Appendix A

WAGE HISTORIES AND CLASSIFICATIONS

Section 1. Rates of Earnings Change

Tables 1, 2, and 3 were derived from an analysis of the estimated total earnings for the 1907, 1917, 1927, and 1937 year of birth cohorts represented within the 0.1 percent Continuous Work History Sample (CWHS). Total annual earnings are estimated for those who exceed the taxable maximum by use of a standard estimation technique that is a function of the calendar quarter within which the maximum is exceeded.

In order to make certain that the annual rate of change is defined, and that measures of variability are not unduly affected by a few cases with extremely volatile earnings, certain exclusions were made. For each pair of years entering a rate of change calculation, workers with zero estimated total earnings in either year and those whose earnings increased by more than 50 percent or decreased by more than 33 percent were excluded. Earnings in the year of death or disability were set to zero. Workers with very low Average Monthly Earnings (AME) were excluded under the proposition that, since they are probably part-time or sporadic workers, their presence would obscure wage patterns of those with more direct attachment to the labor force. The cutoff point was set to exclude workers with AME at or below $76. This point was fixed to be consistent with the AME required for a minimum benefit.

Certain observations may be made with respect to these tables:

(1) The declining number of workers that enter the computation, as time advances, from among the 1907 cohort is obvious from table 1.

(2) The entry of the 1937 cohort into the labor market as time goes on is also clear from table 1.

(3) From Table 2, it appears as if average rates of earnings increase are higher for young workers, the 1937 cohort, than older workers, the 1907 cohort.

(4) Table 3 measures the variability of annual rates of earnings change using the standard deviation of the annual rates of change as the measure. It appears as if young workers (1937 cohort) have greater variability in annual rates of change than other cohorts. Even when the sample has been censored to exclude extreme rates of earnings change, it is clear that there is a great deal of variability in earnings change rates.

SEC. 1--RATES OF EARNINGS CHANGE

TABLE 1 [1] -NUMBER OF WORKERS IN EACH YEAR'S COMPUTATIONS [2]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965
1907: Male	629	599	609	601	581	570	565	539	532
Female	238	252	259	265	265	269	270	263	266
Total	867	851	868	866	846	839	835	802	798
1917: Male	728	749	751	747	765	748	733	738	728
Female	251	263	259	290	298	309	333	335	338
Total	979	1,012	1,010	1,037	1,063	1,057	1,066	1, 073	1,066
1927: Male	772	781	804	812	815	820	833	833	836
Female	182	196	193	204	213	246	263	265	279
Total	954	977	997	1,016	1,028	1, 066	1,096	1,098	1, 115
1937: Male	312	560	532	577	615	626	697	710	762
Female	170	207	210	199	210	213	205	197	220
Total	482	767	742	776	825	841	902	907	982
Total	3,282	3,607	3 617	3,695	3, 762	3,803	3,899	3,880	3,961

TABLE 11-NUMBER OF WORKERS IN EACH YEAR'S COMPUTATIONS -Continued

Year of birth: Sex	1966	1967	1968	1969	1970	1971	1972	Total
1907: Male	529	517	482	426	399	333	206	8,117
Female	263	256	254	223	184	161	118	3,806
Total	792	773	736	649	583	494	324	11,923
1917: Male	705	738	728	715	679	644	577	11,473
Female	349	334	341	355	349	335	313	5,052
Total	1, 054	1, 072	1, 069	1, 070	1, 028	979	890	16, 525
1927: Male	832	842	820	824	817	783	697	12,921
Female	292	320	318	341	349	358	350	4, 369
Total	1,124	1,162	1,138	1,165	1,166	1,141	1,047	17, 290
1937: Male	763	796	787	794	769	782	698	10, 782
Female	214	217	227	230	236	243	245	3,443
Total	977	1, 013	1,014	1,024	1, 005	1, 025	943	14, 225
Total	3,947	4, 020	3, 957	3, 908	3, 782	3,639	3,204	59,963

[1] Data are from the 0.1 percent CWHS. For each pair of years, workers with zero earnings in either year are omitted. Workers whose earnings increased more than 50 percent or decreased more than 33 percent are also omitted. Earnings in year of death or disability are set to zero. Workers with AME <$76 are also omitted.

[2] The number of workers entering the computation of the average rate of earnings change ending in the indicated year is recorded.

TABLE 2.[1] -AVERAGE ANNUAL RATE OF EARNINGS CHANGE

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965
1907: Male	4.2	1.5	5.5	3. 5	2. 7	2.6	3. 4	3.7	4. 5
Female	5.2	4.3	6.5	2.5	3. 3	5. 1	4.0	6.2	3. 8
Total	4.5	2.4	5.8	3. 2	2. 9	3.4	3. 6	4.6	4. 3
1917: Male	5. 8	1.5	6.6	3.2	2.7	4.4	3.4	4.8	4.3
Female	5.8	5.8	7.0	4.0	5. 7	6.2	4. 5	5. 1	5.9
Total	5.8	2.6	6.7	3.4	3.6	4.9	3.8	4.9	4.8
1927: Male	6.9	4.6	8.0	5.9	3.2	6.5	4.7	6.2	6. 2
Female	6.2	5.1	4.6	4. 1	4.5	5.7	5. 8	6.4	5. 1
Total	6.8	4.7	7.3	5.5	3.4	6.3	5.0	6.2	5.9
1937: Male	10.4	9.6	11.1	8.5	8.5	10,3	8.7	9.2	8.2
Female	11.2	6.9	7.6	6.7	4.9		4.8	5.6	4,7
Total	10. 7	8.8	10.1	8.1	7.6	9.2	7.8	8.4	7.5
Total	6.4	4.5	7.3	4.9	4.3	5.9	5.0	6.0	5.7

TABLE 2.[1]-AVERAGE ANNUAL RATE OF EARNINGS CHANGE-Continued

Year of birth: Sex	1966	1967	1968	1969	1970	1971	1972	Total
1907: Male	6.7	3.3	5.0	5.4	3.4	3.0	2.9	3.9
Female	4.8	5.4	5.0	4.7	5.6	1.5	-.5	4.4
Total	6.0	4.0	5.0	5.2	4.1	2.5	1.7	4.0
1917: Male	7.2	3.8	6.7	5.2	4.8	5.0	6.3	4.7
Female	5.6	6.1	8.0	7.0	6.7	5.0	5.5	5.9
Total	6.6	4.5	7.1	5.8	5.4	5.0	6.0	5.0
1927: Male	8.6	4.9	8.4	6. 7	4.7	5.6	8.0	6.2
Female	7.8	7.5	8.5	8.8	8. 1	7. 5	5.6	6.6
Total	8.4	5.6	8.4	7.3	5.7	6.2	7.2	6. 3
1937: Male	11.0	6.7	9.6	8. 1	7.2	7.2	9.1	8.8
Female	5.7	6.6	10.2	8.7	6.3	8.6	7.0	7.0
Total	9.8	6.7	9.7	8.2	7.0	7. 5	8.5	8.4
Total	7.8	5.3	7. 8	6.8	5. 7	5.8	6.7	6.0

[1] Data are from the 0.1 percent CWHS. For each pair of years, workers with zero earnings in either year are omitted. Workers whose earnings increased more than 50 percent or decreased more than 33 percent are also omitted. Earnings in year of death or disability are set to zero. Workers with AME< $76 are also omitted.

TABLE 3 [1]-STANDARD DEVIATIONS OF RATES OF CHANGE IN EARNINGS

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965
1907: Male	15.9	14.3	16.1	14.6	14.1	13.4	13.0	14.7	14.1
Female	15.0	14.4	13.3	13.7	13.3	13.7	14.5	13.5	12.9
Total	15.7	14.4	15.3	14.4	13.9	13.6	13.5	14.4	13.7
1917: Male	15.3	14.7	16.2	15.4	15.0	15.1	13.7	14.8	14.3
Female	15.4	15.0	15.0	14.5	14.3	14.4	13.7	13.3	14.3
Total	15.3	15.0	15.9	15.1	14.9	14.9	13.7	14.3	14.3
1927: Male	15.8	15.5	16.2	15.6	15.4	15.5	14.7	15.5	15.3
Female	16.2	15.5	16.2	15.6	16.0	15.9	15.1	14.9	14.3
Total	15.9	15.5	16.2	15.6	15.5	15.6	14.8	15.4	15.1
1937: Male	19.5	19.0	19.7	19.1	18.2	16.7	16.6	17.1	17.1
Female	19.0	16.4	16.8	15.8	16.6	16.5	16.1	16.1	16.7
Total	19.3	18.4	19.0	18.3	17.9	16.7	16.6	17.0	17.1
Total	16.3	16.0	16.6	15.9	15.7	15.4	14.8	15.4	15.2

