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... the cult of equities and the new reality Rob Arnott | Chairman & Founder | Research Affiliates / Realindex Investments





Better off with Bonds? The 40-Year Story

27 August 2009 Robert Arnott / <u>arnott@rallc.com</u>



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Five stages of asset allocation



The Equally –weighted portfolio is comprised of the following indexes, rebalanced monthly. ML US Corporate & Government 1-3 Year; BarCap US Aggregate Bond TR; BarCap US Treasury Long TR; BarCap US Long Credit TR; BarCap US Corporate High Yield TR; Credit Suisse Leveraged Loan; JPM EMBI + Composite TR; JPM ELMI + Composite; ML Convertible Bonds All Qualities; BarCap Global Inflation Linked US TIPS TR; FTSE NAREIT All REITS TR; DJ AIG Commodity TR; S&P 500 TR; MSCI Emerging Markets TR; MSCI EAFE TR; Russell 2000 TR.



There was no place to hide in stage 2 September – October 2008



*Monthly Rank Information is for the month October2008. All indices are as of 1/1/1988 except for the following: Lehman US TIPS Index as of 11/1997. Credit Suisse Leverage Loan Index as of 2/1992; JPMorgan Emerging Market Bond Index as of 1/1994; DJAIG Commodities TR Index as of 1/1991.

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Modest improvement in stage 3 November – December 2008

		November					
		-25.00	-15.00 -5.00	5.00 15.00	25.00 35.00		
BarCap US Treasury Long Index	2nd Best	22.67%			24.04%		
BarCap Long Credit Index	Best	21.38%			-3.92%		
JP Morgan Emerging Market Bond Index (JPEMCOMP)	64th Worst	10.45%			-11.79%		
BarCap Aggregate Bond Index	2nd Best	7.11%			5.25%		
BarCap US TIPS Index	Best	5.70%			-2.35%		
ML 1-3 yr Government/Credit Index	25th Best	2.44%			4.71%		
JP Morgan Emerging Local Markets Index (JPPUELM)	10th Best	2.08%			-3.76%		
MSCI EAFE Equity TR Index (GDDUEAFE)	27th Best	0.34%			-43.06%		
MSCI Emerging Equity TR Index (GDUEEGF)	39th Best	-0.31%			-53.94%		
ML Convertible Bond Index	14th Best	-1.11%			-30.50%		
BarCap US Corporate High Yield Index	2nd Best	-2.34%			-26.15%		
S&P 500 TR Index (SPTR)	118th Worst	-6.19%			-37.94%		
Russell 2000 Equity TR Index (RU20INTR)	38th Best	-6.71%			-36.68%		
FTSE NAREIT All REITs TR Index (FNARTR)	Best	-9.06%			-37.34%		
DJ UBS Commodities TR Index (DJAIG)	24th Worst	-11.16%			-35.72%		
Credit Suisse Leveraged Loans Index (DLJLPX)	4th Worst	-11.37%			-28.75%		
Asset Category	Since 1988*	<u>Return</u>	November/D	ecember 2008 Return	<u>Return</u>		
	Monthly Rank	2 Month			2008		
	December						

*Monthly Rank Information is for the month December 2008. All indices are as of 1/1/1988 except for the following: Lehman US TIPS Index as of 11/1997. Credit Suisse Leverage Loan Index as of 2/1992; JPMorgan Emerging Market Bond Index as of 1/1994; DJAIG Commodities TR Index as of 1/1991.

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Back to the crash in stage 4 January – February 2009

	February											
	Monthly Rank	2 Month										2008
Asset Category	Since 1988*	<u>Return</u>				<u>Janu</u>	ary/ Febru	ary 2009	Return			<u>Return</u>
FTSE NAREIT All REITs TR Index (FNARTR)	3rd Worst	-32.74%										-37.34%
Russell 2000 Equity TR Index (RU20INTR)	6th Worst	-21.92%										-36.68%
MSCI EAFE Equity TR Index (GDDUEAFE)	7th Worst	-19.03%										-43.06%
S&P 500 TR Index (SPTR)	4th Worst	-18.18%										-37.94%
MSCI Emerging Equity TR Index (GDUEEGF)	39th Worst	-11.68%										-53.94%
DJ UBS Commodities TR Index (DJAIG)	26th Worst	-9.57%										-35.72%
BarCap US Treasury Long Index	58th Worst	-9.57%										24.04%
JP Morgan Emerging Local Markets Index (JPPUELM)	17th Worst	-7.43%										-3.76%
BarCap Long Credit Index	13th Worst	-6.19%										-3.92%
BarCap Aggregate Bond Index	52nd Worst	-1.26%										5.25%
JP Morgan Emerging Market Bond Index (JPEMCOMP)	45th Worst	-1.00%										-11.79%
BarCap US TIPS Index	11th Worst	-0.30%										-2.35%
ML 1-3 yr Government/Credit Index	26th Worst	-0.07%							•			4.71%
ML Convertible Bond Index	69th Worst	1.74%										-30.50%
BarCap US Corporate High Yield Index	15th Wrost	2.70%										-26.15%
Credit Suisse Leveraged Loans Index (DLJLPX)	60th Worst	6.15%										-28.75%
		-35.00	-30.00	-25.00	-20.00	-15.00 January	-10.00 - Februar	-5.00 y	0.00	5.00	10.00	

