MEMORANDUM

RELATIVE TO

THE PROBABLE NUMBER AND AGES OF THE ARMY AND NAVY SURVIVORS OF THE WAR OF THE REBELLION,

AND THE

POSSIBLE NUMBER OF BENEFICIARIES UNDER AND POSSIBLE COST OF CERTAIN PROPOSED PENSION LAWS.

RECORD AND PENSION OFFICE,
WAR DEPARTMENT,
April 14, 1896.

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MEMORANDUM

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POSSIBLE NUMBER OF BENEFICIARIES UNDER AND POSSIBLE COST OF CERTAIN PROPOSED PENSION LAWS.

The basis of all estimates as to the number of beneficiaries under and the cost of any proposed pension law must be the determination of, or an estimate of, the number of the survivors of the late war at the present time, and of the number who will be surviving at various periods in the future, until none shall remain. Such an estimate was prepared by this office in March, 1890, at the request of the chairman of the Committee on Invalid Pensions, House of Representatives, for use in the consideration of various proposed measures which culminated in the act approved June 27, 1890. That estimate was as follows:

ESTIMATE OF MARCH 31, 1890.

It should be stated in advance that any estimate of the number and ages of the surviving veterans of the war can not be more than approximately correct, for the reason that the data on which to base such an estimate are deficient in two very important particulars, viz: First, the actual number of individuals in service has never been officially determined; and second, the numbers of men of different ages upon entry into service, or for any given period of the war, have never been ascertained; nor can the missing data be supplied without a laborious search of the many thousands of original rolls and other records filed in the War and Navy Departments—a work which would require years for its completion.

Moreover, if the exact number and ages of the survivors at the close of the war were known, the problem of determining the number now living and the probable duration of life for each group of ages would still be involved in difficulty, for no life table has ever been constructed which is applicable to such a class of lives as that furnished by the veterans of the late war. While it is the generally accepted opinion that the expectation of life of men of this class is less than that of men of the same ages who have never been exposed to the shock of battle and the hardships and privations of field, camp, and prison, on the other hand, it has been very ingeniously urged that, by the operation

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of the law of the survival of the fittest, the reverse is actually the case, for the reason that the individuals of little endurance and tenacity of life, whose early death materially shortens the average of life among civilians, have long since been eliminated from the class to which the veterans belong, having succumbed either to the hardships and dangers of the war or their subsequent results. Thus, it is claimed, the survivors have become a selected class, whose average duration of life is likely to be greater than that of an equal number of non-veterans of the same ages, who have not been subjected to this weeding-out process.

It will be readily seen, then, that the problem presented is incapable of anything like an exact solution, and that the results obtained can be nothing more than approximations. But it is also evident that an approximation which is reached after a careful study of all the data available, meager though they are, is of much greater utility than the loose estimates and wild guesses which have heretofore passed current in discussions of this question. Moreover, it is believed that sufficient information is at hand to enable a calculation to be made which can not be very far from correct, and which may be safely used for all practical purposes.

In all the calculations embodied in this memorandum a recent life table (American male) has been used in determining the probable duration of life for each group of ages. The results obtained must be considered to be maximum figures, if it is believed that the expectation of life of the veterans of the war is less than that of non-veterans of the same ages. If the reverse is held to be true, as suggested above, then the figures given must be accepted as minimum in all cases. As between these two opposite opinions, in support of each of which there is much to be said, it is perhaps not unreasonable to assume that the mean is more nearly correct than either, and that the probable average duration of life is about the same for the veterans as for non-veterans. If this be held, then the figures given must be considered to be nearly correct.

(This statement requires some modification. The life table which was used in the preparation of the estimate is based upon the experience of insurance companies with a class of lives that were selected, to a certain extent at least, and consequently it will not give absolutely correct results if used in estimating the duration of wholly unselected lives. But, for reasons that are more fully set forth below, it would seem that the expectation of life of the veterans of the war must be somewhat greater than that of non-veterans of the same ages, and, this being the case, that the life table which was used in the preparation of the estimate gave more accurate results than would have been obtained by the use of a table based upon wholly unselected lives.—*April, 1896.*)

Subject to the foregoing remarks, and to be considered only in connection with them, the following is submitted:

ARMY.

As shown by the latest official statement, the number of men furnished by the different States and Territories during the war, under calls from the President, was 2,778,304. Deducting from this the number of seamen and marines, 105,963, leaves a total of 2,672,341 credited to the Army.

(The strength of the Regular Army at the outbreak of the war was 16,422, but this number has not been taken into account in the calculation, because the majority of the men whom it represents, being professional soldiers, undoubtedly reenlisted or were commissioned in either the regular or volunteer service during the war, and are consequently included in the total number of credits. The strength of the Navy at the beginning of the war has been neglected in the calculation for the same reason.—*April, 1896.*)

No official compilation has ever been made of the total number of reenlistments in the Army, but various estimates have been made by different authorities ranging from 370,000 to 716,787. The mean between these two numbers, 543,393, is believed to be a fair approximation of the actual number. Deducting this from the total credited to the Army leaves 2,128,948 as the number of individual soldiers serving in the war.