TABLE 3.-STANDARD DEVIATIONS OF RATES OF CHANGE IN EARNINGS-Continued

Year of birth and sex	1966	1967	1968	1969	1970	1971	1972	Total
1907: Male	16.0	15.2	15.2	14.5	14.9	15.6	17.6	14.9
Female	13.7	15.2	13.4	14.7	16.2	13.7	16.3	14.2
Total	15.3	15.3	14.6	14.5	15.4	15.0	17.2	**14.7**
1917: Male	15.9	14.4	15.3	15.1	14.4	15.3	14.9	15.1
Female	14.9	14.1	14.5	14.5	14.5	13.6	14.1	14.4
Total	15.6	14.4	15.1	14.9	14.5	14.7	14.6	14.9
1927: Male	16.3	15.2	15.8	15.3	15.3	15.5	16.2	15.6
Female	16.1	15.4	15.2	16.8	15.3	14.6	15.8	15.6
Total	16.2	15.3	15.6	15.8	15.4	15.3	16.1	15.6
1937: Male	16.4	15.1	15.6	15.6	16.3	15.8	15.3	16.9
Female	17.5	17.7	17.4	17.0	16.4	14.9	15.3	16.7
Total	16.8	15.7	16.0	15.9	16.3	15.6	15.4	16.9
Total	16.1	15.2	15.5	15.5	15.4	15.8	15.7	15.6

[1] Data are from the 0.1 percent CWHS. For each pair of years, workers with zero earnings in either year are omitted. Workers whose earnings increased more than 50 percent or decreased more than 33 percent are also omitted. Earnings in year of death or disability are set to zero. Workers with AME < $76 are also omitted.

Tables 4 through 14 provide data on annual rates of wage change for workers who remain essentially within the same broad earnings level class. The objective is to understand the age pattern of earnings changes within low, middle, and high earnings groups. The data once again is the estimated total earnings for the 1907, 1917, 1927, and 1937 year of birth cohorts represented within the 0.1 percent CWHS. Only workers who remain in the same earnings class (lowest third, middle third, highest third) for 14 of the 17 years from 1956 through 1972 are included. For reasons spelled out before, workers with low AME's are excluded. For each pair of years, the analysis omits workers with zero earnings in either year and those with earnings that increased more than 50 percent or decreased more than 33 percent. Earnings in the year of death or disability are set to zero.

Tables 4 and 5 define the estimated annual earnings, for each year, sex, and year of birth cohort group, that divide the workers into equal groups of low, middle, and high earners. Table 6 provided a count of the workers not excluded and entering the computation for low earnings workers. Table 7 contains annual rates of earnings change within the low earnings groups and table 8 lists the standard deviation of rates of earnings change. Tables 9, 10, and 11 follow the same pattern in reporting information for workers persistently in the middle earnings groups. Tables 12, 13, 14 provide information, organized in the same fashion, for those persistently in the upper third of earnings groups.

Certain observations may be made with respect to these tables:

(1) Tables 4 and 5 indicate that, as would be expected, the distribution of estimated earnings for men is to the right of that for women.

(2) From tables 7, 10, and 13 it appears as if workers persistently in the high earnings classes have a higher average rate of earnings increase than those persistently in the low earnings or middle earnings groups. It also appears as if younger workers (1937 cohort) tend to have larger rates of increase than older workers.

(3) From tables 8, 11, and 14 it appears as if workers persistently in the high earnings groups have greater variability in their rates of earnings change than workers in the middle or high earnings groups.

The analysis of rates of change within the groups of workers persistently in the lower third of the distributions of earnings is complicated by the exclusion of years in which zero earnings are recorded. In order to isolate this problem, these annual earnings data were also analyzed by dividing year of birth and sex groups into five equal earnings groups for each calendar year 1956-1972. In this analysis it was found that those persistently in the lowest quintile group had greater variability (as measured by the standard deviation of the rates of earnings change) and the lowest average rate of earnings increase among the five groups.

TABLE 4.[1]—AVERAGE ANNUAL EARNINGS BY AGE-SEX COHORT OF WORKERS WHO CONSISTENTLY REMAINED IN THE LOWEST THIRD OF INCOME DISTRIBUTION

Year of earnings	Year of birth and sex					
	1907, male	1907, female	1907, total	1917, male	1917, female	1917, total
1956	$3,370	$1,788	$2,599	$3,725	$1,579	$2,808
1957	3,563	2,008	2,803	3,849	1,684	2,905
1958	3,484	1,987	2,703	3,790	1,842	2,928
1959	3,624	2,084	2,873	4,126	1,949	3,105
1960	3,702	2,146	2,827	4,096	2,054	3,101
1961	3,449	2,226	2,782	4,099	2,219	3,241
1962	3,757	2,147	2,984	4,369	2,419	3,366
1963	3,861	2,307	3,075	4,569	2,333	3,380
1964	4,118	2,525	3,298	4,625	2,499	3,599
1965	4,151	2,573	3,341	4,686	2,544	3,759
1966	4,359	2,650	3,453	5,296	2,785	3,974
1967	4,436	2,937	3,587	5,477	3,025	4,225
1968	4,676	2,964	3,761	5,884	3,294	4,473
1969	4,562	2,856	3,865	6,205	3,693	4,858
1970	4,486	2,195	3,674	6,366	3,909	5,027
1971	4,441	2,159	3,626	6,726	4,092	5,266
1972	2,788	1,768	2,272	7,117	4,234	5,425
Total	3,850	2,252	3,086	4,618	2,538	3,720

TABLE 4.[1]—AVERAGE ANNUAL EARNINGS BY AGE-SEX COHORT OF WORKERS WHO CONSISTENTLY REMAINED IN THE LOWEST THIRD OF INCOME DISTRIBUTION—Continued

Year of earnings	Year of birth and sex						
	1927, male	1927, female	1927, total	1937, male	1937, female	1937, total	Total
1956	$3,480	$1,163	$2,713	$899	$762	$714	$2,034
1957	3,487	1,278	2,812	1,132	983	1,115	2,134
1958	3,608	1,405	2,889	1,283	1,263	1,276	2,285
1959	3,838	1,344	3,038	1,610	1,572	1,598	2,512
1960	3,926	1,449	3,093	1,956	1,890	1,937	2,688
1961	3,999	1,594	3,180	2,114	1,932	2,088	2,770
1962	4,515	1,674	3,952	2,680	1,995	2,363	2,996
1963	4,670	1,982	3,573	3,013	1,885	2,761	3,193
1964	4,905	2,057	3,739	3,643	2,137	3,171	3,420
1965	5,161	2,267	3,988	4,138	2,350	3,586	3,681
1966	5,727	2,395	4,342	4,811	2,173	3,900	3,927
1967	6,169	2,800	4,633	5,294	2,451	4,280	4,186
1968	6,748	3,151	4,917	5,348	3,109	4,745	4,481
1969	7,418	3,611	5,389	6,048	3,380	5,202	4,881
1970	7,451	3,656	5,477	6,664	3,435	5,588	5,189
1971	7,759	3,974	5,630	7,223	3,891	5,918	5,410
1972	8,075	4,086	6,123	7,686	4,278	6,301	5,490
Total	4,790	2,216	3,853	2,993	2,054	2,655	3,386

[1] Data is from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME≤$76 are excluded.

TABLE 5.[1]—AVERAGE ANNUAL EARNINGS BY AGE-SEX COHORT OF WORKERS WHO CONSISTENTLY REMAINED IN THE MIDDLE THIRD OF INCOME DISTRIBUTION

Year of earnings	1907, male	1907, female	1907, total	1917, male	1917, female	1917, total
1956	$5,285	$2,965	$4,594	$5,550	$2,887	$4,878
1957	5,484	3,250	4,827	5,971	3,046	5,235
1958	5,531	3,296	4,861	5,789	3,202	5,090
1959	5,858	3,473	5,096	6,157	3,488	5,514
1960	6,007	3,412	5,330	6,458	3,524	5,642
1961	6,131	3,606	5,332	6,618	3,803	5,743
1962	6,448	3,730	5,551	7,053	3,881	6,042
1963	6,716	6,977	5,868	7,287	3,905	6,200
1964	6,841	4,212	6,060	7,612	4,181	6,510
1965	7,125	4,299	6,137	7,897	4,351	6,675
1966	7,502	4,390	6,649	8,516	4,505	7,203
1967	7,674	4,726	6,661	8,756	4,863	7,439
1968	8,167	4,910	7,150	9,307	5,124	7,904
1969	8,344	5,120	7,321	9,882	5,405	8,338
1970	8,838	5,548	7,826	10,160	5,830	8,662
1971	8,919	5,775	7,915	10,759	6,264	9,119
1972	7,508	5,351	6,874	11,570	6,367	9,823
Total	6,758	4,073	5,879	7,806	4,351	6,709

