0	0
500	13	0	0	0	11	1	1	0	0	0	0	0	0	0
600	21	0	0	0	15	4	0	0	0	0	0	0	0	0
700	28	0	0	0	6	12	9	0	1	0	0	0	0	0
800	29	0	0	0	2	12	10	3	0	2	0	0	0	0
900	40	0	0	0	2	8	17	11	1	0	1	0	0	0
1000	47	0	0	0	1	9	16	18	9	0	0	2	0	0
1100	43	0	0	0	1	2	10	14	11	3	0	0	0	0
1200	48	0	0	0	1	4	4	10	11	10	0	0	0	0
1300	49	0	0	0	0	1	3	7	15	14	8	0	0	0
1400	52	0	0	0	0	2	1	5	16	12	11	5	0	0
1500	53	0	0	0	0	2	6	4	8	12	10	6	5	0
1600	58	0	0	0	0	1	2	2	6	14	8	17	8	0
1700	64	0	0	0	0	0	2	3	5	13	9	14	10	8
1800	53	0	0	0	0	0	1	1	10	8	13	8	5	5
1900	47	0	0	0	0	0	1	0	4	6	7	11	15	10
2000	142	0	0	0	0	0	2	6	4	14	13	20	13	18
2200	166	0	0	0	0	0	0	4	8	17	13	22	16	24
2400	202	0	0	0	0	0	0	1	5	9	9	12	13	24
2600	197	0	0	0	0	0	0	1	1	6	12	11	15	17
2800	199	0	0	0	0	0	0	0	0	8	8	10	9	15
3000	589	0	0	0	0	0	0	0	0	5	23	23	40	26
3500	593	0	0	0	0	0	0	0	0	0	5	22	37	27
4000	583	0	0	0	0	0	0	0	0	0	0	1	9	18
4500	585	0	0	0	0	0	0	0	0	0	0	0	0	5
5000	564	0	0	0	0	0	0	0	0	0	0	0	0	0
5500	576	0	0	0	0	0	0	0	0	0	0	0	0	0
6000	557	0	0	0	0	0	0	0	0	0	0	0	0	0
6500	538	0	0	0	0	0	0	0	0	0	0	0	0	0
7000	540	0	0	0	0	0	0	0	0	0	0	0	0	0
7500	972	0	0	0	0	0	0	0	0	0	0	0	0	0
8500	428	0	0	0	0	0	0	0	0	0	0	0	0	0
9000	398	0	0	0	0	0	0	0	0	0	0	0	0	0
9500	381	0	0	0	0	0	0	0	0	0	0	0	0	0
10000	614	0	0	0	0	0	0	0	0	0	0	0	0	0
11000	586	0	0	0	0	0	0	0	0	0	0	0	0	0
12000	511	0	0	0	0	0	0	0	0	0	0	0	0	0
13000	418	0	0	0	0	0	0	0	0	0	0	0	0	0
14000	452	0	0	0	0	0	0	0	0	0	0	0	0	0
15000	398	0	0	0	0	0	0	0	0	0	0	0	0	0
16000	312	0	0	0	0	0	0	0	0	0	0	0	0	0
17000	294	0	0	0	0	0	0	0	0	0	0	0	0	0
18000	289	0	0	0	0	0	0	0	0	0	0	0	0	0
19000	296	0	0	0	0	0	0	0	0	0	0	0	0	0
20000	451	0	0	0	0	0	0	0	0	0	0	0	0	0
22000	331	0	0	0	0	0	0	0	0	0	0	0	0	0
24000	243	0	0	0	0	0	0	0	0	0	0	0	0	0
26000+	613	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 5a

ES-206 TABLE A - 1982

BPE	NO. CLAIMANTS	HIGH QUARTER EARNINGS $1300	$1400	$1500	$1600	$1700	$1800	$1900	$2000	$2200	$2400	$2600	$2800	$3000
TOTAL		251	284	298	385	380	447	446	880	832	789	727	630	552
0		0	0	0	0	0	0	0	0	0	0	0	0	0
100		0	0	0	0	0	0	0	0	0	0	0	0	0
200		0	0	0	0	0	0	0	0	0	0	0	0	0
300		0	0	0	0	0	0	0	0	0	0	0	0	0
400		0	0	0	0	0	0	0	0	0	0	0	0	0
500		0	0	0	0	0	0	0	0	0	0	0	0	0
600		0	0	0	0	0	0	0	0	0	0	0	0	0
700		0	0	0	0	0	0	0	0	0	0	0	0	0
800		0	0	0	0	0	0	0	0	0	0	0	0	0
900		0	0	0	0	0	0	0	0	0	0	0	0	0
1000		0	0	0	0	0	0	0	0	0	0	0	0	0
1100		0	0	0	0	0	0	0	0	0	0	0	0	0
1200		0	0	0	0	0	0	0	0	0	0	0	0	0
1300		1	0	0	0	0	0	0	0	0	0	0	0	0
1400		0	0	0	0	0	0	0	0	0	0	0	0	0
1500		0	0	0	0	0	0	0	0	0	0	0	0	0
1600		0	0	0	0	0	0	0	0	0	0	0	0	0
1700		0	0	0	0	0	0	0	0	0	0	0	0	0
1800		2	0	0	0	0	0	0	0	0	0	0	0	0
1900		0	3	0	0	0	0	2	0	0	0	0	0	0
2000		24	17	11	0	0	0	0	0	0	0	0	0	0
2200		17	20	14	6	2	0	1	0	0	0	0	0	0
2400		28	25	20	23	24	7	2	0	0	0	0	0	0
2600		23	23	25	26	13	16	7	1	0	0	0	0	0
2800		19	24	19	25	14	15	19	14	0	0	0	0	0
3000		35	41	38	39	51	55	36	62	37	18	21	14	4
3500		37	40	36	45	33	51	55	65	36	31	26	24	7
4000		23	34	36	45	50	38	41	73	50	54	37	18	15
4500		23	29	35	46	52	48	31	69	68	47	30	29	18
5000		10	25	36	39	42	57	51	68	50	33	50	31	15
5500		1	3	22	36	35	33	42	94	60	67	46	28	26
6000		0	0	6	26	40	46	46	97	78	46	46	20	25
6500		0	0	0	7	23	60	64	75	64	80	39	22	13
7000		0	0	0	0	1	20	44	111	68	69	48	40	22
7500		0	0	0	0	0	1	5	146	220	119	105	100	62
8000		0	0	0	0	0	0	0	5	72	87	56	35	43
8500		0	0	0	0	0	0	0	0	21	99	69	41	35
9000		0	0	0	0	0	0	0	0	0	37	94	64	44
9500		0	0	0	0	0	0	0	0	0	7	59	129	100
10000		0	0	0	0	0	0	0	0	0	0	2	35	95
11000		0	0	0	0	0	0	0	0	0	0	0	0	28
12000		0	0	0	0	0	0	0	0	0	0	0	0	0
13000		0	0	0	0	0	0	0	0	0	0	0	0	0
14000		0	0	0	0	0	0	0	0	0	0	0	0	0
15000		0	0	0	0	0	0	0	0	0	0	0	0	0
16000		0	0	0	0	0	0	0	0	0	0	0	0	0
17000		0	0	0	0	0	0	0	0	0	0	0	0	0
18000		0	0	0	0	0	0	0	0	0	0	0	0	0
19000		0	0	0	0	0	0	0	0	0	0	0	0	0
20000		0	0	0	0	0	0	0	0	0	0	0	0	0
22000		0	0	0	0	0	0	0	0	0	0	0	0	0
24000		0	0	0	0	0	0	0	0	0	0	0	0	0
26000+		0	0	0	0	0	0	0	0	0	0	0	0	0

Table 5b

Year Ended 12-31-82 | Region 07 | State Code 29 | ES-206 | TABLE A - 1982 | State Missouri | Claimant Group Eligible | Sample 5%

HIGH QUARTER EARNINGS

BPE (2)	NO. CLAIMANTS	$3200 (30)	$3400 (31)	$3600 (32)	$3800 (33)	$4000 (34)	$4200 (35)	$4400 (36)	$4600 (37)	$4800 (38)	$5000 (39)	$5500 (40)	$6000 (41)	$6500+ (42)
TOTAL		483	491	404	379	343	317	302	276	244	599	598	462	1612
0		0	0	0	0	0	0	0	0	0	0	0	0	0
100		0	0	0	0	0	0	0	0	0	0	0	0	0
200		0	0	0	0	0	0	0	0	0	0	0	0	0
300		0	0	0	0	0	0	0	0	0	0	0	0	0
400		0	0	0	0	0	0	0	0	0	0	0	0	0
500		0	0	0	0	0	0	0	0	0	0	0	0	0
600		0	0	0	0	0	0	0	0	0	0	0	0	0
700		0	0	0	0	0	0	0	0	0	0	0	0	0
800		0	0	0	0	0	0	0	0	0	0	0	0	0
900		0	0	0	0	0	0	0	0	0	0	0	0	0
1000		0	0	0	0	0	0	0	0	0	0	0	0	0
1100		0	0	0	0	0	0	0	0	0	0	0	0	0
1200		0	0	0	0	0	0	0	0	0	0	0	0	0
1300		0	0	0	0	0	0	0	0	0	0	0	0	0
1400		0	0	0	0	0	0	0	0	0	0	0	0	0
1500		0	0	0	0	0	0	0	0	0	0	0	0	0
1600		0	0	0	0	0	0	0	0	0	0	0	0	0
1700		0	0	0	0	0	0	0	0	0	0	0	0	0
1800		0	0	0	0	0	0	0	0	0	0	0	0	0
1900		0	0	0	0	0	0	0	0	0	0	0	0	0
2000		0	0	0	0	0	0	0	0	0	0	0	0	0
2200		0	0	0	0	0	0	0	0	0	0	0	0	0
2400		0	0	0	0	0	0	0	0	0	0	0	0	0
2600		0	0	0	0	0	0	0	0	0	0	0	0	0
2800		0	0	0	0	0	0	0	0	0	0	0	0	0
3000		1	0	0	0	0	0	0	0	0	0	0	0	0
3500		9	4	2	1	0	0	0	0	0	0	0	0	0
4000		13	9	13	2	2	1	1	0	0	0	0	0	0
4500		9	15	12	9	1	3	4	1	1	0	0	0	0
5000		16	5	12	10	2	3	3	3	1	2	0	0	0
5500		20	14	7	15	6	1	5	4	2	5	2	0	0
6000		17	18	7	8	3	7	4	3	1	6	5	2	0
6500		14	21	8	6	10	9	5	4	4	4	5	1	0
7000		11	12	15	15	11	12	12	7	3	11	5	6	2
7500		34	32	17	19	27	9	15	7	9	18	5	6	9
8500		33	14	17	5	6	10	2	8	7	9	8	6	5
9000		24	28	20	10	4	7	6	7	4	9	7	2	5
9500		27	24	11	11	11	9	8	5	6	12	9	4	5
10000		76	49	37	37	17	18	15	12	7	19	12	10	15
11000		95	70	56	43	39	24	21	22	14	28	11	11	20
12000		76	90	67	39	30	31	28	20	20	31	21	8	22
13000		8	66	73	51	43	32	21	32	9	27	19	13	22
14000		0	23	27	78	60	52	46	26	20	49	24	16	31
15000		0	0	3	18	65	53	43	32	34	52	40	25	33
16000		0	0	0	0	6	33	45	38	33	56	40	23	30
17000		0	0	0	0	0	3	14	41	37	67	54	32	46
18000		0	0	0	0	0	0	4	6	27	85	68	38	61
19000		0	0	0	0	0	0	0	0	5	77	91	55	68
20000		0	0	0	0	0	0	0	0	0	32	125	90	204
22000		0	0	0	0	0	0	0	0	0	0	39	92	200
24000		0	0	0	0	0	0	0	0	0	0	0	22	221
26000+		0	0	0	0	0	0	0	0	0	0	0	0	613

