Notes and Brief Reports

Orphans in the United States, July 1, 1953*

The number of orphans [1] in the United States has implications for two social security programs—old-age and survivors insurance and aid to dependent children. Few detailed characteristics of the orphaned group are known. The Bureau of the Census does not enumerate orphans as such, although considerable information can be obtained from the Bureau's statistics on the number of children under age 18 living in the continental United States with their widowed mothers or with their widowed fathers. In the past, several estimates have been made of the number of orphans; results have varied considerably because of different assumptions.

A number of orphaned children are receiving payments under social insurance and related programs and under aid to dependent children. [2] About 1 million — mostly paternal orphans—are receiving old-age and survivor benefits. A few, who would otherwise be receiving benefits, are not on the benefit rolls because they have jobs or are married. A greater number have not applied for old-age and survivors insurance benefits because of the maximum limitations on the total benefits payable to a family, which results in the exclusion of many children in large families. A still larger number cannot be entitled because they are the children of parents whose employment was substantially in noncovered work— farmers, irregularly employed farm and domestic workers, government employees, and members of specified professions.

It is estimated that, among children receiving aid to dependent children, the number of orphans approaches 300,000. Most of them are paternal-only orphans whose mothers have not remarried; about one-fourth or more of them receive both aid to dependent children and old-age and survivors insurance payments.

Some 300,000 children of deceased veterans are receiving benefits under the veterans' program, and about 60,000 are receiving benefits currently under the railroad retirement, civil-service, and the other Federal retirement systems. Beneficiaries under all these programs except railroad retirement may also be receiving old-age and survivors insurance benefits; the amount of duplication is not known.

In October 1949 the monthly population survey of the Bureau of the Census included some special questions that were designated to enumerate, in a sample of 25,000 households, the number and types of orphans living at that time. On a Nationwide basis, the survey showed 1.6 million paternal-only orphans, 0.7 million maternal-only orphans, and 0.1 million full orphans. The sampling variability could easily understate or overstate the number of orphans considerably. The errors in response and reporting, however, probably exceeded the sampling variability errors. Doubtless this bias was in the direction of understatement because in households with orphans who had been adopted or had acquired stepparents the presence of these orphans may have been deliberately or accidentally omitted in the enumeration. The results of the survey were considered in an earlier article. [3]

Since October 1, 1949, the child population of the United States has increased 5.4 million, or 10 percent,

while death rates have fallen rapidly. Which of these two opposing forces has had the greater effect on the number of orphans?

In attempting to answer this question, Bureau of the Census estimates (based on the April 1950 census) of the population as of July 1, 1952, were used. The census was an enumeration of persons resident in the United States; members of the Armed Forces overseas were excluded. Adjustments of the estimates were made by the Division of the Actuary for underenumeration, and projections were made to July 1, 1953. At the time the projections were being made, the latest available mortality rates were for 1950, and that year's rates were used for the years since then.

The number of orphaned children living on July 1, 1953, was estimated by applying the appropriate parental death rates; each parent was counted once for each child. Adjustments were made for cases in which the father died before the birth of his child. The maternal deaths at birth of a child were already reflected in the mortality tables, and so this rate was not included in the estimate. On the other hand, combat deaths during World War II and the Korean conflict are not reflected in the death rates and therefore had to be estimated separately; this estimate was based on data from the Veterans Administration on service-connected deaths of veterans and on the number of their orphans receiving survivor benefits.

The estimate of the number of orphaned children as of July 1, 1953, covers children who had been orphaned and were living on that date; it includes orphans who had gained new parents by adoption or by a parent's remarriage. Each year about 100,000 children are adopted, and a large proportion of them are orphans. Certainly a still greater number of children acquire stepparents by the remarriage of the surviving parent.

In spite of the rapidly increasing child population, calculations indicate that the number of living children who have been orphaned is decreasing. The one exception appears in the number of paternal-only orphans—a difference that probably can be ascribed to the effects of

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[1] "Orphans," as used in this report, refers to children under age 18 who have been orphaned at any time. A "paternal" orphan has lost his father, a "maternal" orphan has lost his mother, and a "full" orphan has lost both parents.

[2] Information on sources of income of orphaned children is presented in a note ("Economic Status of Aged Persons and Dependent Survivors"), carried each June and December in the Bulletin. The data in these notes relate to all paternal orphans, including full orphans. For the most recent in the series, see the June 1954 Bulletin, p. 17.

[3] Jacob Fisher, "Orphans in the United States: Number and Living Arrangements," Social Security Bulletin, August 1950, pp. 13–18. The article includes a history of earlier estimates.

