EXPLANATION
of the
ACGA GIFT ANNUITY RATES
April 2018

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INTRODUCTION

One of the primary activities of the American Council on Gift Annuities ("ACGA") is publishing a table of suggested maximum charitable gift annuity rates for use by charities and their donors. The Council has published suggested annuity rates as a public service since 1927. Its suggested rates have long been recognized by charities, donors, state insurance departments, and the Internal Revenue Service as being actuarially sound and responsive to the best interests of all parties involved.

While the suggested rates are voluntary, 97% of the charities responding to the 2017 Gift Annuity Survey reported that they always or usually follow the suggested payment rates.[1] By following the suggested ACGA gift annuity rates, charities are relieved of the expense of hiring an actuary and developing their own rate schedules.

The Rate Review Process

The ACGA Gift Annuity Rates Committee ("Rates Committee") collects and analyzes information related to the suggested rate tables and the assumptions underlying the rates. ACGA retains an actuarial firm to advise and consult on mortality data and other matters related to rate recommendations.

At least semi-annually, the Rates Committee submits a recommendation to the ACGA Board of Directors about whether or not to change the suggested rates. The Board traditionally reviews and acts on the recommendation at either its spring or its fall meeting. Any changes in the rates have generally become effective on January 1 or July 1. However, changes in suggested rates may be made at any time if economic conditions warrant.

Rate reviews normally include the following steps:

1. A general reassessment of the assumptions underlying the rates in light of the best available data regarding the experience of charities issuing gift annuities, current interest rates, the investment market environment, the mortality of annuitants, and expenses incurred in administering a gift annuity program.
2. Consultation with professionals regarding expected investment returns and expenses for investment management and administration.
3. A review of the current relationship between suggested gift annuity rates and rates for pure-life annuities offered by insurance companies, and how the current relationship between these rates compares to historical relationships between suggested gift annuity and commercial annuity rates.

After the turbulent investment markets of 2007-2008, the Rates Committee conducted an exhaustive re-examination of its process of calculating suggested gift annuity rates. This re-examination included the following:

- We hired a consulting firm to perform a rigorous analysis of our process of suggesting rates.
- We commissioned an actuarial firm to conduct the largest-ever mortality study of charitable gift annuitants, involving more than 47,000 gift annuity contracts. The findings of this study led to changes in mortality assumptions in 2012. Additional refinements to the mortality assumption were made in 2014. We expect to conduct another mortality survey in 2019.

[1] The 2017 Gift Annuity Survey was conducted in October and November of 2017 and published in April of 2018.

- We explored a new methodology for setting a target for the charitable residuum (the net amount remaining for the charity at termination of a gift annuity contract) based on the discounted present value of the residuum. Beginning in 2011, suggested rate tables have incorporated a minimum present value target for gift annuities issued at all ages, which in current practice affects the single life rates for annuitants age 62 and younger.
- We carefully considered the impact on charitable gift annuity programs of continuing volatility in world investment markets and historically low interest rates.

The ACGA Board of Directors held its most recent semi-annual meeting on April 24, 2018. The Board voted to make changes in the suggested maximum rates effective on July 1, 2018. This paper provides highlights of the thinking behind ACGA's rate assumptions and publishes suggested rate tables that follow from those assumptions.

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HISTORICAL GIFT ANNUITY RATES

The ACGA first issued suggested gift annuity rates in 1927. As might be expected, the suggested rates declined during the Great Depression. They remained at low levels through the 1960s due to continuing low interest rates. In the 1970s and 1980s they rose sharply in response to the high interest rates that prevailed during that period. In the late 1990s, suggested rates began to decline, as can be seen in the following table:

Historical Suggested Gift Annuity Rates (Single Life)

Age	1927	1931	1934	1939	1955	1965	1971	1974	1977	1980	1983	1992
65	6.8	6.2	5.7	5.1	5.0	5.2	5.6	6.0	6.2	6.6	7.3	7.3
70	7.6	6.7	6.2	5.5	5.5	5.7	6.2	6.6	6.8	7.1	7.8	7.8
75	8.7	7.3	7.0	6.2	6.3	6.5	7.0	7.4	7.7	7.9	8.5	8.5
80	9.0	8.0	8.0	7.0	7.4	7.6	8.2	8.5	9.0	9.2	9.6	9.6
85	9.0	8.0	8.0	7.0	7.4	8.0	9.7	10.0	10.5	11.2	11.4	10.9
90	9.0	8.0	8.0	7.0	7.4	8.0	10.0	10.0	12.0	14.0	14.0	12.0

Age	1994	1997	1998	2001	2003*	2003*	2008	2009	2010	2011	2012	2018
65	6.5	7.2	7.0	6.7	6.3	6.0	5.7	5.3	5.5	5.3	4.7	5.1
70	6.9	7.7	7.5	7.2	6.7	6.5	6.1	5.7	5.8	5.8	5.1	5.6
75	7.7	8.4	8.2	7.9	7.3	7.1	6.7	6.3	6.4	6.5	5.8	6.2
80	8.8	9.4	9.2	8.9	8.3	8.0	7.6	7.1	7.2	7.5	6.8	7.3
85	10.0	10.5	10.5	10.4	9.7	9.5	8.9	8.1	8.1	8.4	7.8	8.3
90	11.0	12.0	12.0	12.0	11.5	11.3	10.5	9.5	9.5	9.8	9.0	9.5

*Rates were changed in both January and July of 2003

ASSUMPTIONS UNDERLYING SUGGESTED GIFT ANNUITY RATES

Following is a summary of the major assumptions on which the suggested rates are based.

1. **Target Residuum.** Since 1955 the ACGA has targeted a residuum (the amount realized by the charity upon termination of an annuity) of 50% of the original contribution for the gift annuity.[2] The new rate schedules retain the 50% target residuum, and continue the requirement first applied for the July 2011 rate schedules that the present value (PV) of the residuum be at least 20% of the original contribution for the annuity.