*Monthly Rank Information is for the month February 2009. All indices are as of 1/1/1988 except for the following: Lehman US TIPS Index as of 11/1997. Credit Suisse Leverage Loan Index as of 2/1992; JPMorgan Emerging Market Bond Index as of 1/1994; DJAIG Commodities TR Index as of 1/1991.

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Market rally in stage 5 March – June 2009



All indices are as of 1/1/1988 except for the following: Lehman US TIPS Index as of 11/1997. Credit Suisse Leverage Loan Index as of 2/1992; JPMorgan Emerging Market Bond Index as of 1/1994; DJAIG Commodities TR Index as of 1/1991.

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Source: Research Affiliates, LLC. Data provided by Lehman, Merrill, JPMorgan, Russell, Credit Suisse, S&P, MSCI, Dow Jones, Bloomberg





Stocks for the long run? How long, exactly, do we mean?





Source: Research Affiliates, LLC., Data provided by Bloomberg and Ibbotson. Equity data is an equally weighted composite of Schwert Equity Index (1800-1925), Ibbotson Equity Return (1926-2009) and FQ Equity Return (1871-1925). Bond data is an equally weighted composite of U.S. 10yr Bond Yield (1800-2009), 10Yr Yield-Global Financial Data (1871-2001), Ibbotson Bond Yield (1926-2004) and FQ Bond Yield (1959-2004).

Over past 207 years, droughts over ten years span 173 years ... over 80% of two centuries





Source: Research Affiliates, LLC., Data provided by Bloomberg and Ibbotson. Equity data is an equally weighted composite of Schwert Equity Index (1800-1925), Ibbotson Equity Return (1926-2009) and FQ Equity Return (1871-1925). Bond data is an equally weighted composite of U.S. 10yr Bond Yield (1800-2009), 10Yr Yield-Global Financial Data (1871-2001), Ibbotson Bond Yield (1926-2004) and FQ Bond Yield (1959-2004).

And old peaks may be tested for decades more



Realindex

Source: Research Affiliates, LLC., Data provided by Bloomberg and Ibbotson. Equity data is an equally weighted composite of Schwert Equity Index (1800-1925), Ibbotson Equity Return (1926-2009) and FQ Equity Return (1871-1925). Bond data is an equally weighted composite of U.S. 10yr Bond Yield (1800-2009), 10Yr Yield-Global Financial Data (1871-2001), Ibbotson Bond Yield (1926-2004) and FQ Bond Yield (1959-2004).

A capital market line inversion (Why, exactly, do we seek equity-like returns at bond-like risk?)



Standard Deviation of Returns



Source: Research Affiliates, LLC., Source data provided by Bloomberg and lehmanlive.com. 1-3 Year debt represents the BarCap 1-3yr U.S. Treasury Index, GNMA's represent the BarCap GNMA Index, TIPS represent the BarCap U.S. TIPS Index, Global Bonds represent the JPMorgan GBI Global FX N Index Unhedged (JPMGGLBL), Emerging Market Bonds represent the JPMorgan EMBI Global Index, Long TIPS represent BarCap U.S. Treasury Inflation Notes 10+ Year Index, Long Government represent the BarCap Long-Term Treasury Index, Foreign Bonds Unhedged represent the JPMorgan GBI Global ex-US FX NY Index Unhedged (JPMGXUS), High Yield represent the ML US High Yield (HUC4), BB-B Rated, Constrained Index, Commodities represent the Dow Jones/AIG Commodities Index (DJAIGTR), Convertibles represent the ML All Convertibles Index (VXA0), EAFE represents the MSCI EAFE Hedged (MSHUEAFE), Emerging Market Stocks represents the MSCI EM Index (GDUEEGF), REITS represent the Dow Jones Wilshire REIT Index (DWRTFT).