The number of deaths for the Army is 359,528, and the number of actual deserters at large at the close of the war (making due allowance for those incorrectly reported as deserters) has been estimated at 117,247. Deducting the deaths and deserters leaves 1,652,173 as the probable number of individual soldiers who were alive at termination of service and were not deserters.

NAVY.

The total number of men credited to the several States as having been furnished to the Navy and Marine Corps during the war was 105,963. This figure is taken as the basis of calculation, and not the number of enlistments as reported by the Navy Department, which is believed to include a large number of transfers from the Army, and these have already been counted in the Army estimates.

No data are at hand from which to estimate the number of reenlistments, but assuming that their proportion was the same as in the Army, the total number of individuals in service was 84,417. No information has been obtained as to the actual number of desertions, but again assuming that the Army proportion is applicable, the number would be 4,649. The deaths, as reported by the Bureau of Medicine and Surgery, numbered 4,588. Deducting the deaths and desertions leaves 75,180 as the probable number of seamen and marines who were alive at termination of service and were not deserters.

ARMY AND NAVY.

Combining the foregoing estimates, it appears that the total number of individuals in the military and naval service during the war was 2,213,365, and of these 1,727,353 were alive at termination of service (deserters excluded).

As in the case of reenlistments, no official compilation has been made of the ages of the men in service at any period of the war. From statistics of the ages at enlistment of about 1,000,000 soldiers, collected by the United States Sanitary Commission, Dr. B. A. Gould, actuary of the commission, formed estimates of the number of men in each year of age. In the absence of better information, and assuming that the ages of soldiers, seamen, and marines were relatively the same, the tables published by Dr. Gould have been taken as a basis for calculating the appended table (No. 1), which shows the probable total number of survivors (excluding deserters) on June 30 of each year from 1890 to 1909, inclusive, and at the close of each quinquennial period from 1910 until none shall remain.

Table No. 2 shows the probable number of men who will arrive at the age of 62 years, or over, June 30, 1890, and of the probable number that will attain the age of 62 in each succeeding year, until practically all shall have passed that age.

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SUMMARY.

(1) Estimated total number of survivors (deserters excluded) June 30, 1890	1,285,471
(2) Total number of men furnished during the war (credits)	2,778,304
To Army	2,672,341
To Navy	105,963
(3) Estimated total number of reenlistments	564,939
In Army	543,393
In Navy	21,546
(4) Estimated total number of desertions	121,896
From Army	117,247
From Navy	4,649
(5) Total number of deaths	364,116
In Army	359,528
In Navy	4,588
(6) Estimated total number of individuals in service	2,213,365
In Army	2,128,948
In Navy	84,417
(7) Estimated total number of survivors at termination of service (deserters excluded)	1,727,353
In Army	1,652,173
In Navy	75,180

TABLE NO. 1.—TOTAL SURVIVORS.

Showing the probable total number of survivors of the war of the rebellion (excluding deserters) on June 30 of each year from 1890 to 1909, inclusive, and at the close of each quinquennial period thereafter until none shall remain.

Year.	Survivors.	Year.	Survivors.
1890	1,285,471	1904	858,002
1891	1,261,232	1905	820,687
1892	1,236,076	1906	782,722
1893	1,209,968	1907	744,196
1894	1,182,889	1908	705,197
1895	1,154,810	1909	665,832
1896	1,125,725	1910	626,231
1897	1,095,628	1915	429,727
1898	1,064,524	1920	251,727
1899	1,032,418	1925	116,073
1900	999,339	1930	37,033
1901	965,313	1935	6,296
1902	930,380	1940	340
1903	894,585	1945	0

TABLE NO. 2—SURVIVORS BECOMING 62 YEARS OF AGE.

Showing the probable number, June 30, 1890, of the survivors of the war of the rebellion (excluding deserters), the number who will be 62 years of age, or over, on that date; also the number who will attain 62 years of age after 1890, with the year in which they will reach that age.

Probable number of survivors in 1890	1,285,471
Probable number of survivors in 1890 62 years of age or over	149,531

Will live to be 62 years old.		Will live to be 62 years old.	
In year—	Number of men.	In year—	Number of men.
1891	20,817	1901	62,414
1892	22,692	1902	70,799
1893	24,891	1903	80,234
1894	27,480	1904	90,733
1895	30,530	1905	106,043
1896	34,073	1906	97,536
1897	38,203	1907	44,747
1898	43,025	1908	5,672
1899	48,611	1909	820
1900	55,042		

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MEMORANDUM OF APRIL 14, 1896.