Table 5c

PERCENT HIGH QUARTER ADJUSTMENT EQUATION

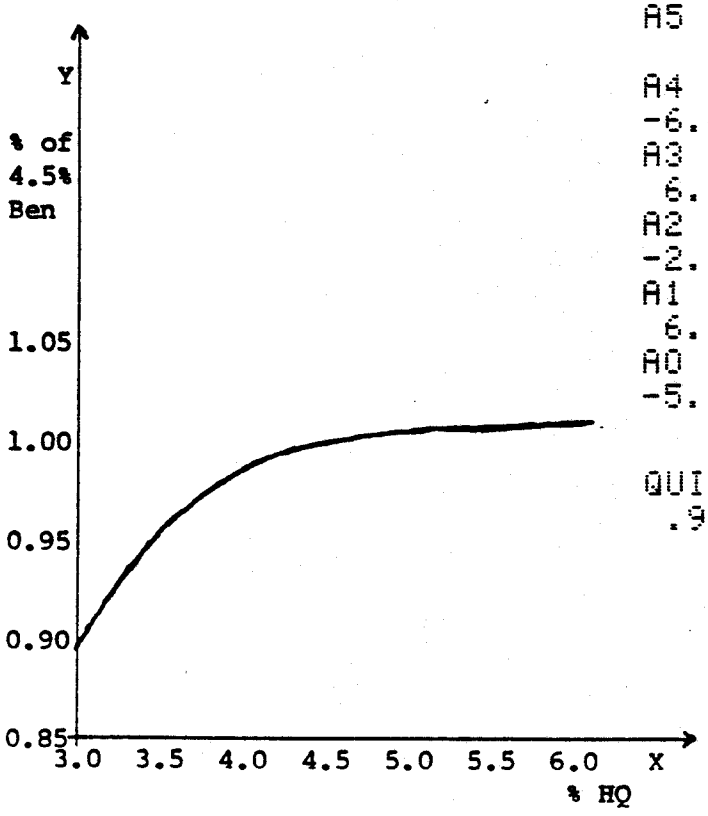
The procedure for obtaining this adjustment equation is somewhat similar to that for the previous equations. The Total Benefits Program is run with various % HQ settings on the HQ & Base Period values at the ES-206 medians. The results are tabulated in Table 6.

Since % HQ is not a variable in the regression equation, the adjustment in this case is absolute, not relative. It should be remarked that all these adjustment equations were tried on historical data while holding other variables constant. That they worked well is the reason they were adopted.

In Table 6, the benefit amounts are again coverted into percentages of the level for the current % HQ of 4.5. The X and Y variables are noted in the column headings and are shown in the graph. A fifth degree polynomial adjustment equation was fitted to these data to give an excellent fit. At this point, we have had no need to extend the range of the % HQ variable.

TABLE 6
FY-82 % HQ STUDY
(Source: ES-206 Medians, Total Ben Program)
(30 Times & 105 MAX BEN Assumed)

X % HQ	Sample Median BEN AMT	Y % of 4.5% Ben
5.0	19,504,528	1.008792
4.5	19,334,534	1.000000
4.0	19,034,225	.984468
3.5	18,506,117	.957154
3.0	17,367,093	.898242
6.0	19,661,232	1.016897



N
6.

LINEAR R
.8815635176

Y=A0+A1X1+A2X2+A3X3+
A4X4+A5X5

A5
2.8201179-03
A4
-6.616977351-02
A3
6.205489535-01
A2
-2.920356313 00
A1
6.945616072 00
A0
-5.735756832 00

QUINTIC R
.9999999881

TIMES ADJUSTMENT EQUATION

The times adjustment equation requires a little different technique from the previous ones. The Total Benefits Program is first used on the ES-206 to find the cutoff boundaries of the various times levels. See tables 8a to c. The times level is set, say to 50, and the program is run for BPE & HQ Earnings down each column until the EXP BEN AMT is no longer zero. This, then, is the boundary where benefits begin for a 50 times value. This must be done for all four times values for the whole table, a very time consuming procedure.

After these boundaries have been established, the program must be run for all values within the boundaries to determine the benefit losses as shown in the second column of Table 7. In the third column, the benefit amounts are determined by subtracting the losses from the current 30 times amount determined by a previous run on the sample medians associated values (See Table 4a). These are then converted into percentages in the fourth column and the number of people eliminated are stored in the fifth column for use in still another model which gives an estimate of the claimants eliminated for changes in times as well as HQ min.

The X and Y columns, the graph, and the quadratic adjustment equations are shown in Table 7. Since this adjustment is added to the HQ MIN ADJUSTMENT factor to adjust the total benefits rather than being multiplied by some other value, the percentage to be added is shown in column 6 of Table 7. This column 6 could be used for the Y value, but since it wasn't, the same result can be achieved by subtracting 1 from the AQ value of the quadratic adjustment regression equation.

For this equation, the current 4.5 %HQ and $105 MAX BEN were assumed for the times runs. What the results would have been for other %HQ and MAX BEN values is unknown and is perhaps a topic to contemplate at some future time. Again, historical values showed the results to be acceptable; so the matter has not been pursued.

Since the original draft of this paper, Missouri law has been changed for 1985, replacing the "times weekly benefit amount" requirement by the "1 1/2 times high quarter earnings" requirement. The adjustment equation for this new provision is made in a similar manner, using the ES-206, Table A printout. It is actually an easier adjustment equation to make since the Total Benefits Program does not have to be run to find interval boundaries. Boundaries can be found by multiplying the required times number by the HQE column and finding the corresponding amount in the BPE row in the ES-206 printout. Then the Total Benefits Program is run under each boundary to determine the benefit loss for each times factor.

TABLE 7 (Assume .045 %HQ 105 MAX BEN)
FY-82 TIMES STUDY
(Source: ES-206 and Total Benefits Program to Determine Cut-Off Boundaries)

X Times	Benefit Loss (Run Program Under Boundaries)	(Sample) Benefit Amt. (Subtract Loss from 30 Times)	Y % of 30 Times Amt.	(N)	(Y)
50	1,907,686	17,426,848	.901333	(2,635)	-.098667
40	803,483	18,531,051	.958443	(1,248)	-.041557
35	365,341	18,969,193	.981104	(617)	-.018896
30	0	19,334,534 (From Sample Medians)	1.000000	0	.000000