   The 20% minimum PV requirement has the effect of reducing rates for annuitants age 62 and under. It is designed to help charities realize a minimum value from gifts whose residua will not be realized for many years. Rates for younger annuitants (ages 5 to 25) were reduced as necessary to comply with

[2] The first table of suggested rates in 1927 was based on a residuum target of 70%.

the 10% minimum charitable deduction required under IRC Sec. 514 (c)(5)(A) using the 2.8% CFMR for February 2018. Particularly in low interest rate environments, charities should perform their own deduction calculations and lower their annuity rates if necessary to meet the 10% minimum deduction requirement.

2. **Mortality Assumptions.** The National Association of Insurance Commissioners (NAIC) has recommended the use of a new mortality table for commercial and gift annuities issued after January 1, 2015. Known as the 2012 Individual Annuity Reserving Table (2012 IAR), the new table is designed to reflect annuitant mortality more accurately over time. ACGA commissioned a study by The Korn Ferry Hay Group in December 2014 to determine what set of assumptions provided the best "fit" for the 2012 IAR with the ACGA Gift Annuitant Mortality Study completed in 2010. The Korn Ferry Hay Group determined the new "best fit" assumption was a 50-50 blend of the 2012 IAR male and female mortality with no age setback. (See further discussion below.)

3. **Expense Assumption.** Annual expenses for investment and administration are assumed to be 1.0% of the fair market value of gift annuity reserves.

4. **Investment Return Assumption**. The gross annual expected return on immediate payment and deferred payment gift annuity reserves is 4.75%. Both immediate and deferred payment annuity calculations use a net compounding rate of 3.75% (4.75% minus 1% assumed annual expenses).

5. **Payment Assumption.** Annual payments are made in quarterly installments at the end of each period.

The rates for the oldest ages are somewhat lower than the rates that would follow from the above assumptions. Single life rates are capped at 9.5% for annuitants age 90 and above. Single life rates for annuitants between ages 81 and 89 are graduated downward from the rate cap. Two life rates are graduated downward in a similar way.

ADDITIONAL ASSUMPTIONS FOR DEFERRED PAYMENT GIFT ANNUITIES

The annual compound interest rate credited during the deferral period for deferred payment gift annuities is 3.75% (the same investment return assumption as for immediate payment gift annuities after subtracting the 1.0% expense assumption). In other words, each dollar contributed for a deferred gift annuity is presumed to grow at an annual compound interest rate of 3.75% between the date of contribution and the annuity starting date.

If payments will be made at the end of the period, which is usually the case, the annuity starting date would be at the beginning of the first period for which a payment is made. For example, if payments will be made quarterly, and the first payment will be made on September 30, 2028, the annuity starting date would be July 1, 2028. If payments will be made semi-annually, the annuity starting date in this case would be April 1, 2028.

Assuming that the annuitant would be nearest age 65 on the annuity starting date, and that the period between the contribution date and the annuity starting date is 10.25 years, the compound interest factor would be $1.0375^{10.25}$ or 1.458405. To determine the deferred gift annuity rate, this factor is multiplied by the immediate gift annuity rate, now in effect, for the nearest age of the annuitant at the time payments begin. In this example, the deferred gift annuity rate would be 1.458405 times 5.1%, or 7.4% (rounded to the nearest tenth of a percent).

The 3.75% compounding rate applies to the entire compounding period, whatever its length. (At times in the past, the compounding rate for periods in excess of 20 years was less than the compounding rate for the first 20 years of the deferral period.)

Historically, it has sometimes been necessary to apply a slightly lower compounding rate when the deferral period is relatively long in order not to exceed the maximum allowable deferred gift annuity rates allowed by the states of New York and New Jersey. However, this has not been the case for many years.

RATIONALE FOR ASSUMPTIONS

RESIDUUM

From its start in 1927, the ACGA has set a residuum target representing a percentage of the face value of the amount funding an annuity contract.

The first assumption is that the target residuum (the amount remaining for the charity at the termination of the annuity) will be 50% of the original contribution. We further assume that, prior to termination of the contract, expenditures will be limited to annuity payments and investment and administrative expenses. Obviously, if an organization spends a portion of the contribution for charitable purposes while the annuity is still in force, the residuum will be diminished.

The actual residuum at the termination of any particular annuity could be more or less than 50%, depending on the longevity of the annuitant(s), the investment returns on gift annuity reserves during the term of the contract, and other factors. Per the 1999 ACGA survey, which was conducted at the crest of a prolonged bull market, the mean residuum for annuities terminating in the previous five years (the share of the original gift amount actually remaining for charities when annuities terminated) was over 95%. According to the 2004 survey, the mean residuum was 85.5%; in the 2009 survey the mean residuum was 81.7%; in 2013 the mean residuum was 64%, and in 2017, the average residuum was 62%.

The residuum is defined in terms of nominal value, not present value. To say that the residuum for the charity will be 50% means that 50% of the original contribution will remain for the charity. It does not mean that the present value of what the charity will eventually receive is 50% of the contribution.

In the 2000s, the Rates Committee considered using a residuum expressed in present value terms because such an approach would mean that—given the investment return, expense, and mortality assumptions—charities would receive similar economic value from gift annuity contracts funded with like dollar amounts, regardless of the age of annuitants. However, the Committee felt then, and continues to believe today, that the 50% nominal residuum is an easily understood concept that has fundamental appeal in the fundraising context. In order to balance these two objectives, the Committee retains the 50% of nominal value assumption as a starting point, but also requires that each contract produce a 20% minimum present value. Today, the 20% minimum present value has the effect of lowering rates for annuities issued at ages 62 and below.

ANNUITANT MORTALITY

The ACGA endeavors to base suggested maximum annuity rates on mortality data for individuals as similar as possible to annuitants who will begin receiving payments under contracts to be established in the near

future. Because new gifts might involve making payments for many years into the future, effective mortality assumptions for annuitants require continual research and adjustments.