In explanation of the foregoing estimate, it may be stated here that the life table which was used in the calculations involved was that which is known as the "Thirty American Offices" table (male). Since this table is based upon the experience of insurance companies with a selected class of lives, its rates of mortality are somewhat lower than those of other tables that are based upon unselected lives. But, as suggested in the memorandum of 1890, the veterans of the war may be considered to be a selected class from among whom, by the operation of the law of the survival of the fittest, those individuals of little endurance and tenacity of life have been eliminated either by the vicissitudes of the war or their subsequent results. In addition to this, the lot of the average veteran is very much better than that of the non-veteran, in that the former enjoys the benefit of liberal pension laws, is given preferment in municipal, State, and Federal employment, and is cared for by relief associations and in Soldiers' Homes when he needs such care. All of these favorable conditions combined must certainly tend to prolong the life of the class which enjoys their benefit, and there seems to be good ground for the belief that the expectation of life of veterans of the war, in later years at least, is greater than that of non-veterans of the same ages. And for this reason it is believed that the table used in the preparation of the estimate for 1890 and subsequent years has given more accurate results than would have been obtained by the use of a table whose rate of mortality is higher.

It should be observed also that in applying the life table to the determination of the number of survivors at various dates each group of individuals of the same age was dealt with separately, and no attempt was made to use an average age in any calculation. The inaccuracy of the results obtained by the application of a life table to an average age is so well known to those who are at all familiar with statistical matters that it would not be necessary to mention the subject here, were it not for the fact that since the publication of the estimate made by this office in 1890 several estimates have emanated from other sources in which it has been erroneously assumed that the average age of the survivors as determined by this office for a given period could be used as a basis for accurate calculations covering future periods. It is only necessary to say in this connection that, because of the greater rate of mortality among, and the resulting more rapid decrease in the number of, the survivors of the higher ages, the average age of the whole class does not increase as rapidly as the age of an individual member of it. For instance, as shown by the estimate of 1890, the average age of all survivors in 1865 was 28 years, whereas in 1895, thirty years later, the average age was only 57 years. The number of survivors on June 30, 1895, as obtained by separately applying the life table to each group of survivors of the same age, differs by more than 40,000 from the number obtained by using an average age in the calculation.

The estimate of 1890 has recently been carefully reconsidered with the view to determine whether, in the light of data now obtainable, any change should be made in it, and as a result of this reconsideration the conclusion has been reached that there is no ground for the belief that a more accurate estimate than that of 1890 could have been made then, or can be made now.

According to the estimate, the survivors of the late war (deserters excluded) should have numbered 1,154,810 on June 30, 1895; and if this figure is correct it should be supported by data obtainable from the records of the Pension Bureau.

It has been ascertained from the Commissioner of Pensions that 735,338 survivors of the war were borne on the pension roll on June 30, 1895; that 116,177 other survivors had claims pending, and that 150,209 "original invalid" claims were on the rejected or abandoned files of the Bureau. These figures include those who have been pensioned for service in the Regular Army and Navy since the war, those who have died with rejected or abandoned claims on file, and some duplications in that class of claims. It is impossible to determine exactly how much of an allowance should be made for these factors, but from the best data obtainable it is estimated by this office that a reduction of 57,540 in the foregoing figures should be made in order to make them represent individual survivors of the war of the rebellion. Making this reduction, it appears that the records of the Pension Bureau account for 944,184 survivors on June 30, 1895.

It will be seen from the foregoing statement, then, that the number of survivors on June 30, 1895, as estimated by this office, is 210,626 in excess of the number that can be accounted for by the records of the Pension Bureau on that date; and if the estimate is correct this excess must represent the number of those who, up to June 30, 1895, had never made application for pension, and of whom, consequently, the Pension Bureau could have had no record on that date. This number is, and must always remain, an unknown quantity; but being freed, as it now is, from other obscuring factors, it can be considered by itself, and each one interested in the problem can pass his own judgment upon it.

It is believed that the number of survivors of the war who have never made application for pension is considerably larger than those who have given the question but little thought are accustomed to estimate it to be. There are several different classes of veterans who have not applied for pension. The first, and probably the largest, of these is made up of those who are yet comparatively young men, who are still vigorous and able-bodied, and who are free from disabilities or ailments that disqualify them in any degree for the performance of manual labor or the discharge of their accustomed duties. The fact that this class is a very large one will be better appreciated when it is considered that, according to the estimates of this office, the average age of all survivors of the war on June 30, 1895, was only 57 years, and, consequently (because of the preponderance of enlistments at the lower ages), at least half of them, or more than half a million in all, must have been younger than that, and many of them must have been considerably younger. In addition, there must be considered those of all ages who have never applied for pension because of their prosperous circumstances, or for sentimental reasons, or because they are aware that they are suffering from disabilities that are not pensionable under any law. Of course, there is no means of determining the total number of persons who are comprised in these four classes, but it needs but little reflection to convince anyone that the number must be a large one, and it would seem that it must equal, if it does not exceed, the 210,626, which must be added to the 944,184 considered to be accounted for by the records of the Pension Bureau on June 30, 1895, in order to make 1,154,810, which is the total number of survivors (deserters excluded) that is shown by the original estimate of this office for that date. This is in the proportion of 817.61 applicants for pension and 182.39 non-applicants per thousand of all pensionable survivors.