LINEAR R,RSQ
-0.995687519
.9913936354

Y=MX+B
M
-0.00498784
B
1.1534988

A0
1.0316488
A1
.0012708191
A2
-.0000775409

QUADRATIC R,RSQ
.9999997969
.9999995938

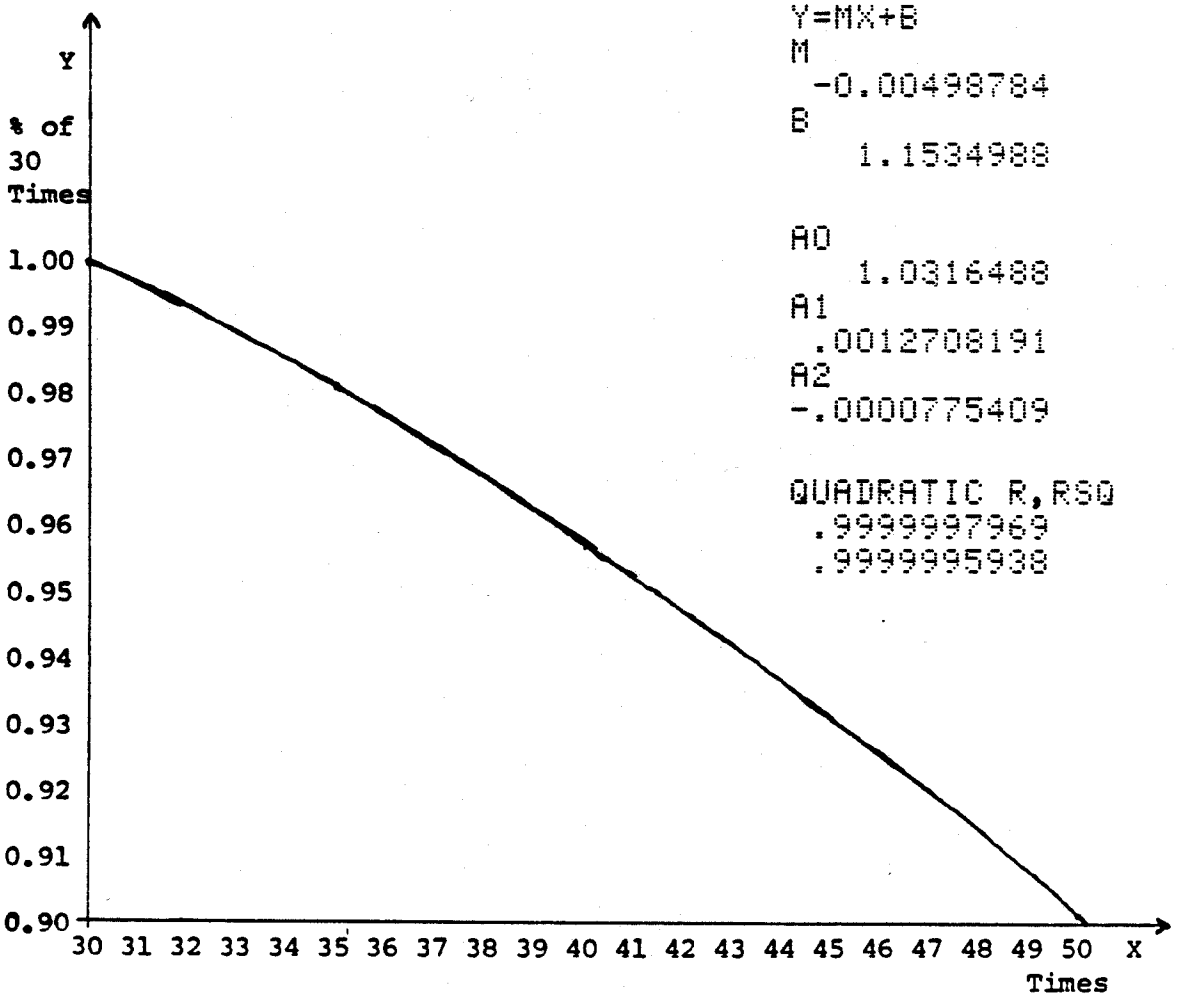


Table 8a

ES-206 TABLE A - 1982

BPE	NO. CLAIMANTS	HIGH QUARTER EARNINGS $0	$100	$200	$300	$400	$500	$600	$700	$800	$900	$1000	$1100	$1200
TOTAL	14692	0	1	1	46	60	85	92	115	153	150	184	195	197
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200	1	0	0	1	0	0	0	0	0	0	0	0	0	0
300	1	0	1	0	0	0	0	0	0	0	0	0	0	0
400	7	0	0	0	7	0	0	0	0	0	0	0	0	0
500	13	0	0	0	11	1	1	0	0	0	0	0	0	0
600	21	0	0	0	15	6	0	0	0	0	0	0	0	0
700	28	0	0	0	4	12	9	0	1	0	0	0	0	0
800	29	0	0	0	2	12	10	3	0	2	0	0	0	0
900	40	0	0	0	2	8	17	11	1	0	1	0	0	0
1000	47	0	0	0	1	9	16	18	9	0	0	2	0	0
1100	43	0	0	0	1	2	10	16	11	3	0	0	0	0
1200	48	0	0	0	1	4	4	10	11	10	0	0	0	0
1300	49	0	0	0	0	1	3	7	15	14	8	0	0	0
1400	52	0	0	0	0	2	1	5	16	12	11	5	0	0
1500	53	0	0	0	0	2	6	4	8	12	10	6	5	0
1600	58	0	0	0	0	1	2	2	6	14	8	17	8	0
1700	64	0	0	0	0	0	2	3	5	13	9	14	10	8
1800	53	0	0	0	0	0	1	1	10	8	13	8	5	5
1900	47	0	0	0	0	0	1	0	4	6	7	11	15	10
2000	142	0	0	0	0	0	2	4	4	14	13	20	13	10
2200	166	0	0	0	0	0	0	4	8	17	13	22	16	24
2400	202	0	0	0	0	0	0	1	5	9	9	12	13	24
2600	197	0	0	0	0	0	0	1	1	6	12	11	15	17
2800	199	0	0	0	0	0	0	0	0	8	8	10	9	15
3000	589	0	0	0	0	0	0	0	0	5	23	23	40	26
3500	593	0	0	0	0	0	0	0	0	0	5	22	37	27
4000	583	0	0	0	0	0	0	0	0	0	0	1	9	18
4500	585	1	0	0	0	0	0	0	0	0	0	0	0	5
5000	564	0	0	0	0	0	0	0	0	0	0	0	0	0
5500	576	0	0	0	0	0	0	0	0	0	0	0	0	0
6000	557	0	0	0	0	0	0	0	0	0	0	0	0	0
6500	538	0	0	0	0	0	0	0	0	0	0	0	0	0
7000	540	0	0	0	0	0	0	0	0	0	0	0	0	0
7500	972	0	0	0	0	0	0	0	0	0	0	0	0	0
8500	428	0	0	0	0	0	0	0	0	0	0	0	0	0
9000	398	0	0	0	0	0	0	0	0	0	0	0	0	0
9500	381	0	0	0	0	0	0	0	0	0	0	0	0	0
10000	614	0	0	0	0	0	0	0	0	0	0	0	0	0
11000	586	0	0	0	0	0	0	0	0	0	0	0	0	0
12000	511	0	0	0	0	0	0	0	0	0	0	0	0	0
13000	418	0	0	0	0	0	0	0	0	0	0	0	0	0
14000	452	0	0	0	0	0	0	0	0	0	0	0	0	0
15000	398	0	0	0	0	0	0	0	0	0	0	0	0	0
16000	312	0	0	0	0	0	0	0	0	0	0	0	0	0
17000	294	0	0	0	0	0	0	0	0	0	0	0	0	0
18000	289	0	0	0	0	0	0	0	0	0	0	0	0	0
19000	296	0	0	0	0	0	0	0	0	0	0	0	0	0
20000	451	0	0	0	0	0	0	0	0	0	0	0	0	0
22000	331	0	0	0	0	0	0	0	0	0	0	0	0	0
24000	243	0	0	0	0	0	0	0	0	0	0	0	0	0
26000+	613	0	0	0	0	0	0	0	0	0	0	0	0	0

ES-206 TABLE A - 1982

BPE	NO. CLAIMANTS	HIGH QUARTER EARNINGS $1300	$1400	$1500	$1600	$1700	$1800	$1900	$2000	$2200	$2400	$2600	$2800	$3000
TOTAL		251	284	298	385	380	447	446	680	832	789	727	630	552
0		0	0	0	0	0	0	0	0	0	0	0	0	0
100		0	0	0	0	0	0	0	0	0	0	0	0	0
200		0	0	0	0	0	0	0	0	0	0	0	0	0
300		0	0	0	0	0	0	0	0	0	0	0	0	0
400		0	0	0	0	0	0	0	0	0	0	0	0	0
500		0	0	0	0	0	0	0	0	0	0	0	0	0
600		0	0	0	0	0	0	0	0	0	0	0	0	0
700		0	0	0	0	0	0	0	0	0	0	0	0	0
800		0	0	0	0	0	0	0	0	0	0	0	0	0
900		0	0	0	0	0	0	0	0	0	0	0	0	0
1000		0	0	0	0	0	0	0	0	0	0	0	0	0
1100		0	0	0	0	0	0	0	0	0	0	0	0	0
1200		0	0	0	0	0	0	0	0	0	0	0	0	0
1300		1	0	0	0	0	0	0	0	0	0	0	0	0
1400		0	0	0	0	0	0	0	0	0	0	0	0	0
1500		0	0	0	0	0	0	0	0	0	0	0	0	0
1600		0	0	0	0	0	0	0	0	0	0	0	0	0
1700		0	0	0	0	0	0	0	0	0	0	0	0	0
1800		2	0	0	0	0	0	0	0	0	0	0	0	0
1900		0	3	0	0	0	0	2	0	0	0	0	0	0
2000		24	30 17	11	0	0	0	0	0	0	0	0	0	0
2200		17	20	14	0	2	0	1	0	0	0	0	0	0
2400		28	35 25	20	23	24	7	2	0	0	0	0	0	0
2600		23	44 23	25	26	13	16	7	1	0	0	0	0	0
2800		19	24	19	25	14	15	19	14	0	0	0	0	0
3000		35	41	38	29	51	55	36	62	37	18	21	14	4
3500		37	50 40	36	45	33	51	55	45	36	31	26	24	7
4000		23	34	36	45	50	38	41	73	50	54	37	18	15
4500		23	29	35	46	52	48	31	69	68	47	30	29	18
5000		10	25	36	39	42	57	51	68	50	33	50	31	15
5500		1	3	22	36	35	33	42	94	60	67	46	28	26
6000		0	0	6	26	40	46	46	97	78	46	46	20	25
6500		0	0	0	7	23	60	64	75	64	80	39	22	13
7000		0	0	0	0	1	20	44	111	68	64	48	40	22
7500		0	0	0	0	0	1	5	146	228	119	104	100	62
8000		0	0	0	0	0	0	0	5	72	87	56	35	43
8500		0	0	0	0	0	0	0	0	21	99	69	41	35
9000		0	0	0	0	0	0	0	0	0	37	94	64	44
9500		0	0	0	0	0	0	0	0	0	7	59	129	100
10000		0	0	0	0	0	0	0	0	0	0	2	35	95
11000		0	0	0	0	0	0	0	0	0	0	0	0	28
12000		0	0	0	0	0	0	0	0	0	0	0	0	0
13000		0	0	0	0	0	0	0	0	0	0	0	0	0
14000		0	0	0	0	0	0	0	0	0	0	0	0	0
15000		0	0	0	0	0	0	0	0	0	0	0	0	0
16000		0	0	0	0	0	0	0	0	0	0	0	0	0
17000		0	0	0	0	0	0	0	0	0	0	0	0	0
18000		0	0	0	0	0	0	0	0	0	0	0	0	0
19000		0	0	0	0	0	0	0	0	0	0	0	0	0
20000		0	0	0	0	0	0	0	0	0	0	0	0	0
22000		0	0	0	0	0	0	0	0	0	0	0	0	0
24000		0	0	0	0	0	0	0	0	0	0	0	0	0
26000+		0	0	0	0	0	0	0	0	0	0	0	0	0

Table 8b

Year Ended 12-31-82 | Region 07 | State Code 29 | ES-206 | TABLE A - 1982 | State Missouri | Claimant Group Eligible | Sample 5%

HIGH QUARTER EARNINGS

BPE (2)	NO. CLAIMANTS	$3200 (30)	$3400 (31)	$3600 (32)	$3800 (33)	$4000 (34)	$4200 (35)	$4400 (36)	$4600 (37)	$4800 (38)	$5000 (39)	$5500 (40)	$6000 (41)	$6500+ (42)
TOTAL		483	491	404	379	343	317	302	278	244	599	598	462	1612
0		0	0	0	0	0	0	0	0	0	0	0	0	0
100		0	0	0	0	0	0	0	0	0	0	0	0	0
200		0	0	0	0	0	0	0	0	0	0	0	0	0
300		0	0	0	0	0	0	0	0	0	0	0	0	0
400		0	0	0	0	0	0	0	0	0	0	0	0	0
500		0	0	0	0	0	0	0	0	0	0	0	0	0
600		0	0	0	0	0	0	0	0	0	0	0	0	0
700		0	0	0	0	0	0	0	0	0	0	0	0	0
800		0	0	0	0	0	0	0	0	0	0	0	0	0
900		0	0	0	0	0	0	0	0	0	0	0	0	0
1000		0	0	0	0	0	0	0	0	0	0	0	0	0
1100		0	0	0	0	0	0	0	0	0	0	0	0	0
1200		0	0	0	0	0	0	0	0	0	0	0	0	0
1300		0	0	0	0	0	0	0	0	0	0	0	0	0
1400		0	0	0	0	0	0	0	0	0	0	0	0	0
1500		0	0	0	0	0	0	0	0	0	0	0	0	0
1600		0	0	0	0	0	0	0	0	0	0	0	0	0
1700		0	0	0	0	0	0	0	0	0	0	0	0	0
1800		0	0	0	0	0	0	0	0	0	0	0	0	0
1900		0	0	0	0	0	0	0	0	0	0	0	0	0
2000		0	0	0	0	0	0	0	0	0	0	0	0	0
2200		0	0	0	0	0	0	0	0	0	0	0	0	0
2400		0	0	0	0	0	0	0	0	0	0	0	0	0
2600		0	0	0	0	0	0	0	0	0	0	0	0	0
2800		0	0	0	0	0	0	0	0	0	0	0	0	0
3000		1	0	0	0	0	0	0	0	0	0	0	0	0
3500	(times) 35 40	9	4	2	1	0	0	0	0	0	0	0	0	0
4000		13	9	13	2	2	1	1	0	0	0	0	0	0
4500		9	15	12	9	1	3	4	1	1	0	0	0	0
5000	50	16	5	12	10	2	3	3	3	1	2	0	0	0
5500		20	16	7	15	6	1	5	4	2	5	2	0	0
6000		17	18	7	8	3	7	4	3	1	6	5	2	0
6500		14	21	8	6	10	9	5	4	4	4	5	1	0
7000		11	12	15	15	11	12	12	7	3	11	5	6	2
7500		34	32	17	19	27	9	15	7	9	18	5	6	9
8500		33	14	17	5	6	10	2	8	7	9	8	6	5
9000		24	28	20	18	4	7	6	7	4	9	7	2	5
9500		27	24	11	11	11	9	8	5	6	12	9	4	5
10000		76	44	37	37	17	18	15	12	7	19	12	10	15
11000		[illegible]												
12000		76	90	67	39	30	31	28	20	20	31	21	8	22
13000		8	66	73	53	43	32	21	32	9	27	19	13	22
14000		8	23	27	78	60	52	46	26	20	49	24	16	31
15000		0	0	3	18	65	53	43	32	34	52	40	25	33
16000		0	0	0	0	6	33	45	38	33	56	40	23	30
17000		0	0	0	0	0	3	14	41	37	67	54	32	46
18000		0	0	0	0	0	0	4	6	27	85	68	38	61
19000		0	0	0	0	0	0	0	0	5	77	91	55	68
20000		0	0	0	0	0	0	0	0	0	32	125	90	204
22000		0	0	0	0	0	0	0	0	0	0	39	92	200
24000		0	0	0	0	0	0	0	0	0	0	0	22	221
26000+		0	0	0	0	0	0	0	0	0	0	0	0	613