In the fall of 2010, the ACGA commissioned The Korn Ferry Hay Group to conduct what we believe to be the largest-ever mortality study of actual gift annuitants: 28 charities furnished mortality data on 47,075 gift annuity contracts in force during the five-year period of 2005 through 2009. (The most recent prior study, conducted in 2001-2002, examined 24,445 charitable gift annuity contracts.) The results of the study were surprising: annuitant mortality exceeded what would have been predicted by the mortality assumptions used in suggested maximum gift annuity rates during most of the decade of the 2000s. In other words, significantly more individuals from the sample population died during the five-year period of the study than was predicted by the mortality assumptions used over the past decade.

Our actuaries offered two principal reasons for this discrepancy: (1) the proportion of males establishing gift annuities (relative to females) was higher in the 2010 mortality study than in the 2001-2002 study (45% males in 2010 vs. 38% in 2001), and (2) the mortality improvement schedule used to estimate how much life expectancy was likely to improve between mortality study periods had come to be viewed by the Society of Actuaries (SOA) as too optimistic.

The proportion of annuities being established by men and by women can be seen in the following table of results of ACGA Gift Annuity Surveys conducted over the past 20 years, and the two mortality studies conducted by the ACGA:

Gender	1994 Survey	1999 Survey	2000-01 Mortality Study	2004 Survey	2009 Survey	2010-11 Mortality Study	2013 Survey	2017 Survey
Male	40%	40%	38%	45%	44%	45%	43%	46%
Female	60%	60%	62%	55%	56%	55%	57%	54%

It is not surprising that the number of female annuitants continues to be larger than the number of male annuitants: there are many more women than men in the age range likely to create gift annuities. For example, the 2010 Census counted 11,122,000 males age 70 or older and 15,471,000 females age 70 or older. It is important to note that mortality rates vary by gender, but gift annuity payment rates do not. The ACGA continues to feel that a unisex rate table offers important benefits in terms of simplicity.

The Korn Ferry Hay Group assists the Rates Committee by recommending what mortality table assumptions will reasonably and conservatively reflect the actual mortality experience of the annuitants in the 2010-11 gift annuity mortality study. For the first few years after the 2010 study, the mortality table assumption recommended by Korn Ferry Hay Group was that all annuitants were assumed to be female and one year younger than their actual ages, and that their mortality would be determined by reference to the Annuity 2000 mortality tables.

When the National Association of Insurance Commissioners recommended that a new mortality table, namely the 2012 Individual Annuity Reserving Table (2012 IAR), be used by the states for determining reserves for annuity contracts issued on or after January 1, 2015, the ACGA commissioned Korn Ferry Hay Group to reinterpret the results of the 2010-11 gift annuity mortality study with reference to the new 2012 IAR, instead of the Annuity 2000 tables. The Korn Ferry Hay Group completed this reinterpretation work

in December of 2014 and determined that the "best fit" assumption in terms of the 2012 IAR was to assume a 50-50 blend of the 2012 IAR male and female mortality with no age setback.

When the new 2012 IAR-based mortality assumption was used by Korn Ferry Hay Group to calculate a pro forma rate schedule in December 2014, the resulting schedule varied only very slightly from the published rate schedule, which is predicated on an Annuity 2000-based mortality assumption. This should not be surprising because the published and the pro forma rate schedules were derived from the same source, namely, the 2010-2011 gift annuity mortality study.

It is important to note that Annuity 2000 mortality table is what is known as a static table. It was designed to estimate mortality experience in the year 2000, but not beyond that point. Therefore, it has been necessary for users of the Annuity 2000 table to update the mortality assumption by using mortality improvement projection factors. For example, from 2011 through 2014, the ACGA used Projection Scale AA published by the Society of Actuaries to project mortality improvement to current dates.

In contrast to this, the 2012 IAR is known as a dynamic or generational table that includes calculations that take into account mortality improvement projection. Thus, under the 2012 IAR, an individual who turns age 70 in the year 2020 will have a longer life expectancy (determined at that time) than will an individual who turns age 70 in the year 2015.

The ACGA plans to conduct another gift annuity mortality study sometime in 2019. We plan to again interpret the observed mortality in that study in terms of the most recently available mortality table. We expect that will be the 2012 IAR which, because of its dynamic nature, should be in use for a longer period than was the Annuity 2000 table.

EXPENSES

The annual expenses for administering gift annuities are assumed to be 1% per year. These expenses include investment and custodial fees, the costs of making payments and filing federal tax forms, and the costs of submitting reports in regulated states. They do not include the costs of marketing or stewardship, which are presumed to be covered in a charity's general budget for the development office. For large charities with economies of scale, and for charities that do not issue gift annuities in heavily regulated states, the 1% expense assumption might be high. However, charities with smaller and mid-sized programs, and those that operate in regulated states that require annual filings, actuarial reports, and sometimes a fee for each annuity written, 1% appears reasonable.

AVERAGE INVESTMENT RETURN

Perhaps the most challenging assumption to make is the average annual compound investment return on gift annuity reserves. The first challenge is to determine the appropriate asset allocation to use in the return calculation. Next is the task of what return assumptions to use for each asset class in the assumed allocation.

ACGA surveys have provided basic information about the asset allocations charities use. In the 2017 Survey, charities reported the investment allocation for their gift annuity assets per the table below. They were asked to report on the investment of their required annuity reserve funds, and other gift annuity funds used to invest the charitable or "surplus" amounts related to annuity gifts.