It does not seem unfair to assume that in every thousand honorably discharged survivors of the late war there were on June 30, 1895, one hundred and eighty-two who, for various reasons, had never made application for pension, and that the estimate of this office as to the total number of survivors on that date is very nearly correct. And if the estimate is correct for the date in question it can be demonstrated to be equally correct for other dates covered by it.

But, as stated above, this question is one in the solution of which each inquirer can well exercise his own judgment. Those who believe that more than eight hundred and eighteen in every thousand of the honorably discharged survivors of the war had, on June 30, 1895, made application for pension must consider the estimate as to the total number of survivors on that date to be too large, whereas those who believe that less than eight hundred and eighteen per thousand had applied for pension on that date must consider the estimate too small.

A special enumeration of survivors was made during the census of 1890, and in a recently published statement of the Commissioner of Labor, in charge of the Eleventh Census (Senate Document No. 135, Fifty-fourth Congress, first session), the total number of survivors, as shown by the population schedules, is given as 1,034,073. But the census enumeration could not possibly have included all the survivors, because many of them were out of the country at the time, and many more must have failed to be enumerated as such for various reasons. It requires but a brief examination of the census figures to show that they fall far short of representing the total number of survivors in 1890, and that they can not be relied upon as the basis of any calculation for the future. If, as shown by the census report, there were 1,034,073 survivors of the war of the rebellion in 1890, of the ages ascertained by the enumerators, this number should have fallen, according to the life tables, to 919,954 on June 30, 1895. But this last number is only 80,917 in excess of the number of survivors who were either on the pension rolls or had claims pending at that date, excluding regular army and navy pensioners and claimants who served since the war, and is *24,230 less* than the number that, as previously pointed out in this paper, can be considered to have been accounted for by the records of the Pension Office on that date, to say nothing of the very large number of those who had never applied for pension, and of whom, consequently, the Pension Office could have had no record. It is confidently believed, therefore, that the figures shown by the estimate made by this office are much more reliable than those shown by the census of 1890 as the basis of any calculation for the future.

There has recently been made in this office a careful examination of the records of all organizations that are known to have been in the military service less than ninety days, and of all in which any considerable number of men are known to have served less than ninety days, and as a result of this examination it has been found that 42,323 officers and enlisted men served less than ninety days *in these organizations*. But it is well known that a large proportion of the short-term men had service under prior or subsequent enlistments. It is impossible to ascertain from the official records how many men served under two or more enlistments, because the records as a rule do not connect one enlistment with another, and do not afford any means of determining whether similar or identical names borne on the rolls of two or more different organizations refer to one and the same man or to two or more different men. However, it is believed that fully three-fourths of the 42,323 members of the short-term organizations now under consideration, having been brought into service in other organizations, or in the same organizations at different periods, through patriotic motives, the operation of the draft, or the inducement of bounties, served a sufficient length of time to make their whole service exceed ninety days, and that the remaining

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one-fourth, or 10,581, fairly represents the number that rendered no service other than that of less than ninety days in these organizations.

It should be observed that in this connection no account is taken of the men who were discharged for disability or who deserted, from both long and short term organizations and at various times throughout the whole war, after a service of less than ninety days. It is evident that these should not be considered in estimating the number of beneficiaries under a per diem pension bill, because practically all of this class who were discharged for disability incurred in service may be presumed to have been pensioned already, or to be pensionable, under the general law at a rate higher than that to which their short service would entitle them under a per diem law, and that, consequently, they will not be applicants for pension under such a law; and those who would become beneficiaries under any other service pension law must be so few that their number need not be considered in estimating the cost of that law. Deserters, of course, can not come within the provisions of any law whose benefits are restricted to those having honorable discharges from the military or naval service, and they have been excluded from all the calculations embodied in this paper.

Assuming the ages of the 10,581 short-term men referred to above to have been relatively the same as the ages of all other survivors at the termination of service, their number should have fallen, according to the life table, to 7,074 on June 30, 1895, and this figure must be excluded in estimating the cost of any law under which those who have served less than ninety days can not become beneficiaries.

There has also been made an examination of the records of all organizations that are known to have been in the military service more than ninety days but less than six months, and of all in which any considerable number of men are known to have served more than ninety days but less than six months, and as a result of this examination it has been found that 238,469 officers and enlisted men served more than ninety days and less than six months *in these organizations*. Adding to this number 42,323, to include those who served less than three months as explained above, it is found that 280,792 officers and enlisted men served less than six months in the organizations now under consideration, not taking into account those who were discharged for disability or who deserted, at various times during the war and from both long and short term organizations, after a service of less than six months. For the reasons stated above it is impossible to ascertain how many of these men served under two or more enlistments, but as the records show that 233,351 of them enlisted in organizations whose periods of service were one hundred days or less, it is believed that at least one-half of the total number, or 140,396, had prior or subsequent service sufficient to make their total service exceed six months.