Table 8c

HQ MINIMUM ADJUSTMENT EQUATION

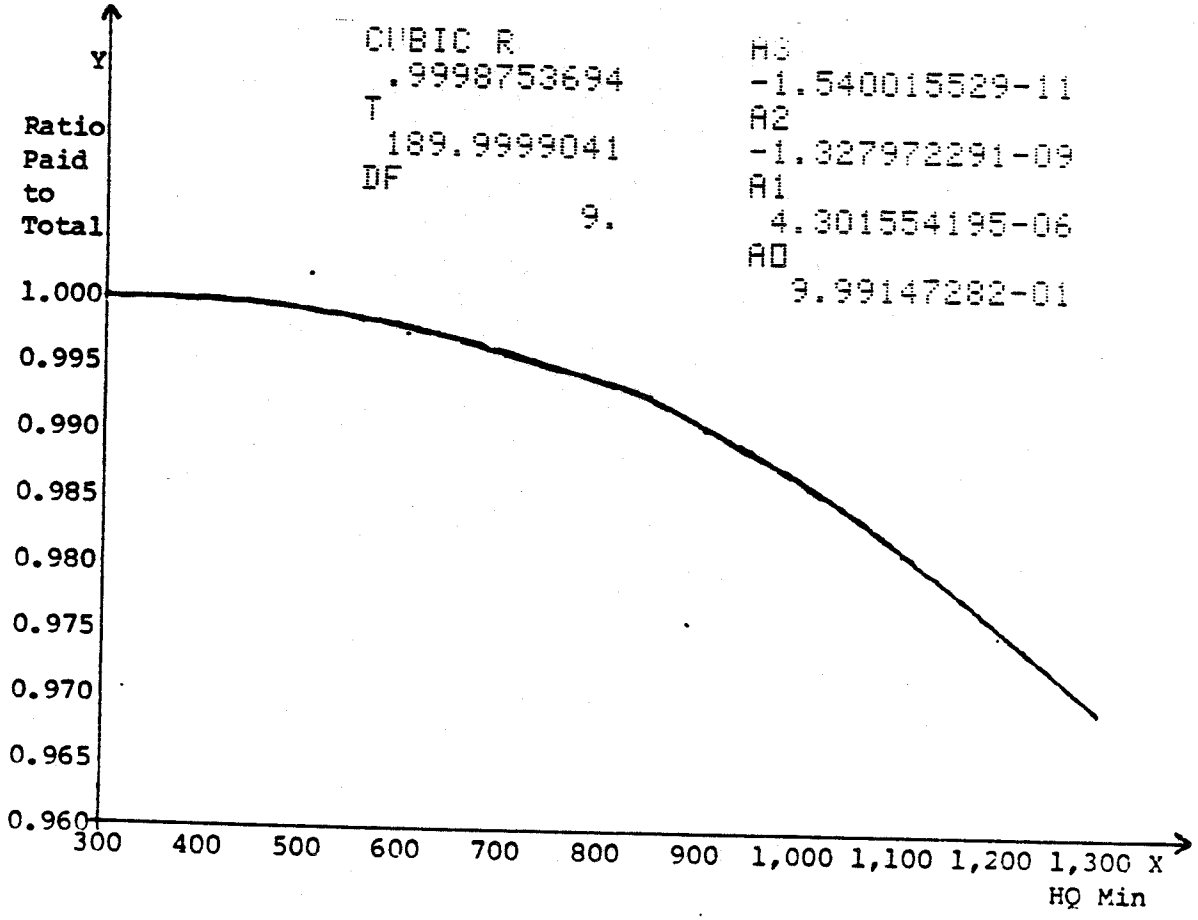
The HQ Min Adjustment equation is one of the easier ones to get. The Total Benefits Program is used simply to compute the benefit amount in each HQ Min column of the ES-206 and is entered in column 2 of Table 9 as Funds Saved. The cumulative amount is then entered in column 3 and the cumulative funds paid is entered in column 4 by subtracting column three entries from the total sample benefit for HQ Min of $300, 19,334,534, previously obtained in Table 4a. This is then converted to percentages in the last column. The columns headed X and Y then supply the data points which are shown in the graph. The adjustment equation is a cubic polynomial.

Now a word about how all these adjustment equations are deployed. As shown in the Cash Flow Model, Figure 1, the %HQ and the MAX BEN equations are used directly as adjustment factors of AWBA, each multiplied in turn times the regression equation output. The other two, Times and HQ MIN, are used to adjust the yearly benefit, not the AWBA. These variables, which eliminate low wage earners, are inversely related to the AWBA and tend to raise the AWBA while lowering the yearly benefit amount. Therefore, they must be applied to the yearly benefit amount and not the AWBA. In addition, it was felt that the Times adjustment percentage should be added to the HQ MIN factor before it is multiplied by total benefits because the two variables appear to be somewhat independent.

This essentially completes the discussion of the model as such.

TABLE 9
FY-82 HQ MIN STUDY
(Source: ES-206 and Total Ben Program*)
Total Sample Ben $19,334,534 From Sample Medians

X HQ MIN	(Run Each Column) Funds* Saved (Sample)	Cum Funds Saved	Cum Funds Paid	Y Ratio Paid To Total
300	0	0	19,334,534	1.000000
400	7,349	7,349	19,327,185	.999620
500	13,347	20,696	19,313,838	.998930
600	22,216	42,912	19,291,622	.997781
700	29,027	71,939	19,262,595	.996279
800	41,906	113,845	19,220,689	.994112
900	66,087	179,932	19,154,602	.990694
1000	74,411	254,343	19,080,191	.986845
1100	100,286	354,629	18,979,905	.981658
1200	119,415	474,044	18,860,490	.975482
1300	127,782	601,826	18,732,708	.968873



EXPERIENCE RATING EFFECTS ON THE TAX RATES

Table 10 gives a printout of some sample simulations from a rather rudimentary model of the experience rating system. It is used here as a macro model but it could be expanded into a full micro model with more adequate computing equipment. The input and output headings pretty well describe the working of the model.

The first two items are input of growth adjustment factors. The next 5 items are also input totals taken from the latest two ETA-204's and are also input from the program itself once it gets under way. The last five items are output. Except for programming techniques required, the program is just a straight application of the experience rating rules.

One wrinkle is this: If New Taxable Wages are called a, Previous Tax Wages b, Next Previous Wages c, and Next, Next Previous Wages d, then the three year Average Tax Wage is given by $\frac{a+2b+2c+d}{6}$. This allows for the fact that the three year average wage is computed on the July fiscal year while the resulting tax rate is applied on the succeeding calendar year.

Missouri has two main categories of employers: The credit rated and the deficit rated employers. There is currently a flat 0.8 percent but experience rated surtax and, due to a defect in the law, a fixed 3.6 percent tax on deficit employers. While there is pending compliance legislation to set up a tax schedule for the deficit employers, at this writing we have been saddled with this flat tax rate for about two years.

Taking FY-82 and FY-83 ETA-204 data, Table 10 shows what will happen over a period of 10 years if nothing is changed. The flat surtax will push credit employers' contributions lower and lower and the fixed deficit employer rate will push them further into deficit regardless of their experience ratio decline.

Adding the benefits and charges for both groups, from a $5.5 million deficit at present, the two together will be running an annual deficit of about $80 million by 1993. In other words, the system as it stands under FY-83 conditions is going broke.

Perhaps this is an overly simplified simulation of a condition that may be temporary, but it does illustrate that the system is basically unsound and must be repaired. It probably also illustrates that if experience rating is to work at all, there must be provisions for contributions to cover costs. In this case,

TABLE 1

MISSOURI
CREDIT EMPLOYERS

TAX WAG INCR FACT
1.01
BEN INCR FACT
1.01

1983 DATA

TAX RATE
2.25
NEW TAX WAGES
7955499737.
PREV TAX WAGES
7904632441.
ACCT BAL
722759097.
BEN CHARGES
94094398.
CONTR
178998744.
NEW ACCT BAL
807663443.
AV TAX WAGES
7913110324.
EXP RATIO PCT
10.2
NEW TAX RATE
2.12

1993 SIMULATION

TAX RATE
1.38
NEW TAX WAGES
8700812899.
PREV TAX WAGES
8614666237.
ACCT BAL
1123107786.
BEN CHARGES
102909657.3
CONTR
120256361.
NEW ACCT BAL
1140454390.
AV TAX WAGES
8572302279.
EXP RATIO PCT
13.3
NEW TAX RATE
1.36

MISSOURI
DEFICIT EMPLOYERS

TAX WAG INCR FACT
1.01
BEN INCR FACT
1.01

1983 DATA

TAX RATE
4.40
NEW TAX WAGES
13528:3588.
PREV TAX WAGES
1179934839.
ACCT BAL
-416789124.0
BEN CHARGES
149958721.0
CONTR
59523798.
NEW ACCT BAL
-507224047.
AV TAX WAGES
1208747964.
EXP RATIO PCT
-42.0
NEW TAX RATE
4.40

1993 SIMULATION

TAX RATE
4.40
NEW TAX WAGES
1479552298.
PREV TAX WAGES
1464903265.
ACCT BAL
-1264031167.
BEN CHARGES
164007644.7
CONTR
65100301.
NEW ACCT BAL
-1362938511.
AV TAX WAGES
1457699376.
EXP RATIO PCT
-93.5
NEW TAX RATE
4.40

contributions for credit employers eventually decline to about 17 percent above benefits paid while deficit employers' contributions remain far short of benefits. In addition there are noncharged benefits paid from pooled accounts. With no substantial income from trust fund interest, this leaves the whole system in the red.

In other simulation runs it was noticed that increasing the wage base seemed to erode the tax rates considerably less than tax rate increases, flat or otherwise.

We are already adjusting our main cash flow model for tax rate erosion for various legislative proposals. These adjustments are derived mainly from experience. For example, our contributions rate dropped from 2.73 percent to 2.65 after one year of the 0.8 percent experience rated surtax; so we project a drop of 0.08 percent for each additional year of the surtax. Potentially an experience rating model such as that in Table 10 should render this process more precise and take some of the guess-work out of the procedure. Actually the experience rating model is in agreement with the current 0.08 percent contribution rate drop. It has also been used to show that there is little advantage in using a percentage surtax rate over a flat one; they tend to erode the tax rate about the same when they are counted in the average employer's experience rate.

Subsequent to the original draft of this paper, further simulation runs with the experience rating model were made. It was found that if the taxable wages and the benefit charges were increased by the same percentage, the tax rate would eventually stabilize, eliminating tax rate erosion. This seemed to work for almost any beginning scenario or any feasible tax table.

The scheme which makes the maximum weekly benefit amount a percentage of the next previous year's average weekly wage and the wage base equal to 78 times the maximum weekly benefit, after the startup period, yields approximately equal percentage increases in maximum weekly benefit and wage base. Therefore, this is one scheme which would eliminate the problem of experience-rating tax-rate erosion.

It was also noticed in some of the equal-percentage-benefit-wage-base-increase scenarios that the credit employers paid in substantially more in contributions than they paid out in benefits after the tax rate stabilized. The excess was generally sufficient to cover the deficit employers' shortfall, making experience rating a workable concept. In other words, it appears that one solution

to the tax rate erosion problem is to increase the wage base to keep up with inflation and benefit increases. Suitable tax tables should then remain adequate indefinitely.

While it might be somewhat difficult technically, with larger computing equipment, this experience rating model could be incorporated into the cash flow model to adjust the contributions rate each year of the required simulation, giving a rather complete total model.

CONCLUSION

It is expected that the Missouri model and supporting models will continue to undergo further development, especially if more adequate computing equipment becomes available. So far, the models have proved to be very useful, having been applied to a wide variety of complex proposals, which gives some confidence in the validity of the results. Simulation of complex reality is not an easy proposition. Even with a relatively perfected model, it is often difficult to arrive at an appropriate scenario which will actually fit some complex situation.

A similar model could be built for most states. The basic requirements would be the availability of historical data, the fundamental documents, ES-202, 204 and 206, and a person who has a thorough knowledge of both regression analysis and mathematical programming.

I am indebted to my predecessors in actuarial work here in our unit and especially to Ken Robinson for passing along their contributions, including his own. Responsibility for the model itself and the way it is put together is of course my own.

Since the program listing is the most precise documentation, it has been included in the appendix. It should be readable by anyone who knows Fortran, and there are annotations and printout headings, which indicate the flow of the program. It would not be too difficult to convert this program to Fortran, which would probably be our choice if larger computing equipment became available.

