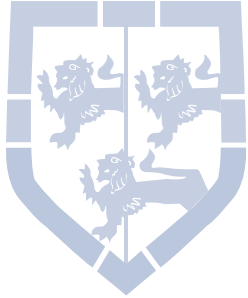


HammondAssociates  
INSTITUTIONAL FUND CONSULTANTS, INC.



*Southeastern Council of Foundations*  
*Asset Allocation, Spending Policy and Liquidity Issues*

Friday, April 24, 2009

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# *Asset Allocation*

# Background on Recent Economic Downturn

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- In 2008, the scale of the turmoil in financial markets was global and has taken many by surprise. The first quarter of 2009 was equally difficult.
- As the fourth quarter began, the extent of the credit problems was quickly revealed:
  - Over-levered banks;
  - Over-levered homeowners;
  - Over-levered investors in commercial real estate and private equity.
- Credit markets are essentially frozen and equity markets are off about 50% or more from their highs.
- The bear market has sharply reduced values of institutional portfolios, erasing gains back to 2002.
- A real risk remains that this crisis will not be solved in a year or two. We could be in an extended period of below-trend economic growth (5 to 7 years).
- The silver lining to this crisis is that Americans are beginning to save. Corporations will react to the new economic reality (cutting costs to restore margins). By traditional measures, equities are cheap.
- Regardless of the investment actions taken, **institutions must maintain sufficient liquidity to fund spending needs and meet future expected capital calls without further depleting equity at even lower prices.**

# Summary of Monte Carlo Analysis

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- The significant economic downturn has impacted the portfolios of most foundations. We estimate that the typical endowment has declined by 27% in 2008 with most of those losses coming since early September. (Hammond Associates Research Note: *Managing Spending and Liquidity Needs through the Downturn*, December 2008)
- Both the decline in the equity markets and the stalling of credit markets added stress to many non-profits. In some cases, cash and fixed income products were frozen.
- In addition to the declines, foundations, which have increased exposure to illiquid alternative investments such as private equity, private real assets, and hedge funds, face reduced liquidity.
- To estimate the impact that the declining portfolio value would have on future spending levels and the average foundation's future market value, we performed a series of Monte Carlo Simulations to estimate how long it would take for the average foundation to again reach their 2009 spending dollars.
- The simulation involved a number of assumptions and methodologies in which we started with the average foundation's allocation as of 12/31/08. We applied the assumptions and then randomly generated returns for the portfolio for the next 10 years.
- The results of our analysis were not surprising. **The decline in the average foundation's portfolio will impact the spending amounts in years to come. Institutions' dollar spending will drop sharply in the next several years and the median institution will not return to its 2009 spending level until after 2020. However, the median foundation will return to a 5% effective spending rate by 2013, but the market value will not return to peak (2007) levels until after 2018.**

## The Average Foundation's Asset Allocation *(as of 12/31/08)*

	12/31/2008 Asset Allocation
	A
<b>Growth Assets</b>	
US All-Cap Stocks	35%
US Large Stocks	
US Large Growth Stocks	
US Large Quality Stocks	
US Small Stocks	
<i>US Stocks</i>	<b>35%</b>
Intl Large Stocks	12%
Intl Small Stocks	
Intl Emerging Market Stocks	
<i>Intl Stocks</i>	<b>12%</b>
Private Equity / Special Situations	4%
<b>Total Growth Assets</b>	<b>51%</b>
<b>Risk Reduction Assets</b>	
Cash	11%
US / Global Fixed Income	23%
Hedge Funds	8%
<b>Total Risk Reduction Assets</b>	<b>42%</b>
<b>Inflation Protection Assets</b>	
US Inflation Protected Fixed	
Real Assets	7%
<b>Total Inflation Protection Assets</b>	<b>7%</b>
<b>Total</b>	<b>100%</b>

- The average Family, Independent, and Public Foundation's asset allocation as of the end of 2008 can be seen in the table to the left.
- At the end of 2008, nearly half of foundation portfolios were held in equities, with three times more in domestic equities than international equities.
- Approximately one-third of portfolios were allocated to fixed income and cash.
- Remaining assets (around 20%) were held in alternative assets including: private equity, hedge funds, and real estate.
- Forty-three percent of foundations have lower domestic equity allocations and 35% have lower international equity allocations than a year ago.
- Thirty-seven percent of foundations have higher fixed income and cash allocations than a year ago.

