

Highlights of

PERFORMANCE ANALYSIS OF OPTIONS-BASED EQUITY MUTUAL FUNDS, CLOSED-END FUNDS, AND EXCHANGE-TRADED FUNDS

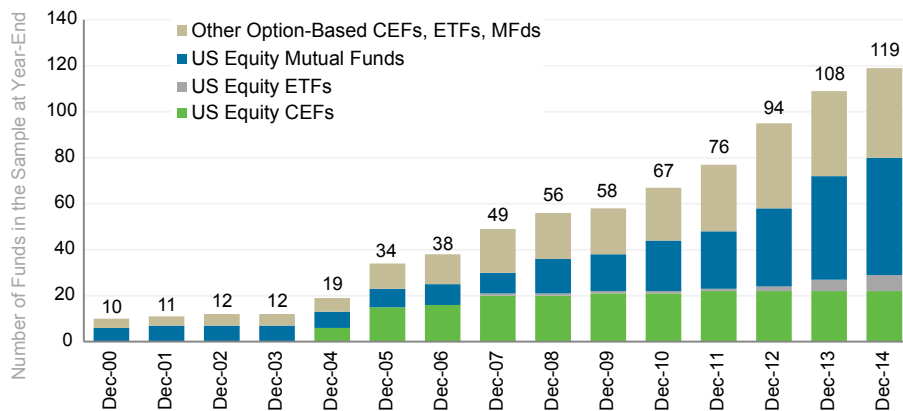
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INTRODUCTION

This brief handout presents selections from 24 exhibits available in the more comprehensive version of the 2015 study at www.cboe.com/funds. Among the study's highlights are:

- The number of options-based funds grew from just **10** in 2000 to **119** in 2014.
- Options-based funds had **higher risk-adjusted returns** and **lower volatility** than the S&P 500 and S&P GSCI Indexes during the 15-year period from 2000 through 2014.
- The study presents a first-ever publicly available **list of names** and **ticker symbols** for those options-based funds.
- The CBOE S&P 500 PutWrite Index (**PUT**) and the CBOE S&P 500 2% OTM BuyWrite Index (**BXY**) both produced **higher returns** and **lower volatility** than the S&P 500 and S&P GSCI Indexes during the period from mid-1988 through the end of 2014.

Exhibit 1 - Number of Option-Based Funds in Sample (Dec. 2000 to Dec 2014)



Number of option-based funds included in the sample at year-end. Option-based funds benchmarked to a broad US equity index are included in the analysis. The "Other" category includes option-based closed-end, exchange traded and mutual funds which are excluded from the analysis since they have objectives other than broad-based US equities. These include fixed income, currencies, commodities, international and global equity, narrow sector funds (such as master limited partnerships), and futures based products (such as the VIX® index). While CEF growth peaked in 2007, option-based mutual funds have been growing significantly in number since late-2008, and more recently, option-based ETFs have exhibited strong growth. While the exhibit only shows growth since 2000, the fund with the earliest inception date included in the study dates back to 1977.

Sources: Morningstar and Bloomberg

Exhibit 2 - List of 80 Options-Based U.S. Equity Funds (December 2014)

The largest funds in the sample are GATEX (\$8.2B), ETY (\$1.8B), BDJ (\$1.7B) and NFJ (\$1.7B), while GATEX (1977), TDEYX (1978) and MEQFX (1992) have the earliest inception dates.