Finally, as this paper is receiving final revision, Missouri now has a new U.I. law for 1985. It is believed that this U.I. financing model definitely helped to establish agency credibility with the Legislature in the design and passage of this legislation.

APPENDIX
UI FINANCIAL PROJECTION 6A

USER DEFINED KEYS

D.MS	X⇄R	SIN	COS	TAN	π	P/R	
Cov Emp	Ins Unemp Rate	Ben Adj Fact	Beg Fund	Int Rate	Run Ben Sect	Run Contr Sect	
Total Wages	Wage Base	Contr Rate	Contr Adj Fact	Max Ben	Times	% HQ	HQ Min
e1	e2	e3	e4	e5	D/R	ARC	HYP

DATA REGISTERS

00	01 TOTAL WAGES	02 WAGE BASE	03 CONTR RATE	04 TAXABLE WAGES
05 CONTR	06 CONTR ADJ FACT	07 ADJUSTED CONTR	08	09
10	11 MAX BEN	12 TIMES	13 TOTAL WAGES	14 % HQ
15 HQ MIN	16 COV EMP	17 INS UNEMP RATE	18 HQ MIN ADJ (TIMES FACT ADJ)	19
20 % HQ ADJ FACT	21 AWBA	22 YEARLY BEN	23 BEN ADJ FACT	24 ADJUSTED BEN
25 BEG MONTHLY BAL	26 SUM MONTHLY BAL	27 INT RATE ÷12	28 MONTHLY INT	29 CONTR FACT TEMP
30 BEN FACT TEMP	31 INT RATE	32 STORE 3 MO INTEREST	33	34 SUM 3 MO INTEREST

DATA REGISTERS
(continued)

35	36	37	38	39
LOAN BAL	CONTR FACT J	F	M	A
40	41	42	43	44
M	J	J	A	S
45	46	47	48	49
O	N	D	BEN FACT J	F
50	51	52	53	54
M	A	M	J	J
55	56	57	58	59
A	S	O	N	D
60	61	62	63	64
SUM ANNUAL CONTR	SUM ANNUAL BEN	SUM ANNUAL INTEREST		

1984
UI FINANCIAL
PROJECTION 6B

2.5% IUR SCENARIO

UI FINANCIAL
PROJECTION 6B

CONTR INPUT
TOTAL WAGES
34.
WAGE BASE
70.
COV EMP
1.89
CONTR RATE
2.65

CONTR OUTPUT
TAXABLE WAGES
10.66
CONTRIBUTIONS
282.59
ADJ FACTOR
1.
ADJ CONTRIBUTIONS
282.59

BEN INPUT
MAX BEN
105.00
TIMES
30.00
TOTAL WAGES
34.00
% HQ
4.50
HQ MIN
300.00
COV EMP
1.89
INS UNEMP RATE
2.50

BEN OUTPUT
AWBA
90.80
YEARLY BEN
177.58
BEN ADJ FACTOR
1.
ADJ YEARLY BEN
177.58

282.59
BENEFITS
177.58
BEG FUND
55.00
INT RATE
0.1007

CASH FLOW

JAN
BEG BAL
55.00
CONTR
13.95
BEN
-17.04
INT
0.00
BAL
51.91

FEB
BEG BAL
51.91
CONTR
16.88
BEN
-17.84
INT
0.00
BAL
50.95

MAR
BEG BAL
50.95
CONTR
0.79
BEN
-19.43
INT
0.00
BAL
32.32

APR
BEG BAL
32.32
CONTR
45.29
BEN
-13.92
INT
0.00
BAL
63.68

BEG BAL
63.68
CONTR
90.10
BEN
-12.22
INT
0.00
BAL
141.57

JUN
BEG BAL
141.57
CONTR
1.27
BEN
-12.20
INT
0.00
BAL
130.64

JUL
BEG BAL
130.64
CONTR
33.67
BEN
-13.22
INT
0.50
BAL
151.59

AUG
BEG BAL
151.59
CONTR
36.32
BEN
-14.39
INT
0.00
BAL
173.51

SEP
BEG BAL
173.51
CONTR
0.94
BEN
-14.52
INT
0.00
BAL
159.93

BEG BAL
159.93
CONTR
22.00
BEN
-11.38
INT
1.69
BAL
172.24

NOV
BEG BAL
172.24
CONTR
20.48
BEN
-14.09
INT
0.00
BAL
178.63

DEC
BEG BAL
178.63
CONTR
0.90
BEN
-17.35
INT
0.00
BAL
162.19

LOAN BALANCE
89.83

ANNUAL CONTR
282.59

ANNUAL BEN
177.58

ANNUAL INTEREST
2.18

6/'83 BEN,5/'84
CONTR FACTORS

0000	FIX	0048	LBL	0096	LBL	0144	ALF	0192	ALF	0240	+
0001	9	0049	e2	0097	X≠R	0145	T	0193	C	0241	3
0002	ALF	0050	STO	0098	STO	0146	O	0194	O	0242	
0003	U	0051	0	0099	1	0147	T	0195	N	0243	3
0004	I	0052	2	0100	7	0148	A	0196	T	0244	8
0005		0053	HLT	0101	HLT	0149	L	0197	R	0245	0
0006	F	0054	LBL	0102	LBL	0150		0198		0246	9
0007	I	0055	e3	0103	SIN	0151	W	0199	R	0247	1
0008	N	0056	STO	0104	STO	0152	A	0200	A	0248	0
0009	A	0057	0	0105	2	0153	G	0201	T	0249	2
0010	N	0058	3	0106	3	0154	E	0202	E	0250	4
0011	C	0059	HLT	0107	HLT	0155	S	0203	ALF	0251	1
0012	I	0060	LBL	0108	LBL	0156	ALF	0204	PRT	0252	×
0013	A	0061	e4	0109	COS	0157	PRT	0205	RCL	0253	RCL
0014	L	0062	STO	0110	STO	0158	RCL	0206	0	0254	1
0015		0063	0	0111	2	0159	0	0207	3	0255	6
0016		0064	6	0112	5	0160	1	0208	PRT	0256	-
0017		0065	HLT	0113	HLT	0161	PRT	0209	RCL	0257	2
0018	ALF	0066	LBL	0114	LBL	0162	ALF	0210	0	0258	.
0019	PRT	0067	e5	0115	TAN	0163	W	0211	1	0259	7
0020	ALF	0068	STO	0116	STO	0164	A	0212	×	0260	1
0021	P	0069	1	0117	3	0165	G	0213	.	0261	8
0022	R	0070	1	0118	1	0166	E	0214	0	0262	0
0023	O	0071	HLT	0119	÷	0167		0215	7	0263	4
0024	J	0072	LBL	0120	1	0168	B	0216	2	0264	8
0025	E	0073	D/R	0121	2	0169	A	0217	9	0265	2
0026	C	0074	STO	0122	=	0170	S	0218	0	0266	4
0027	T	0075	1	0123	STO	0171	E	0219	7	0267	2
0028	I	0076	2	0124	2	0172	ALF	0220	5	0268	=
0029	O	0077	HLT	0125	7	0173	PRT	0221	4	0269	FIX
0030	N	0078	LBL	0126	HLT	0174	RCL	0222	2	0270	2
0031		0079	ARC	0127	LBL	0175	0	0223	3	0271	STO
0032	6	0080	STO	0128	P/R	0176	2	0224	+	0272	0
0033	B	0081	1	0129	ALF	0177	PRT	0225	RCL	0273	4
0034		0082	4	0130		0178	ALF	0226	0	0274	RCL
0035	ALF	0083	HLT	0131	C	0179	C	0227	2	0275	0
0036	PRT	0084	LBL	0132	O	0180	O	0228	×	0276	2
0037	PA	0085	HYP	0133	N	0181	V	0229	.	0277	-
0038	HLT	0086	STO	0134	T	0182		0230	0	0278	6
0039	LBL	0087	1	0135	R	0183	E	0231	6	0279	6
0040	e1	0088	5	0136		0184	M	0232	0	0280	=
0041	STO	0089	HLT	0137	I	0185	P	0233	7	0281	+/-
0042	0	0090	LBL	0138	N	0186	ALF	0234	9	0282	EEX
0043	1	0091	DMS	0139	P	0187	PRT	0235	6	0283	←
0044	STO	0092	STO	0140	U	0188	RCL	0236	4	0284	CLR
0045	1	0093	1	0141	T	0189	1	0237	8	0285	.
0046	3	0094	6	0142	ALF	0190	6	0238	2	0286	0
0047	HLT	0095	HLT	0143	PRT	0191	PRT	0239	1	0287	8