Source: Council on Foundations - Asset Declines and Investment Strategy Changes by Family, Independent, and Public Foundations Survey Results

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# *Monte Carlo Simulation on Spending*

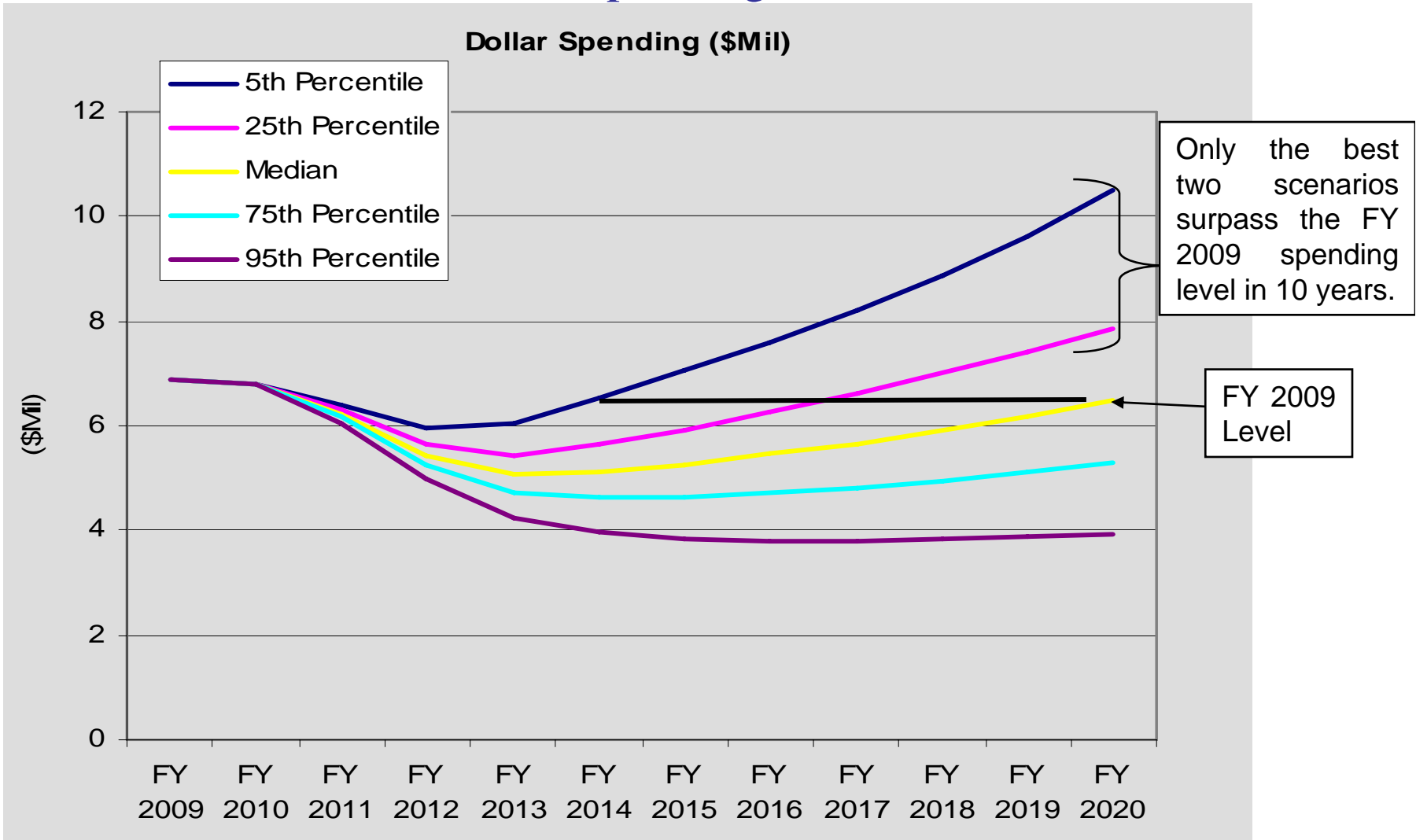
## Monte Carlo Assumptions

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The key assumptions we employed in our Monte Carlo Simulation are as follows:

