

TABLE 16.—Percentage distribution of men and women wage and salary workers with a different geographic region of major job in 1960 than in 1957, by geographic region of major job in 1960

[Based on 1-percent sample data]

Geographic region of major job in 1957 <sup>1</sup>	Geographic region of major job in 1960									
	Total	New England	Middle Atlantic	South Atlantic	East North Central	East South Central	West North Central	West South Central	Mountain	Pacific
Men										
New England.....	100.0		48.6	18.2	14.6	1.9	2.9	2.4	1.5	10.0
Middle Atlantic.....	100.0	14.4		32.0	23.1	3.5	4.9	3.5	3.7	14.9
South Atlantic.....	100.0	5.2	34.0		22.7	15.2	4.5	7.8	2.8	7.8
East North Central.....	100.0	3.5	19.1	19.3		14.3	14.6	7.4	5.8	16.1
East South Central.....	100.0	1.8	8.1	31.9	29.0		5.4	15.8	1.9	6.1
West North Central.....	100.0	1.9	8.5	5.9	30.4	3.2		16.4	14.4	19.3
West South Central.....	100.0	.8	7.9	10.1	13.6	13.0	14.8		16.8	23.0
Mountain.....	100.0	.8	5.1	4.5	9.1	1.8	14.8	18.4		45.5
Pacific.....	100.0	2.6	13.8	7.8	15.9	5.3	12.2	14.1	28.3	
Women										
New England.....	100.0		41.6	21.9	11.6	1.8	3.4	2.3	2.7	14.7
Middle Atlantic.....	100.0	13.1		35.6	19.3	3.7	3.0	4.9	4.1	16.4
South Atlantic.....	100.0	7.8	38.0		19.1	9.8	5.0	7.0	3.3	10.0
East North Central.....	100.0	3.4	17.9	18.7		11.7	15.8	6.3	5.5	20.7
East South Central.....	100.0	2.4	9.4	29.3	29.5		6.3	12.2	2.9	8.1
West North Central.....	100.0	2.9	7.2	6.4	29.1	2.3		10.3	15.0	26.9
West South Central.....	100.0	2.0	7.8	12.4	14.1	9.4	13.1		13.1	28.1
Mountain.....	100.0	1.8	5.3	3.9	8.1	1.8	13.1	16.5		49.4
Pacific.....	100.0	4.4	14.9	9.5	16.1	3.4	12.7	14.8	24.4	

<sup>1</sup> Geographic region as defined by the Department of Commerce, Bureau of the Census.

major job in 1957. The proportion whose major job in 1960 was in another geographic region is also shown. Among men whose major job in 1957 was in the Mountain region, 14 percent received most of their taxable wages in another region in 1960. Of the men whose major job was in the Middle Atlantic region in 1957, less than 6 percent had their major job in another region in 1960.

The men and women for whom a change in the

geographic region of major job was reported were classified by geographic region of major job in 1957 and distributed by geographic region of major job in 1960 (table 16). In general, for the men in this group the major job in 1960 was in a neighboring area. For example, of the men employed in the Middle Atlantic region in 1957 who changed, approximately one-third shifted to the South Atlantic region in 1960 and less than a fourth to the East North Central region.

## Notes and Brief Reports

### Arkansas Missile-Site Disaster: Survivor Benefits Payable\*

One of the basic functions of old-age, survivors, disability, and health insurance (OASDHI) is to provide benefits to the survivors of workers insured under the program. The importance of such benefits is brought out vividly when an area suffers a major disaster such as the Titan II

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missile-site fire, which occurred near Searcy, Arkansas, on August 9, 1965. What the benefits will mean in financial terms to the families of the men killed in this disaster is shown in the following actuarial analysis of the benefits awarded. In all, lump-sum death payments and monthly benefits to the survivors will total \$1½ million.

As a result of the fire, 53 men, all of them civilians, lost their lives. All the men were married and had enough quarters of coverage to have survivor insurance protection. Their ages ranged from 21 to 69.

## BENEFITS PAYABLE

Thirty-three of the 53 widows became entitled to monthly benefits because they had at least one child under age 18 in their care. Aged widow's benefits were awarded to three women, two of whom elected to receive reduced benefits under the provision of the 1965 amendments to the Social Security Act that permits payment of actuarially reduced benefits to widows aged 60-61. The age distribution of the widows is shown in the following tabulation.