TYPE	NAME	TICKER
MFd	Alliance Bernstein/TWM Global Equity & Covered Call Strategy Fund - Institutional	TWMLX
CEF	AllianzGI NFJ Dividend Interest & Premium Common	NFJ
MFd	AllianzGI Structured Return A-Class	AZIAX
MFd	AllianzGI US Equity-Hedged - Institutional	AZUIX
MFd	AMG FQ US Equity - Institutional	MEQFX
MFd	Arin Large Cap Theta - Institutional	AVOLX
MFd	ASTON/Anchor Capital Enhanced Equity - Institutional	AMDSX
CEF	BlackRock Enhanced Capital & Income Common	CII
CEF	BlackRock Enhanced Equity Dividend Common	BDJ
MFd	BPV Low Volatility	BPVLX
MFd	BPV Wealth Preservation Advisor	BPAPX
MFd	Bridgeway Managed Volatility	BRBPX
MFd	Camelot Excalibur Small Cap Income - Class A	CEXAX
MFd	Camelot Premium Return - Class A	CPRFX
MFd	Catalyst/Lyons Hedged Premium Return - A	CLPAX
MFd	Catalyst/SMH Total Return Income - Class A	TRIFX
MFd	Centaur Total Return	TILDX
CEF	Columbia Seligman Premium Technology	STK
MFd	Covered Bridge - Class A	TCBAX
MFd	Credit Suisse Volaris US Strategies - Class A	VAEAX
MFd	Crow Point Defined Risk Global Equity Income - Class A	CGHAX
MFd	Dividend Plus Income Fund - Institutional	MAIPX
MFd	Dunham Monthly Distribution Fund - Class A	DAMDX
CEF	Eaton Vance Enhanced Equity Income Common	EOI
CEF	Eaton Vance Enhanced Equity Income II Common	EOS
MFd	Eaton Vance Hedged Stock - Institutional	EROIX
CEF	Eaton Vance Risk-Managed Diversified Equity Income Common	ETJ
CEF	Eaton Vance Tax-Managed Buy-Write Income Common	ETB
CEF	Eaton Vance Tax-Managed Buy-Write Opportunities Common	ETV
CEF	Eaton Vance Tax-Managed Dividend Equity Income Common	ETY
CEF	First Trust Enhanced Equity Income Common	FFA
ETF	First Trust High Income ETF	FTHI
ETF	First Trust Low Beta Income ETF	FTLB
MFd	Frost Cinque Large Cap Buy-Write Equity - A	FCAWX
MFd	Gateway - Class A	GATEX
MFd	Gateway Equity Call Premium - Class A	GCPAX
MFd	Glenmede Secured Options	GTSOX
MFd	GMO Risk Premium - Class III	GMRPX
CEF	Guggenheim Enhanced Equity Income Common	GPM
CEF	Guggenheim Enhanced Equity Strategy Common	GGE

TYPE	NAME	TICKER
CEF	Guggenheim EW Enhanced Equity Common	GEQ
MFd	Hatteras Disciplined Opportunity - Institutional	HDOIX
ETF	Horizons S&P 500® Covered Call ETF	HSPX
ETF	Horizons US Equity Managed Risk ETF	HUS.U
MFd	Hussman Strategic Growth	HSGFX
MFd	ICON Risk-Managed Balanced - Class A	IOCAX
MFd	Investment Partners Opportunities - Class A	IPOFX
MFd	Iron Horse - Class A	IRHAX
MFd	Ironclad Managed Risk	IRONX
MFd	JHancock Redwood - Class A	JTRAX
MFd	KF Griffin Blue Chip Covered Call - Class A	KFGAX
MFd	Kinetics Multi-Disciplinary Advisor - Class A	KMDAX
MFd	KKM ARMOR A	RMRAX
MFd	KKM US Equity ARMOR A	UMRAX
MFd	Leigh Baldwin Total Return	LEBOX
MFd	LS Theta - Institutional	LQTIX
MFd	Madison Covered Call & Equity Income - Class A	MENAX
CEF	Madison Covered Call & Equity Strategy	MCN
CEF	Madison Strategic Sector Premium Common	MSP
MFd	MD Sass Equity Income Plus Fund - Institutional	MDEIX
CEF	Nuveen Core Equity Alpha Common	JCE
CEF	Nuveen Dow 30 Dynamic Overwrite	DIAX
CEF	Nuveen NASDAQ 100 Dynamic Overwrite	QQQX
CEF	Nuveen S&P 500 Buy-Write Income	BXMX
CEF	Nuveen S&P 500 Dynamic Overwrite	SPXX
CEF	Nuveen Tax-Advantaged Dividend Growth Common	JTD
ETF	PowerShares S&P 500 Buy-Write ETF	PBP
ETF	Recon Capital NASDAQ 100 Covered Call ETF	QYLD
MFd	RiverNorth Managed Volatility - Class R	RNBWX
MFd	RiverPark Structural Alpha - Institutional	RSAIX
MFd	RiverPark/Gargoyle Hedged Value - Institutional	RGHIX
MFd	Russell Strategic Call Overwriting - Class S	ROWSX
MFd	Schooner - Class A	SCNAX
MFd	Schooner Hedged Alternative Income - Institutional	SHAIX
MFd	Swan Defined Risk - Class I	SDRIX
MFd	Touchstone Dynamic Equity - Class Y	TDEYX
ETF	US Equity High Volatility Put Write ETF	HVPW
MFd	Virtus Low Volatility Equity - Class A	VLVAX
MFd	WP Large Cap Income Plus - Institutional	WPLCX
MFd	YCG Enhanced	YCGEX

Eighty options-based equity funds are used in the performance analysis. These funds consist of 51 mutual funds (MFd), 22 closed-end funds (CEF), and 7 exchange-traded index funds (ETF). The sample has a current AUM of \$276 billion. As noted on page 4, the inclusion of references to registered funds in this paper should not be construed as an endorsement or an indication of the value of any product, security, fund, service, or other website. Such financial products are not sponsored, endorsed, sold or promoted by CBOE or INGARM.