TABLE 5.[1]—AVERAGE ANNUAL EARNINGS BY AGE-SEX COHORT OF WORKERS WHO CONSISTENTLY REMAINED IN THE MIDDLE THIRD OF INCOME DISTRIBUTION—Continued

Year of earnings	1927, male	1927, female	1927, total	1937, male	1937, female	1937, total	Total
1956	$5,093	$2,768	$4,624	$1,856	$1,888	$1,866	$4,256
1957	5,312	2,993	4,891	2,079	2,384	2,188	4,378
1958	5,547	3,115	4,967	2,469	2,676	2,572	4,445
1959	5,781	3,097	5,345	3,303	3,030	3,194	4,806
1960	6,287	3,106	5,581	3,912	3,323	3,726	4,969
1961	6,434	3,176	5,732	4,294	3,501	4,047	5,132
1962	6,963	3,378	6,154	4,782	3,693	4,412	5,477
1963	7,387	3,551	6,530	5,182	3,862	4,828	5,783
1964	7,834	3,588	6,869	5,912	4,026	5,414	6,206
1965	8,197	3,860	7,276	6,516	4,125	5,903	6,525
1966	8,941	4,177	7,648	7,221	4,223	6,710	6,999
1967	9,340	4,599	8,061	7,736	4,563	7,107	7,354
1968	10,082	4,809	8,883	8,463	5,067	7,874	7,974
1969	10,905	5,176	9,388	9,395	5,584	8,494	8,481
1970	11,545	5,571	9,764	10,118	5,767	9,102	8,956
1971	12,164	5,920	10,297	11,017	6,258	9,917	9,542
1972	13,122	6,352	10,962	11,835	6,521	10,597	10,045
Total	8,020	4,171	7,034	6,418	3,998	5,649	6,392

[1] Data is from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings set to zero, workers with AME≤$76 are excluded.

TABLE 6.[1]—NUMBER OF WORKERS IN THE LOWEST THIRD OF WAGE DISTRIBUTION IN 14 OF 17 YEARS, WITHIN YEAR OF BIRTH AND SEX GROUPS BY YEAR OF EARNINGS[2]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	128	110	110	106	107	101	107	96	97	94
Female	43	34	41	40	42	48	43	42	38	41
Total	171	144	151	146	149	149	150	138	135	135
1917: Male	138	143	141	133	141	142	127	132	141	129
Female	34	33	28	38	41	47	51	44	55	62
Total	172	176	169	171	182	189	178	176	196	191
1927: Male	113	132	136	133	132	138	154	142	151	149
Female	23	20	16	17	18	24	36	24	25	27
Total	136	152	152	150	150	162	190	166	176	176
1937: Male	19	49	49	54	56	49	66	66	82	84
Female	11	10	9	9	9	16	11	11	15	19
Total	30	59	58	63	65	65	77	77	97	103
Total	509	531	530	530	546	565	595	557	604	605

TABLE 6.[1]—NUMBER OF WORKERS IN THE LOWEST THIRD OF WAGE DISTRIBUTION IN 14 OF 17 YEARS, WITHIN YEAR OF BIRTH AND SEX GROUPS BY YEAR OF EARNINGS[2]—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	82	76	65	68	52	32	1,431
Female	39	44	35	29	27	21	607
Total	121	120	100	97	79	53	2,038
1917: Male	136	138	134	128	120	94	2,117
Female	56	63	70	72	70	70	834
Total	192	201	204	200	190	164	2,951
1927: Male	154	137	142	135	122	116	2,186
Female	43	43	52	65	65	70	568
Total	197	180	194	200	187	186	2,754
1937: Male	97	92	99	88	104	91	1,145
Female	21	32	32	30	32	42	309
Total	118	124	131	118	136	133	1,454
Total	628	625	629	615	592	536	9,197

[1] Data is from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME≤$76 are excluded.

[2] Year is the calendar year at end of the period over which change is measured.

TABLE 7.[1]—AVERAGE ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE LOWEST THIRD OF WAGE DISTRIBUTION

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	3.3	0.6	7.3	3.5	−1.0	3.3	3.7	5.1	8.0	6.5
Female	3.3	1.1	8.3	2.4	−.2	10.6	5.1	6.8	−1.0	5.9
Total	3.3	.8	7.6	3.2	−.8	5.6	4.1	5.6	5.4	6.3
1917: Male	2.0	3.0	1.5	1.0	2.8	3.2	.7	3.7	6.5	4.3
Female	−1.1	11.0	2.9	6.0	8.8	10.0	4.6	1.8	9.1	8.9
Total	1.4	4.5	1.7	2.1	4.2	4.9	1.9	3.2	7.2	5.8
1927: Male	3.5	5.8	8.6	6.5	3.5	4.9	3.3	6.4	8.7	9.0
Female	5.0	14.5	1.3	−.5	2.6	2.7	4.4	6.7	−2.1	17.4
Total	3.8	7.0	7.8	5.7	3.4	4.6	3.5	6.4	7.2	10.3
1937: Male	9.1	8.3	10.4	11.0	10.7	6.9	8.7	7.2	7.8	9.7
Female	−2.7	.8	−3.6	15.4	10.6	6.7	−.2	2.2	7.4	1.5
Total	4.7	7.1	8.2	11.6	10.7	6.9	7.5	6.5	7.8	8.2
Total	2.9	4.5	5.9	4.6	3.4	5.2	3.7	5.2	6.9	7.6

TABLE 7.[1]—AVERAGE ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE LOWEST THIRD OF WAGE DISTRIBUTION—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	4.7	10.4	4.0	−2.0	2.9	3.5	4.0
Female	5.7	.4	1.8	7.5	−2.5	1.2	3.8
Total	5.0	6.7	3.2	.9	1.1	2.6	3.9
1917: Male	5.7	6.6	5.3	4.3	5.2	5.1	3.8
Female	9.2	8.8	7.8	9.6	6.7	1.8	6.9
Total	6.7	7.3	6.1	6.2	5.8	3.7	4.6
1927: Male	3.4	8.3	7.0	4.9	6.3	5.3	6.0
Female	8.3	6.3	4.6	9.9	6.7	5.9	6.4
Total	4.5	7.8	6.3	6.6	6.4	5.5	6.1
1937: Male	8.7	8.0	9.4	8.6	6.4	8.0	8.5
Female	9.8	9.9	9.5	11.1	13.2	6.6	7.1
Total	8.0	8.5	9.4	9.3	8.0	7.6	8.2
Total	5.9	7.6	6.4	6.1	5.9	5.2	5.5

[1] Rates for workers counted in table 6.

TABLE 8.[1]—STANDARD DEVIATIONS OF ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE LOWEST THIRD OF WAGE DISTRIBUTION

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	18.1	17.1	18.6	17.7	15.1	14.7	16.9	17.1	16.9	18.8
Female	16.8	22.5	13.7	15.5	15.2	16.0	21.2	19.6	15.2	17.0
Total	17.8	18.5	17.4	17.1	15.2	15.5	18.3	17.9	16.9	18.3
1917: Male	15.6	16.6	17.5	17.1	16.4	17.3	15.7	17.1	17.4	15.6
Female	17.9	21.8	19.3	19.8	20.5	18.2	17.5	15.9	16.5	19.0
Total	16.1	18.0	17.8	17.8	17.6	17.8	16.3	16.9	17.2	16.9
1927: Male	18.8	15.6	16.5	17.1	17.2	16.7	16.0	16.9	16.4	15.9
Female	14.4	18.9	19.1	17.4	20.0	18.8	20.0	20.7	20.0	18.5
Total	18.1	16.3	16.9	17.3	17.5	17.0	16.8	17.5	17.4	16.6
1937: Male	25.3	18.8	21.0	22.1	21.2	15.3	18.1	20.6	20.5	15.4
Female	19.2	20.8	24.1	12.9	23.5	16.6	13.8	22.9	19.4	19.3
Total	22.9	19.3	22.1	21.1	21.5	15.7	17.8	20.9	20.4	16.5
Total	17.8	18.0	18.2	18.1	17.8	16.8	17.3	18.0	17.8	17.2

TABLE 8.[1]—STANDARD DEVIATIONS OF ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE LOWEST THIRD OF WAGE DISTRIBUTION—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	18.0	15.3	16.6	17.4	17.6	16.8	17.4
Female	20.2	18.7	17.9	22.8	15.7	19.2	18.4
Total	18.7	17.3	17.1	19.6	17.2	17.8	17.7
1917:Male	17.1	16.6	18.2	14.9	16.9	17.7	16.8
Female	15.5	15.6	16.5	17.0	16.2	15.1	17.7
Total	16.7	16.3	17.7	15.9	16.7	16.7	17.1
1927: Male	15.7	17.3	18.4	18.9	17.7	17.2	17.1
Female	19.9	17.8	19.3	18.2	16.9	16.0	18.8
Total	16.9	17.4	18.7	18.9	17.4	16.7	17.5
1937: Male	17.5	16.6	17.3	18.5	16.1	15.7	18.3
Female	23.4	19.8	19.6	20.4	14.0	16.5	19.6
Total	18.7	17.5	17.9	19.1	15.8	16.0	18.6
Total	17.6	17.1	18.0	18.3	16.9	16.7	17.6

[1] Data are from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME $\leq$$76 are excluded.

