THE LAST 20 YEARS OF TFEC'S INVESTMENT RETURNS

HYPOTHETICAL AGENCY DISTRIBUTIONS
1996-2015

Explanation of Blended Market Value Use in Determining Distributions from Permanent Funds

Prepared By Conrad M. Siegel
Fellow, Society of Actuaries
Investment Advisor Representative

Former Chair of TFEC
Former Chair of Investment Advisory Committee
Member of Investment Advisory Committee

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THE FOUNDATION FOR ENHANCING COMMUNITIES

Prior to 1996 TFEC's predecessor, The Greater Harrisburg Foundation, employed active management, invested in individual stocks and bonds and distributed dividends and interest, less expenses, to the agencies and other funds. In 1996 a change was made to passive management using mutual funds and total return including realized and unrealized appreciation as the basis of measuring returns to individual funds.

Due to this change, a new method for calculating distributions was needed. One popular method is to average the last 5 years' market values and apply a return rate such as 5% to the result. This works well, except when there is a large contribution of new money in a specific fund in a recent year. For example, if five years are averaged and the market values are $100,000, $105,000, $95,000, $100,000 and $500,000 the average would be $180,000. A 5% distribution would be $9,000. However, the donor might be unhappy with a $9,000 distribution in relation to his recent major contribution and his recent total account value of $500,000.

Bill Lehr and Conrad Siegel, both former Chairs of TFEC, developed a methodology to determine the distribution each year. This method was designed to achieve the following objectives:

1. Recognize total return including realized and unrealized gains
2. Use 5 years' recent returns
3. Smooth distributions from year to year
4. Avoid negative distributions
5. Allow for the effect of recent large donations or withdrawals
6. Maintain accounting records showing the actual cash flow

In order to achieve this we selected a method of determining the blended market value (BMV) which related closely to the effect of recent new contributions yet used the investment returns over the last 5 years.

In the above example if the BMV is $510,000, then a 5% distribution is $25,500 which is reasonable in relation to the funds current assets.

We have kept records of a hypothetical agency fund and we show how it worked in actual practice during the 20 years 1996-2015.

The models assume an initial donation of $100,000 at the beginning 1/1/1996 with no further donations or major distributions and expenses and distributions deducted. We offered two choices in 1996 — Model E (100% equity) and Model A (70% equity & 30% fixed income).

That the returns need smoothing is obvious since Model E, (100% equity), annual returns have varied from -39% to+32% in individual years and Model A (70% equity & 30% fixed income) variations were -27% to +25%, varying less than Model E due to the 30% fixed income component.

The 20 Year Return for Model E was 8.1%, beating its benchmark of 7.8%. Model A tied its benchmark at 7.4%.

	Average Annual Returns					
	1 year	3 years	5 years	10 years	20 years	Benchmark Indicies
Model E	-0.9%	12.3%	9.9%	6.6%	8.1%	
Benchmark	-0.7%	11.9%	9.7%	6.2%	7.8%	55% S&P 500/25% RUSSELL 2000/20% MSCI-EAFE
Model A	-1.0%	8.2%	7.1%	5.9%	7.4%	
Benchmark	-0.5%	8.6%	7.6%	6.1%	7.4%	34% S&P 500/19% RUSSELL 2000/17% MSCI-EAFE/30% BARCAP US AGGREGATE BOND

We have also participated in the Fiscal and Administrative Officer Group (FAOG) Community Foundation Survey for the last 20 years. The data we send in is compared with our peers' results. The majority (if not all) of our peer foundations hire outside banks or advisors to invest their assets. We use an unpaid investment advisory committee to invest our assets and over the past 20 years our results have been outstanding.

	Average Annual Returns					
	1 year	3 years	5 years	10 years	20 years	Benchmark Indicies
Rank	38 of 154	1 of 151	1 of 146	6 of 117	2 of 56	Fiscal and Administrative Officers Group (FAOG) Community Foundation Suvery 4th Quarter 2015
Percentile	76%	100%	100%	95%	97%	

The BMV calculation assumes Model E will gross 9% and Model A 7.5%. Each year the Expected BMV will be compared with the Actual Market Value and then 20% of the difference will be added to the BMV over the next 5 years. This method was adopted from the calculation of actuarial value of assets by Pennsylvania's State Employee Retirement System.