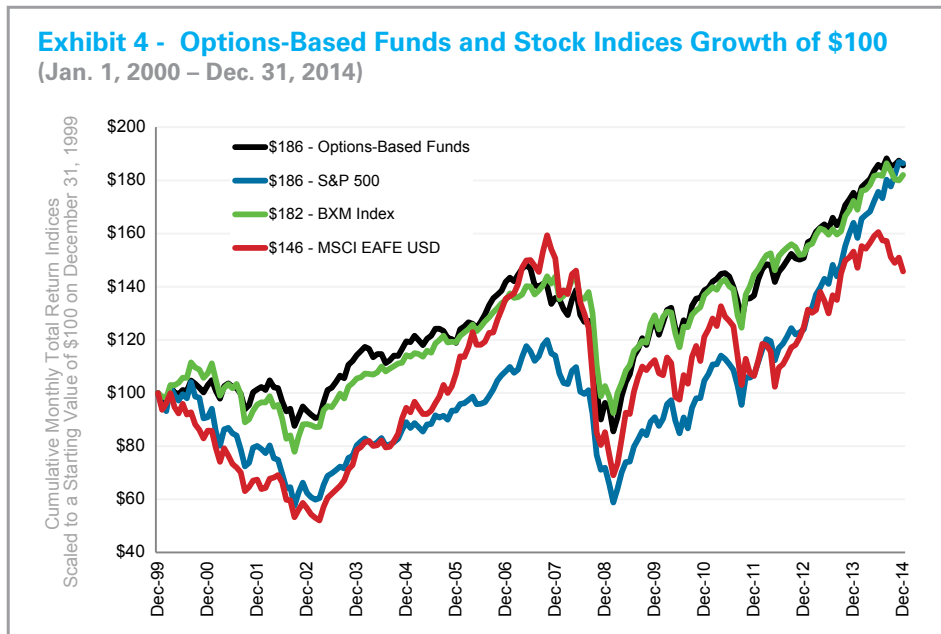
Sources: Morningstar and Bloomberg

Exhibit 3 – List of 39 Other Options-Based Funds (December 2014)

TYPE	NAME	TICKER
ETF	AdvisorShares STAR Global Buy-Write ETF	VEGA
CEF	AllianzGI Equity & Convertible Income	NIE
MFd	AMG FQ Global Risk-Balanced - Institutional	MMAFX
CEF	BlackRock Global Opportunities	BOE
CEF	BlackRock Health Sciences	BME
CEF	BlackRock Resources & Commodity	BCX
CEF	BlackRock Utility & Infrastructure Trust	BUI
MFd	Catalyst/MAP Global Capital Appreciation - Class A	CAXAX
MFd	Catalyst/MAP Global Total Return Income - Class A	TRXAX
CEF	Central Securities Corporation	CET
CEF	Clough Global Opportunities	GLO
CEF	EV Tax-Managed Global Diversity Equity Income	EXG
CEF	Fiduciary/Claymore MLP Opportunity	FMO
ETF	First Trust CBOE® S&P 500 VIX® Tail Hedge ETF	VIXH
CEF	First Trust MLP & Energy Income Fund	FEI
CEF	Gabelli Equity Trust	GAB
CEF	GAMCO Global Gold Natural Resource & Income	GGN
CEF	GAMCO Natural Resource Gold & Income	GNT
MFd	Gateway International - Class A	GAIAX
MFd	Glenmede International Secured Options	NOVIX