TABLE 9.[1]—NUMBER OF WORKERS IN THE MIDDLE THIRD OF WAGE DISTRIBUTION IN 14 OF 17 YEARS WITHIN YEAR OF BIRTH AND SEX GROUPS BY YEAR[2] OF EARNINGS

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	55	54	54	55	56	57	56	55	56	56
Female	23	23	23	23	23	23	23	23	23	22
Total	78	77	77	78	79	80	79	78	79	78
1917: Male	103	103	100	103	106	103	102	102	98	102
Female	19	23	24	24	24	24	24	23	22	24
Total	122	126	124	127	130	127	126	125	120	126
1927: Male	100	100	106	105	108	107	107	106	108	109
Female	9	10	10	8	9	10	11	11	11	11
Total	109	110	116	113	117	117	118	117	119	120
1937: Male	7	13	13	17	15	15	18	19	18	17
Female	3	9	7	8	9	9	10	10	10	9
Total	10	22	20	25	24	24	28	29	28	26
Total	319	335	337	343	350	348	351	349	346	350

TABLE 9.[1]—NUMBER OF WORKERS IN THE MIDDLE THIRD OF WAGE DISTRIBUTION IN 14 OF 17 YEARS WITHIN YEAR OF BIRTH AND SEX GROUPS BY YEAR[2] OF EARNINGS—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	57	57	55	46	40	21	830
Female	22	24	24	21	20	16	356
Total	79	81	79	67	60	37	1,186
1917: Male	105	104	104	102	100	98	1,635
Female	24	23	24	24	24	22	372
Total	129	127	128	126	124	120	2,007
1927: Male	108	109	108	106	103	102	1,692
Female	11	9	10	9	10	11	160
Total	119	118	118	115	113	113	1,852
1937: Male	19	19	19	18	19	19	265
Female	9	10	9	10	10	10	142
Total	28	29	28	28	29	29	407
Total	365	355	353	336	326	299	5,452

[1] Data are from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME ≤$76 are excluded.

[2] Year is the calendar year at the end of the period over which change is measured.

TABLE 10.[1]—AVERAGE ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE MIDDLE THIRD OF WAGE DISTRIBUTION

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	7.2	1.0	5.3	4.1	2.1	1.7	3.1	3.2	5.8	8.4
Female	2.6	2.9	7.4	−3.4	6.3	5.3	3.3	6.3	5.5	2.3
Total	5.8	1.6	5.9	1.9	3.4	2.7	3.2	4.1	5.7	6.7
1917: Male	6.4	.3	7.4	3.0	.9	4.1	3.9	3.2	4.4	6.1
Female	7.6	5.1	7.2	3.3	6.5	7.2	2.8	4.1	5.0	4.6
Total	6.6	1.2	7.4	3.9	2.0	4.7	3.7	3.3	4.5	5.8
1927: Male	5.8	3.1	8.8	6.1	1.9	6.8	5.0	6.6	4.9	10.4
Female	8.2	7.1	5.6	4.9	7.1	2.8	4.8	9.6	4.5	6.4
Total	6.0	3.4	8.5	6.0	2.3	6.5	5.0	6.9	4.8	10.0
1937: Male	5.9	6.1	21.2	6.6	9.4	12.4	13.3	6.6	9.6	11.9
Female	−5.3	−3.4	15.1	5.4	9.6	5.1	2.2	5.4	3.9	6.7
Total	2.5	2.2	19.0	6.2	9.5	9.7	9.3	6.2	7.5	10.1
Total	6.1	2.1	8.1	4.3	2.9	5.2	4.4	4.9	5.2	7.8

TABLE 10.[1]—AVERAGE ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE MIDDLE THIRD OF WAGE DISTRIBUTION—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	.0	5.5	4.9	6.3	−0.7	1.0	3.8
Female	3.5	8.6	5.2	6.4	2.6	.1	4.2
Total	1.0	6.4	5.0	6.3	.4	.6	3.9
1917: Male	3.5	6.5	5.9	5.2	5.7	6.4	4.6
Female	3.5	8.4	8.8	4.7	4.0	3.1	5.3
Total	3.5	6.8	6.3	5.1	5.4	5.8	4.2
1927: Male	3.8	8.0	7.9	4.3	6.2	8.0	6.1
Female	10.4	14.0	6.4	3.0	8.7	3.0	6.6
Total	4.4	8.4	7.8	4.2	6.4	7.5	6.2
1937: Male	10.8	7.4	9.8	6.1	12.1	9.3	9.9
Female	6.9	9.0	7.6	6.0	2.9	5.5	5.4
Total	9.5	7.9	9.1	6.1	8.9	8.0	8.3
Total	3.7	7.3	6.7	5.1	5.2	6.0	5.3

[1] Data are from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME ≤$76 are excluded.

TABLE 11.[1]—STANDARD DEVIATIONS OF ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE MIDDLE THIRD OF WAGE DISTRIBUTION

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	12.7	8.7	10.3	10.7	7.2	8.5	10.3	8.4	10.2	11.4
Female	13.8	7.8	9.9	9.5	12.7	8.5	12.0	10.0	8.5	12.3
Total	13.2	8.5	10.2	10.9	9.4	8.7	10.8	9.0	9.8	12.0
1917: Male	11.9	11.7	11.8	9.0	9.5	9.3	11.5	10.0	10.3	12.7
Female	14.8	11.2	12.3	13.6	8.9	10.2	7.6	11.0	7.0	5.0
Total	12.4	11.8	11.9	10.1	9.7	9.5	10.9	10.2	9.8	11.6
1927: Male	12.5	13.0	13.7	14.3	12.0	13.2	12.0	15.0	13.9	14.5
Female	14.2	8.4	8.9	5.6	12.5	17.1	11.5	14.0	3.5	10.5
Total	12.6	12.8	13.3	13.9	12.2	13.6	12.0	14.9	13.3	14.2
1937: Male	20.8	19.6	20.8	18.2	17.8	16.2	12.7	7.1	9.2	13.3
Female	24.2	13.7	13.2	4.9	10.7	2.3	6.9	10.7	7.2	6.1
Total	22.5	18.0	18.7	15.3	15.5	13.3	12.2	8.5	8.9	11.6
Total	13.1	12.0	12.9	12.2	11.1	11.3	11.5	11.8	11.1	12.8

TABLE 11.[1]—STANDARD DEVIATIONS OF ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE MIDDLE THIRD OF WAGE DISTRIBUTION—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	9.9	9.7	10.7	11.1	16.6	18.6	11.1
Female	10.9	8.0	11.5	9.3	12.0	15.6	11.2
Total	10.3	9.4	10.9	10.6	15.3	17.4	11.1
1917: Male	10.0	11.1	10.0	11.0	11.7	11.0	11.0
Female	9.4	12.1	10.1	10.1	9.5	10.1	10.6
Total	9.9	11.3	10.1	10.8	11.3	10.9	10.9
1927: Male	10.0	9.6	8.8	11.1	12.1	10.6	12.6
Female	11.8	11.5	9.5	13.5	6.4	13.1	11.7
Total	10.3	9.9	8.9	11.3	11.7	11.0	12.5
1937: Male	14.1	9.7	11.7	9.9	11.9	14.4	14.5
Female	11.6	13.6	6.1	5.9	7.1	12.5	10.8
Total	13.4	11.2	10.3	8.7	11.4	13.9	13.5
Total	10.7	10.4	10.0	10.8	12.5	12.4	11.8

[1] Data are from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME $\leq$$76 are excluded.