CONTR REG EQUAT

IMAGE BASE BYPASS

```
0288   2   0336    6   0384    1   0432    E   0528    7   0480    D
0289   8   0337    0   0385    2   0433        0529   PA   0481    J
0290   6   0338    7   0386   EE   0434    W   0530   PA   0482
0291   1   0339    8   0387    1   0435    A   0531  HLT   0483    F
0292   6   0340    6   0388    2   0436    G   0532  LBL   0484    A
0293   2   0341    5   0389   +/-  0437    E   0533    ¶   0485    C
0294   1   0342    7   0390    ×   0438    S   0534  ALF   0486    T
0295   0   0343    4   0391  RCL   0439  ALF   0535        0487    □
0296   5   0344   EE   0392    0   0440  PRT   0536    B   0488    R
0297   +   0345    6   0393    2   0441  RCL   0537    E   0489  ALF
0298   .   0346   +/-  0394   X²   0442    0   0538    N   0490  PRT
0299   0   0347    ×   0395   X²   0443    4   0539        0491  RCL
0300   2   0348  RCL   0396    ×   0444  PRT   0540    I   0492    0
0301   8   0349    0   0397  RCL   0445  ALF   0541    N   0493    6
0302   0   0350    2   0398    0   0446    C   0542    P   0494  PRT
0303   8   0351   X²   0399    2   0447    □   0543    U   0495  ALF
0304   1   0352    ×   0400    =   0448    N   0544    T   0496    A
0305   2   0353  RCL   0401    Σ   0449    T   0545  ALF   0497    D
0306   5   0354    0   0402    0   0450    R   0546  PRT   0498    J
0307   0   0355    2   0403    4   0451    I   0547  ALF   0499
0308   1   0356    -   0404    Σ   0452    B   0548    M   0500    C
0309   1   0357    5   0405   EE   0453    U   0549    A   0501    □
0310   ×   0358    .   0406  LBL   0454    T   0550    X   0502    N
0311 RCL   0359    2   0407   e×   0455    I   0551        0503    T
0312   0   0360    2   0408   PA   0456    □   0552    B   0504    R
0313   2   0361    0   0409  ALF   0457    N   0553    E   0505    I
0314   -   0362    6   0410        0458    S   0554    N   0506    B
0315   3   0363    6   0411    C   0459  ALF   0555  ALF   0507    U
0316   .   0364    1   0412    □   0460  PRT   0556  PRT   0508    T
0317   0   0365    5   0413    N   0461  RCL   0557  RCL   0509    I
0318   8   0366    0   0414    T   0462    0   0558    1   0510    □
0319   7   0367    3   0415    R   0463    4   0559    1   0511    N
0320   4   0368   EE   0416        0464    ×   0560  FIX   0512    S
0321   5   0369    9   0417    □   0465  RCL   0561    2   0513  ALF
0322   7   0370   +/-  0418    U   0466    0   0562  PRT   0514  PRT
0323   1   0371    ×   0419    T   0467    3   0563  ALF   0515  RCL
0324  EE   0372  RCL   0420    P   0468    ×   0564    T   0516    0
0325   4   0373    0   0421    U   0469    1   0565    I   0517    6
0326  +/-  0374    2   0422    T   0470    0   0566    M   0518    ×
0327   ×   0375   X²   0423  ALF   0471    =   0567    E   0519  RCL
0328 RCL   0376   X²   0424  PRT   0472  STO   0568    S   0520    0
0329   0   0377    +   0425  ALF   0473    0   0569  ALF   0521    5
0330   2   0378    6   0426    T   0474    5   0570  PRT   0522    =
0331  X²   0379    .   0427    A   0475  PRT   0571  RCL   0523  FIX
0332   +   0380    1   0428    X   0476  FIX   0572    1   0524    2
0333   1   0381    9   0429    A   0477    9   0573    2   0525  PRT
0334   .   0382    4   0430    B   0478  ALF   0574  PRT   0526  STO
0335   7   0383    8   0431    L   0479    A   0575  ALF   0527    0

WAGE BASE ADJ EQUAT
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0576  T   0624  P   0672 ALF 0720   1  0768 X²  0816  6
0577  □   0625 ALF 0673 PRT 0721 CLR 0769  +  0817  1
0578  T   0626 PRT 0674   1  0722   1  0770  3  0818  6
0579  A   0627 RCL 0675   .  0723   .  0771  .  0819  0
0580  L   0628   1  0676   6  0724   0  0772  7  0820  7
0581      0629   6  0677   3  0725   4  0773  9  0821  2
0582  W   0630 PRT 0678   3  0726   0  0774  3  0822  ×
0583  A   0631 ALF 0679   3  0727   9  0775  5  0823 RCL
0584  G   0632   I  0680   3  0728   5  0776  5  0824  1
0585  E   0633   N  0681   3  0729   0  0777  9  0825  4
0586  S   0634   S  0682   6  0730   4  0778  4  0826  -
0587 ALF  0635      0683   7  0731   1  0779  0  0827  2
0588 PRT  0636   U  0684   3  0732   5  0780  1  0828  .
0589 RCL  0637   N  0685   +  0733   +  0781 EE  0829  9
0590  1   0638   E  0686   .  0734   .  0782  8  0830  2
0591  3   0639   M  0687   7  0735   0  0783 +/- 0831  0
0592 PRT  0640   P  0688   0  0736   0  0784  ×  0832  3
0593 ALF  0641      0689   5  0737   1  0785 RCL 0833  5
0594  %   0642   R  0690   2  0738   2  0786  1  0834  6
0595      0643   A  0691   3  0739   7  0787  1  0835  3
0596  H   0644   T  0692   2  0740   1  0788 X²  0836  1
0597  Q   0645   E  0693   8  0741   3  0789  ×  0837  3
0598 ALF  0646 ALF 0694   8  0742   0  0790 RCL 0838  ×
0599 PRT  0647 PRT 0695   9  0743   1  0791  1  0839 RCL
0600 RCL  0648 RCL 0696   4  0744   3  0792  1  0840  1
0601  1   0649   1  0697   ×  0745   ×  0793  =  0841  4
0602  4   0650   7  0698 RCL 0746 RCL 0794  Σ  0842 X²
0603 PRT  0651 PRT 0699   1  0747   1  0795  2  0843  +
0604 ALF  0652  PA  0700   1  0748   1  0796  1  0844  .
0605  H   0653 ALF 0701   +  0749   -  0797 CLR 0845  6
0606  Q   0654      0702   .  0750   1  0798  -  0846  2
0607      0655   B  0703   4  0751   .  0799  5  0847  0
0608  M   0656   E  0704   4  0752   9  0800  .  0848  5
0609  I   0657   N  0705   4  0753   8  0801 %  7  0849  4
0610  N   0658      0706   6  0754   0  0802  3  0850  8
0611 ALF  0659   □  0707   2  0755   8  0803  5  0851  9
0612 PRT  0660   U  0708   6  0756   7  0804  7  0852  5
0613 RCL  0661   T  0709   9  0757   5  0805  5  0853  3
0614  1   0662   P  0710   9  0758   3  0806  6  0854  5
0615  5   0663   U  0711   2  0759   2  0807  8  0855  ×
0616 PRT  0664   T  0712   5  0760   2  0808  3  0856 RCL
0617 ALF  0665 ALF 0713   ×  0761  EE  0809  2  0857  1
0618  C   0666 PRT 0714 RCL 0762   5  0810  +  0858  4
0619  □   0667 ALF 0715   1  0763 +/- 0811  6  0859 X²
0620  V   0668   A  0716   3  0764   ×  0812  .  0860  ×
0621      0669   W  0717   =  0765 RCL 0813  9  0861 RCL
0622  E   0670   B  0718 STO□ 0766   1  0814  4  0862  1
0623  M   0671   A  0719   2  0767   1  0815  5  0863  4
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MAX BEN ADJ EQUAT

BEN REG EQUAT

NO ADJ EQUAT

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0864   -    0912   9    1008   8    0960   1    1056   Y    1104   A
0865   .    0913   9    1009   9    0961   .    1057   E    1105   D
0866   0    0914   1    1010  EE    0962   5    1058   A    1106   J
0867   6    0915   4    1011   3    0963   4    1059   R    1107
0868   6    0916   7    1012  +/-   0964   0    1060   L    1108   F
0869   1    0917   2    1013   ×    0965   0    1061   Y    1109   A
0870   6    0918   8    1014  RCL   0966   1    1062        1110   C
0871   9    0919   2    1015   1    0967   5    1063   B    1111   T
0872   7    0920   +    1016   2    0968   5    1064   E    1112   □
0873   7    0921   4    1017   -    0969   2    1065   N    1113   R
0874   3    0922   .    1018   7    0970   9    1066  ALF   1114  ALF
0875   5    0923   3    1019   .    0971  EE    1067  PRT   1115  PRT
0876   1    0924   0    1020   7    0972   1    1068  RCL   1116  RCL
0877   ×    0925   1    1021   5    0973   1    1069   1    1117   2
0878  RCL   0926   5    1022   4    0974  +/-   1070   8    1118   3
0879   1    0927   5    1023   0    0975   ×    1071   ×    1119  FIX
0880   4    0928   4    1024   9    0976  RCL   1072  RCL   1120   9
0881  X²    0929   1    1025   0    0977   1    1073   1    1121  PRT
0882  X²    0930   9    1026   9    0978   5    1074   6    1122  ALF
0883   +    0931   5    1027   0    0979  X²    1075   ×    1123   A
0884   .    0932  EE    1028   7    0980   ×    1076  RCL   1124   D
0885   0    0933   6    1029  EE    0981  RCL   1077   1    1125   J
0886   0    0934  +/-   1030   5    0982   1    1078   7    1126
0887   2    0935   ×    1031  +/-   0983   5    1079   ×    1127   Y
0888   8    0936  RCL   1032   ×    0984   =    1080  RCL   1128   E
0889   2    0937   1    1033  RCL   0985  STO   1081   2    1129   A
0890   0    0938   5    1034   1    0986   1    1082   1    1130   R
0891   1    0939   -    1035   2    0987   8    1083   ×    1131   L
0892   1    0940   1    1036  X²    0988   Σ    1084   5    1132   Y
0893   7    0941   .    1037   Σ    0989  EE    1085   2    1133
0894   9    0942   3    1038  EE    0990   .    1086   ×    1134   B
0895   ×    0943   2    1039   =    0991   0    1087   .    1135   E
