

VIXCONTANGO

# General Introduction

Time The Market Using Volatility

Trade Volatility ETFs For Profit

# S&P 500

**1957:** The Market is the S&P 500 Index

**1983:** SPX Options Market Launched

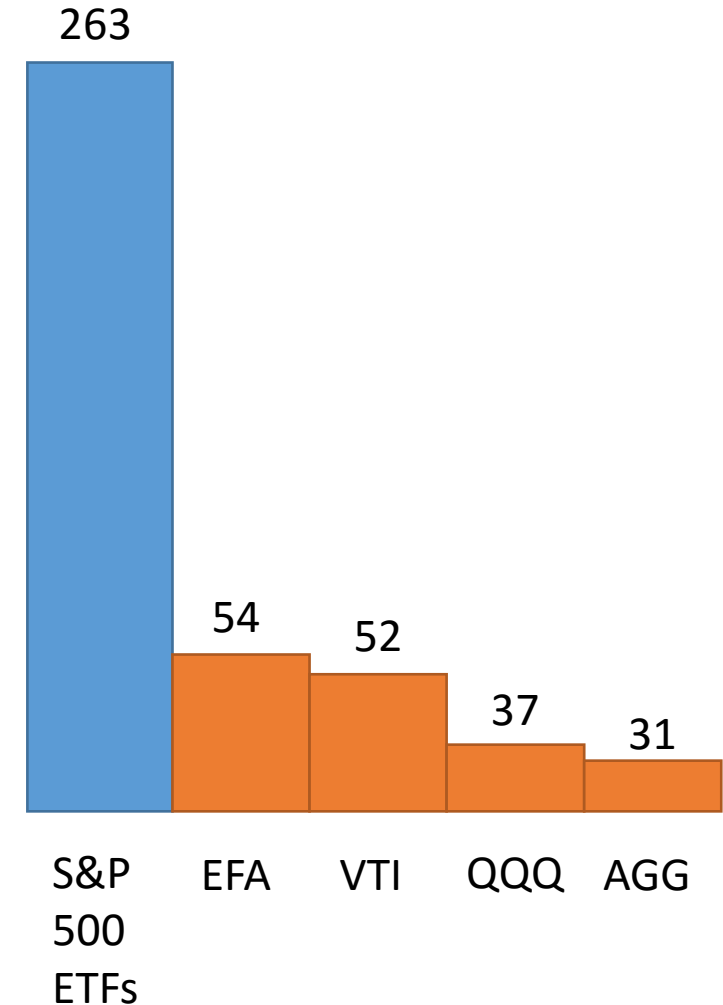
**1993:** SPDR S&P 500 ETF – SPY - Launched (Oldest ETF)

**1997:** SPX Futures Market Launched

Biggest ETF is also the SPY – 161 Billion Market Cap

All S&P 500 ETFs – SPY, IVV, VOO – **263 Billion** AUM

5 times bigger than the next closest at 54 billion!



# Biggest and Most Liquid

\$320 BILLION

TRADED PER DAY

- SPX Index Futures (E-Mini S&P)

- Ticker: ES
- Notional value =  $50 \times \text{SPX} = \$100,000$  per contract
- Daily Volume: 1.5 Million contracts