TABLE 12.[1]—NUMBER OF WORKERS PERSISTENTLY IN THE HIGHEST THIRD OF WAGE DISTRIBUTION BY YEAR WITHIN YEAR OF BIRTH AND SEX GROUPS BY YEAR OF EARNINGS[2]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	82	85	85	84	86	88	84	81	84	88
Female	42	44	47	49	49	49	48	48	47	46
Total	124	129	132	133	135	137	132	129	131	134
1917: Male	135	137	139	138	143	146	141	145	136	134
Female	42	43	45	51	53	54	52	53	52	53
Total	177	180	184	189	196	200	193	198	188	187
1927: Male	125	124	124	125	125	129	125	124	120	120
Female	39	39	40	44	44	44	44	44	44	43
Total	164	163	164	169	169	173	169	168	164	163
1937: Male	27	34	37	38	38	39	42	41	42	41
Female	6	5	5	10	10	10	10	9	9	10
Total	33	39	42	48	48	49	52	50	51	51
Total	498	511	522	539	548	559	546	545	534	535

TABLE 12.[1]—NUMBER OF WORKERS PERSISTENTLY IN THE HIGHEST THIRD OF WAGE DISTRIBUTION BY YEAR WITHIN YEAR OF BIRTH AND SEX GROUPS BY YEAR OF EARNINGS[2]—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	84	86	81	78	67	41	1,284
Female	50	48	47	42	36	26	718
Total	134	134	128	120	103	67	2,002
1917: Male	143	143	145	125	125	120	2,195
Female	53	51	52	52	49	47	802
Total	196	194	197	177	174	167	2,997
1927: Male	118	122	120	121	116	109	1,947
Female	43	43	44	44	43	42	684
Total	161	165	164	165	159	151	2,631
1937: Male	42	40	39	40	41	40	621
Female	10	10	10	10	9	9	142
Total	52	50	49	50	50	49	763
Total	543	543	538	512	486	434	8,393

[1] Data are from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME $\leq$$76 are excluded.

[2] Year is the calendar year at the end of the period over which change is measured.

TABLE 13.[1]—AVERAGE ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE HIGHEST THIRD OF EARNINGS

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	3.4	2.4	7.8	3.0	5.6	0.6	2.5	0.7	2.6	6.2
Female	6.1	6.8	7.5	1.1	5.7	5.2	3.1	6.9	2.8	5.7
Total	4.3	3.9	7.7	2.3	5.6	2.3	2.7	3.0	2.7	6.0
1917: Male	6.6	2.5	9.0	3.5	4.5	2.6	2.0	4.5	3.3	9.8
Female	9.1	2.6	10.4	3.6	5.5	5.7	4.7	4.4	4.5	6.6
Total	7.2	2.5	9.3	3.5	4.8	3.4	2.7	4.5	3.6	8.9
1927: Male	11.3	6.4	9.2	6.7	6.3	6.0	8.3	4.2	3.3	8.8
Female	8.6	4.3	9.2	6.6	3.4	6.0	7.2	4.4	5.7	5.3
Total	10.7	5.9	9.2	6.7	5.6	6.0	8.0	4.3	4.0	7.8
1937: Male	15.7	12.4	13.3	14.8	2.9	9.6	13.0	6.8	8.4	13.2
Female	7.2	15.8	20.4	7.9	8.9	4.5	4.2	10.0	5.4	12.2
Total	14.2	12.9	14.1	13.4	4.1	8.5	11.3	7.3	7.9	13.0
Total	8.1	4.7	9.3	5.1	5.2	4.4	5.2	4.3	3.9	8.3

TABLE 13.[1]—AVERAGE ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE HIGHEST THIRD OF EARNINGS—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	6.6	5.9	6.2	1.8	2.3	4.9	3.9
Female	6.3	6.7	5.4	4.8	3.2	.3	5.0
Total	6.5	6.2	5.9	2.9	2.6	3.1	4.3
1917: Male	3.2	7.9	6.2	3.9	6.2	8.5	5.2
Female	5.2	4.5	8.3	7.9	3.6	6.4	5.8
Total	3.8	7.0	6.7	5.1	5.5	7.9	5.4
1927: Male	7.2	7.5	4.8	6.6	3.6	9.0	6.8
Female	6.7	6.7	4.3	9.3	8.1	6.0	6.4
Total	7.1	7.3	4.7	7.3	4.8	8.1	6.7
1937: Male	1.0	10.1	10.9	5.5	10.8	10.4	9.7
Female	2.6	16.1	3.3	5.7	.4	4.7	7.5
Total	1.3	11.3	9.3	5.6	9.0	9.3	9.3
Total	5.2	7.3	6.2	5.3	5.0	7.4	5.9

[1] Data are from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME $\leq$$76 are excluded.

TABLE 14.[1]—STANDARD DEVIATION OF ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE HIGHEST THIRD OF WAGE DISTRIBUTION

[Expressed as percentages]

Year of birth: Sex	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
1907: Male	12.6	11.6	11.2	8.4	11.1	10.1	8.2	10.7	10.4	15.8
Female	9.4	12.3	10.3	9.3	9.0	9.0	10.4	10.1	8.3	11.6
Total	11.7	12.1	10.9	8.8	10.4	10.0	9.0	10.9	9.7	14.5
1917: Male	13.7	13.8	13.3	13.9	13.3	13.3	9.5	12.5	11.9	16.4
Female	15.7	11.4	13.0	10.3	10.8	10.1	10.5	9.3	11.6	13.1
Total	14.2	13.2	13.3	13.0	12.7	12.6	9.9	11.7	11.8	15.6
1927: Male	14.2	15.0	14.9	15.2	13.5	13.2	12.8	11.5	12.7	17.3
Female	13.6	11.8	11.9	12.3	8.7	10.9	9.3	9.1	9.4	9.9
Total	14.1	14.3	14.6	14.5	12.5	12.7	12.0	10.9	12.0	15.8
1937: Male	13.4	16.3	18.0	17.0	14.8	12.9	16.3	17.2	18.9	14.3
Female	16.4	13.7	14.8	12.7	8.2	6.7	6.0	9.6	10.8	14.0
Total	14.4	16.0	17.8	16.4	13.9	12.1	15.3	16.2	17.8	14.2
Total	13.9	13.8	13.7	13.3	12.2	12.1	11.4	11.8	12.2	15.4

TABLE 14.[1]—STANDARD DEVIATION OF ANNUAL RATES OF EARNINGS CHANGE FOR WORKERS PERSISTENTLY IN THE HIGHEST THIRD OF WAGE DISTRIBUTION—Continued

Year of birth: Sex	1967	1968	1969	1970	1971	1972	Total
1907: Male	14.2	14.8	14.8	11.9	11.8	15.4	12.4
Female	10.7	9.8	11.8	11.3	10.4	15.3	10.7
Total	13.0	13.2	13.8	11.8	11.4	15.5	11.8
1917: Male	11.8	14.6	12.5	11.6	12.4	11.6	13.2
Female	10.9	13.5	12.4	13.0	12.1	11.2	12.0
Total	11.6	14.4	12.5	12.2	12.4	11.5	12.9
1927: Male	14.6	14.4	14.2	12.1	12.5	16.8	14.3
Female	8.4	6.7	9.7	12.0	9.3	13.1	10.6
Total	13.2	12.8	13.1	12.2	11.9	15.9	13.5
1937: Male	13.6	14.0	15.2	14.0	11.6	10.8	15.6
Female	6.7	13.9	14.7	18.7	9.2	8.2	12.8
Total	12.6	14.2	15.4	15.1	11.9	10.6	15.1
Total	12.7	13.7	13.4	12.5	12.1	13.9	13.1

[1] Data are from the 0.1 percent CWHS. Workers with zero earnings are excluded, as are workers whose annual earnings increased by more than 50 percent or decreased more than 33 percent. In year of death or disability, earnings are set to zero; workers with AME $\leq$$76 are excluded.

Section 2. Year of Peak Earnings

The basic objective of this section is to present tabulations of information obtained from the 0.1 percent CWHS concerning the calendar year in which peak estimated earnings were achieved for 1906 and 1907 year of birth cohorts of retired lives. The analysis proceeded along parallel tracks. In the first analysis, estimated total annual earnings for each retired worker are used. The second analysis involves the use of a price adjusted set of estimated total annual earnings for each worker. Workers deceased, disabled, and those with AME c$76 were excluded.

Tables 15 and 16 contain the results for estimated money earnings. The average year of peak earnings is tabulated in table 15 and the standard deviation of the year of peak earnings is presented in table 16. The corresponding results for estimated real earnings, adjusted using the Consumer Price Index (CPI), are presented in tables 17 and 18.

A comparison of these tables leads to several observations:

(1) From comparing tables 15 and 17 it is clear that the impact of making a price adjustment is to shift the distribution of calendar years in which peak earnings are achieved significantly to the left.

(2) Tables 16 and 18 support the proposition that there is considerable dispersion in the distribution of the calendar year of the attainment of maximum earnings.

SEC. 2—YEAR OF PEAK EARNINGS

TABLE 15.[1]—AVERAGE YEAR OF PEAK EARNINGS AND NUMBER OF RETIRED WORKERS, BY SEX, YEAR OF RETIREMENT AND YEAR OF BIRTH

Sex: Year of retirement	Average peak year			Number of workers		
	Birth year					
	1906	1907	Total	1906	1907	Total
Male:						
1968	1963.7	1967.0	1963.7	112	1	113
1969	1967.1	1964.4	1965.2	55	125	180
1970	1966.0	1966.7	1966.3	85	64	149
1971	1968.3	1967.6	1968.1	315	93	408
1972	1966.5	1968.8	1968.7	17	303	320
Total	1966.9	1967.5	1967.2	584	568	1,170
Female:						
1968	1963.3		1963.3	119		119
1969	1966.5	1965.0	1965.4	40	116	156
1970	1967.0	1968.1	1967.5	41	30	71
1971	1969.2	1968.0	1968.9	122	38	160
1972	1967.6	1968.8	1968.6	40	167	207
Total	1966.6	1967.4	1967.0	362	351	713
Grand total	1966.8	1967.4	1967.1	946	937	1,883

[1] Data are from the 0.1 percent CWHS with deceased, disabled, and workers with low AME, AME $\leq$$76, excluded.