0896  RCL   0944   7    1040   Σ    0992   3    1088   0    1136   N
0897   1    0945   9    1041   1    0993   1    1089   0    1137  ALF
0898   4    0946   7    1042   8    0994   6    1090   7    1138  PRT
0899  X²    0947   2    1043  RCL   0995   4    1091   9    1139  RCL
0900  X²    0948   2    1044   2    0996   8    1092   6    1140   2
0901   ×    0949   9    1045   0    0997   8    1093   1    1141   2
0902  RCL   0950   1    1046   Σ    0998   +    1094   =    1142   ×
0903   1    0951  EE    1047   2    0999   1    1095  PRT   1143  RCL
0904   4    0952   9    1048   1    1000   .    1096  STO   1144   2
0905   =    0953  +/-   1049  RCL   1001   2    1097   2    1145   3
0906  STO   0954   ×    1050   2    1002   7    1098   2    1146   =
0907   2    0955  RCL   1051   1    1003   0    1099  ALF   1147  FIX
0908   0    0956   1    1052  FIX   1004   8    1100   B    1148   2
0909  CLR   0957   5    1053   2    1005   1    1101   E    1149  STO
0910   .    0958  X²    1054  PRT   1006   9    1102   N    1150   2
0911   9    0959   -    1055  ALF   1007   0    1103        1151   4
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HD MIN ADJ EQUAT

TIMES ADJ EQUAT

YEARLY BEN COMPUT

1152	PRT	1200	PRT	1248	L	1296	4	1344	PRT	1392	N
1153	PA	1201	RCL	1249	D	1297	SBR	1345	RCL	1393	ALF
1154	PA	1202	2	1250	W	1298	X≠	1346	5	1394	PRT
1155	PA	1203	4	1251	ALF	1299	ALF	1347	1	1395	RCL
1156	CLR	1204	PRT	1252	PRT	1300	F	1348	STO	1396	5
1157	SF	1205	ALF	1253	0	1301	E	1349	2	1397	3
1158	0	1206	B	1254	STO	1302	B	1350	9	1398	STO
1159	ALF	1207	E	1255	3	1303	ALF	1351	RCL	1399	2
1160		1208	G	1256	3	1304	PRT	1352	3	1400	9
1161	C	1209		1257	PA	1305	RCL	1353	9	1401	RCL
1162	A	1210	F	1258	CLR	1306	4	1354	STO	1402	4
1163	S	1211	U	1259	ALF	1307	9	1355	3	1403	1
1164	H	1212	N	1260	J	1308	STO	1356	0	1404	STO
1165		1213	D	1261	A	1309	2	1357	RCL	1405	3
1166	F	1214	ALF	1262	N	1310	9	1358	3	1406	0
1167	L	1215	PRT	1263	ALF	1311	RCL	1359	4	1407	SBR
1168	D	1216	RCL	1264	PRT	1312	3	1360	STO	1408	X≠
1169	W	1217	2	1265	RCL	1313	7	1361	3	1409	ALF
1170		1218	5	1266	4	1314	STO	1362	2	1410	J
1171	I	1219	PRT	1267	8	1315	3	1363	0	1411	U
1172	N	1220	ALF	1268	STO	1316	0	1364	STO	1412	L
1173	P	1221	I	1269	2	1317	SBR	1365	3	1413	ALF
1174	U	1222	N	1270	9	1318	X≠	1366	4	1414	PRT
1175	T	1223	T	1271	RCL	1319	ALF	1367	SBR	1415	RCL
1176	ALF	1224		1272	3	1320	M	1368	X≠	1416	5
1177	PRT	1225	R	1273	6	1321	A	1369	ALF	1417	4
1178	ALF	1226	A	1274	STO	1322	R	1370	M	1418	STO
1179	C	1227	T	1275	3	1323	ALF	1371	A	1419	2
1180	D	1228	E	1276	0	1324	PRT	1372	Y	1420	9
1181	N	1229	ALF	1277	0	1325	RCL	1373	ALF	1421	RCL
1182	T	1230	PRT	1278	STO	1326	5	1374	PRT	1422	4
1183	R	1231	RCL	1279	6	1327	0	1375	RCL	1423	2
1184	ALF	1232	3	1280	0	1328	STO	1376	5	1424	STO
1185	PRT	1233	1	1281	STO	1329	2	1377	2	1425	3
1186	RCL	1234	FIX	1282	6	1330	9	1378	STO	1426	0
1187	0	1235	4	1283	1	1331	RCL	1379	2	1427	RCL
1188	7	1236	PRT	1284	STO	1332	3	1380	9	1428	3
1189	PRT	1237	PA	1285	6	1333	8	1381	RCL	1429	4
1190	ALF	1238	FIX	1286	2	1334	STO	1382	4	1430	STO
1191	B	1239	2	1287	RCL	1335	3	1383	0	1431	3
1192	E	1240	ALF	1288	3	1336	0	1384	STO	1432	2
1193	N	1241		1289	4	1337	SBR	1385	3	1433	0
1194	E	1242	C	1290	STO	1338	X≠	1386	0	1434	STO
1195	F	1243	A	1291	3	1339	ALF	1387	SBR	1435	3
1196	I	1244	S	1292	2	1340	A	1388	X≠	1436	4
1197	T	1245	H	1293	0	1341	P	1389	ALF	1437	SBR
1198	S	1246		1294	STO	1342	R	1390	J	1438	X≠
1199	ALF	1247	F	1295	3	1343	ALF	1391	U	1439	ALF

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1440   A
1441   U
1442   G
1443 ALF
1444 PRT
1445 RCL
1446   5
1447   5
1448 STO
1449   2
1450   9
1451 RCL
1452   4
1453   3
1454 STO
1455   3
1456   0
1457 SBR
1458 X≠
1459 ALF
1460   S
1461   E
1462   P
1463 ALF
1464 PRT
1465 RCL
1466   5
1467   6
1468 STO
1469   2
1470   9
1471 RCL
1472   4
1473   4
1474 STO
1475   3
1476   0
1477 SBR
1478 X≠
1479 ALF
1480   D
1481   C
1482   T
1483 ALF
1484 PRT
1485 RCL
1486   5
1487   7
1488 STO
1489   2
1490   9
1491 RCL
1492   4
1493   5
1494 STO
1495   3
1496   0
1497 RCL
1498   3
1499   4
1500 STO
1501   3
1502   2
1503   0
1504 STO
1505   3
1506   4
1507 SBR
1508 X≠
1509 ALF
1510   N
1511   D
1512   V
1513 ALF
1514 PRT
1515 RCL
1516   5
1517   8
1518 STO
1519   2
1520   9
1521 RCL
1522   4
1523   6
1524 STO
1525   3
1526   0
1527 SBR
1528 X≠
1529 ALF
1530   D
1531   E
1532   C
1533 ALF
1534 PRT
1535 RCL
1536   5
1537   9
1538 STO
1539   2
1540   9
1541 RCL
1542   4
1543   7
1544 STO
1545   3
1546   0
1547 SBR
1548 X≠
1549 PA
1550 ALF
1551   L
1552   D
1553   A
1554   N
1555
1556   B
1557   A
1558   L
1559   A
1560   N
1561   C
1562   E
1563
1564
1565
1566
1567 ALF
1568 PRT
1569 RCL
1570   3
1571   5
1572 PRT
1573 PA
1574 PA
1575 ALF
1576   A
1577   N
1578   N
1579   U
1580   A
1581   L
1582
1583   C
1584   D
1585   N
1586   T
1587   R
1588 ALF
1589 PRT
1590 RCL
1591   6
1592   0
1593 PRT
1594 PA
1595 ALF
1596   A
1597   N
1598   N
1599   U
1600   A
1601   L
1602
1603   B
1604   E
1605   N
1606 ALF
1607 PRT
1608 RCL
1609   6
1610   1
1611 PRT
1612 PA
1613 ALF
1614   A
1615   N
1616   N
1617   U
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1658   5
1659 STO
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1661   6
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1681   =
1682   Σ
1683   6
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1687   2
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1692   N
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1725   6
1726   2
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1728 STO 1776 PRT
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1758 RCL
1759   2
1760   8
1761   Σ
1762   3
1763   4
1764 ALF
1765   B
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1768 ALF
1769 PRT
1770 RCL
1771   2
1772   6
1773 STO
1774   2
1775   5
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The UI Function in State Research and Analysis Sections

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July 1984

THE U.I. FUNCTION IN STATE RESEARCH & ANALYSIS SECTIONS

The Federal / State Unemployment Insurance program employs tens of thousands of people and disperses billions of dollars annually. Information on what is occurring and changing in these complex systems is essential.

A questionnaire was sent to the R&A chiefs of the 52 states and entities participating in the UI program in order to determine the scope and problems of the current UI research effort and how this compares with their perception of the function in 1980.

Staff and Organizational Structure

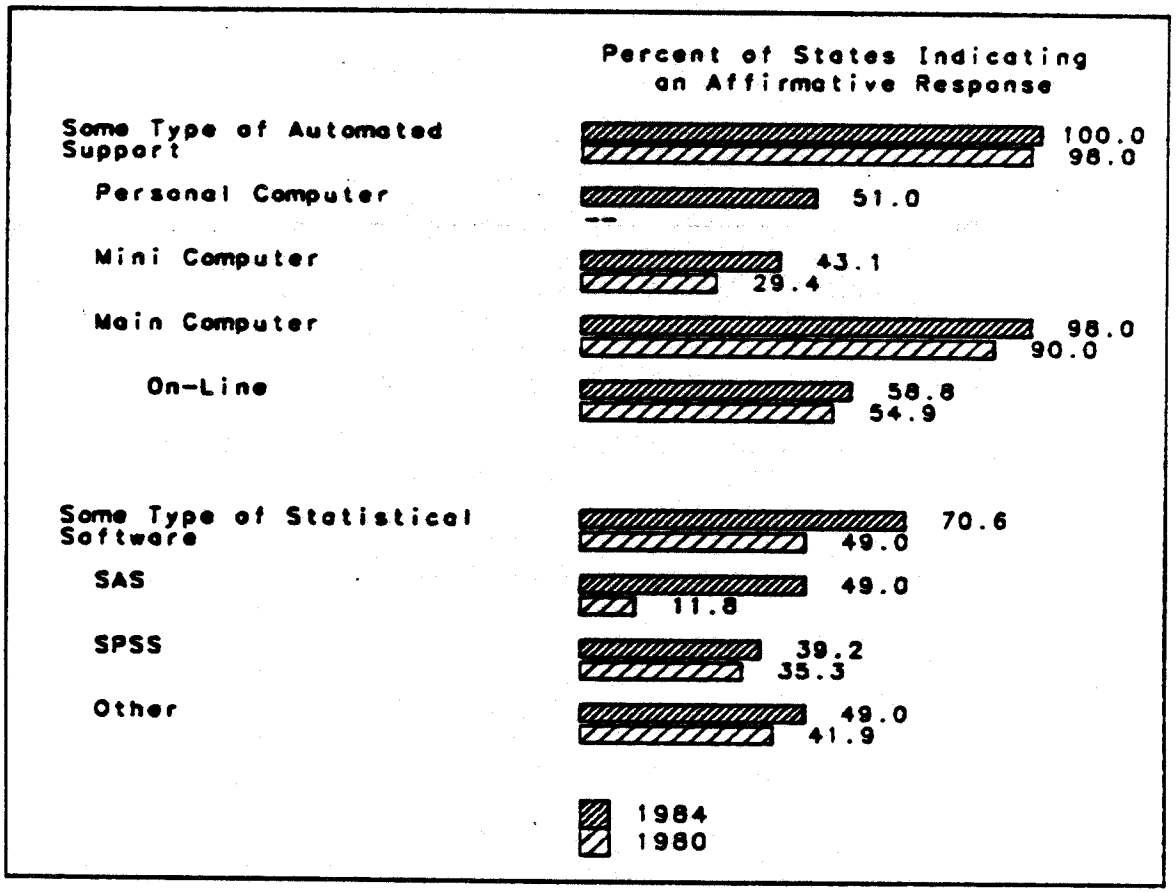
The UI research units are generally found in the Research and Analysis sections while the validation function is as often performed by UI staff as R&A. In the minority of states where UI research is not housed in R&A, the function is most often the responsibility of UI staff.

Positions in reporting, validation and research/actuarial activities are predominately funded by UI. In total, R&A chiefs reported nearly 200 UI funded positions in Federal and internal reporting and almost 100 in research/actuarial activities. Most reported relatively constant staffing over the last few years, but where changes had taken place, decreases were noted.

Data Processing Support

All states reported some type of automated support and nearly all reported at least some access to a main computer system where the large UI data bases reside. While batch processing remains the predominate mode of access to the main computer system, on-line usage has become more common. The chart below depicts the availability of hardware and software compared with 1980.

State Hardware / Software Availability



One of the notable changes is the rise in the use of mini computers and the advent of the personal computer.

Over 70 percent of states report the availability of some type of statistical software compared with only 49 percent in 1980. SAS was the most often mentioned package, available to 49 percent to the respondents.

Research Products

The table below is a rough grouping of some of the most often mentioned recent research products. This is an understatement of the true contribution of the research units, for not included are the reports and the special requests that must be handled on a timely basis by R&A personnel.

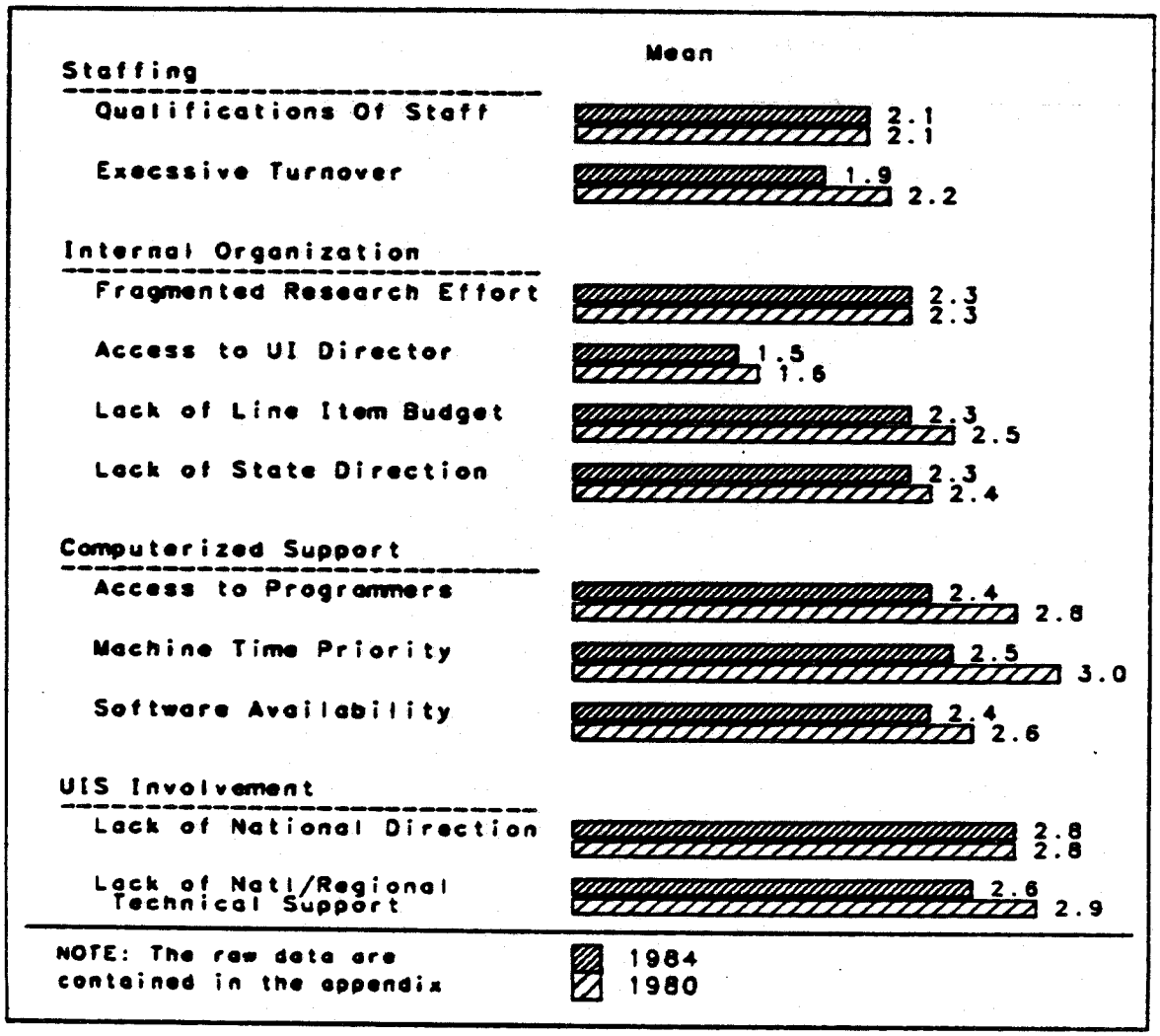
Category	Number of States
Legislative studies	31
Actuarial/Trust Fund studies	29
Claimant studies	13
Benefit studies	12
Special Research	12