Asset Allocation for Gift Annuity Investments

(Based on 284 responses in 2017 and 349 responses in 2013 Survey)

	Cash		Stocks/Mutual Funds		US Govt Bonds		Corporate Bonds		Real Estate		Other	
	2017	2013	2017	2013	2017	2013	2017	2013	2017	2013	2017	2013
0%	23%	33%	9%	18%	46%	39%	45%	48%	80%	75%	73%	75%
1-5%	51%	41%	1%	1%	7%	6%	2%	3%	8%	12%	6%	6%
6-10%	13%	13%	1%	0%	8%	9%	4%	3%	5%	6%	4%	3%
11-15%	3%	3%	1%	1%	7%	6%	7%	7%	5%	5%	4%	2%
16-20%	2%	2%	1%	3%	6%	8%	8%	9%	1%	1%	2%	3%
21-25%	0%	1%	2%	3%	3%	7%	6%	11%	0%	0%	2%	2%
26-50%	2%	3%	29%	31%	16%	19%	21%	17%	0%	0%	7%	4%
51-75%	0%	1%	46%	34%	6%	5%	5%	2%	0%	0%	0%	1%
76-100%	5%	4%	11%	9%	1%	1%	1%	1%	0%	0%	3%	3%
Mean	10%	9%	51%	44%	14%	16%	16%	13%	2%	2%	7%	7%
Median	2%	2%	55%	50%	4%	10%	10%	5%	0%	0%	0%	0%

This chart requires some explanation. Charities were asked to report the percentage of their gift annuity assets allocated within six categories. On average, charities invested 10% in cash, 51% in stocks/mutual funds, 14% in government bonds, 16% in corporate bonds, 2% in real estate and 7% in other investments. This allocation reflects an increase in stocks/mutual funds as compared with the 2013 survey. For example, in the 2013 survey, 43% of charities answering the question reported more than half of their assets invested in stocks/mutual funds, but in the 2017 survey this rose to 57%. Only 9% of charities indicated they had no stock/mutual fund investments, down from 18% in the 2013 survey.

From time to time, the Rates Committee receives guidance from highly-regarded investment advisors, as well as from members' own business offices, regarding the use of current and past performance of various asset classes to estimate future returns. Finally, the Committee notes current state restrictions on the investment of gift annuity reserves.

ASSET ALLOCATION AND BENCHMARKS

Taking into consideration all of the above factors, the Rates Committee selected the following asset allocation for calculating the weighted average return assumption on which gift annuity rates are based:

- 40% equities
- 55% 10-year Treasury bonds, and
- 5% cash and equivalents.

The following benchmarks are used to determine the average annual total return for each component of the portfolio:

- For *equities*, the approximate average annual *total return* for the period 1926 – 2017 *less 2.0%* for purposes of conservatism. During the bear market of 2008-2009, and after careful consideration and consultation with a number of investment professionals at sponsor institutions and investment management firms, the Rates Committee changed the discount for purposes of conservatism from 1% to 2%. The Committee has not changed that assumption since that time. The average annual compound return of the Standard and Poor's 500 Index return for the period January 1, 1926 through December 31, 2017 was approximately 10% per year. This number is then reduced by 2.0%, resulting in 8.0% as the assumed total return on the equity portion of the portfolio.
- For *bonds*, the average *current yield* (using a 13-week rolling average) on the 10-year U.S. Treasury bond.
- For *cash*, the average *current yield* (using a 13-week rolling average) on the 3-month U.S. Treasury Bill.

The weighted average total return on a portfolio of 40% equities, 55% bonds, and 5% cash is rounded down to the nearest 0.25% using ACGA's current guidelines. The Committee exercises judgment in rounding the expected return, taking into account current economic conditions, forward-looking projections, recent rate change history, and other practical issues.

IMPORTANCE OF THE ASSET ALLOCATION ASSUMPTION

History has shown that, in well-diversified portfolios, asset allocation (and not investment manager selection or individual security selection) is the primary driver of investment return. Because returns from equity asset classes historically have outpaced returns from fixed income and cash allocations, most investment professionals believe that allocations emphasizing higher percentages of equity asset classes are likely to have a higher expected return than those emphasizing fixed income allocations.

However, risk is also a very important element of the portfolio management decision. Equity asset classes have significantly greater variability in returns and much greater downside risk than fixed income asset classes. A large investment market decline (such as we experienced in 2008) can quickly turn a gift annuity contract paying the annuitant 7% of its initial gift value into one that is paying 10% (or more) of its current value. Sustained poor investment markets could lead to a gift annuity contract running out of money, requiring the charity to make payments on the contract from other sources.

As shown above, charities differ significantly on the asset allocations chosen for the investment of gift annuity assets. Some institutions invest charitable gift annuities in their endowments. In many cases these

endowments have aggressive asset allocations that approach an allocation of 85% to 90% in equity asset classes (or alternative asset classes designed to produce equity-like returns). Other charities invest their gift annuity assets predominantly or wholly in bonds, or choose to reinsure some or all of their gift annuity contracts.

The ACGA believes the 40% equity/55% fixed income/5% cash allocation used in the derivation of its rate schedule is a reasonable allocation that is achievable by virtually all charities, although not all charities will choose this particular asset allocation. (In the past, investment restrictions in states such as California made a 40% equity allocation difficult or impossible, depending upon the mix of contracts in a particular charity's program.) ***However, it is very important that charities and their investment advisors select an asset allocation that is appropriate for the unique circumstances and preferences of the institution and its gift annuity program.*** For some institutions, it might be appropriate to invest the gift annuity assets more aggressively than the 40%/55%/5% allocation; for other institutions it can be equally appropriate to invest in a more conservative allocation. What's important to note is that the ACGA rate schedule is based on the 40%/55%/5% model portfolio.

The Rates Committee believes that most investment professionals will consider the following factors in selecting an asset allocation for a charity's gift annuity assets:

- The desired expected investment return
- The risk tolerance of the institution
- The availability of unrestricted assets to make payments on any contracts that might run out of money
- The value of the existing pool of gift annuity assets and the dollar amounts of annuity payments that must be made pursuant to those contracts
- The expertise of its staff or advisors to create, access, and manage well-diversified investment portfolios at reasonable costs
- Whether most gift annuity contracts have unrestricted or restricted gift purposes
- The existence of an institutional assessment against each annuity to build a reserve for making payments on contracts that run out of money.