TABLE 16.[1]—STANDARD DEVIATION OF YEAR OF PEAK EARNINGS

Sex: Year of retirement	Birth year		
	1906	1907	Total
Male:			
1968	4.4	0	4.3
1969	2.9	4.2	4.0
1970	4.7	4.2	4.5
1971	4.1	4.2	4.1
1972	5.4	4.1	4.2
Total	4.5	4.5	4.5
Female:			
1968	4.0	0	4.0
1969	3.5	4.2	4.1
1970	3.7	3.1	3.5
1971	3.1	3.6	3.3
1972	4.3	4.1	4.1
Total	4.4	4.3	4.4
Grand total	4.5	4.4	4.5

[1] Data are from the 0.1 percent CWHS with deceased, disabled, and workers with low AME, AME $\leq$ $76, excluded.

TABLE 17.[1]—AVERAGE YEAR OF PEAK EARNINGS INDEXED BY CPI WITHIN SEX, YEAR OF RETIREMENT, AND YEAR OF BIRTH GROUPS

Sex: Year of retirement	Year of birth		
	1906	1907	Total
Male:			
1968	1962.7	1962.0	1962.7
1969	1965.4	1963.2	1963.9
1970	1964.4	1964.2	1964.3
1971	1965.8	1965.3	1965.7
1972	1965.5	1966.2	1966.2
Total	1965.0	1965.2	1965.1
Female:			
1968	1962.3	0	1962.3
1969	1965.5	1963.7	1964.2
1970	1965.4	1966.5	1965.6
1971	1967.8	1966.4	1967.4
1972	1966.0	1967.1	1966.9
Total	1965.3	1965.9	1965.6
Grand total	1965.1	1965.5	1965.3

[1] Data are from the 0.1 percent CWHS with deceased, disabled, and workers with low AME, AME $\leq$ $76, excluded.

TABLE. 18.[1]—STANDARD DEVIATION OF YEAR OF PEAK EARNINGS INDEXED BY CPI

Sex: Year of retirement	Year of birth		
	1906	1907	Total
Male:			
1968	4.5	0	4.5
1969	3.9	4.4	4.4
1970	4.9	4.9	4.9
1971	4.7	4.7	4.7
1972	5.1	4.8	4.8
Total	4.8	4.9	4.8
Female:			
1968	4.1	0	4.1
1969	3.7	4.2	4.2
1970	3.9	3.4	3.7
1971	3.9	4.1	4.0
1972	4.4	4.6	4.6
Total	4.6	4.6	4.6
Grand total	4.7	4.8	4.7

[1] Data are from the 0.1 percent CWHS with deceased, disabled, and workers with low AME, AME $\leq$ $76, excluded.

Section 3. Number of Declines

The purpose of this section is to examine earnings variability by counting the number of 10 percent declines from one year to the next for a sample of earnings histories. The data analyzed is from the 0.1 percent CWHS, the 1906 and 1907 year of birth cohorts. Data for workers retiring in 1969, 1970, 1971, and 1972 are analyzed. As before, deceased and disabled workers and those with AME<$76 are excluded. To approximate the operation of the current Social Security system, earnings are limited to a hypothetical taxable maximum consistent with the automatic provisions of the present law. It is clear that declines of 10 percent or more are very common.

About 57 percent of the 1906 cohort retiring in 1971 (normal retirement) has 0, 1, or 2 years of 10 percent declines, while of those retiring in 1968, 1969, or 1971, only 27 percent had 0, 1, or 2 years of 10 percent earnings declines. For the members of the 1907 cohort within the sample, 61 percent of those retiring in 1972 (normal retirement) had 0, 1, or 2 years of 10 percent earnings decline. It appears as if those taking early retirement have higher levels of earnings variability, as measured by the frequency of 10 percent earnings declines.

SEC. 3—NUMBER OF DECLINES

TABLE 19.[1]—NUMBER OF WORKERS WITH 10-PERCENT DECLINES IN ESTIMATED EARNINGS LIMITED BY AUTOMATICALLY ADJUSTED (HYPOTHETICAL) TAXABLE MAXIMUM

Birth year / Retirement year	1906 1968	1906 1969	1906 1970	1906 1971	1906 1972	1906 Total	1907 1968	1907 1969
Sex: Number of declines:								
Male:								
0	1			25	3	29		2
1	4	4	6	63	4	81		11
2	19	13	16	86	2	136		18
3	12	9	16	49	1	87		24
4	16	11	13	39	3	82		14
5	23	5	16	22	2	68		24
6	13	9	10	13		45	1	17
7	14	3	5	13	1	36		8
8	7	1	3	4	1	16		6
9	2			1		3		1
10	1					1		
Total	112	55	85	315	17	584	1	125
Female:								
0			2	19	5	26		1
1	6	2	3	22	5	38		9
2	27	9	9	34	8	87		24
3	23	11	8	17	2	61		26
4	22	9	7	13	7	58		18
5	21	6	3	10	2	42		18
6	11	2	8	5	7	33		9
7	4		1		4	9		8
8	3	1		2		6		3
9	2					2		0
Total	119	40	41	122		362		116
Grand total	231	95	126	437	57	946	1	241

TABLE 19.[1]—NUMBER OF WORKERS WITH 10-PERCENT DECLINES IN ESTIMATED EARNINGS LIMITED BY AUTOMATICALLY ADJUSTED (HYPOTHETICAL) TAXABLE MAXIMUM—Continued

Birth year / Retirement year	1907 1970	1907 1971	1907 1972	1907 Total	Total Total
Sex: Number of declines:					
Male:					
0	1	4	50	57	86
1	7	10	77	105	186
2	12	20	58	108	244
3	15	20	33	92	179
4	5	19	42	80	162
5	11	7	23	65	133
6	4	9	8	39	84
7	4	3	8	23	59
8	4	1	1	12	28
9	1			2	5
10			3	3	4
Total	64	93	303	586	1,170
Female:					
0	1	3	26	31	57
1	3	3	37	52	90
2	10	11	38	83	170
3	4	5	24	59	120
4	5	8	20	51	109
5	2	4	12	36	78
6	2	2	6	19	52
7	2	2	2	14	23
8			2	5	11
9	1			1	3
Total	30	38	167	351	713
Grand total	94	131	470	937	1,883

[1] Data are from the 0.1 percent CWHS with deceased, disabled, and workers with low AME, AME≤$76, excluded.

Section 4. High-5

The tables of this section are designed to display some of the characteristics that are relevant to a benefit formula based on workers' five high years of earnings. The data comes from retired lives among the members of the 1906 and 1907 year of birth cohorts represented in the 0.1 percent CWHS. Deceased and disabled workers and those with AME <_ $76 are excluded. Table 20 displays a tabulation of the year of the earliest of the five years of highest earnings,

limited by an automatically adjusted (hypothetical) maximum consistent with the present law. In table 21, corresponding data is presented for the latest year of the high 5 years of estimated earnings. Probably the most important inference may be drawn from table 20, where it is clear that the earliest year in the high 5 years of earnings occurs several years before retirement for a significant proportion of workers.

SEC. 4—HIGH FIVES

TABLE 20.[1]—FREQUENCY OF EARLIEST YEARS OF HIGH 5 YEARS OF ESTIMATED EARNINGS LIMITED BY AUTOMATIC ADJUSTED (HYPOTHETICAL) MAXIMUM

	Male						Female					
	Birth year						Birth year					
	1906		1907		Total		1906		1907		Total	
Earliest year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1956	86	13.2	82	12.6	168	12.9	48	12.5	42	11.1	90	11.8
1957	32	4.9	45	6.9	77	5.9	23	6.0	23	6.1	46	6.8
1958	25	3.8	15	2.3	40	3.1	12	3.1	15	4.0	27	3.5
1959	27	4.1	26	4.0	53	4.1	21	5.5	21	5.6	42	5.5
1960	32	4.9	18	2.8	50	3.8	18	4.7	21	5.6	39	5.1
1961	25	3.8	34	5.2	59	4.5	33	8.6	17	4.5	50	6.6
1962	42	6.4	21	3.2	63	4.8	19	4.9	25	6.6	44	5.8
1963	52	8.0	38	5.8	90	6.9	34	8.8	24	6.3	58	7.6
1964	50	7.7	49	7.5	99	7.6	30	7.8	31	8.2	61	8.0
1965	68	10.4	39	16.0	107	18.2	31	8.1	23	6.1	54	7.1
1966	77	11.8	83	12.7	160	12.3	50	13.0	28	7.4	78	10.2
1967	80	12.3	93	14.3	173	13.3	31	8.1	40	10.6	71	9.3
1968	56	8.6	108	16.6	164	12.6	35	9.1	68	18.0	103	13.5
Total	652	100.0	651	100.0	1,303	100.0	385	100.0	378	100.0	763	100.0

[1] Data are for retired lives from 0.1¢ CWHS, excluding deceased, disabled, and workers with low AME.