Table 1.—*Estimated number of orphans under age 18, by age and type, July 1, 1953*

[In thousands]

Age [1]	Total	Paternal only	Maternal only	Full
Total	2,869	1,926	877	66
0	10	8	2	--------
1	24	18	6	--------
2	37	27	10	--------
3	50	35	15	--------
4	65	45	20	--------
5	86	59	27	--------
6	110	74	35	1
7	120	82	36	2
8	140	96	42	2
9	165	114	49	2
10	189	129	57	3
11	204	138	62	4
12	220	150	66	4
13	239	160	73	6
14	261	171	82	8
15	289	189	91	9
16	311	203	97	11
17	349	228	107	14

[1] Age on last birthday.

World War II and the Korean conflict.

To estimate the number of orphans on July 1, 1953, it was necessary first to estimate the number of children living on that date. Information on the number on July 1, 1951, and on July 1, 1952, was available by race. These data were distributed by single years of age, with adjustment for underenumeration of the Bureau of the Census figure of April 1950 at ages 0–14. The projection was made to July 1, 1953, by utilizing the birth statistics for the latter half of 1952 and the first half of 1953. Birth statistics through 1950, by age and race of parents, are available; estimates by age and race for later years were based on the 1950 data. From the annual reports of the National Office of Vital Statistics it was possible to calculate, for white and nonwhite persons, the average age of a father and a mother on the birth of a child. The average age, however, had to be converted into the higher equivalent effective age on account of the progressively higher death rates, with age, over the span of life of the father and mother to age 18 of the child. The death rates were computed for the period of risk of orphanhood. A child aged 10 his last birthday, for example, has been exposed to the risk of maternal orphanhood for 10½ years, on the average, and to the risk of paternal orphanhood for 9 additional months. These calculations were made on the basis of generation mortality tables, ascribing to each parent the proper age-specific death rate for each calendar year during which the parent was exposed to the risk of death. The number of years of exposure is counted backward from the age of the child and covers the years during which the child was living.

The death rates for men and women were adjusted downward on a percentage basis for mortality among married mothers and married fathers, in accordance with the distribution of the 1940 death rates by marital status—the most recent available data. It may be argued that the death rates for parents are lower than those for all married persons as a whole, but no account has been taken of this probability because of lack of data. Subject to the above limitations, the generation mortality rates are fairly accurate. The generation mortality method is more accurate than an estimate that assumes constant death rates during the last 18 years according to a table for any specific year—if, for example, the rates of 1946 were to be taken as representative of a period during which the orphans of 1953 lost their parents. The death rates of such a year might be too high or too low and would therefore produce results correspondingly too high or too low.

The results of the generation mortality method are shown in table 1. It is estimated that there are 2.9 million orphans, of whom 1.9 million are paternal-only orphans and 0.9 million are maternal-only orphans; the full orphans number 0.1 million. The estimate for full orphans is probably the least accurate, since no allowance was made for the higher mortality of widowed parents. The chances also are that the latter estimate is too low because the effect of variations in the death rates for different socio-economic classes was not taken into account; there is doubtless considerable correlation of mortality of father and mother, especially in the low-income groups. It will be noted that there are relatively few orphans in the young ages, but that they become more and more numerous with greater and greater exposure to the risk of orphanhood;

Table 2.—*Estimated number of orphans under age 18 as percent of total child population, July 1, 1953*

Age [1]	Total	Paternal only	Maternal only	Full
Total	5.4	3.6	1.6	0.12
0–4	1.0	.7	.3	.0
5–9	3.9	2.7	1.2	.04
10–14	8.7	5.8	2.7	.20
15–17	14.2	9.3	4.4	.51

[1] Age on last birthday.

thus, the largest number (about 350,000) is found at age 17.

Paternal-only orphans are at least twice as numerous as maternal-only orphans at all ages. Full orphans are few at the young ages but become appreciable in number in the higher ages.

Nonwhite orphans at ages under 18 number 0.7 million, or 25 percent, of all orphans, although nonwhite children make up 12.5 percent of all children in the population. The sex distribution is not given but may be calculated readily; there are 1,035 boys to every 1,000 girls at ages 0–17, and this ratio may be assumed to be slightly lower for orphans, who as a group are somewhat older than children in the general population.

More than 5 percent of the total child population has been orphaned (table 2). Paternal-only orphans make up 3.6 percent, and maternal-only orphans 1.6 percent of all children. In the age group 15–17, more than 14 percent are orphans; paternal-only orphans represent 9.3 percent, maternal-only orphans 4.4 percent, and full orphans 0.5 percent.

A similar estimate had been made by the Division of the Actuary for October 1, 1949—the date of the sample survey of the Bureau of the Census, mentioned previously. The results (table 3) indicate that the total number of orphans shown in the survey may have been understated by as much as 500,000, or 20 percent.