For more information on implementing the asset allocation decision please refer to ACGA's Gift Annuity Best Practices.

HISTORICAL ASSUMED RETURNS

Below is a table showing the historical assumed investment returns used by the ACGA since its inception.

Period	Total Return %	Total Net Return %
1927-1934	4.5	n/a
1934-1939	4.0	n/a
1939-1955	3.0	n/a
1955-1971	3.5	n/a
1971-1974	4.0	n/a
1974-1977	4.5	n/a
1977-1980	5.0	n/a
1980-1983	5.5	n/a
1983-1992	6.5	n/a
1992-1994	5.5	n/a
1994-1997	6.5	n/a
1997-1998	7.0	6.25

Period	Total Return %	Total Net Return %
1998-2000	6.75	6.00
2000-2001	6.50	5.75
2001-2002	6.75	5.75
2003	6.25	5.25
2003-2006	6.00	5.00
2006-2008	6.25	5.25
2008-2009	5.75	4.75
2009-2010	5.25	4.25
2010-2011	5.50	4.50
2011	5.00	4.00
2012-2018	4.25	3.25
2018 to present	4.75	3.75

Note that, prior to 1997, charities issuing gift annuities were assumed to set aside 5% of the initial amount transferred for expenses, and to invest the remaining 95% at the assumed total rate of return. Beginning in 1997, an annual expense assumption replaced the front-end load in the calculations. From 1997 through 2001, annual expenses were assumed to be 0.75%. In 2002, they were increased to 1.0% where they have remained. Thus, for years 1997 and later, total net return is total return minus the annual expense assumption.

COMPARISON OF GIFT ANNUITY AND COMMERCIAL ANNUITY RATES

The Rates Committee also compares its suggested gift annuity rates to pure-life annuity rates offered by representative, highly-rated insurance companies. Because gift annuities provide for a charitable gift element, the gift annuity rates are not competitive with insurance company rates, nor are they intended to be. A narrowing differential between gift annuity and commercial rates might suggest that gift annuity rates should be reduced; while a widening differential might suggest that gift annuity rates should be increased.

Below is a comparison of ACGA rates and commercial rates in May 2018. It is important to note that commercial gift annuity rates can change almost daily, an approach which is impractical for charitable gift annuity rates. Therefore, comparisons between the ACGA's schedule of suggested maximum charitable gift annuity rates and commercial rates necessarily represent only a "snapshot" at a particular point in time.

Comparison of ACGA Rates with Average Commercial Rates—May 2018*

Female Rates—One Life

Age	ACGA Rate %	Average Comm'l Rate %	ACGA as % of Comm'l
65	5.1	6.04	84
70	5.6	6.87	82
75	6.2	8.09	77
80	7.3	9.95	73
85	8.3	12.82	65
90	9.5	18.20	52

Male Rates—One Life

Age	ACGA Rate %	Average Comm'l Rate %	ACGA as % of Comm'l
65	5.1	6.40	80
70	5.6	7.36	76
75	6.2	8.79	71
80	7.3	10.93	67
85	8.3	14.22	58
90	9.5	20.12	47

* Commercial rate quotations were obtained in mid-May 2018. The commercial rates are an average of the pure-life rates (life only, with no guaranteed term) obtained from 18 insurance companies, except that fewer such rates are available from companies for annuitants age 80+.

The following tables show how ACGA rates have compared with commercial rates over time.

ACGA Rates as a Percentage of Average Commercial Rates (One Life)

	Age 65		Age 70		Age 75	
Date	Female %	Male %	Female %	Male %	Female %	Male %
May 2018	78	73	82	76	77	71
Jun 2016	79	75	76	71	73	67
Mar 2015	78	74	75	70	72	67
Jan 2014	73	69	71	66	69	63
Mar 2013	78	74	75	69	72	67
Jul 2012	79	73	75	69	72	66
Mar 2011	79	74	77	71	74	69
Mar 2010	80	74	75	69	71	65
Mar 2008	75	71	72	67	69	63

ACGA Rates as a Percentage of Average Commercial Rates (One Life)						
	Age 80		Age 85		Age 90	
Date	Female %	Male %	Female %	Male %	Female %	Male %
May 2018	73	67	65	58	52	47
Jun 2016	70	64	63	57	55	50
Mar 2015	69	64	63	58	56	52
Jan 2014	67	62	62	58	56	53
Mar 2013	70	65	64	60	56	53
Jul 2012	70	65	63	59	55	53
Mar 2011	72	67	64	60	58	56
Mar 2010	67	62	60	56	55	53
Mar 2008	65	60	60	57	55	52

THE FINANCIAL RISK OF ISSUING GIFT ANNUITIES

When a charity issues a gift annuity, it incurs a financial risk because the annuity payments are a general liability of that charity. If the contribution for a gift annuity is entirely consumed because of the longevity of the annuitant(s) and/or poor investment performance, the charity must make payments from its general assets. Thus, there is the possibility that the charity could lose money on any one gift annuity, or even on its entire gift annuity program.

The annuitant also assumes a risk because if the charity that issues the annuity becomes insolvent, payments cease. If a charity, pursuant to state requirements, maintains a segregated reserve fund with sufficient assets to back outstanding annuities, the annuitant has a greater degree of protection. Still, there is the possibility that the segregated fund could be exhausted or, in the case of insolvency, that the assets within the segregated fund might not be insulated from the charity's other creditors. Unlike a bank deposit or a commercial annuity, a gift annuity is not backed by a guaranty association. Fortunately, defaults on gift annuities are rare, but it could happen if the issuing charity has limited financial resources or is not managed well.

The ACGA rates are designed to manage the risks both to charities and donors. The rates are intended to be high enough to be attractive to donors, but low enough to result in a significant residuum for the charity under normal conditions. If a charity develops and executes a well-diversified investment portfolio with an asset allocation appropriate for its unique situation, it should derive meaningful financial value from its gift annuity program over time. However, this does not mean an individual gift annuity contract can never run out of money. If a charity issues gift annuities in sufficient quantity over time, one or more contracts are likely to run out of money because the annuitant significantly outlives life expectancy at the time of the gift and/or the gift annuity assets suffer a bear market in the early years of the contract.