- Starting market value as of December 31, 2008 = \$100 Million
- Spending rate = 5%
- Spending formula: 5% of rolling 12 quarters and is calculated on 12/31
- Contributions = 0%
- Fiscal year end: 6/30
- Asset allocation based on Council on Foundations “Asset Declines and Investment Strategy Changes by Family, Independent, and Public Foundations” February 2009 survey.
- Average expected return based on our forecasts over next 10 years: 8.8%
- Expected standard deviation: +/- 9.7%
- The 5th percentile results are the best case scenario, 95<sup>th</sup> percentile results are the worst, while the median case scenario is represented by the 50<sup>th</sup> percentile results.

# Simulation Results on Dollar Spending



- Only the 5<sup>th</sup> percentile (best case scenario) and 25<sup>th</sup> percentile cases return dollar spending to FY 2009 levels before FY 2020.

## Results on Dollar Spending through FY 2020 *(cont.)*

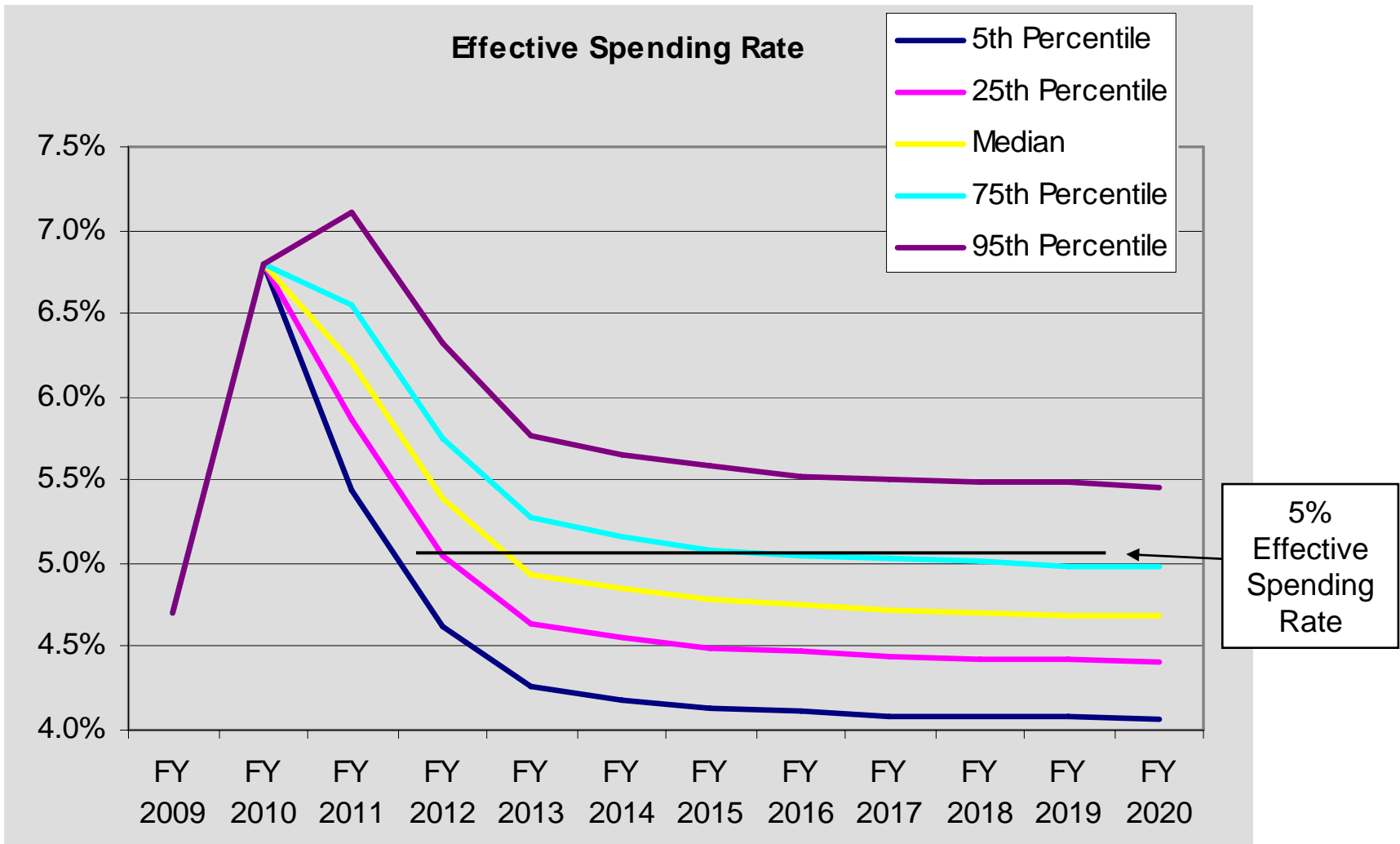
Spending	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
5th Percentile	6.9	6.8	6.4	6.0	6.0	6.5	7.1	7.6	8.2	8.9	9.6	10.5
25th Percentile	6.9	6.8	6.3	5.6	5.4	5.7	5.9	6.3	6.6	7.0	7.4	7.9
Median	6.9	6.8	6.2	5.4	5.1	5.1	5.3	5.5	5.7	5.9	6.2	6.5
75th Percentile	6.9	6.8	6.2	5.2	4.7	4.6	4.6	4.7	4.8	4.9	5.1	5.3
95th Percentile	6.9	6.8	6.1	5.0	4.2	4.0	3.8	3.8	3.8	3.8	3.9	3.9