Assuming the ages of these 140,396 men to have been relatively the same as the ages of all other survivors at the termination of service, their number should have fallen to 93,861 on June 30, 1895, and this figure must be excluded in calculating the cost of any law whose benefits are restricted to those who served six months or more.

Following is an estimate of (1) the number that will be pensionable under and the possible cost of an act granting a pension of $8 per month to all honorably discharged survivors of the late war who are 62 years of age and over and who are not now on the pension roll, and increasing to $8 per month the pensions of all those who are now pensioned at a rate less than that; (2) the number that will be affected by and the possible cost of a similar law whose benefits shall be restricted to survivors who are 62 years of age or over and who served 6 months or more; (3) the number that will be pensionable under and the possible cost of a law pensioning at $12 per month all survivors who are not now on the pension roll, but who served ninety days or more during the war, and increasing to $12 per month the pensions of all survivors who are now on the pension roll at a rate less than that, but who served ninety days or more; (4) the number that will be pensionable under and the possible cost of an act granting to all survivors who are not now on the pension roll a pension of 1 cent per month for each day of their service during the war, and increasing to an amount equal to 1 cent per month for each day of service the pensions of all survivors who are now on the pension roll at a rate less than that; (5) the number that will be affected by and the possible cost of a similar law whose benefits shall be restricted to survivors who served ninety days or more.

It should be understood that these estimates are subject to the remarks made in connection with the estimate of 1890, and are to be considered only in connection therewith. It should also be understood that the term "survivors," as used in the estimates, *excludes deserters* in all cases.

I.

SURVIVORS AT 62 YEARS OR OVER ON JUNE 30, 1896, EXCLUDING PENSIONERS AT $8 OR OVER PER MONTH.

Assuming that a law has been enacted granting a pension of $8 per month to all honorably discharged survivors of 62 years of age and over who are not now on the pension roll, and increasing to $8 per month the pensions of all survivors of 62 years of age and over who are now on the pension roll at a rate less than $8 per month, and assuming that the ages of all those who would come within the provisions of such a law are relatively the same as the ages of *all* survivors of the war, whether pensioned or not, the maximum possible number of beneficiaries under the law on June 30, 1896, would be 130,991, and the maximum possible addition, during the year following that date, to the annual expenditures for pensions under other laws would be $9,983,496. Following is a table showing for each year from 1896 to 1910, and for quinquennial periods thereafter, the total number of pensionable survivors of 62 years of age or over who are not now on the pension roll or are pensioned at rates less than $8 per month; also the total amount required each year to pension all such survivors, and the increase or decrease of such total amount from year to year.

The figures given for the year 1896 and a few succeeding years are undoubtedly too large, because they have been based upon the assumption that the ages of those who would be affected by the proposed law, especially of those who are not now on the pension roll, are relatively the same as the ages of *all* survivors, whether now on the pension roll or not.

But it seems probable that the average age of those who are not on the pension roll is less than that of pensioners, because the class of non-pensioners must be very largely composed of the younger survivors who have not been able or who have not cared to obtain pensions under the act of June 27, 1890. This being the case, the figures for a few of the earlier years in the table must be too large, because those who have been counted as being 62 years of age in any particular one of those years, but are actually not so old, will become 62 in a later year. In addition to this, the only accessible figures showing the number on the pension roll are those given in the last annual report of the Commis-

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sioner of Pensions and represent the condition of that roll on June 30, 1895. Of course a considerable number of non-pensioners will have been pensioned under existing laws between that date and June 30, 1896. Although their number and the total amount of their pensions can not be foretold, the actual expenditure under the proposed law will be reduced thereby somewhat below the estimate in the table.

The table only represents what is believed to be the maximum annual expenditure that is *possible* in the future under the proposed law. Of course it is not at all probable that, if such a law should be enacted immediately, all those who now come within its provisions would be pensioned, or even would have filed applications for pensions, as early as June 30, 1897, and for this reason also the estimate in the table of the expenditure for that year and the year following that date is too large, but this factor is not of so much importance in the calculation for later years, because the majority of those whose claims can not be adjudicated or are not filed within the first year of the existence of such a law will probably become pensioners under it within a short time afterwards.

In estimating the effect that the proposed law would produce upon the total expenditures of the Government for pension purposes in future, it should be borne in mind that many of those who would be pensioned in the near future under such a law will, without such a law, be pensioned in the near future under the existing act of June 27, 1890, because they will shortly be brought within the operation of that act by reason of the infirmities of advancing age, if for no other reason. In addition to this there should be taken into account the diminution in pension expenditures which will be caused in the future by the death of those who are now drawing pensions under existing laws.

($8—62 YEARS.)

Table showing the number that will probably be pensionable under, and the possible cost of, an act granting a pension of $8 per month to all honorably discharged survivors of the late war who are 62 years of age and over and who are not now on the pension roll, and increasing to $8 per month the pensions of all such survivors who are now pensioned at a rate less than that.