TABLE 21.[1]—FREQUENCY OF LATEST YEAR OF HIGH 5 YEARS OF ESTIMATED EARNINGS LIMITED BY AUTOMATICALLY ADJUSTED (HYPOTHETICAL) MAXIMUM

	Male						Female					
	Birth year						Birth year					
	1906		1907		Total		1906		1907		Total	
Latest year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1960	3	0.5	14	2.2	17	1.3	8	2.1	9	2.4	17	2.2
1961	12	1.8	10	1.5	22	1.7	12	3.1	4	1.1	16	2.1
1962	12	1.8	9	1.4	21	1.6	7	1.8	10	2.6	17	2.2
1963	6	.9	15	2.3	21	1.6	10	2.6	2	.5	12	1.6
1964	11	1.7	16	2.5	27	2.1	7	1.8	6	1.6	13	1.7
1965	18	2.8	21	3.2	39	3.0	21	5.5	12	3.2	33	4.3
1966	30	4.6	20	3.1	50	3.8	21	5.5	18	4.8	39	5.1
1967	52	8.0	21	3.2	73	5.6	42	10.9	24	6.3	66	8.7
1968	66	10.1	50	7.7	116	8.9	40	10.4	49	13.0	89	11.7
1969	72	11.0	68	10.4	140	10.7	34	8.8	49	13.0	83	10.9
1970	117	17.9	76	11.7	193	14.8	56	14.5	31	8.2	87	11.4
1971	147	22.5	142	21.8	289	22.2	52	13.5	47	12.4	99	13.0
1972	106	16.3	189	29.0	295	22.6	75	19.5	117	31.0	192	25.2
Total	652	100.0	651	100.0	1,303	100.0	385	100.0	378	100.0	763	100.0

[1] Data are for retired lives from 0.1¢ CWHS, excluding deceased, disabled, and workers with low AME.

Section 5. Years at Maximum

Table 22 is derived from the 0.1 percent CWHS. Within a classification system involving year of birth and sex, the number of years that estimated earnings are at or above the adjusted (hypothetical) taxable maximum from 1956 through 1972 are tabulated. As before, deceased and disabled workers are excluded. Several observations may be made:

(1) The majority of workers did not reach the adjusted hypothetical maximum.

(2) Many more men than women exceed the taxable maximum.

(3) Members of the youngest cohort (1937) had not yet reached the taxable maximum in significant numbers.

(4) The oldest cohort (1907) did not reach the maximum with as high a frequency as the 1917 and 1927 cohorts.

SEC. 5—YEARS AT TAXABLE MAXIMUM EARNINGS BASE

TABLE 22.[1]—NUMBER OF YEARS THAT ESTIMATED EARNINGS ARE AT OR ABOVE THE AUTOMATICALLY ADJUSTED (HYPOTHETICAL) TAXABLE MAXIMUM EARNINGS BASE, 1956–72

Number years	Male					Female					Grand total
	Year of birth				Total	Year of birth				Total	
	1907	1917	1927	1937		1907	1917	1927	1937		
0	559	694	678	741	2,672	920	1,194	1,333	1,243	4,690	7,362
1	30	65	86	85	266	9	10	10	10	39	305
2	33	45	45	67	190	5	2	5	2	14	204
3	15	23	41	62	141	2	7	2	4	15	156
4	18	30	38	48	134	5	0	2	4	11	145
5	15	25	30	42	112	0	2	1	2	5	117
6	17	20	43	48	128	2	0	2	2	6	134
7	12	22	35	33	102	3	3	0	2	8	110
8	15	31	29	39	114	2	4	2	0	8	122
9	12	15	29	26	82	3	1	0	0	4	86
10	13	12	32	17	74	3	2	0	0	5	79
11	8	15	28	10	61	4	1	1	0	6	67
12	9	19	31	8	67	1	1	1	1	4	71
13	5	19	38	2	64	2	0	0	0	2	66
14	15	16	37	1	69	0	0	0	0	0	69
15	10	30	14	2	56	1	0	0	0	1	57
16	24	33	46	0	103	0	1	1	0	2	105
17	22	73	49	0	144	0	1	0	0	1	145
Total	832	1,187	1,329	1,231	9,579	962	1,229	1,360	1,270	4,821	9,400

[1] Data are from 0.1 percent CWHS. Deceased and disabled excluded.

Section 6. Classification of Earnings Histories[1]

The following classification scheme is designed to demonstrate and systematize the variety of shapes and levels of earnings histories of male workers which are shown in social security data files. The source for this study is the 0.1 percent 1937–72 Continuous Work History Sample. Male workers in three years of birth cohorts—1910–1911, 1920–1921, 1930–1931—are presented in order to assess the variation in earnings histories of workers passing through their working years before retirement.

In order to avoid the coverage problems in the early 1950's, only earnings in the years 1957–71 are used. Workers with no earnings in the period 1957–71 or having death or a social security disability benefit indication any time prior to 1–1–72 are excluded. The following table indicates the extent of the exclusions.

MALE WORKERS, 0.1 PERCENT 1937–72 CWHS

Year of birth	Zero earnings, 1957–71		Greater than zero earnings, 1957–71		Total
	Living	Deceased or disabled, Jan. 1, 1972	Living[1]	Deceased or disabled, Jan. 1, 1972	
1910–11	397	93	1,534	593	2,617
1920–21	537	85	2,284	260	3,166
1930–31	269	13	2,292	130	2,704

[1] Workers in this column are included in the analysis.

A. The Classification Variables

For workers alive (nonentitled) and active in the period 1957–1971, estimated total earnings are obtained for each year 1957–1971.

Estimated earnings = Farm wages + Self-employed net earnings + Estimated nonfarm wages

Early earnings are then wage indexed to the 1971 earnings level in order to remove the natural growth in average earnings over time. Using the fifteen years of waged indexed earnings, three measures are constructed for the classification scheme.

[1] Written by Herman Grundmann and Barry Bye, Office of Research and Statistics, Social Security Administration.

1. Average earnings per year, 1957–71

$$\bar{X} = \frac{\sum_{i=1}^{15} X_i}{15} \qquad \text{where } X_i = \text{Estimated earnings for the } i\text{th year.}$$

The fifteen-year period is then divided into three sections:

1957–1961, 1962–1966, 1967–1971, and we let:

A = Total earnings 1957–1961

B = Total earnings 1962–1966

C = Total earnings 1967–1971

Then define:

2. Trend ratio

$$T = \frac{C-A}{C+A}, \quad T = 0 \text{ when } A = C = 0.$$

The trend will range from −1.0 to 1.0.

T = −1.0 (1.0) when all of the earnings in the first and third periods are concentrated in the first (third) period.

3. Profile ratio

$$P = \frac{B-(A+C)/2}{B+(A+C)/2}$$

The profile will range from −1.0 to 1.0.

If B equals the mean of A and C, P is equal to zero, the trend of earnings in the three subperiods is linear; that is, B lies on the line connecting A and C. If B exceeds the mean of A and C, P is positive, the curve connecting A, B, and C bulges above the straight line from A to C. Finally if B is less than the mean of A and C, P is negative, the curve connecting the three points A, B, and C sags beneath the straight line from A to C.

If P = 1.0, all of the earnings are in the middle period.

If P = −1.0, all of the earnings are in the first and/or third periods.

B. The Classification Scheme

In order to highlight the basic levels and shapes of earnings histories, three categories are constructed for each classification variable.

1. Average wage indexed earnings (base 1971)

Low earners = Less than $5,000 average earnings

Middle earners = $5,000–10,000 average earnings

High earners = Greater than $10,000 average earnings

These cutoff points, $5,000 and $10,000, approximate the 33rd and 67th percentiles for the total populations of workers (alive and active in the period 1957–71) from the three year of birth cohorts.

2. Trend ratio

Decreasing = T less than $-1/9$

Level = T between $-1/9$ and $+1/9$

Increasing = T greater than $+1/9$

If C = 1.25, then

$$T = \frac{1.25A - A}{2.25A} = \frac{.25}{2.25} = \frac{1}{9}$$

So if C is 25 percent larger than A, the trend is classified as increasing. If A is 25 percent larger than C, the trend is termed decreasing. Otherwise the trend is said to be level.