How do the results for July 1, 1953, compare with the estimates for October 1, 1949? The figures in table 3 indicate a slight decrease (60,000) in the number of children who have been orphaned. There has been an appreciable decrease in the number of maternal-only orphans, but paternal-only orphans have increased

slightly in number. The relative decrease in the proportion of orphans in the population is substantial, however, for all types of orphans, even for paternal-only orphans. On October 1, 1949, 6.1 percent of the child population was orphaned; on July 1, 1953, 5.4 percent. Such a substantial decline indicates that the risk of orphanhood is decreasing markedly. In the absence of war, it is likely that there will be a diminishing number of orphans even though the child population is increasing concurrently. The implications for survivor benefits in the old-age and survivors insurance program are significant.

The estimates of paternal orphans (including full orphans) may also be compared with the number of orphans receiving old-age and survivors insurance benefits on June 30, 1953, based on a projection of the distribution by age and race as of December 31, 1952—the latest date for which this information is available. The great majority of the children receiving survivor benefits are paternal orphans; data are not available on the number of maternal-only orphans currently on the rolls, but of the 1952 awards only 5 percent arose from deaths of female workers. Those receiving benefits comprise 46 percent of all paternal and full orphans (table 4); they make up slightly more than half of all white orphans and a fourth of the nonwhite orphans, a difference that reflects the relatively greater concentration of white workers in the population covered by the program.

Relatively more paternal orphans under age 5 than in any other age group were receiving old-age and survivors insurance benefits; 63 percent of all children, 71 percent of the white children, and 38 percent of the nonwhite children were in receipt of benefits. On the other hand, only 34 percent of the paternal orphans aged 15–17 were beneficiaries. This decreasing trend with age results from the fact that many of the older orphans' fathers died before acquiring insured status under the program (either because of death before 1940 when benefits first became payable or before the extension of coverage to many employment categories in 1951). Thus, under present coverage, the proportion for all ages combined can be expected to rise to about 65 percent. This figure is well below the 80 percent representing the proportion of the labor force that is covered by old-age and survivors insurance; the difference arises in part from the failure of entitled beneficiaries to file for benefits because of the maximum benefit provisions, marital and employment status, and the like and in part because the presently noncovered group, on the whole, probably have relatively more children as well as higher mortality. Thus, even if coverage were now universal, and had been for several decades, not all paternal orphans would be on the benefit rolls.

No detailed comparison of the orphans receiving aid to dependent children is possible, since data on the attained age and type of orphan are not available. These children number about 0.3 million, or three-tenths the number receiving survivor benefits under old-age and survivors insurance. Most of them are paternal orphans; they represent about 15 percent of the total number of paternal orphans in the population and 0.5 percent of the child population.

It is evident from this brief analysis that the orphans under age 18 in the United States are decreasing in number, in spite of a rapidly increasing child population. The decrease is attributable primarily to the rapidly falling death rates of the parents of children among all groups of the population. Even though age-specific mortality rates of parents should stabilize at the child-bearing ages, this trend in reduction of parents' mortality will continue for at least 18 years—that is, until the newborn infants of today attain 18 years of age.

Table 4.—*Orphans receiving old-age and survivors insurance benefits[1] as a percent of all paternal and full orphans, June 30, 1953*

Age [2]	Total	White	Nonwhite
Total	46	52	25
0–4	63	71	38
5–9	60	68	33
10–14	46	52	25
15–17	34	39	17

[1] Distribution of number (920,052) as of June 30, 1953, by age and race, estimated on basis of distribution as of December 1952.
[2] Age on last birthday.

Old-Age Insurance Benefits, 1953

Benefits Awarded

During 1953 old-age benefits were awarded to 771,700 persons, an increase of 45 percent from the number awarded in 1952 and 10 percent more than the previous high established in 1951. The large number of awards in 1953 reflects the growth in the insured population resulting from the extension of coverage provided by the 1950 amendments. Many of the awards were made to self-employed persons, who, after January 1, 1953, could for the first time become entitled to full-rate benefits based solely on self-employment income.

Slightly more than two-thirds (69 percent) of the old-age benefits awarded in 1953 were computed under the new-start formula—that is, they were based on earnings after 1950, and the new benefit formula was used to determine the amount (table 1). The benefits for the remaining 31 percent of the persons were determined by applying the 1939 formula to earnings after 1936

Table 3.—*Trend in estimated number of orphans under age 18*

Type of orphan	Number (in thousands)		Percent of child population		Percentage decrease July 1, 1953, from Oct. 1, 1949	
	Oct. 1, 1949 [1]	July 1, 1953	Oct. 1, 1949	July 1, 1953	Number	Percent
Total	2,929	2,869	6.10	5.37	2.0	12
Paternal-only	1,892	1,926	3.94	3.61	−1.8	8
Maternal-only	956	877	1.99	1.64	8.3	18
Full	81	66	.17	.12	18.5	29

[1] Earlier estimates by Division of the Actuary on basis of generation death rates, adjusted to be comparable with data for July 1, 1953.