TYPE	NAME	TICKER
CEF	JH Hedged Equity & Income Fund	HEQ
CEF	JH Tax Advantaged Global Shareholder Yield	HTY
CEF	Kayne Anderson Midstream Energy	KMF
MFd	Kinetics Alternative Income - No Load	KWINX
MFd	Kinetics Multi-Disciplinary - No Load	KMDNX
CEF	MS India Investment	IIF
CEF	Nuveen Diversified Commodity	CFD
CEF	Nuveen Long/Short Commodity Total Return	CTF
MFd	Regal Total Return - Class A	RTRTX
MFd	Robeco Boston Partners All Cap Value - Institutional	BPAIX
CEF	Salient Midstream & MLP	SMM
MFd	Sandalwood Opportunity - Class A	SANAX
MFd	Virtus Strategic Income - Class A	VASBX
CEF	Voya Global Advantage and Premium Opportunity	IGA
CEF	Voya Global Equity Dividend&Premium Opportunity	IGD
CEF	Voya Infrastructure Industrials & Materials	IDE
CEF	Voya International High Dividend Equity Income	IID
CEF	Voya Natural Resources Equity Income	IRR
CEF	Wells Fargo Adv Global Dividend Opportunity	EOD

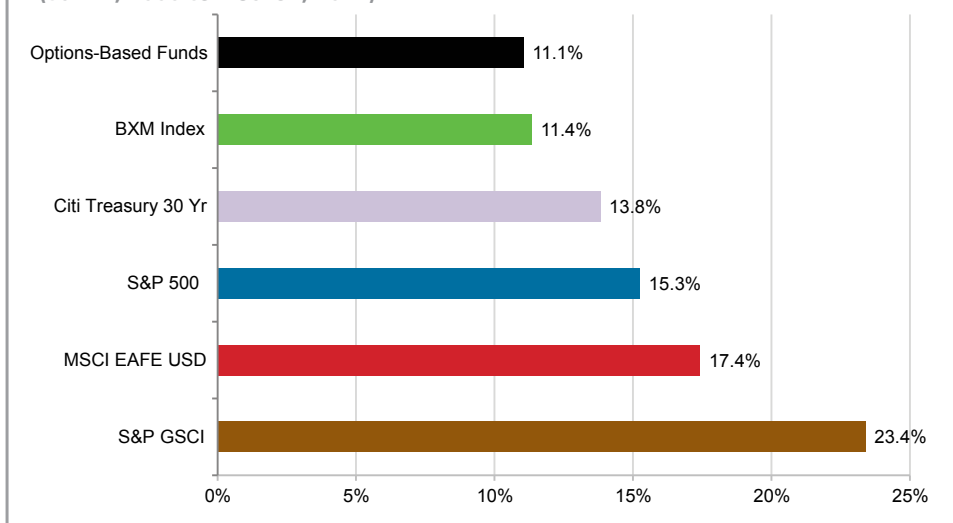
Thirty-nine Additional Options-Based Funds with \$18.6 billion AUM (these funds were not used in performance analysis). These include 26 CEFs with AUM of \$16.9 Billion, 11 Mutual Funds with AUM of \$1.7 Billion and 2 ETFs with AUM of \$30 Million. Additionally, two ETNs were identified (GLDI and BVV) which are not included in the above list.

Exhibit 4 - Options-Based Funds and Stock Indices Growth of \$100 (Jan. 1, 2000 – Dec. 31, 2014)

Cumulative monthly total return since December 31, 1999 for a monthly rebalanced equally weighted portfolio of Options-Based Funds, the BXM index and various traditional indices. Performance is scaled to represent a starting value of \$100 on December 31, 1999 for all indices. Performance of the Equally Weighted Option-Based Fund Portfolio closely tracks the BXM index. The Equally Weighted Option-Based Fund Portfolio returns are calculated by averaging the returns across all constituents in the sample available at each month-end. The number of funds included in the calculation grows monthly as new funds enter the sample, and at the end of 2014, there were 80 funds in the sample.

Exhibit 5 - Annualized Standard Deviation - Options-Based Funds and Benchmark Indices

(Jan. 1, 2000 to Dec. 31, 2014)



Options-Based Funds had a lower standard deviation than the S&P 500 Index.

More Information

A more comprehensive version of this paper (available at www.cboe.com/funds) has Exhibits that show:

- The BXM, PUT, and BXY options-based benchmark indexes all had a positive alpha and a lower standard deviation of returns than the S&P 500 Index in the period from mid-1988 through 2014.
- Over the past 25 years, equity index options usually have been richly valued, as the implied volatility has historically tended to exceed realized volatility.
- Fund managers examine trading liquidity and capacity when considering investment vehicles, and the estimated notional value of average daily volume in S&P 500® (SPX) options in 2014 was more than \$170 billion.

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