Where do we go from here ?





Three paths to improved prospective returns

Consider Other Asset Classes

- Stocks and bonds are not the only choices
- Unconventional assets can be priced to offer better returns

Seek Alpha

- Conservatively, focusing on avoiding negative alpha, or
- Aggressively, if you have confidence in the opportunities

Actively Manage the Asset Mix

- *Include* alternative markets in these decisions
- Seek assets which are out of favor, priced for better returns

All Three Paths Can Be Pursued in Parallel!





Examples of negative alpha

Returns Chasing Behavior

- Investors hire funds at the peak of their performance cycle and typically fire at the bottom.
- Average mutual fund investor trails average mutual fund by roughly 3% per year.*

Failing to Rebalance

Automated rebalancing adds over approximately 0.25% per annum.*

Improper Diversification

- An overreliance on equities or any asset class/sector can lead to an inefficient portfolio.
- The 60/40 mix has a 0.98 correlation with the S & P 500.

Cap-weighted indexes experience all three!





Why move away from cap-weighting?

Cap-Weighting:

- Overweights all overpriced stocks
 - Fully participates in every market bubble
- Underweights all underpriced stocks
 - Fully participates in every market decline
- Concentrates on growth companies, relative to their economic footprint

Fundamental Index Weighting:

- Size in index based on company fundamentals
- Stock price volatility does not impact index target weights

Fundamental index concept seeks to Eliminate performance drag of Market cap-weighted indexes





Where are the opportunities today?





Looking forward

Selective opportunities abound

- TIPS: Priced to reflect inflation of only 2%/year through 2028
- IG Corporate Debt: Yielding 3% more than Treasuries
- High yield spreads comparable to previous recessionary peaks
- Value Stocks: Best valuation multiples relative to growth since 2000
- Maintain vigilance after recent rally ... growth stocks are at risk
- Equity valuations are "average" on a Shiller Price/Earnings basis



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Yields and spreads, 20 July 2009 A spectrum of opportunity



Realindex

Indexes used (with start dates) were Barclay's Capital US Convertibles (Converts – 1/31/2003), Barclay's Capital US Intermediate Corporate (Invt Grade Corp – 1/31/90), Merrill Lynch High Yield Master II (High Yield – 9/30/86), Merrill Lynch USD Emerging Market Sovereign Plus (Emerging Mkt – 12/31/91), NAREIT Total (REITs – 1/31/80), S & P 500 (1/31/80) and S & P Global 1200 (Global 1200 – 7/31/04). 10-Year Treasury (1/31/80), 10-Year TIPs (1/31/03) and 20 year TIPS (1/31/03) all taken from the Federal Reserve Constant Maturity series. Spread versus Treasuries is calculated as Option adjusted Spread for converts and yield to worst for Inv Grade Corp, High Yield, and Emerging Mkt. Treasures involve significantly less risk of loss than corporate bonds, high-yield bonds, emerging markets securities, REITS, and equities.

Fundamental index strategies Attractive relative equity valuations

				Weighted Avg
6/30/2009	Price / Sales	Price / Book	Div Yield	Market Cap
FTSE RAFIUS 1000	0.38	0.87	2.0%	\$48.4 billion
Russell 1000	0.88	1.75	2.3%	\$64.0 billion
RAFIDiscount	-57%	-50%	10%	
FTSE RAFIUS MS 1500	0.26	0.85	1.3%	\$0.8 billion
Russell 2000 Index	0.62	1.32	1.5%	\$0.8 billion
RAFIDiscount	-58%	-36%	11%	
FTSE RAFI Developed ex US 1000	0.38	0.91	4.0%	\$34.3 billion
FTSE AW Developed ex US 1000	0.66	1.37	3.7%	\$40.5 billion
RAFIDiscount	-42%	-34%	-9%	
FTSE RAFI Developed ex US MS 1500	0.36	0.84	3.5%	\$1.5 billion
FTSE AW Developed ex US 1500	0.50	1.11	3.0%	\$1.5 billion
RAFIDiscount	-28%	-24%	-15%	
FTSE RAFI Emerging Markets	0.33	1.34	2.4%	\$19.8 billion
FTSE AW All Emerging	0.74	1.56	3.0%	\$50.5 billion
RAFI Discount	-55%	-14%	21%	

Note: The index version of the RAFI methodology, or the FTSE RAFI Indexes, is licensed globally by our partner the FTSE Group.