Under the median case, spending is forecasted to decline from \$6.9 million in FY 2009 to \$5.1 million in FY 2013, a **26% decline**.

**Dollar spending is unlikely to decline in FY 2010 relative to FY 2009 levels.** This is because the average value of the foundation for 2008 is higher than the average value during 2005 (the spending formula adds 2008 and drops 2005). Spending begins to decline in FY 2011.

In nominal dollars, **spending is unlikely to fully recover by FY 2020** based on the median case scenario results.

# Effective Spending Rate Results



- All cases with the exception of the 95<sup>th</sup> percentile (worst case scenario) return effective spending to 5% before 2020. The effective spending rate is calculated as: actual dollar spending / current market value.

## Effective Spending Rate *(cont.)*

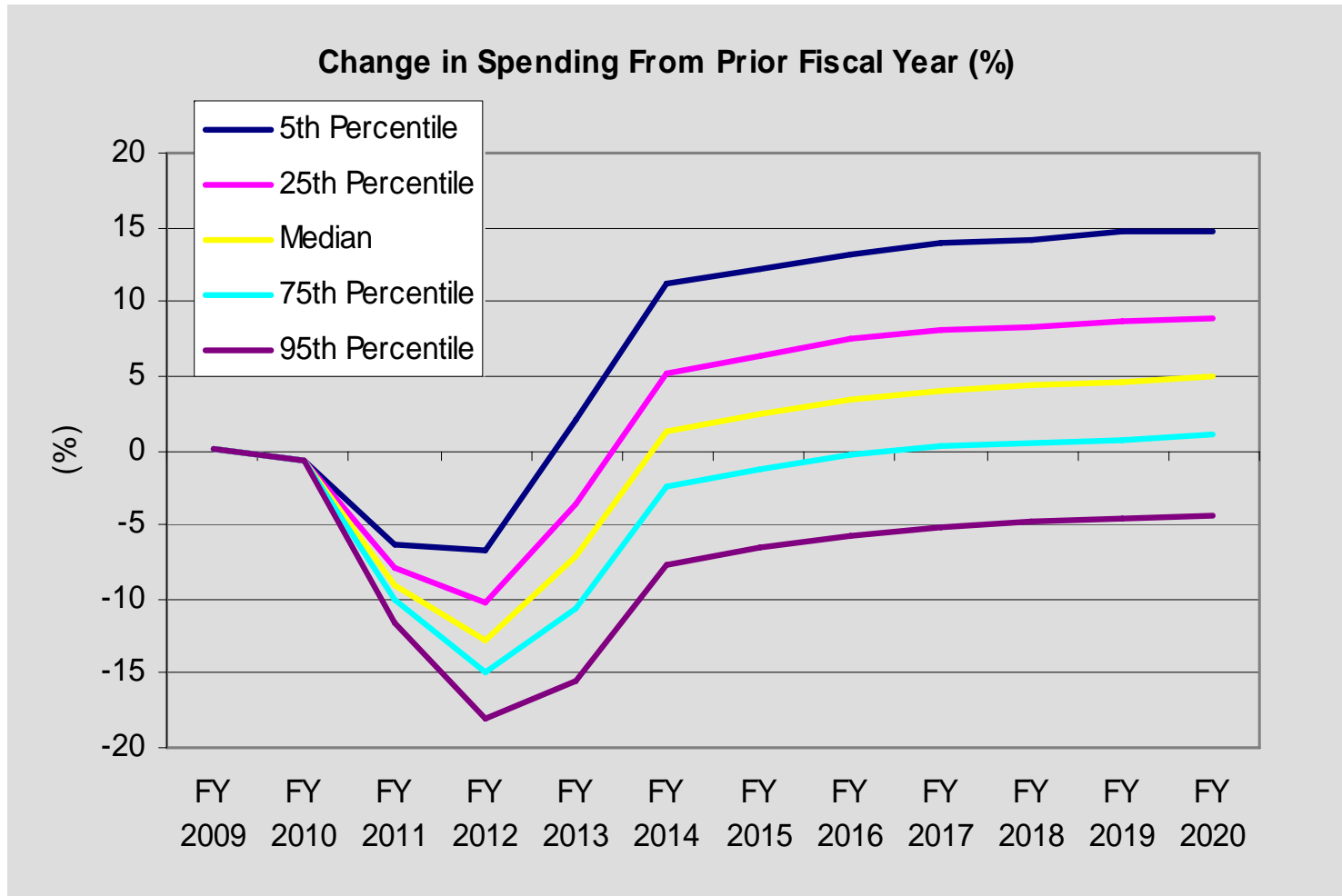
% of Market Value	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
5th Percentile	4.7%	6.8%	5.4%	4.6%	4.3%	4.2%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%