Year.	Beneficiaries.	Cost.	Increase from previous year.	Decrease from previous year.	Year.	Beneficiaries.	Cost.	Increase from previous year.	Decrease from previous year.
1896	130,991	$9,983,496	.....	.....	1907	378,879	$28,876,320	$302,064	.....
1897	144,040	10,981,032	$997,536	.....	1908	361,855	27,578,976	.....	$1,297,344
1898	158,541	12,083,256	1,102,224	.....	1909	342,065	26,070,600	.....	1,508,376
1899	175,260	13,357,440	1,274,184	.....	1910	321,720	24,519,960	.....	1,550,640
									Decrease in five years.
1900	194,396	14,815,992	1,458,552	.....	1915	220,768	16,825,920	.....	$7,694,040
1901	216,328	16,487,520	1,671,528	.....	1920	129,322	9,856,320	.....	6,969,600
1902	241,466	18,403,464	1,915,944	.....	1925	59,631	4,544,784	.....	5,311,536
1903	270,197	20,593,128	2,189,664	.....	1930	19,025	1,449,984	.....	3,094,800
1904	302,927	23,087,640	2,494,512	.....	1935	3,235	246,552	.....	1,203,432
1905	341,946	26,061,480	2,973,840	.....	1940	175	13,344	.....	233,208
1906	374,915	28,574,256	2,512,776	.....	1945	0	0	.....	13,344

II.

SURVIVORS AT SIXTY-TWO YEARS OR OVER ON JUNE 30, 1896, WHO SERVED SIX MONTHS OR MORE, EXCLUDING PENSIONERS AT $8 OR OVER PER MONTH.

A law pensioning at $8 per month all honorably discharged survivors who are not now on the pension roll, but who are 62 years of age or over and who served six months or more during the war, and increasing to

$8 per month the pensions of all survivors who are now on the pension roll at a rate less than that, but who are 62 years of age or over and who served six months or more, would differ from the measure discussed in the foregoing section of this paper, only in one particular, viz: That its benefits would be restricted to those who, in addition to being 62 years of age, rendered six months or more of military or naval service during the war. In attempting to make an estimate of the number of persons that can possibly be beneficiaries under, and the possible cost of such a measure, it is found that a new factor is introduced into the problem, and that, in addition to the number and ages of the survivors, the length of service of those survivors must be taken into account.

As stated above, a recent examination of the records of volunteer organizations on file in this office has led to the conclusion that 140,396 officers and enlisted men, exclusive of those who were discharged for disability or who deserted, served less than six months, and that of this number 93,861 were living on June 30, 1895. It is presumed that the majority of those who were discharged for disability after a total service of less than six months have been pensioned already or are pensionable under the general law at a rate equal to or exceeding $8 per month, and that those who were so discharged and are now pensioned at less than that, or are not pensioned at all, and who may, consequently, become beneficiaries under such a law as that now under consideration, are so few that their number can not perceptibly affect the cost of the law, and need not enter into the estimate. And deserters have, for obvious reasons, been excluded from all of the calculations embodied in this paper.

Following is a table showing for each year from 1896 to 1910, and for quinquennial periods thereafter, until no survivors shall remain, the probable total number of pensionable survivors at 62 years of age or over who served six months or more and who are not now on the pension roll or who are pensioned at less than $8 per month; also the total amount required each year to pension all such survivors, and the increase or decrease of such total amount from year to year. All remarks made with regard to the figures in the table in the preceding section apply with equal force to the figures in the following table:

($8—62 YEARS—6 MONTHS SERVICE.)

Table showing the number that will probably be pensionable under and the possible cost of an act granting a pension of $8 per month to all honorably discharged survivors of the late war who are 62 years of age and over, who served six months or more, and who are not now on the pension roll, and increasing to $8 per month the pensions of all such survivors who are now pensioned at a rate less than that.

Year.	Beneficiaries.	Cost.	Increase from previous year.	Decrease from previous year.	Year.	Beneficiaries.	Cost.	Increase from previous year.	Decrease from previous year.
1896	120,345	$9,172,130	.....	.....	1907	348,085	$26,529,445	$277,597	.....
1897	132,333	10,085,796	$913,666	.....	1908	332,445	25,337,392	.....	$1,192,053
1898	145,655	11,101,156	1,015,360	.....	1909	314,263	23,951,657	.....	1,385,735
1899	161,015	12,271,847	1,170,691	.....	1910	295,572	22,475,301	.....	1,476,356
									Decrease in five years.
1900	178,596	13,611,756	1,339,909	.....	1915	202,825	15,458,349	.....	$7,016,952
1901	198,746	15,147,491	1,535,735	.....	1920	118,811	9,055,256	.....	6,403,093
1902	221,836	16,907,301	1,759,810	.....	1925	54,785	4,175,438	.....	4,879,818
1903	248,236	18,919,461	2,012,160	.....	1930	17,479	1,332,171	.....	2,843,267
1904	278,307	21,211,234	2,291,773	.....	1935	2,972	226,483	.....	1,105,688
1905	314,154	23,943,348	2,732,114	.....	1940	160	12,231	.....	214,252
1906	344,443	26,251,848	2,308,500	.....	1945	0	0	.....	12,231

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III.