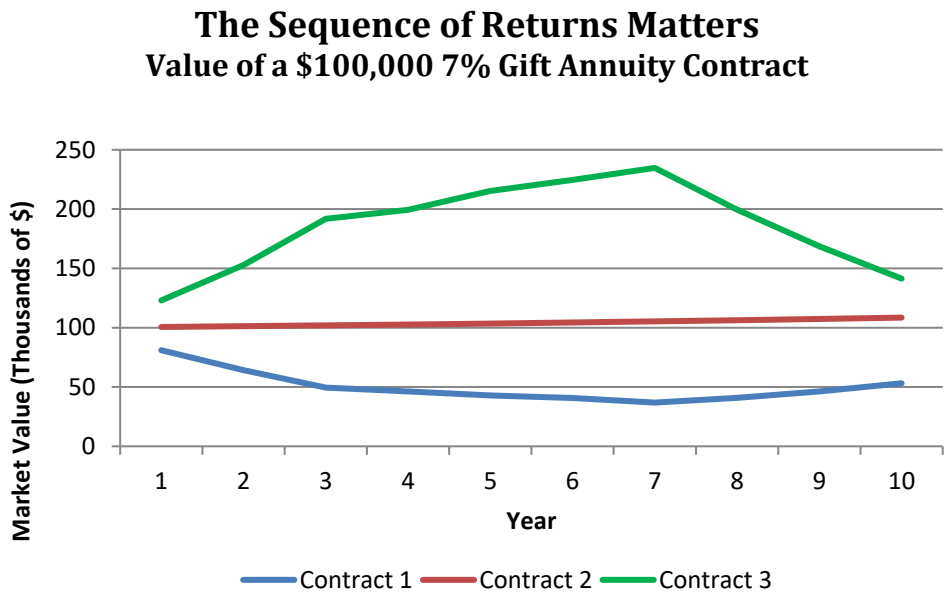
It is important to note that the timing of investment returns has a very significant impact on the value of a gift annuity contract at termination. This fact is sometimes overlooked when, for simplicity's sake, one uses average annual returns to estimate the value of a contract to the charity. For purposes of illustration, consider the three hypothetical series of returns in the chart below.

Year	Series 1	Series 2	Series 3
1	- 12.0	+ 7.6	+30.0
2	- 12.0	+ 7.6	+30.0
3	- 12.0	+ 7.6	+30.0
4	+ 7.6	+ 7.6	+ 7.6
5	+ 7.6	+ 7.6	+11.5

Year	Series 1	Series 2	Series 3
6	+11.5	+ 7.6	+ 7.6
7	+7.6	+ 7.6	+ 7.6
8	+30.0	+ 7.6	- 12.0
9	+30.0	+ 7.6	- 12.0
10	+30.0	+ 7.6	- 12.0

All three series have the *same average annual compound return of 7.6%,* yet this geometric average return is achieved in three completely different ways. The first series has significant negative returns in the first three years and significant positive returns in the final three years. The second series has constant returns of 7.6%. The third series is a mirror image of the first series. It has significant positive returns in the first three years followed by significant negative returns in the final years.

The line graph below depicts the values of three hypothetical $100,000 7% gift annuity contracts that each experience each of the return series described in the table. (The calculations are gross of fees and assume an annual contract payment at the end of each year. Again, note that these returns are hypothetical and used for illustrative purposes only. They do not represent performance of any specific investment.)



By the end of the 10 year period, Contract #3 (which experienced positive returns in the early years) was worth over 2.5 times as much as Contract #1 (which experienced negative returns immediately after the gift was established). Contract #3 was also worth about 30% more than Contract #2 (which achieved a constant investment return of 7.6%). And Contract #2 was worth slightly more than twice the poor outcome achieved by Contract #1.

While the results might seem counterintuitive, the math is simple. If a gift started at $100,000 and declined by 30% to $70,000, it would take appreciation of nearly 43% ($30,000 divided by $70,000) to bring the contract market value back to $100,000. Factor in a constant payment to the annuitant and it is easy to understand why bear markets in the early years of a gift annuity contract are so damaging to its value.

APPENDICES

APPENDIX A:
PRESENT VALUE CALCULATIONS AND CHARITABLE GIFT ANNUITIES

Present value is simply the value in today's dollars for an amount that will be received in the future. The key concept is that $1 today is worth more than $1 received in the future. A simple example is a one-year calculation based on an expected return. If you currently have $100 and can earn 5% in one year, at the end of year one you will have a projected $105 in future value. If someone said "I will give you $105 in one year," what is that worth to you today? If you believe you can earn 5% investing your money, you would simply discount the future value of $105 by the assumed rate of return of 5% and you would end up with a present value of $100. These simple examples illustrate the time value of money and can be easily calculated using spreadsheet applications or financial calculators.

Historically, the ACGA has recommended gift annuity rates based on an assumption that the nominal future value of the contract at termination would be 50% of its original funding amount. For example, a $10,000 gift made by a 60-year old would be worth $5,000 at the contract termination if all of the assumptions were precisely realized. By using an assumed net rate of return as the discount rate—for example, 4.75%—and a financial calculator, we can derive a present value of $1,378.26 for the eventual $5,000 to be received. So the present value to the charity is 13.78% of the original gift annuity contribution. What follows is a table that provides the calculations at various ages for hypothetical gift annuity contracts funded with $10,000.