25th Percentile	4.7%	6.8%	5.9%	5.1%	4.6%	4.6%	4.5%	4.5%	4.4%	4.4%	4.4%	4.4%
Median	4.7%	6.8%	6.2%	5.4%	4.9%	4.8%	4.8%	4.8%	4.7%	4.7%	4.7%	4.7%
75th Percentile	4.7%	6.8%	6.6%	5.7%	5.3%	5.2%	5.1%	5.1%	5.0%	5.0%	5.0%	5.0%
95th Percentile	4.7%	6.8%	7.1%	6.3%	5.8%	5.7%	5.6%	5.5%	5.5%	5.5%	5.5%	5.5%

The effective spending rate is likely to jump from 4.7% in FY 2009 to 6.8% in FY 2010.

Under the median case, effective spending returns to 5% by FY 2013. This assumes institutions are able to reduce spending to projected dollar spending levels.

- We assumed a 5% spending rate on the trailing 12-quarter moving average market value. An institution's effective spending rate will differ from 5% based on realized returns and contributions (we assumed 0% contributions).

## Change in Spending From Prior Fiscal Year



- Since most foundations do not receive contributions, spending will recover at a slower rate relative to universities and colleges.
- Under the 95<sup>th</sup> percentile case, spending is still declining within the next 10 years.

