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How – and Why – Variable Annuity Income Changes

If some or all of your income is in the form of lifetime annuity payments based on a CREF or TIAA variable annuity account, you probably have seen it fluctuate in the last couple of years. You might also have noticed that the changes in income don't match the performance of the account in which you are invested. Take, for example, the 12-month period ending March 31, 2006. The Stock Account's total return was 16.33%, but the income based on it rose 12.26%. In a few cases, income dropped though the investment performance of the underlying accounts was positive; for instance, the Bond Market Account's total return was 2.14%, but the income based on it fell 2.30%.

Why does this happen? It's a little complicated, but let's take it from the top. Basically, we calculate your annuity income by multiplying the number of annuity units you own in an account times the annuity unit value (see below) for that account.

How We Determine the Annuity Unit Value

Usually, the number of annuity units you own in an account doesn't change during your lifetime (except under the Two-Life Unit Annuity with Two-Thirds Benefit to Survivor). But each account's annuity unit *value* changes once a year (unless you elect the monthly revaluation method). We use four different factors to calculate the annual (or monthly) annuity unit value:

- The investment performance of the account
- The assumed investment return (AIR)
- Actual mortality and expenses compared to what was expected
- The "lag" factor.

Let's look at these one at a time.

The investment performance of the account: The most significant influence on changes to the annuity unit value is the account's investment performance. We measure performance as the investment results for the 12-month period ending March 31 of each year (not the calendar year). This seemingly small time difference can result in substantial changes in performance. For example, for the calendar year ending December 31, 2005, the CREF Stock Account's total return was 7.49%. But, as noted, for the 12 months ending March 31, just three months later, the Account's total return was 16.33%. The reverse can occur as well. As of 12/31/2003 CREF stock was up 31.97%, while by March 31, 2004 it was up 40.56%. Simply, the fiscal year for the payout annuity is April 1 through March 31, not the calendar year.*

*As of 12/31/05, the CREF Stock Account annualized returns were 7.49% for one year, 1.82% for 5 years and 8.48% for 10 years.

The AIR: One element of every variable annuity income calculation is investment return. When we calculate annuity units, we assume that your money will grow by 4% for each future year. At the end of each year, we compare the assumed investment return with the actual return for the year. If an account earns exactly 4%, the annuity unit value for the following year doesn't change. So if an account earns a constant rate of 4% every year (assuming no other elements in the calculation), income will never change from its initial amount due to investment performance alone.

But suppose an account's total return is 10%. Then the assets supporting future payments are much larger than what would be needed to support the existing unit value, which only needed assets to grow by 4% to maintain the unit value. So we can increase the unit value. Conversely, if the account's total return were minus 10%, the total assets are well below where they need to be to support the current unit value. We must therefore decrease the unit value. After the annuity unit value is changed, each year starts "fresh" with an assumed 4% return for that year, based on the new asset balance.

The change in the annuity unit value is based on investment performance and the assumed investment return isn't a simple addition or subtraction. It is computed as follows:

Percentage Change = [(1+Investment Performance) minus ((1+AIR))] divided by (1+AIR). For example, if the investment performance were 7%, the percentage change would be 2.88%. This is slightly less than the 3% you would get by subtracting the 4% assumed investment return from the 7% investment performance.

- **Actual mortality and expenses compared with what we expected:** Mortality experience and the differences between CREF's projected and actual expenses generally are also factored into each account's annuity unit value.** (Mortality experience is the number of deaths of CREF income recipients and the ages at which they died.) The original annuity unit calculation is based on assumptions of what mortality is likely to be. Periodically, we compare actual mortality experience with the assumed amount. If recipients of CREF lifetime income died younger than assumed, this will contribute to an increase (or offset a decrease) in the annuity unit value. If they lived longer than expected, the converse will be true. Since life spans have been lengthening, actual mortality experience has generally lowered annuity unit values. Over CREF's history, this effect has been relatively small.

** However, the TIAA Real Estate Account guarantees no adverse affect on unit value due to mortality experience.

- **The "lag" factor:** Most of you have variable annuity income that changes annually. (For a few of you, it changes monthly.) Suppose an account's investments were to lose value steadily during a year. If your income were recalculated monthly, it would drop steadily also. But if your income changed only once a year, you wouldn't see any drop until the start of the following year. So we include another element in the annual annuity unit revaluation. This element adjusts the annual annuity unit value to account for income changes that would have occurred if your income had changed monthly. Because this

reflects the time lag between actual investment experience and the changing of the annuity unit value, we call it the lag factor. The lag factor has had only a small effect on income changes over the years.