Age	Present Value at Issue Date of a $5,000 Residuum	Present Value as a Percentage of the $10,000 Original Gift
60	$ 1,378.26	13.78%
65	1,689.01	16.89%
70	2,246.63	22.47%
75	2,457.74	24.57%
80	2,893.91	28.94%
85	3,327.19	33.27%
90	3,719.24	37.19%

The above table is simply for illustration purposes only. It does not address differing life expectancies for male and female annuitants; differences between ACGA rate committee assumptions and actual realized results for the variables of expenses, investment returns or payment frequency; or the appropriateness of a particular discount rate. Note that the present value calculation used by professional actuaries is more complex because it takes into account not merely the expected value of the residuum at a single point in the future (the annuitant's life expectancy), but instead the probabilities that an annuitant will survive to an entire spectrum of ages that have associated expected values if the contract were to terminate at any of those ages. But the basic time value of money concept is still applicable.

APPENDIX B:
SUGGESTED CHARITABLE GIFT ANNUITY RATES
Approved by the American Council on Gift Annuities—Effective July 1, 2018

SINGLE LIFE

Age	Rate
5-15	3.0
16-20	3.1
21-24	3.2
25-28	3.3
29-34	3.4
35-38	3.5
39-41	3.6
42-44	3.7
45-47	3.8
48-49	3.9
50-51	4.0
52-53	4.1
54	4.2
55-56	4.3
57	4.4
58	4.5
59	4.6
60-61	4.7
62	4.8
63	4.9
64	5.0
65	5.1
66	5.2
67-68	5.3
69	5.4
70	5.6
71	5.7
72	5.8

Age	Rate
73	5.9
74	6.1
75	6.2
76	6.4
77	6.6
78	6.8
79	7.1
80	7.3
81	7.5
82	7.7
83	7.9
84	8.1
85	8.3
86	8.5
87	8.7
88	8.9
89	9.2
90+	9.5

NOTES:

1. The rates are for ages at the nearest birthday.
2. For immediate gift annuities, these rates will result in a charitable deduction of more than 10% if the CFMR is 2.8% or higher, whatever the payment frequency. If the CFMR is less than 2.8%, the deduction will be less than 10% when annuitants are below certain ages.
3. For deferred gift annuities with longer deferral periods, the rates may not pass the 10% test when the CFMR is low.
4. To avoid adverse tax consequences, the charity should reduce the gift annuity rate to whatever level is necessary to generate a charitable deduction in excess of 10%.

SUGGESTED CHARITABLE GIFT ANNUITY RATES

Approved by the American Council on Gift Annuities—Effective July 1, 2018

TWO LIVES – JOINT & SURVIVOR

Younger Age	Older Age	Rate
5	5-95+	2.8
6	6-95+	2.8
7	7-95+	2.8
8	8-95+	2.8
9	9-95+	2.8
10	10-95+	2.8
11	11-95+	2.8
12	12-95+	2.8
13	13-95+	2.8
14	14-95+	2.8
15	15-95+	2.8
16	16-95+	2.9
17	17-95+	2.9
18	18-95+	2.9
19	19-95+	2.9
20	20-95+	2.9
21	21-95+	3.0
22	22-95+	3.0
23	23-95+	3.0
24	24-95+	3.0
25	25-95+	3.1
26	26-95+	3.1
27	27-95+	3.1
28	28-95+	3.1
29	29-95+	3.2
30	30-95+	3.2
31	31-95+	3.2
32	32-95+	3.2
33	33-95+	3.2
34	34-95+	3.2
35	35-95+	3.3
36	36-95+	3.3
37	37-95+	3.3
38	38-95+	3.3
39	39-95+	3.4
40	40-95+	3.4
41	41-95+	3.4
42	42-95+	3.5
43	43-95+	3.5
44	44-95+	3.5
45	45-47	3.5
45	48-95+	3.6
46	46	3.5
46	47-95+	3.6
47	47-95+	3.6

Younger Age	Older Age	Rate
48	48-50	3.6
48	51-95+	3.7
49	49	3.6
49	50-95+	3.7
50	50-54	3.7
50	55-95+	3.8
51	51-53	3.7
51	54-95+	3.8
52	52	3.7
52	53-57	3.8
52	58-95+	3.9
53	53-56	3.8
53	57-95+	3.9
54	54-55	3.8
54	56-60	3.9
54	61-95+	4.0
55	55-58	3.9
55	59-64	4.0
55	65-95+	4.1
56	56-57	3.9
56	58-61	4.0
56	62-95+	4.1
57	57-60	4.0
57	61-65	4.1
57	66-95+	4.2
58	58-59	4.0
58	60-63	4.1
58	64-67	4.2
58	68-95+	4.3
59	59-61	4.1
59	62-65	4.2
59	66-70	4.3
59	71-95+	4.4
60	60	4.1
60	61-63	4.2
60	64-67	4.3
60	68-72	4.4
60	73-95+	4.5
61	61-62	4.2
61	63-65	4.3
61	66-69	4.4
61	70-95+	4.5
62	62-64	4.3
62	65-67	4.4
62	68-71	4.5
62	72-95+	4.6

Younger Age	Older Age	Rate
63	63	4.3
63	64-65	4.4
63	66-69	4.5
63	70-72	4.6
63	73-95+	4.7
64	64	4.4
64	65-67	4.5
64	68-70	4.6
64	71-73	4.7
64	74-95+	4.8
65	65-66	4.5
65	67-68	4.6
65	69-71	4.7
65	72-74	4.8
65	75-95+	4.9
66	66-67	4.6
66	68-69	4.7
66	70-72	4.8
66	73-74	4.9
66	75-95	5.0
67	67-68	4.7
67	69-70	4.8
67	71-72	4.9
67	73-77	5.0
67	78-95+	5.1
68	68-69	4.8
68	70-71	4.9
68	72-74	5.0
68	75-95+	5.1
69	69	4.9
69	70-72	5.0
69	73-76	5.1
69	77-95+	5.2
70	70-71	5.0
70	72-74	5.1
70	75-77	5.2
70	78-81	5.3
70	82-95+	5.4
71	71-72	5.1
71	73-75	5.2
71	76-78	5.3
71	79-81	5.4
71	82-95+	5.5
72	72-74	5.2
72	75-76	5.3
72	77-79	5.4

SUGGESTED CHARITABLE GIFT ANNUITY RATES

Approved by the American Council on Gift Annuities—Effective July 1, 2018

TWO LIVES – JOINT & SURVIVOR (cont.)