In the 8th year it appeared that the BMV was getting too far from the Actual Market Value, so it was decided to put a collar on the BMV. This collar was 80% of Actual on the downside and 120% of Actual on the upside. This collar is part of ERISA for limiting asset smoothing.

The annual distribution rate chosen, as a percentage of the collared BMV, was 5.75% for Model E and 4.25% for Model A.
This allows for expenses at the TFEC level and within the investment assets as well as some conservatism.

The end of year BMV is calculated by crediting these rates for a full year on the beginning year BMV and for half a year on (new donations, minus expenses minus distributions). This is adjusted for 5 years of previous 20% differences between Actual Market Value and BMV and for the 80%-120% collar.

If the actual earnings on investments and expenses assumed and distributions made turned out to be exactly what was assumed, the ending market value after 20 years should be $100,000. It actually was $115,605 for Model E and $137,952 for Model A.

The distributions to Model A were much less than those to Model E in the early years. However they became much closer in later years when equity years went negative. The market value of Model A became larger than Model E due to Model E actually earning 0.7% per year more than Model A, but was assumed to earn 1.5% more than Model A in the distribution calculation. The larger distribution in Model E resulted in smaller accumulations.

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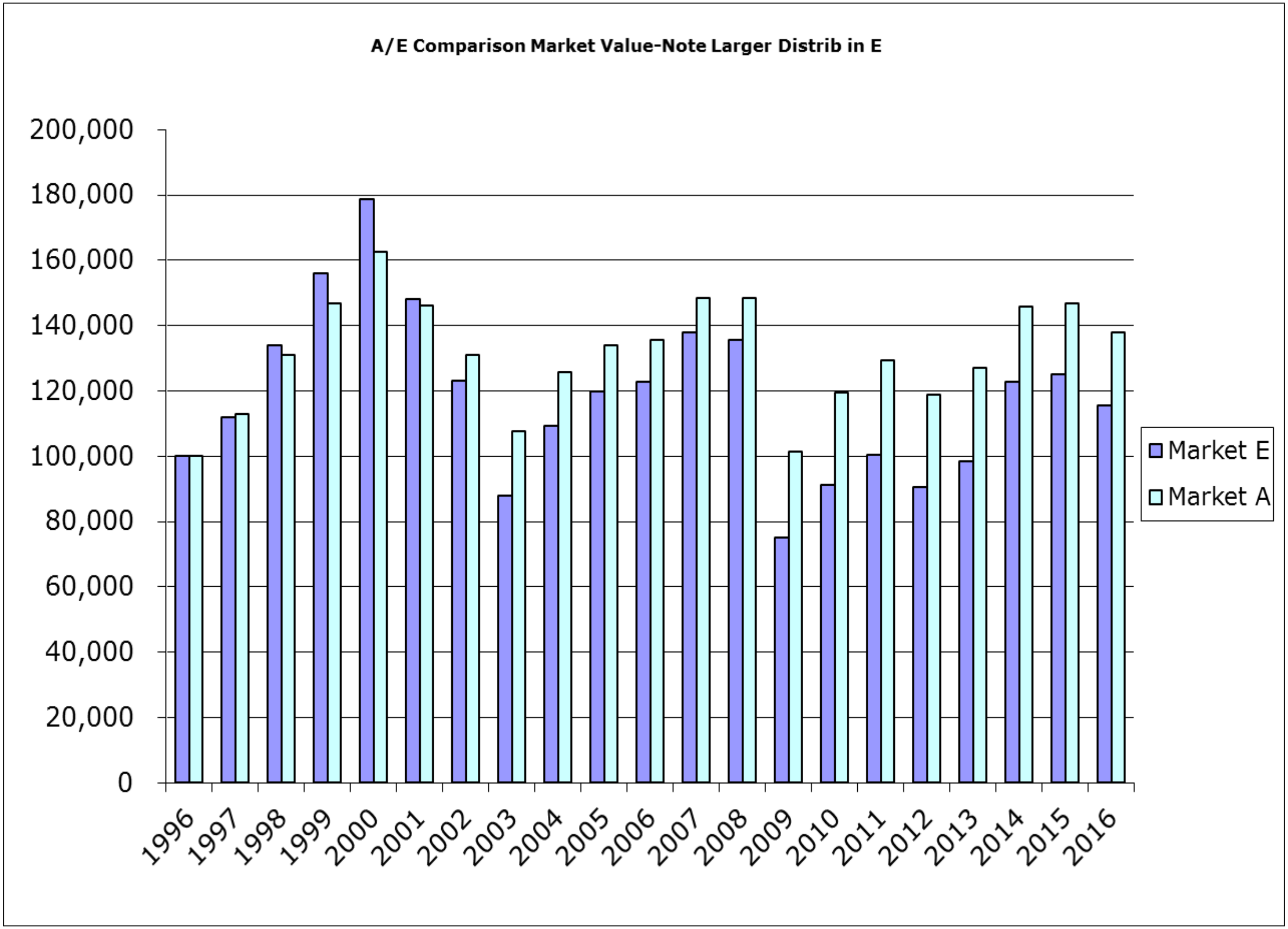