## Change in Spending From Prior Fiscal Year *(cont.)*

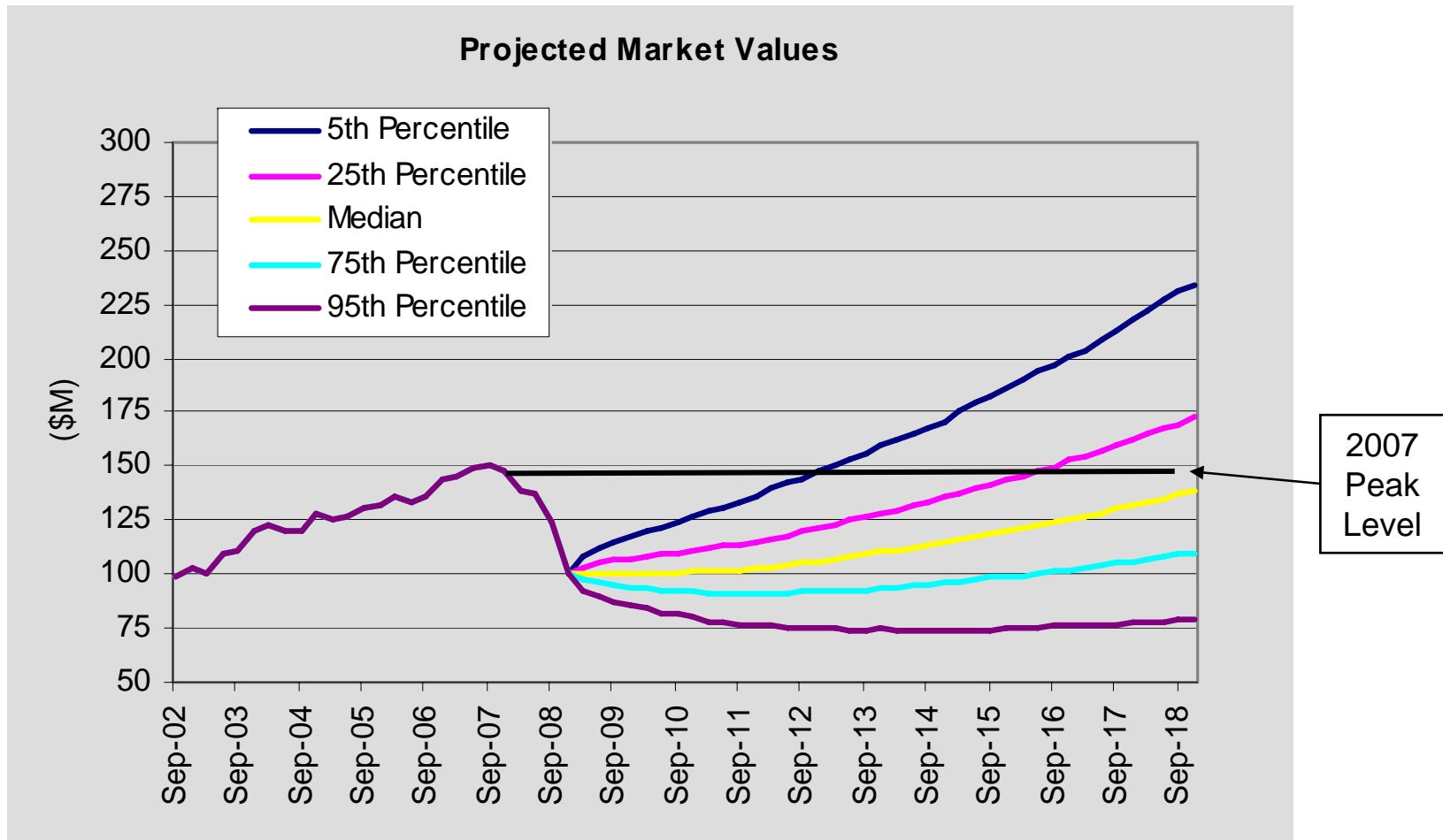
Change in Spending	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
5th Percentile	5.0%	-0.8	-6.3	-6.8	2.0	11.1	12.1	13.1	13.9	14.2	14.6	14.8
25th Percentile	5.0%	-0.8	-7.9	-10.3	-3.5	5.2	6.4	7.4	8.0	8.2	8.6	8.8
Median	5.0%	-0.8	-9.0	-12.7	-7.1	1.3	2.5	3.5	4.0	4.4	4.6	4.9
75th Percentile	5.0%	-0.8	-10.1	-14.9	-10.6	-2.4	-1.3	-0.4	0.3	0.6	0.8	1.0
95th Percentile	5.0%	-0.8	-11.6	-18.1	-15.6	-7.8	-6.6	-5.7	-5.1	-4.8	-4.5	-4.5

If institutions wish to maintain their current spending formula, then dollar spending is unlikely to decrease significantly in FY 2010.