Age of widow	Number of widows	
	Total	With children under age 18 in their care
Total.....	53	33
Under 30.....	6	5
30-39.....	12	11
40-49.....	18	13
50-59.....	12	4
60-69.....	5	0

The average age of the widows at the time of the disaster was 44. Unless a widow remarries, she will, if she has children in her care, be eligible to receive monthly benefits until her youngest child attains age 18, or longer if a child becomes disabled before age 18. Upon attainment of age 60, she may be eligible for an aged widow's benefit.

Seventy-two child's monthly benefits were awarded as a result of the disaster. Included were benefits to 67 children under age 18 (one born after the disaster), four to student children aged 18-21 (under the 1965 provision permitting payment of benefits to children in this age group who

are attending school full time), and one to a disabled child aged 25 whose disability occurred before age 18. There were, on the average, 2.1 child beneficiaries among families in which at least one child was awarded a monthly benefit. The age distribution of these children is as follows:

Age	Number
Total.....	72
0-4.....	12
5-9.....	10
10-14.....	26
15-17.....	19
18-21.....	4
22 and over.....	1

Lump-sum death payments were made on behalf of all the deceased men. All but two of these payments were at the \$255 maximum. The amount of family benefits awarded varied with the number of children in the surviving family and the primary insurance amount of the deceased worker. The distribution of the 37 families with survivors entitled to immediate monthly benefits was as follows: 33 widows with at least one eligible child at the time of the disaster, three aged widows, and one student child beneficiary. (The mother in this family is not eligible for monthly benefits solely on the basis of a student child's entitlement to benefits, although she may qualify for an aged widow's benefit upon attainment of age 60.) The average primary insurance amount for the 37 workers was \$116.60. The following tabulation shows the monthly amount of family benefits awarded.

Monthly amount	Number of families
Total.....	37
Less than \$100.....	3
100-149.90.....	7
150-199.90.....	6
200-249.90.....	6
250-299.90.....	10
300-306.00.....	5

TABLE 1.—“Expected” benefit payments to survivors of men killed in the Arkansas missile-site disaster and present value of payments, by type of benefit

[In thousands]

Type of benefit	“Expected” payments		Present value	
	With school attendance	Without school attendance <sup>1</sup>	With school attendance	Without school attendance <sup>1</sup>
Total.....	\$1,631	\$1,402	\$1,094	\$931
Mother's and child's.....	956	727	756	593
Widow's.....	662	662	325	325
Lump-sum.....	13	13	13	13

<sup>1</sup> Takes into account monthly benefit payments to children aged 18-21 attending school for children awarded an *immediate* monthly student child benefit but not those for children under age 18 at time of award.

All the widows may qualify for an aged widow's benefit at age 60 except one. Her husband was currently insured only; although his widow qualified for a mother's benefit because she has a child beneficiary under age 18 in her care, she will not qualify for an aged widow's benefit on his earnings record when she attains age 60.

## VALUATION OF BENEFITS

In this actuarial analysis of the benefits payable as a result of the disaster, two calculations were made. In one, an estimate was made of the aggregate amount of benefits "expected" to be paid in the future under certain assumptions. Here, no account was taken of the fact that funds not required for the payment of benefits until some future date can be invested at interest. In the second calculation, the "present value" of the aggregate amount expected to be paid in the future was determined. By present value is meant the lump-sum amount that, if invested at an assumed rate of interest—(3½ percent was used in the calculations), would be exactly sufficient to finance all expected future payments as they arise. Thus, in this instance, the present value may be looked upon as the amount of OASI life insurance in force on the lives of the victims at the time of the disaster.

To illustrate the effect of the school-attendance provision, two separate calculations were made in the valuation of mother's and child's benefits. In one, no allowance was made for the contingency of full-time school attendance for child beneficiaries attaining age 18. (Student child benefits were, however, taken into account in this calculation for the four children aged 18–21 who were actually awarded this type of benefit.) In the second calculation, full-time school attendance while they were aged 18–21 was assumed for all child beneficiaries attaining age 18. In both calculations, the possibility that the child's benefits might be terminated because of mortality or marriage before age 22 was disregarded. For the widows, possible termination of benefits because

TABLE 2.—Average "expected" benefit payments based on earnings records of men killed in the Arkansas missile-site disaster and average present value of payments for survivor family groups

Type of group	Average "expected" payment		Average present value	
	With school attendance	Without school attendance <sup>1</sup>	With school attendance	Without school attendance <sup>1</sup>
All families.....	\$30,770	\$26,470	\$20,640	\$17,570
Surviving widow and one or more children under age 18.....	38,620	31,700	26,810	21,880
All other family groups.....	17,820	17,820	10,470	10,470

<sup>1</sup> Takes into account monthly benefit payments to children aged 18–21 attending school for children awarded an *immediate* monthly student child benefit but not those for children under age 18 at time of award.