SURVIVORS ON JUNE 30, 1896, WHO SERVED NINETY DAYS OR MORE, EXCLUDING PENSIONERS AT $12 OR OVER PER MONTH.

Under a law providing a service pension of $12 per month for all those who are not now pensioned, but who served ninety days or more during the war and were honorably discharged, and increasing to $12 per month the pensions of all those who are now borne on the pension roll at a rate less than that, all honorably discharged survivors who are not now pensioned could become beneficiaries to the extent of $12 per month each, provided they served ninety days or more; and all those now on the pension roll at a rate less than $12 per month would be entitled to have their pensions increased to that amount, if their service equaled or exceeded ninety days. Following is a table showing for each year from 1896 to 1910, and for quinquennial periods thereafter until no survivors shall remain, the probable total number of survivors pensionable under such a law, the possible total expenditure under the law, and the decrease in that expenditure from year to year. It is to be understood that this table is to be considered only in connection with the explanatory remarks made in preceding sections of this paper.

($12—90 DAYS SERVICE.)

Table showing the number that will probably be pensionable under and the possible cost of an act pensioning at $12 per month all honorably discharged survivors of the late war who served ninety days or more, and who are not now on the pension roll, and increasing to $12 per month the pensions of all such survivors who are now on the pension roll at a rate less than that.

Year.	Beneficiaries.	Cost.	Decrease from previous year.	Year.	Beneficiaries.	Cost.	Decrease from previous year.
1896	771,442	$79,303,291		1907	509,986	$52,425,940	$2,714,010
1897	750,817	77,183,053	$2,120,238	1908	483,261	49,678,598	2,747,342
1898	729,502	74,991,914	2,191,139	1909	456,285	46,905,484	2,773,114
1899	707,500	72,730,133	2,261,781	1910	429,147	44,115,735	2,789,749
							Decrease in five years.
1900	684,832	70,399,840	2,330,293	1915	294,485	30,272,729	$13,843,006
1901	661,514	68,002,828	2,397,012	1920	172,501	17,733,265	12,539,464
1902	637,575	65,541,940	2,460,888	1925	79,543	8,176,926	9,556,339
1903	613,046	63,020,304	2,521,636	1930	25,378	2,608,842	5,568,084
1904	587,976	60,443,167	2,577,137	1935	4,315	443,531	2,165,311
1905	562,404	57,814,453	2,628,714	1940	233	23,952	419,579
1906	536,388	55,139,950	2,674,503	1945	0	0	23,952

IV.

SURVIVORS ON JUNE 30, 1896, EXCLUDING THOSE WHO ARE RECEIVING PENSIONS EQUAL TO OR EXCEEDING 1 CENT PER MONTH FOR EACH DAY OF SERVICE.

It is apparent that under a law pensioning, at the rate of 1 cent per month for each day of service, all those who are not now on the pension roll, and increasing to an amount equal to 1 cent per month for each day of service the pensions of all those who are now on the pension roll at a rate less than that per month, all honorably discharged survivors who are not now pensioned could become beneficiaries, as well as those who are now pensioners but whose service was of such a length that the

pensions they would receive under such a law would be greater than those which they are now receiving under existing law. The latter class includes a considerable number of pensioners who are now receiving more than the average pension that would be allowed under a per diem law, but whose length of service was such that they would be entitled to more under a per diem law than they are now receiving.

Such a measure would be a pension law, from the benefits of which no honorably discharged veteran would be excluded, however short his service, and under which the amount of pension to be paid would depend entirely upon the length of service in each case. Subject to remarks made elsewhere in this paper, the following table is given as showing for each year from June 30, 1896, to June 30, 1910, and for each quinquennial period thereafter until no survivors shall remain, the possible number of pensioners under a law such as that now under consideration, the possible total expenditure under the law, and the decrease in that expenditure from year to year:

(ONE CENT PER DIEM.)

Table showing the number that will probably be pensionable under and the possible cost of an act granting to all honorably discharged survivors of the late war, who are not now on the pension roll, a pension of 1 cent per month for each day of their service during the war, and increasing to an amount equal to 1 cent per month, for each day of service, the pensions of all such survivors who are now on the pension roll at a rate less than that.