Source: Research Affiliates, LLC. Data provided by Wilshire Atlas.



When valuation dispersion is wide, the cap-weighted market is severely overpaying for growth (1956-Q1 2009)





Source: Research Affiliates, LLC. Data provided by CRSP and Compustat. The Cap Weighted portfolio is an annually rebalanced portfolio of the top 1,000 U.S. stocks by capitalization. Size weight is a fundamentally weighted portfolio based on Research Affiliates' four factor model using the past 1-year of fundamental data. Growth Value dispersion is a weighted standard deviation of the ratio of Cap weight/Size weight.

The dispersion of valuation multiples is highly predictive of the growth-value cycle (1956-Q1 2009)



Source: Research Affiliates, LLC, Data provided by CRSP and Compustat, CSW excess return is the excess return of the Company Size Weighted portfolio vs. the Cap Weighted portfolio. FF Value Excess Return is the excess return of the Fama-French Value portfolio vs. the Cap Weighted portfolio. The Cap Weighted portfolio is an annually rebalanced portfolio of the top 1,000 U.S. stocks by capitalization. Company Size weighted portfolio is a fundamentally weighted portfolio based on Research Affiliates' four factor model using the past 1-year of fundamental data.

Where do we go from here?

A spectrum of returns Where were you invested in these periods?

		5-Years	s Returns (Cum	15-Year Characteristics*		
					Standard	Correlation
Asset Class	2008	2003-2007	1998-2002	1993-1997	Deviation	with 60-40
Emerging Markets	-53	391	-21	44	26	0.54
MSCI EAFE	-43	171	-12	74	16	0.75
REITS	-39	131	23	118	15	0.34
S&P 500 Equal-Weighted	-40	109	12	136	16	0.89
Commodities	-36	95	21	58	12	-0.21
S&P 500	-37	83	-3	152	15	0.98
Emerging Market Bonds	-11	82	44		12	0.58
High-Yield Bonds	-26	67	3	75	7	0.66
Convertible Bonds	-36	66	20	92	13	0.85
Unhedged Foreign Bonds	10	44	28	45	9	-0.01
TIPS	-2	36	51		5	-0.43
Long-Term Gov't Bonds	23	32	52	62	9	-0.04
Mortgage Bonds	8	25	43	42	3	0.04
Lehman Aggregate Bond	5	24	44	43	4	0.01
Money Markets	2	16	23	26	1	0.14

Red = worst three (excl. SPEW) Blue = best three (excl. SPEW)

The 2008 bear market has been a Take No Prisoners market

*Emerging markets and TIPS standard deviations and correlations are for the ten years ended 12-07.

Past performance is no guarantee of future results. 60-40 represents a composite of the S&P 500 (60%) and Lehman Brothers Government/Credit Bond Index (40%). Standard deviation is an absolute measure of volatility measuring dispersion about an average which, for an index, depicts how widely the returns varied over a certain period of time. The greater the degree of dispersion, the greater the risk. Correl w/60-40 measures the correlation, or tendency to move in tandem, of the performance of the listed asset class with the 60/40 portfolio for the 15-year period ended 12/31/07. A higher number indicates a greater correlation. Emerging Markets Stocks represented by MSCI Emerging Markets Index. Commodities represented by Dow Jones AIG Commodity Index. REITS represented by Wilshire REIT Index. Emerging Markets Bonds represented by JP Morgan Emerging Markets Bond Index Global. TIPS represented by Lehman U.S. TIPS Index. High Yield Bonds represented by Merrill Lynch High Yield Master II Index. Long Term Govt Bonds represented by Lehman Brothers Long-Term Treasury Index. Mortgage Bonds represented by Lehman Brothers Mortgage. Convertible Bonds represented by Merrill Lynch ALL US Convertible Securities Index. Unhedged Securities Index. Unhedged Securities Index. Us. Government Bond Index. Money Markets represented by Merrill Lynch ALL US Convertible Securities Index. Unhedged Securities Index. S&P 500 Equal Weighted (SPEW) reflects the performance of the S&P 500 Index with component stocks equally weighted rather than capitalization weighted. The Standard & Poor's 500 Stock Index (S&P 500) is an unmanaged, capitalization-weighted index of U.S. companies generally representative of the U.S. Stock Market. The Lehman Aggregate Bond

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