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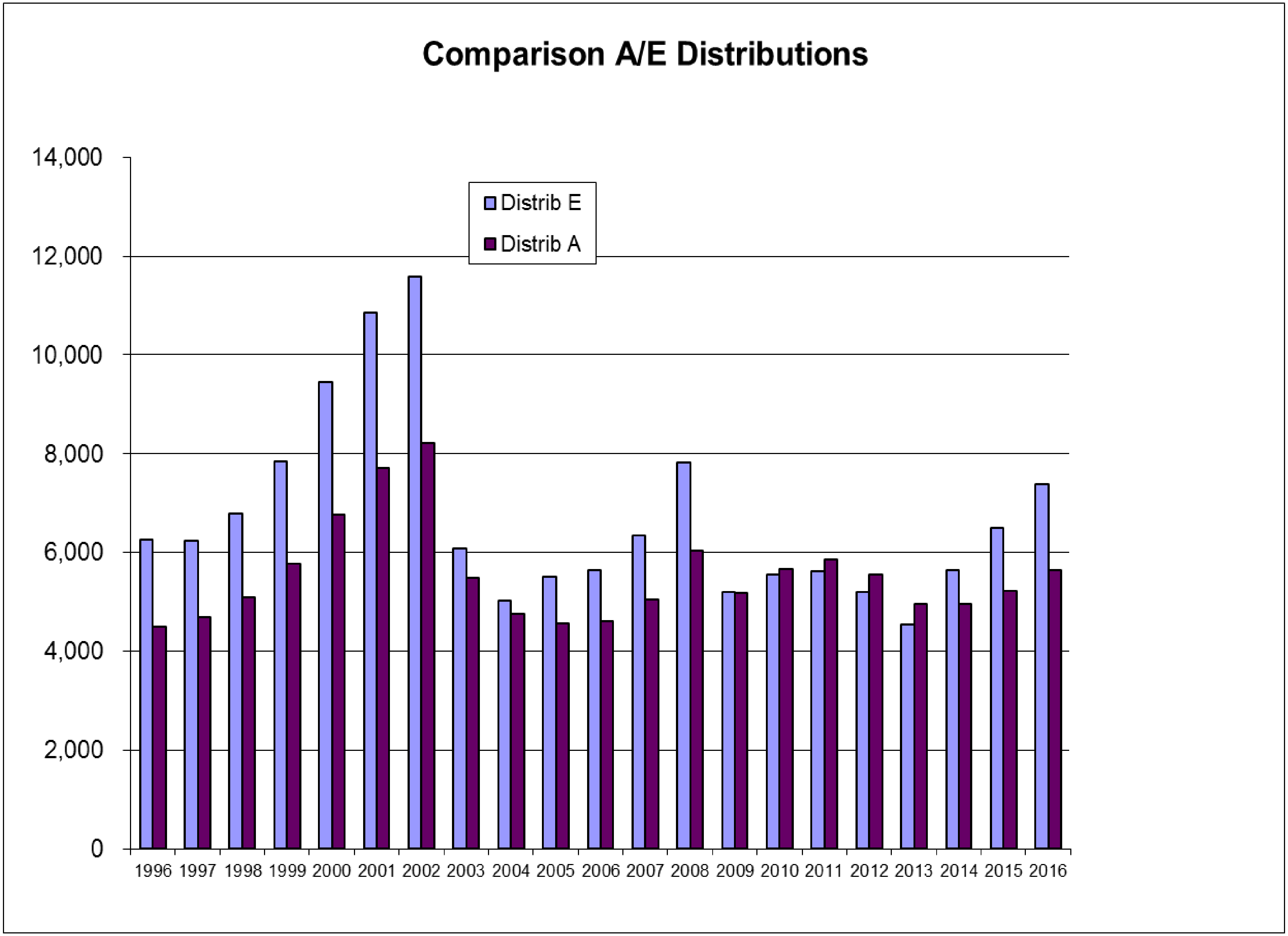