3. Profile ratio

Sag = P less than $-1/9$

Linear = P between $-1/9$ and $+1/9$

Hump = P greater than $1/9$

Accordingly, if B is 25 percent larger than the mean of A and C, the earnings record is said to show a humped profile. If the mean of A and C is 25 percent larger than B, the profile is classified as showing a sag. Otherwise the profile is said to be linear.

Using this scheme, each earnings history will fall in one of 27 possible groups. (Average earnings $\times$ Trend $\times$ Profile = $3 \times 3 \times 3 = 27$.)

Figures 1–3 show the results of the classifications separately for the three years of birth cohorts. The numbers in the left column of each figure represent the percentage of cases in the cohort that fell in each of the 27 possible groups. (The frequency counts are shown in parentheses in each cell.)

The charts in the right column of each figure show corresponding graphs of the mean earnings vectors for each of the 27 groups. The vertical scale of each graph is average wage indexed earnings in thousands. The horizontal scale represents the years 1957–1971. Any cell containing less than 2 percent (rounded) is not graphed in order to highlight major changes in shapes and levels between the three year of birth cohorts.

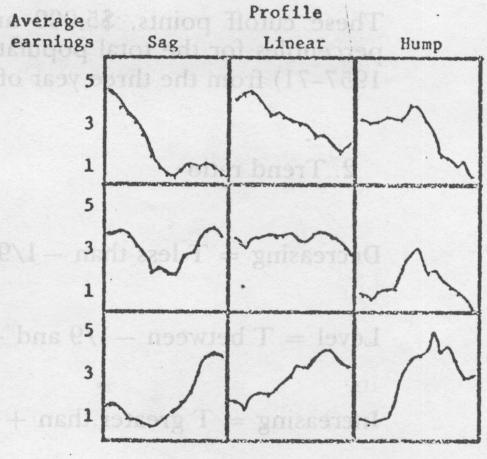
Male Workers

Year of Birth 1910-1911

Figure 1

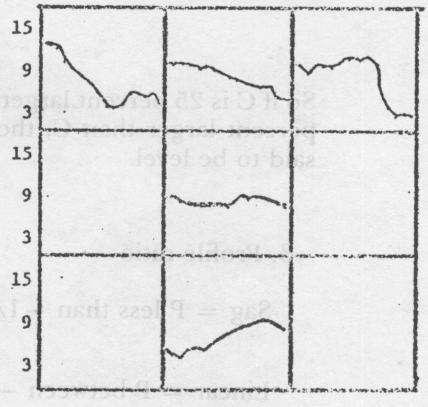
A. Low Earners

Trend	Profile: Sag	Linear	Hump	
Decreasing	8 (116)	3 (44)	3 (48)	14
Level	2 (33)	3 (42)	2 (24)	6
Increasing	6 (97)	4 (60)	3 (39)	13
	16	10	7	33



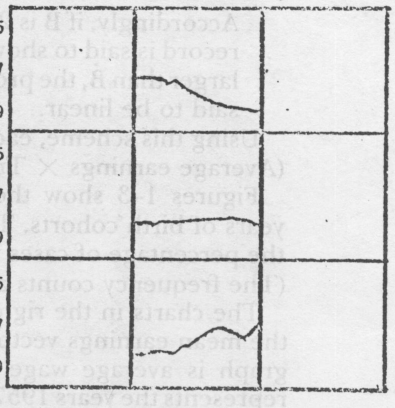
B. Middle Earners

Decreasing	2 (28)	5 (71)	2 (35)	9
Level	1 (22)	19 (298)	1 (12)	22
Increasing	1 (12)	5 (77)	1 (22)	7
	4	29	4	38



C. High Earners

Decreasing	1 (22)	4 (67)	1 (20)	7
Level	0 (6)	15 (228)	1 (18)	16
Increasing	1 (15)	4 (61)	1 (17)	6
	3	23	4	30



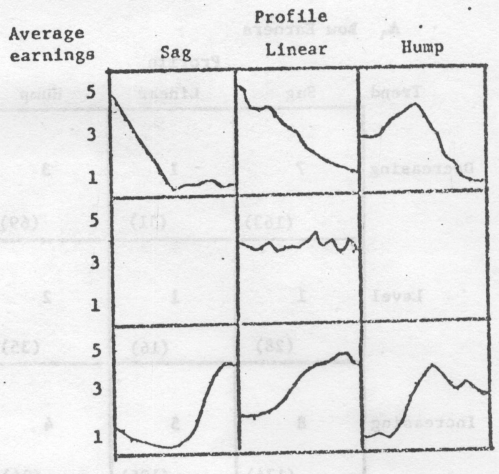
Male Workers

Year of Birth 1920-1921

Figure 2

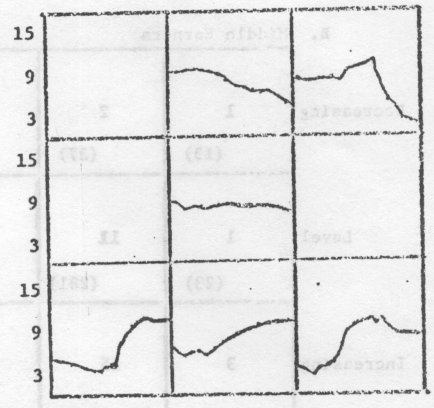
A. Low Earners

Trend	Profile: Sag	Linear	Hump	
Decreasing	7 (167)	2 (56)	2 (53)	12
Level	1 (33)	2 (45)	1 (25)	5
Increasing	7 (152)	3 (69)	3 (59)	12
	15	7	6	29



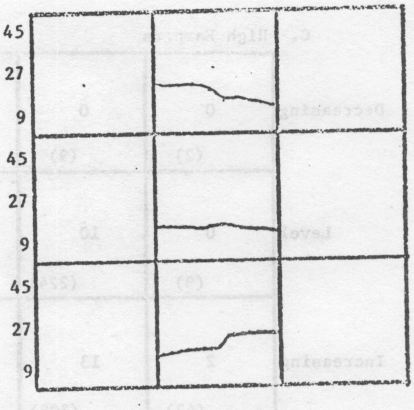
B. Middle Earners

Decreasing	1 (30)	3 (76)	2 (54)	7
Level	1 (21)	15 (347)	1 (29)	17
Increasing	2 (41)	7 (158)	2 (45)	11
	4	25	6	35



C. High Earners

Decreasing	1 (17)	2 (50)	1 (26)	4
Level	1 (15)	18 (415)	1 (34)	20
Increasing	1 (33)	9 (201)	1 (33)	12
	3	29	4	36

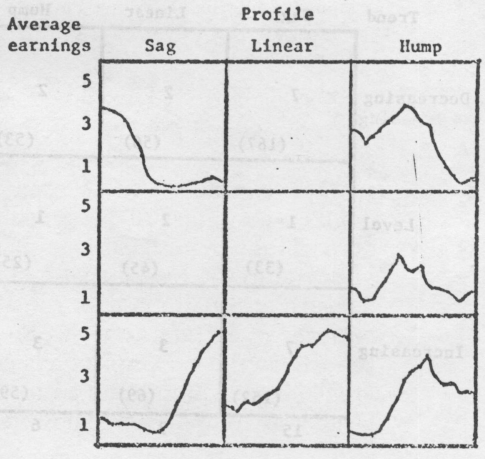


Male Workers
Year of Birth 1930-1931

Figure 3

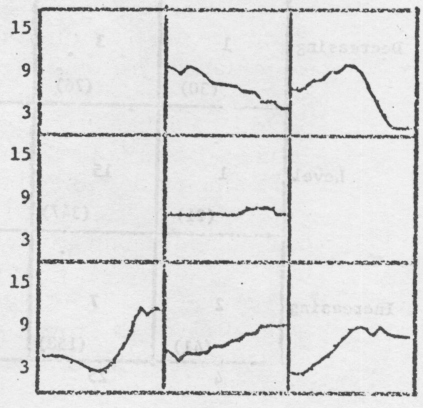
A. Low Earners

Trend	Profile: Sag	Linear	Hump	
Decreasing	7 (163)	1 (31)	3 (69)	11
Level	1 (28)	1 (16)	2 (35)	3
Increasing	8 (174)	5 (105)	4 (84)	16
	16	7	8	31



B. Middle Earners

Decreasing	1 (13)	2 (37)	2 (39)	4
Level	1 (23)	11 (261)	1 (28)	14
Increasing	3 (66)	15 (351)	4 (84)	22
	4	28	7	39



C. High Earners

Decreasing	0 (2)	0 (9)	1 (12)	1
Level	0 (9)	10 (224)	1 (19)	11
Increasing	2 (42)	13 (308)	3 (60)	18
	2	24	4	30