TABLE 3.—"Expected" benefit payments to typical survivor family of men killed in the Arkansas missile-site disaster and average present value of payments, by type of benefit

Type of benefit	"Expected" payments		Present value	
	With school attendance	Without school attendance <sup>1</sup>	With school attendance	Without school attendance <sup>1</sup>
Total.....	\$33,730	\$24,485	\$25,075	\$17,780
Mother's and child's.....	26,565	17,320	23,010	15,715
Widow's.....	6,910	6,910	1,810	1,810
Lump-sum.....	255	255	255	255

<sup>1</sup> Takes into account monthly benefit payments to children aged 18–21 attending school for children awarded an *immediate* monthly student child benefit but not those for children under age 18 at time of award.

of death or remarriage was taken into account. The computations were based on female mortality experience in the United States during 1959–61 and OASDI data on remarriage experience. All benefits were considered, including the deferred benefit payable to aged widows. The calculations disregard, however, possible entitlement in the event of the widow's remarriage after age 60 to benefits based on the earnings record of the spouse killed in this disaster.

The expected benefit payments and the present value of these payments, based on the above assumptions, to the survivors of the victims of the disaster are shown by type of benefit in table 1. Table 2 gives the average expected benefit and average present value of the payments for the survivor family groups.

As mentioned earlier, the figures in tables 1 and 2 do not allow for possible withholding of or reduction in the amount of benefits that would particularly affect widow's and mother's benefits. Where the maximum on family benefits applies, however, the withholding of mother's benefits because of the widow's employment could be partially or fully offset by an increase in the child's benefit.

## TYPICAL FAMILY

To illustrate how much insurance protection the program provides for a "typical" mother-child family, a family consisting of a widow aged 33 with two children in her care, aged 11 and 15, was chosen. The deceased worker had a primary insurance amount of \$128.40, and each beneficiary was awarded a benefit of \$96.30 a

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TABLE M-9.—OASDHI: Average amount of monthly benefits, by type of beneficiary, 1940-65