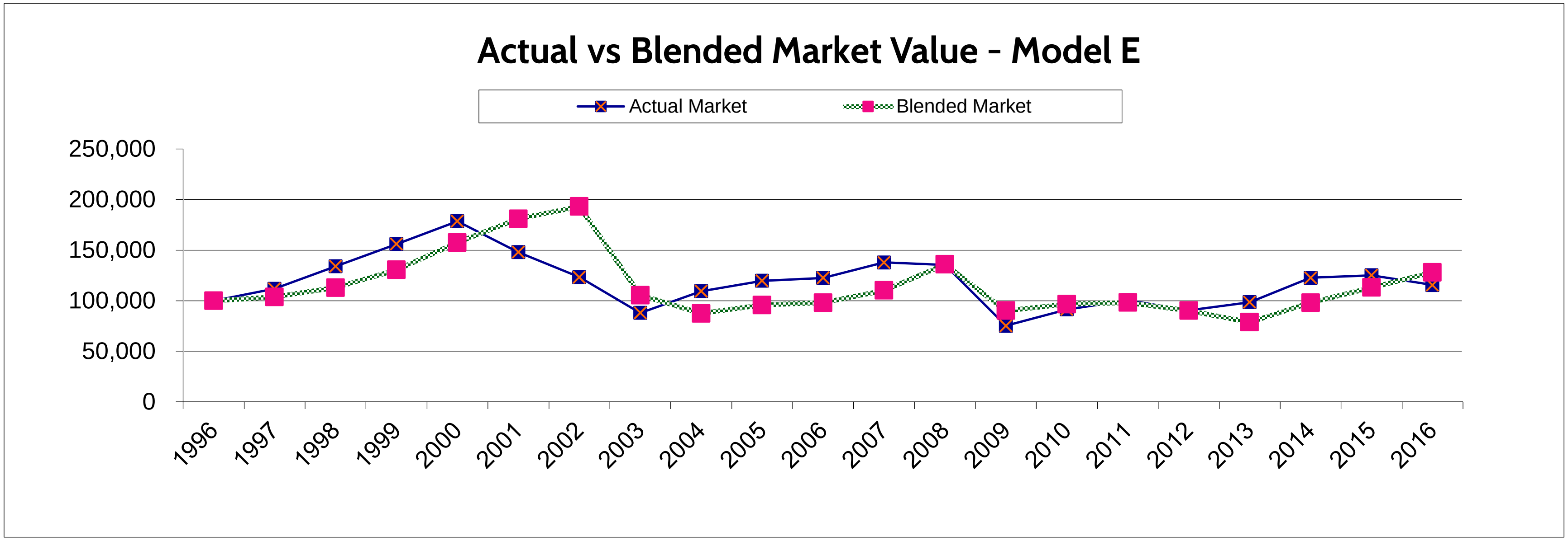

Actual vs Blended Market Value - Model E
Actual Market
Blended Market
250,000
200,000
150,000
100,000
50,000
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
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2010
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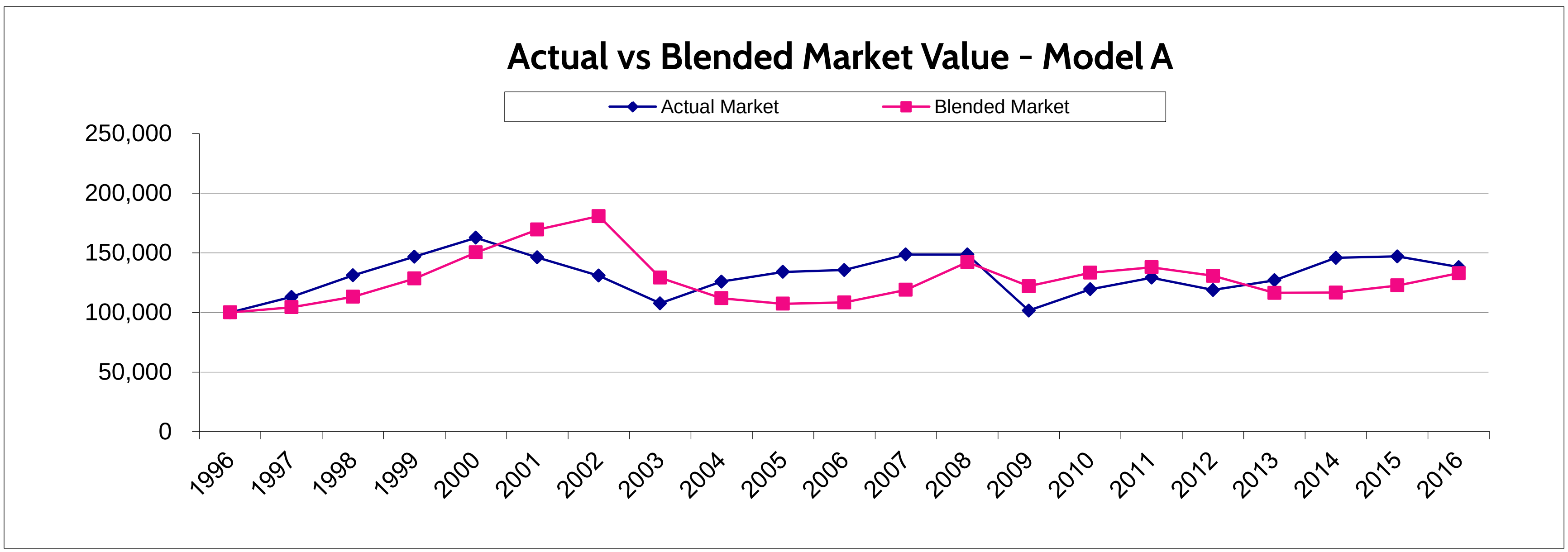
2012
2013
2014
2015
2016



Actual vs Blended Market Value - Model A
Actual Market
Blended Market
250,000
200,000
150,000
100,000
50,000
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
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2011
2012
2013
2014
2015
2016

The next question to be answered was did the BMV approach result in smoothing the distributions from year to year? For post collar years in Model E the standard deviation of the actual market value is $19,094 and the standard deviation of the BMV is $15,637. This reduction of 18% is a significant result in smoothing the distributions. The arithmetic average of those same values is $109,477 and $101,922, a reduction of 7%. The Model A reductions are 26% standard deviation and 5% arithmetic average.

My conclusion is that the methods that we chose worked extremely well in achieving the results we desired. A review of the six desired criteria shows that all six were satisfied by the actual experience of the first 20 years of operation.

To avoid any misunderstanding, the BMV does not enter into any accounting long range calculations of the assets in a TFEC fund's account. The BMV is only used to determine each year's distribution. If a larger distribution was made instead, the next year's fund assets would be smaller and vice versa.

Should the Model A distribution rate be raised for future years? It was determined twenty years ago as follows: the long term return on equities was assumed to be 9%. The long term return on fixed income was assumed to be 4%. Model A expected gross return was calculated as 70% of 9% plus 30% of 4% which resulted in 7.5%. In order to raise the Model A assumption from 7.5% to 8% you must raise the fixed income assumption to 5.7%.

Given the fact that 5.7% is currently a junk bond return and 10 year Treasuries yield about 2%, I wouldn't recommend a change.

On behalf of my co-developer Bill Lehr and the strong support we have had from the Investment Advisory Committee, the TFEC staff, and the overwhelming acceptance of fund holders, my conclusion is that the BMV methodology has worked well and no change is indicated.

Conrad M Siegel
Fellow, Society of Actuaries
Investment Advisor Representative