Under the median case, spending is likely to decline for the next four fiscal years with the largest decline expected to take place in 2012.

Spending is expected to resume positive growth starting in FY 2014.

# Projected Market Values



- The bear market has sharply eroded the value of the typical foundation, wiping out six years of gains. We estimate that the ending value as of December 2008 will be essentially equal to the market value as of December 2002.
- Under the median scenario, we estimate that the typical foundation will not return to 2007 levels over the next 10 years.

## Effect on Liquidity

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- Based on the average foundation asset allocation as of 12/31/08, the typical foundation has around 20% of their portfolio in illiquid assets (assuming hedge funds are illiquid).
- The bear market has reduced portfolio values, causing alternative allocations to represent a larger piece of the portfolio.
- However, alternatives have not been immune to the market downturn; they have a lagged reporting period and thus some of the recent markdowns in private equity and real assets have not yet been reflected in an institution's portfolio value.

- 
- Foundations that have recently been building their private equity allocations are in a good position to benefit from distressed prices.
  - Capital calls over the next 12 months or longer may be reduced as private managers find it difficult to complete deals. Distributions from private equity may be reduced from what has been previously experienced.
  - For foundations with higher and fully invested private equity and private real asset allocations, many may find themselves temporarily over-allocated to alternatives, violating their policy allocations, until it is possible for them to rebalance.
  - With only 20% in illiquid alternatives, foundations should have enough liquidity to meet their cash needs (spending and capital calls).
  - **Foundations should conduct a liquidity and spending analysis based on their unique circumstances to ensure that they have sufficient liquidity to meet spending and capital call needs up to the next two years. (Research Note: *Managing Spending and Liquidity Through the Downturn*)**

# Rebalancing

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- Rebalancing is psychologically tough in the face of steep investment losses, but it can add value.
- Despite an 83% peak-to-trough decline, an institution that rebalanced throughout the Great Depression would have performed better than an institution that took a buy-and-hold approach.
- Since the downturn of the markets in September was so rapid, many institutions did not rebalance their portfolios back to their target policy allocations.
- At this point, many foundations may find themselves over-allocated to fixed income and cash, asset classes that have held up well compared to equities.
- In order to meet upcoming spending needs and to rebalance their portfolios, institutions can sell some of their fixed income assets and thus avoid selling equities at depressed prices.
- It is recommended to rebalance portfolios, even during volatile periods. However, illiquid private equity and hedge fund lock-ups make it difficult to rebalance a portfolio.
- While it may take some time to rebalance a portfolio, foundations should continue to apply their rebalancing guidelines found in their Investment Policy Statement.

# Long-Term Asset Class Expectations

Asset Class	Compound Expected Return	Expected Standard Deviation
<b>Growth Assets</b>		
US Large Stocks	7.5	17.5
US Mid Stocks	8.0	19.0
US Small Stocks	8.5	22.0
Intl Large Stocks	7.5	18.0
Intl Small Stocks	8.5	19.0
Intl Emerging Market Stocks	9.5	27.0
Private Equity	12.5	27.0
<b>Risk Protection Assets</b>		
US Fixed Income	5.2	5.5
Cash	4.0	0.5
Hedge Funds	8.0	7.0
<b>Inflation Protection Assets</b>		
US Inflation Protected Bonds	4.7	5.0
Real Assets	8.5	12.5

This represents our long-term expected return on stocks when they are priced at equilibrium. Current valuations are below equilibrium levels.

Small-cap stocks are expected to outperform large-cap stocks by 1% and value stocks are expected to outperform broad stock allocations.

Over the long-term, we expect US stocks and international developed market stocks to provide similar returns.

We expect cash to earn 4.0% nominal (based on 2.5% inflation) over the long-term. All other asset class returns are built off the cash rate.

Inflation-protected bonds are expected to underperform a broad US fixed income allocation (as proxied by the Barclays Aggregate Bond index) because a broad fixed allocation has exposure to credit spreads.

## Methodology for Determining Asset Class Expectations:

Our approach to developing long-term forecasts blends realized historical results and an examination of current conditions. In developing the forecasts, we begin by averaging historical data for the longest period available to determine how much investors have been rewarded for exposure to risk factors in the past. We then use internal and external research to identify structural reasons that risk premiums in the future might be different than those experienced in the past, and adjust our forecasts accordingly. This methodology generally results in lower return forecasts, particularly for equity asset classes, than have been experienced in the past.