Younger Age	Older Age	Rate
72	80-82	5.5
72	83-95+	5.6
73	73-74	5.3
73	75-77	5.4
73	78-79	5.5
73	80-82	5.6
73	83-95+	5.7
74	74-75	5.4
74	76-77	5.5
74	78-79	5.6
74	80-82	5.7
74	83-85	5.8
74	86-95+	5.9
75	75-76	5.5
75	77-78	5.6
75	79-80	5.7
75	81-82	5.8
75	83-84	5.9
75	85-95+	6.0
76	76	5.6
76	77-78	5.7
76	79-80	5.8
76	81-82	5.9
76	83-84	6.0
76	85-86	6.1
76	87-95+	6.2
77	77	5.7
77	78	5.8
77	79-80	5.9
77	81-82	6.0
77	83	6.1
77	84-85	6.2
77	86-88	6.3
77	89-95+	6.4
78	78-79	5.9
78	80	6.0
78	81	6.1
78	82-83	6.2
78	84-85	6.3
78	86-87	6.4
78	88-89	6.5
78	90-95+	6.6
79	79	6.0
79	80	6.1
79	81	6.2
79	82-83	6.3
79	84	6.4
79	85-86	6.5
79	87-88	6.6
79	89-90	6.7
79	91-93	6.8
79	94-95+	6.9
80	80	6.2
80	81	6.3
80	82	6.4
80	83-84	6.5
80	85	6.6
80	86	6.7
80	87-88	6.8
80	89-90	6.9
80	91-92	7.0
80	93-95+	7.1
81	81	6.4
81	82	6.5
81	83	6.6
81	84	6.7
81	85-86	6.8
81	87	6.9
81	88	7.0
81	89-90	7.1
81	91-92	7.2
81	93-95+	7.3
82	82	6.6
82	83	6.7
82	84	6.8
82	85	6.9
82	86	7.0
82	87	7.1
82	88	7.2
82	89-90	7.3
82	91	7.4
82	92-95+	7.5
83	83	6.8
83	84	6.9
83	85	7.1
83	86	7.2
83	87	7.3
83	88	7.4
83	89-90	7.5
83	91	7.6
83	92-95+	7.7
84	84	7.1
84	85	7.2
84	86	7.3
84	87	7.4
84	88	7.6
84	89	7.7
84	90-91	7.8
84	92-95+	7.9
85	85	7.3
85	86	7.5
85	87	7.6
85	88	7.7
85	89	7.9
85	90	8.0
85	91-95+	8.1
86	86	7.6
86	87	7.8
86	88	7.9
86	89	8.1
86	90	8.2
86	91-95+	8.3
87	87	8.0
87	88	8.1
87	89	8.3
87	90	8.4
87	91-95+	8.5
88	88	8.3
88	89	8.5
88	90-95+	8.7
89	89	8.7
89	90	8.9
89	91-95+	9.0

SUGGESTED CHARITABLE GIFT ANNUITY RATES
Approved by the American Council on Gift Annuities—Effective July 1, 2018

TWO LIVES – JOINT & SURVIVOR (cont.)

Younger Age	Older Age	Rate
90	90	9.1
90	91-95+	9.3
91	91-95+	9.3
92	92-95+	9.3
93	93-95+	9.3
94	94-95+	9.3
95+	95+	9.3

PROCEDURE FOR CALCULATING SUGGESTED DEFERRED GIFT ANNUITY RATES

Approved by the American Council on Gift Annuities—Effective July 1, 2018

1. Determine the annuity starting date, which is:
    a. One year before the first payment, if payments are made annually.
    b. Six months before the first payment, if payments are made semi-annually.
    c. Three months before the first payment, if payments are made quarterly.
    d. One month before the first payment, if payments are made monthly.

2. Determine the number of whole and fractional years from the date of the contribution to the annuity starting date (the deferral period). Express the fractional year to four decimal places.

3. For a deferral period of any length, use the following formula to determine the compound interest factor:

    a. $F = 1.0375^{d}$, where
    b. F is the compound interest factor and
    c. d is the deferral period

    Example: If the period between the contribution date and the annuity starting date is 10.25 years, the compound interest factor would be $1.0375^{10.25} = 1.458405$

4. Multiply the compound interest factor (F) by the immediate gift annuity rate for the nearest age or ages of a person or persons at the annuity starting date.

    Example: If the sole annuitant will be nearest age 65 on the annuity starting date and the compound interest factor is 1.458405, the deferred gift annuity rate would be 1.458405 times 5.1%, or 7.4% (rounded to the nearest tenth of a percent).

Comments:

- The annuity starting date for purposes of calculating the deferred gift annuity rate will be the same as the annuity starting date for calculating the charitable deduction, if payments are at the end of the period (which is usually the case). This was not true with the pre-July 1, 2001 methodology.
- An annuitant is credited with compound interest for the entire period from the date of contribution to the annuity starting date. Under the pre-July, 2001 methodology, compound interest was credited only for the number of whole years between the two dates.
- Charities issuing deferred gift annuities in New York and New Jersey may need to use a slightly lower compounding rate depending on the deferral period.

NOTE TO CHARITIES ISSUING DEFERRED GIFT ANNUITIES IN NEW YORK AND NEW JERSEY*

Approved by the American Council on Gift Annuities—Effective July 1, 2018

The following compound interest factors during the deferral period noted will satisfy the requirements of New York and New Jersey:

For all deferral periods:

Single-life and two-life annuities, whatever the gender of the annuitants, a compound interest factor of 3.75%.

*New York and New Jersey are the two states known at this time that may require different interest factors for deferred gift annuities with longer deferral periods.