Year.	Beneficiaries.	Cost.	Decrease from previous year.	Year.	Beneficiaries.	Cost.	Decrease from previous year.
1896	605,525	$42,739,020		1907	400,301	$28,253,980	$1,462,666
1897	589,336	41,596,365	$1,142,655	1908	379,324	26,773,350	1,480,630
1898	572,605	40,415,486	1,180,879	1909	358,150	25,278,831	1,494,519
1899	555,335	39,196,556	1,218,930	1910	336,848	23,775,350	1,503,481
							Decrease in five years.
1900	537,542	37,940,678	1,255,878	1915	231,149	16,314,921	$7,460,429
1901	519,240	36,648,856	1,291,822	1920	135,403	9,557,011	6,757,910
1902	500,450	35,322,602	1,326,254	1925	62,435	4,406,802	5,150,209
1903	481,195	33,963,617	1,358,985	1930	19,920	1,405,987	3,000,815
1904	461,518	32,574,714	1,388,903	1935	3,387	239,033	1,166,954
1905	441,446	31,158,014	1,416,700	1940	183	12,908	226,125
1906	421,025	29,716,646	1,441,368	1945	0	0	12,908

V.

ALL SURVIVORS ON JUNE 30, 1896, WHO SERVED NINETY DAYS OR MORE, EXCLUDING THOSE WHO ARE RECEIVING PENSIONS EQUAL TO OR EXCEEDING 1 CENT PER MONTH FOR EACH DAY OF SERVICE.

A law pensioning, at the rate of 1 cent per month for each day of service, all those who are not now on the pension roll, but who served ninety days or more, and increasing to an amount equal to 1 cent per month for each day of service the pensions of all those who are now on the pension roll at a rate less than that per month, and who served ninety days or more, would differ from the measure discussed in the last preceding section of this paper only in one particular, viz, that its benefits would be restricted to those who served not less than ninety days.

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The following table shows for each year from June 30, 1896, to June 30, 1910, and for each quinquennial period thereafter until no survivors shall remain, the possible number of beneficiaries under such a law, the possible total expenditure under the law, and the decrease in that expenditure from year to year:

(ONE CENT PER DIEM—90 DAYS SERVICE.)

Table showing the number that will probably be pensionable under and the possible cost of an act granting to all honorably discharged survivors of the late war who are not now on the pension roll, but who served ninety days or more, a pension of 1 cent per month for each day of their service during the war, and increasing to an amount equal to 1 cent per month for each day of their service the pensions of all such survivors who are now on the pension roll at a rate less than that.

Year.	Beneficiaries.	Cost.	Decrease from previous year.	Year.	Beneficiaries.	Cost.	Decrease from previous year.
1896	598,629	$42,698,265		1907	395,743	$28,227,032	$1,461,274
1897	582,625	41,556,695	$1,141,570	1908	375,004	26,747,815	1,479,217
1898	566,084	40,376,936	1,179,759	1909	354,071	25,254,721	1,493,094
1899	549,011	39,159,162	1,217,774	1910	333,012	23,752,672	1,502,049
							Decrease in five years.
1900	531,421	37,904,513	1,254,649	1915	228,517	16,299,359	$7,453,313
1901	513,327	36,613,899	1,290,614	1920	133,861	9,547,896	6,751,463
1902	494,750	35,288,911	1,324,988	1925	61,724	4,402,599	5,145,297
1903	475,715	33,931,219	1,357,692	1930	19,693	1,404,646	2,997,953
1904	456,262	32,543,647	1,387,572	1935	3,348	238,805	1,165,841
1905	436,419	31,128,300	1,415,347	1940	181	12,896	225,909
1906	416,230	29,688,306	1,439,994	1945	0	0	12,896

From the foregoing statement it will be seen that all of the measures discussed therein contemplate a service pension, although some of them differ widely as to the basis upon which the proposed pension shall be granted. The two $8 per month measures, which only propose to pension survivors at the age of 62 years or over, would involve a minimum expenditure at the beginning, but this expenditure would increase from year to year until 1907, when the maximum would be reached by reason of the fact that nearly all of the survivors will have become 62 years of age on that date, after which there would be a steady decrease in the annual expense. These two propositions differ from each other only in the fact that one of them contains a requirement of six months service, which would permanently exclude all those who served less than six months, and would reduce the first annual outlay from $9,983,496 to $9,172,130, or a little over 8 per cent.

The $12 per month bill and both the "1 cent per diem" measures would each necessitate a maximum annual expenditure in the near future, which would steadily diminish thereafter. The maximum possible cost of the $12 bill, if enacted into a law, would be $79,303,291, as against $42,739,020 for a law providing a pension of 1 cent per month for each day of service, with no restriction as to the length of service, making a difference between the two of $36,564,271 in favor of the latter.

As has been pointed out elsewhere in this paper, the number of survivors who served less than ninety days during the war is very small, and the effect of a requirement of ninety days service in a "1 cent per diem" pension law would be simply to exclude from the benefits of the law a few men, no one of whom could receive, if pensioned under the law, more than 89 cents per month, while the average for all of

them would be less than 50 cents per month. The estimated total expenditure that would be possible under such a law for the first year would be reduced $40,750 by debarring those who served less than ninety days.

F. C. AINSWORTH,
Colonel, U. S. Army,
Chief Record and Pension Office.

RECORD AND PENSION OFFICE,
WAR DEPARTMENT,
April 14, 1896.

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