Applying these four factors results in variations from year to year (or month to month) in annuity unit values that, when multiplied by the number of units you own in an account, will cause changes in your variable annuity income over time. ◀

CREF Stock Account Annuity Unit Values

1996 – 2006

(Annual Revaluation Method)

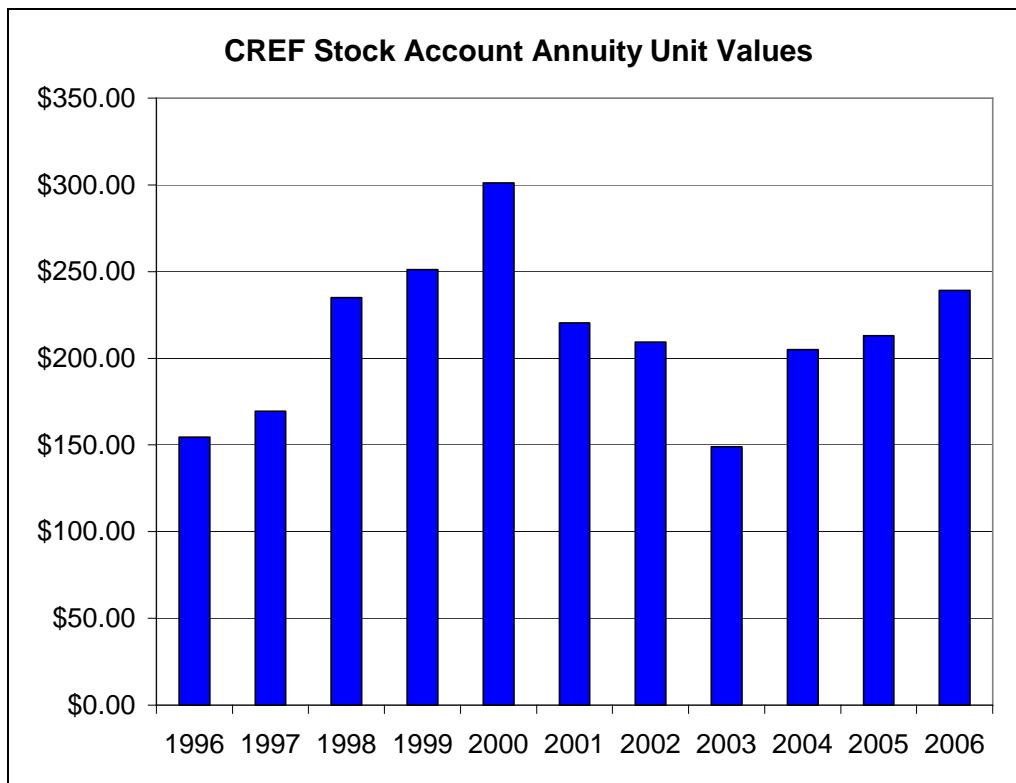
| | |
|------|----------|
| 1996 | \$154.51 |
| 1997 | 169.56 |
| 1998 | 234.86 |
| 1999 | 251.01 |
| 2000 | 301.08 |
| 2001 | 220.42 |
| 2002 | 209.37 |
| 2003 | 148.95 |
| 2004 | 204.96 |
| 2005 | 213.01 |
| 2006 | 239.13 |

On April 1, 1996, the value of a CREF Stock annuity unit was \$154.51. As of March 31, 2006, this value grew to \$239.13. People who started receiving CREF Stock income in 1996 are receiving 55% more income in 2006 than at retirement. And compared to five years ago, they are receiving 8% more income.

From year to year, income can rise or decline, reflecting stock market performance. If you have income deriving from a variable account, you run the risk that your income could drop, as it did during 2001 to 2003. But over the long term, your income could increase significantly, giving you an edge over inflation and improving your standard of living.

Over the 10 years from 1996 through 2006, inflation (as measured by the CPI-U) averaged about 2.5% a year, while CREF Stock income rose over 4.5% annualized.

The following graph is for illustrative purposes only and is not predictive of future investment experience. There is no guarantee that the kind of performance we have seen in the past 10 years will occur again.



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