Period	Retired workers and their dependents			Survivors of deceased workers				Disabled workers and their dependents		
	Retired workers <sup>1</sup>	Wives and husbands <sup>1,2</sup>	Children <sup>3</sup>	Children <sup>3</sup>	Widowed mothers <sup>4</sup>	Widows and widowers <sup>1,5</sup>	Parents <sup>1</sup>	Disabled workers <sup>6</sup>	Wives and husbands <sup>7</sup>	Children <sup>3</sup>
Average benefits in current-payment status at end of period										
1940.....	\$22.60	\$12.13	\$9.70	\$12.56	\$19.61	\$20.28	\$13.09			
1945.....	24.19	12.82	11.74	12.48	19.83	20.19	13.06			
1950.....	43.86	23.60	17.05	28.43	34.24	36.54	36.69			
1955.....	61.90	33.07	20.01	38.12	45.91	48.69	49.93			
1960.....	74.04	38.72	28.25	51.37	59.29	57.68	60.31	\$89.31	\$34.41	\$30.21
1961.....	75.65	39.45	27.52	52.74	59.38	64.91	67.15	89.59	33.09	29.13
1962.....	76.19	39.62	27.39	53.57	59.38	65.88	68.18	89.99	32.41	28.56
1963.....	76.88	39.94	27.85	54.33	59.43	66.84	69.11	90.59	32.23	28.39
1964.....	77.57	40.23	28.13	54.99	59.40	67.85	70.05	91.12	32.23	28.48
1964										
March.....	77.22	40.08	28.05	54.51	59.29	67.11	69.36	90.71	32.18	28.36
June.....	77.29	40.10	28.07	54.61	59.24	67.36	69.65	90.84	32.12	28.36
September.....	77.45	40.16	28.08	54.78	59.46	67.61	69.84	91.02	32.20	28.38
December.....	77.57	40.23	28.13	54.99	59.40	67.85	70.05	91.12	32.23	28.48
1965										
March.....	77.88	40.36	28.32	55.18	59.29	68.10	70.21	91.12	32.24	28.44
June.....	77.98	40.40	28.34	55.33	59.28	68.36	70.47	91.14	32.14	28.39
September.....	83.98	43.65	31.13	60.60	65.69	73.65	75.90	97.70	35.33	31.37
December.....	83.92	43.63	32.06	61.27	65.45	73.75	76.03	97.76	34.96	31.61
Average benefits awarded during period										
1940.....	\$22.71	\$12.15	\$10.60	\$12.46	\$19.60	\$20.36	\$13.09			
1945.....	25.11	13.04	12.23	12.68	19.85	20.17	13.10			
1950 (under 1939 amendments).....	29.03	15.02	14.08	14.35	22.65	21.65	14.65			
1950 (under 1950 amendments).....	33.24	19.72	11.22	27.95	35.42	36.89	37.99			
1955.....	69.74	35.72	23.09	40.26	53.08	49.67	54.73			
1960.....	81.73	40.25	30.37	50.87	65.93	62.10	70.14	\$91.16	\$35.38	\$30.25
1961 (under 1960 amendments).....	80.17	40.19	28.79	52.59	61.06	62.15	70.33	90.76	33.59	28.88
1961 (under 1961 amendments).....	75.33	37.68	23.98	52.79	60.54	69.20	75.97	91.95	33.67	28.31
1962.....	78.80	39.18	27.10	53.34	61.14	70.49	77.84	92.71	33.56	28.15
1963.....	80.30	39.75	28.78	53.20	61.34	71.59	78.44	94.40	33.99	28.40
1964.....	81.24	39.92	28.59	53.20	61.31	73.06	80.21	94.98	34.22	28.66
1964										
March.....	80.64	40.01	28.87	53.24	61.12	72.91	79.04	95.26	34.03	28.40
June.....	79.93	39.50	28.01	53.11	61.25	73.09	81.12	95.35	34.23	29.01
September.....	80.80	39.78	28.94	52.64	61.19	73.13	81.57	95.73	34.22	28.71
December.....	79.42	39.14	28.12	53.33	61.25	73.67	79.92	91.86	33.43	28.29
1965										
March.....	81.06	40.04	28.58	53.40	61.63	73.69	79.93	93.20	34.53	27.96
June.....	82.50	40.24	28.70	53.47	61.64	74.23	80.28	93.75	34.07	28.31
September.....	91.81	44.79	38.45	66.13	69.86	79.17	87.21	101.59	38.91	33.89
December.....	88.25	43.53	40.68	67.34	68.17	73.11	85.23	101.28	36.18	34.67

<sup>1</sup> Persons aged 65 and over (and aged 62-64, beginning 1956 for women and 1961 for men).

<sup>2</sup> Includes, beginning 1950, wife beneficiaries under age 65 with entitled children in their care and, beginning September 1965, entitled divorced wives.

<sup>3</sup> Includes, beginning 1957, disabled persons aged 18 and over whose disability began before age 18 and, beginning September 1965, entitled full-time students aged 18-21.

<sup>4</sup> Includes, beginning 1950, surviving divorced mothers with entitled children in their care.

<sup>5</sup> Includes, beginning September 1965, widows aged 60-61 and entitled surviving divorced wives aged 60 and over.

<sup>6</sup> July 1957-October 1960, disabled workers aged 50-64; beginning November 1960, disabled workers under age 65.

<sup>7</sup> Includes wife beneficiaries under age 65 with entitled children in their care and, beginning September 1965, entitled divorced wives.

## MISSILE SITE DISASTER

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month. When the widow attains age 60, if she has not remarried, she will be eligible for an actuarially reduced aged widow's benefit of \$91.90 a month. If she waits until age 62, she will be eligible for an unreduced benefit of \$106.00 a month (on the assumption that she has not be-

come eligible in her own right for an old-age benefit based on her own employment).

The expected benefit payments and the present value of these payments have been calculated for this family, as they were for the entire group (table 3). The same assumptions used for the group as a whole were applied to the illustrative case.