The return expectations do not include manager alpha except for absolute return strategies. The expected return in excess of cash for absolute return strategies consists mostly of expected alpha.

# 10-Year Horizon Expected Returns

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Asset Class	L/T Expected Return	10-Year Horizon Returns
<b>Growth Assets</b>		
US Large Stocks	7.5	10.0
US Large Quality Stocks	7.5	11.0
US Large Growth Stocks	7.5	11.0
US Large Value Stocks	7.5	9.0
US Mid Stocks	8.0	9.5
US Small Stocks	8.5	8.0
US Small Value Stocks	9.5	8.0
Intl Large Stocks	7.5	11.5
Intl Small Stocks	8.5	10.5
Intl Emerging Market Stocks	9.5	12.1
Private Equity / Special Situations	12.5	15.0
<b>Risk Protection Assets</b>		
Cash	4.0	3.4
Fixed Income	5.2	5.5
Hedge Funds	8.0	8.0
<b>Inflation Protection Assets</b>		
US Inflation Protected Bonds	4.7	5.5
Real Assets	8.5	9.5

## 10-Year Expectations – Rationale:

The long-term expectations represent the expected returns of asset classes at equilibrium. They are an estimate of what investors require to invest in each asset class, given the risk, in a normal interest rate environment. They are not affected by current valuations.

The current bear market has pushed equity valuations below their equilibrium level. In other words, the current expected return is above the equilibrium expected return. The horizon expectations are an estimate of the return over the next 10-years assuming all asset classes finish the period at equilibrium.

Equities are priced to provide returns in the low double-digits over the next 10 years. At equilibrium real interest rates, we estimate that the S&P 500 should trade at a normalized P/E ratio of roughly 20. At a P/E ratio of 20, stocks would be priced to provide a risk premium to long-term TIPS bonds of 2.5%.

The current normalized P/E ratio on the S&P 500 stands at 15. If it rises to 20 over the next 10 years, we estimate that the S&P 500 will earn a nominal return of 10%, versus the long-term expected return of 7.5%.

# Correlation Assumptions

	US Large Stocks	US Mid Stocks	US Small Stocks	Intl Large Stocks	Intl Small Stocks	Intl Emerging Market Stocks	US Fixed Income	US Inflation Protected Fixed	US High Yield Fixed	Cash	Real Assets	Private Equity	Hedge Funds
US Large Stocks	-	0.90	0.80	0.65	0.50	0.60	0.35	0.20	0.55	(0.05)	0.35	0.70	0.35
US Mid Stocks		-	0.90	0.60	0.50	0.60	0.30	0.20	0.55	(0.05)	0.35	0.75	0.35
US Small Stocks			-	0.55	0.50	0.55	0.25	0.15	0.60	(0.10)	0.35	0.80	0.40
Intl Large Stocks				-	0.85	0.60	0.20	0.10	0.40	(0.10)	0.30	0.50	0.25
Intl Small Stocks					-	0.60	0.15	0.10	0.40	(0.10)	0.30	0.50	0.30
Intl Emerging Market Stocks						-	0.10	0.10	0.50	(0.15)	0.45	0.45	0.40
US Fixed Income							-	0.60	0.40	0.00	0.15	0.25	0.30
US Inflation Protected Fixed								-	0.30	0.10	0.35	0.15	0.20
US High Yield Fixed									-	(0.10)	0.25	0.60	0.40
Cash										-	0.00	(0.10)	0.10
Real Assets											-	0.50	0.30
Private Equity												-	0.30
Hedge Funds													-

**Correlation coefficients** measure the degree of co-movement between two asset classes. A correlation of 1.00 indicates that both assets move in lock-step with one another, while a correlation of (-1.00) suggests that the assets move in opposite directions. A correlation of 0 means that there is no relation.

Diversified portfolios take advantage of the tendency of asset classes to behave in different ways relative to each other. Asset classes with low correlations to one another can be combined to produce portfolios with less risk than any specific asset class displays on a stand-alone basis.

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