The financial situations in many states as well as increased legislative activity account for the major part of the work done.

Thirteen states reported no recent major research effort compared with 10 states so reporting in 1980, not surprising in light of the reductions in staff.

State Agency Perception of Problem Areas

The potential problem areas surveyed in 1980 were the subject of the latter section of the current questionnaire. The respondents were asked to rank each specified possible problem on a scale of one to five corresponding to "No Problem" to "Major Problem". The results, in the form of mean values of the current and previous responses are displayed in the chart below. While no statistical significance can be attributed to the means other than their internal rankings, (a score of 2.8 reflects a greater problem than does a 2.3, for example) they do provide a rough comparison of the severity of the various problem areas.



Two things are immediately striking in the chart. First, the areas that were of the most concern to the states four years ago are still considered to be the most troublesome in 1984 . Second, across the board, the problem areas were rated either as less severe or unchanged from the previous survey.

The area showing the greatest change since 1980 was the computer support category. While the ratings were still high in relative terms, programmer access and machine time priority problems are less severe than in the past, due in part to the aquisition of mini computers and PCs in recent years.

Interestingly, although over 70 percent of the respondents reported having some type of statistical software compared with only 49 percent in 1980, this area changed little in terms of the mean response. Clearly, those lacking software support during this survey were more apt to perceive this as a major problem, a code 4 or 5, than in the past. In 1980, while half of the states reported no statistical software, only 14 considered it a problem. As technological strides continue, those deprived of statistical tools are bound to view their lack of participation in these advances as an ever increasing handicap in the performance of the research function.

The major problem areas reported by the states were in the UIS involvement section, however. Many respondents lamented the lack of a UI research mission other than legislative needs as they arise.

Useful Support to UI Research Activites

The final question asked states what support would be useful to improve UI research and reporting in the states.

In light of UIS involvement being the highest ranked problem area, it was not surprising that many recommendations were directed to the National and Regional Offices. Several respondents mentioned the need for clear communication from the Federal Government well in advance of impending changes in the program or reporting requirements. Also mentioned was National recognition of R&A units as the appropriate research arm through line item budgeting.

Deemed desirable were access to National UI data bases and software packages, as was the continuation of the CWBH project by many of the participating states.

National and regional seminars drew a few favorable responses, but no wild excitement. Mentioned more frequently was some vehicle for the state agencies themselves to share methods and ideas.

APPENDIX A

State _____

Person Completing Questionnaire _____

Position _____

Telephone _____

Please complete the following questions with regard to staff activities relating to UI research/reporting activities (include ADP staff if appropriate).

1. Staffing/Organizational Information

	Average Number of Staff in Last 12 Months	Percent Funded by UI	Location if Not R&A
UI Reporting Activities			
Federal Reports	_____	_____	_____
Internal Reports	_____	_____	_____
Workload Validation	_____	_____	_____
Research/Actuarial Activities	_____	_____	_____
CWBH (Administrative Office Staff)	_____	_____	_____

2. Changes in Staffing Levels for the Following Fiscal Years:

	1982 - 1983			1983 - 1984		
	Increase	Decrease	Constant	Increase	Decrease	Con
UI Reporting						
Federal Reports	_____	_____	_____	_____	_____	_____
Internal Reports	_____	_____	_____	_____	_____	_____
Workload Validation	_____	_____	_____	_____	_____	_____
Research/Actuarial Activities	_____	_____	_____	_____	_____	_____
CWBH (Administrative Office Staff)	_____	_____	_____	_____	_____	_____

3. Automated Data Processing Support

Types of Support	Number of	Model(s)
1. Personal Computers	_____	_____
2. Mini Computers	_____	_____
3. Main Computer	_____	_____
a. On-line	_____	_____
b. Batch	_____	_____

SPSS, SAS, etc.).

4. If participating in the CWBH program, indicate the major uses of these data during the last 12 months (e.g., research, actuarial studies, etc.).

5. Indicate other (non-CWBH) research conducted during the last 12 months.

6. Problem areas (please respond to each item on a scale of 1 to 5 as they relate to your state).

	No Problem 1	2	3	4	Major Problem 5
a. Qualifications of staff	___	___	___	___	___
b. Excessive turnover	___	___	___	___	___
c. Fragmentation of UI research effort	___	___	___	___	___
d. Inaccessibility of UI director	___	___	___	___	___
e. Lack of identifiable resources in budget	___	___	___	___	___

	Problem 1	2	3	4	Problem 5
f. Lack of national direction ...	___	___	___	___	___
g. Lack of internal state direction	___	___	___	___	___
h. Lack of national/regional technical support	___	___	___	___	___
i. Lack of realistic position descriptions	___	___	___	___	___
j. Inadequate minimum qualifications	___	___	___	___	___
k. Inadequate computer support					
Access to programmers	___	___	___	___	___
Priorities for machine time.	___	___	___	___	___
Availability of statistical software	___	___	___	___	___
l. Other (please list)					
_____	___	___	___	___	___
_____	___	___	___	___	___
_____	___	___	___	___	___
_____	___	___	___	___	___

7. What support would be useful to improve the UI research/reporting activities in your state (e.g., national/regional meetings, seminars, etc.).

APPENDIX B

STATE PROBLEM AREAS

Qualifications of Staff

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	19	38.0
2		16	32.0
3		10	20.0
4		3	6.0
5	Major Problem	2	4.0

Excessive turnover

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	24	48.0
2		11	22.0
3		11	22.0
4		2	4.0
5	Major Problem	2	4.0

Fragmentation of UI Research Effort

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	19	38.8
2		11	22.5
3		8	16.3
4		7	14.3
5	Major Problem	4	8.2

Inaccessibility of UI Director

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	34	68.0
2		10	20.0
3		4	8.0
4		1	2.0
5	Major Problem	1	2.0

Lack of Indentifiable Resources In Budget

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	18	36.0
2		11	22.0
3		11	22.0
4		7	14.0
5	Major Problem	3	6.0

Lack of National Direction

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	13	26.0
2		5	10.0
3		16	32.0
4		10	20.0
5	Major Problem	6	12.0

Lack of Internal State Direction

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	17	34.0
2		15	30.0
3		9	18.0
4		6	12.0
5	Major Problem	3	6.0

Lack of National/Regional Technical Support

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	12	24.0
2		13	26.0
3		13	26.0
4		7	14.0
5	Major Problem	5	10.0

Lack of Realistic Position Descriptions

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	24	48.0
2		12	24.0
3		8	16.0
4		4	8.0
5	Major Problem	2	4.0

Inadequate Minimum Qualifications

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	29	58.0
2		10	20.0
3		6	12.0
4		3	6.0
5	Major Problem	2	4.0

Inadequate Computer Support

Access to Programmers

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	19	37.3
2		11	21.6
3		9	17.6
4		5	9.8
5	Major Problem	7	13.7

Priorities For Machine Time

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	19	37.3
2		11	21.6
3		9	17.6
4		5	9.8
5	Major Problem	7	13.7

Availability of Statistical Software

Code		Absolute Frequency	Relative Frequency (percent)
1	No problem	14	28.0
2		13	26.0
3		10	20.0
4		8	16.0
5	Major Problem	5	10.0

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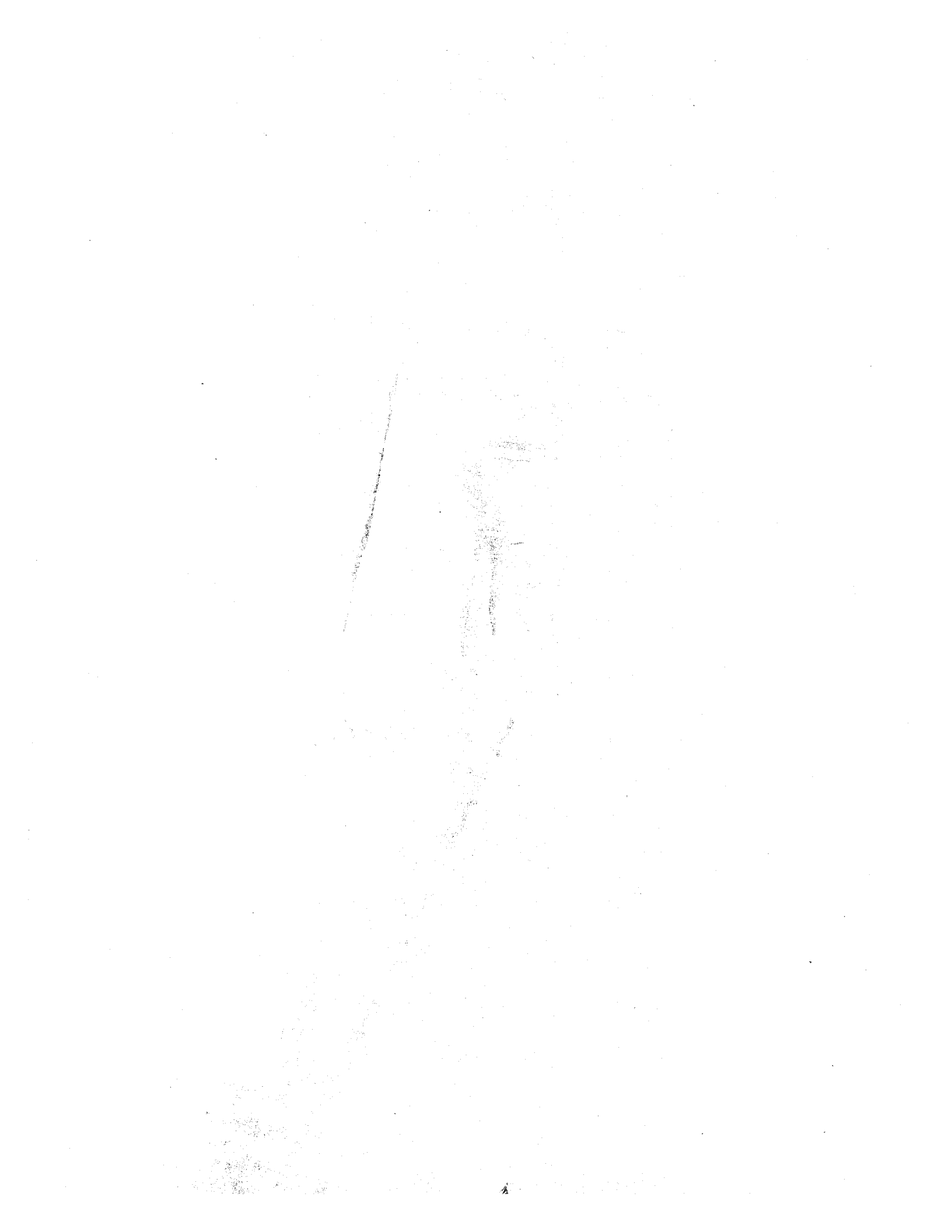

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Problem to be studied
Method
- Any hypotheses to be tested
- Sampling design
- Data sources
- Method of analysis

Expected completion date
Name, address and telephone number of investigator/ contact person for project

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