\$100,000

\$150 BILLION

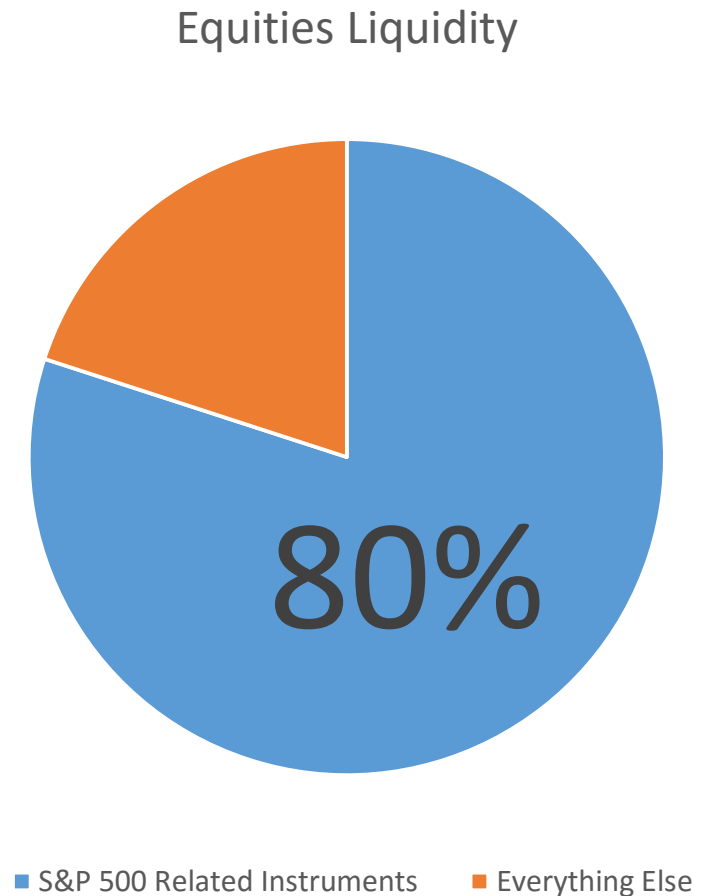
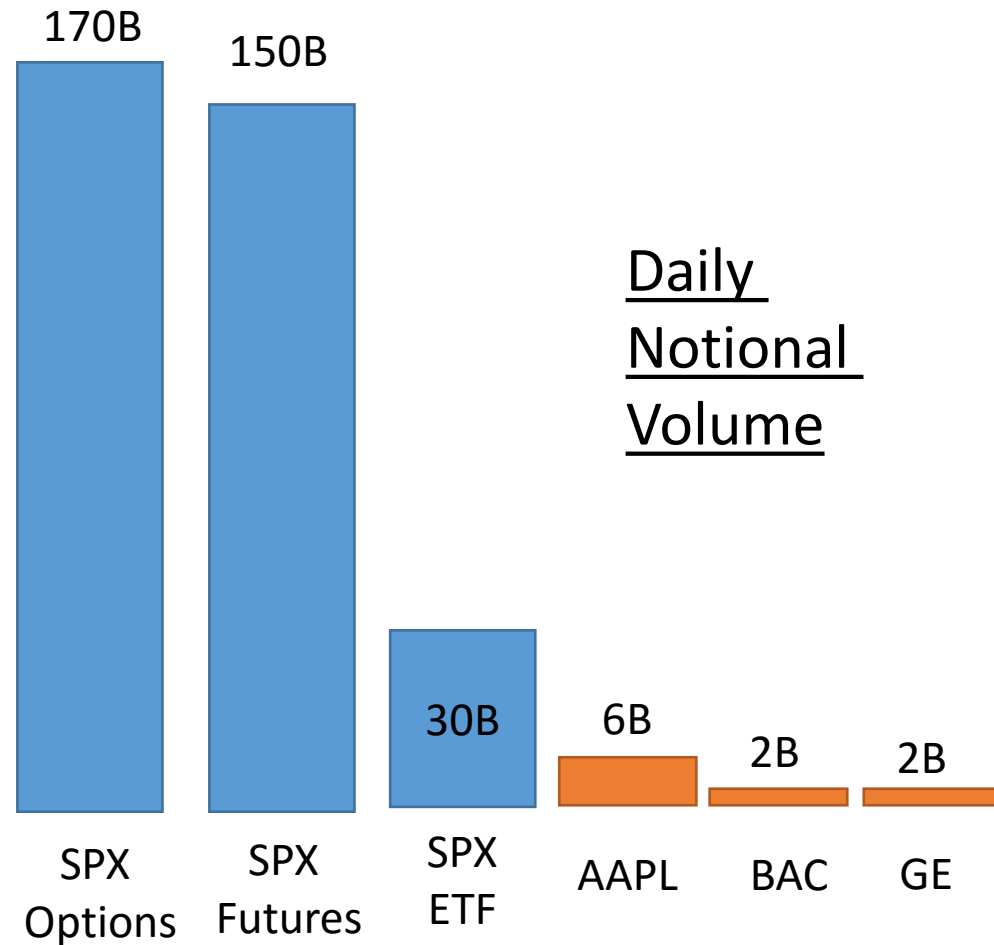
- SPX Options

- Notional value =  $100 \times \text{SPX} = \$200,000$  per contract
- Daily Volume: 850,000 contracts

\$200,000

\$170 BILLION

# Biggest and Most Liquid



# Most Important

**The SPX is The Only Instrument That Matters**

**Rising Tide Lifts All Boats**

**Falling Tide Grounds All Boats**

# More Resilient

<b>Risks With Individual Stocks</b>	<b>S&amp;P 500</b>
Business	Much Smaller
Economic	Yes
Litigation	None
Sentiment	Much Smaller
Capital Structure	Much Smaller
Liquidity	None

# Most Reliable

SPY	
Year	Annual Return
2015	-0.37%
2014	14.56%
2013	32.31%
2012	15.99%
2011	1.89%
2010	15.06%
2009	26.35%
2008	-36.79%
2007	5.15%
2006	15.85%
2005	4.83%
2004	10.70%
2003	28.18%
2002	-21.58%
2001	-11.76%
2000	-9.74%
1999	20.39%
1998	28.69%
1997	33.48%
1996	22.50%
1995	38.05%
1994	0.40%
1993	8.71%

## In the last 22 Years

80% of the time SPY returns are positive

**17.95%**

20% of the time SPY returns are negative

**-19.95%**



# Reasons for Market Uptrend

- Population Growth
- Productivity Growth
- Earnings Growth
- Innovation
- Monetary Policy
- Fiscal Policy

# If You Could Only Avoid The Drawdowns



Can You Time The Market?

**YES, YOU CAN!**

**HOW?**

**VOLATILITY**

# What is Volatility?



BEARS

BULLS





# Measuring Volatility

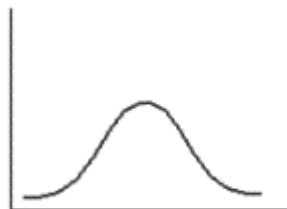
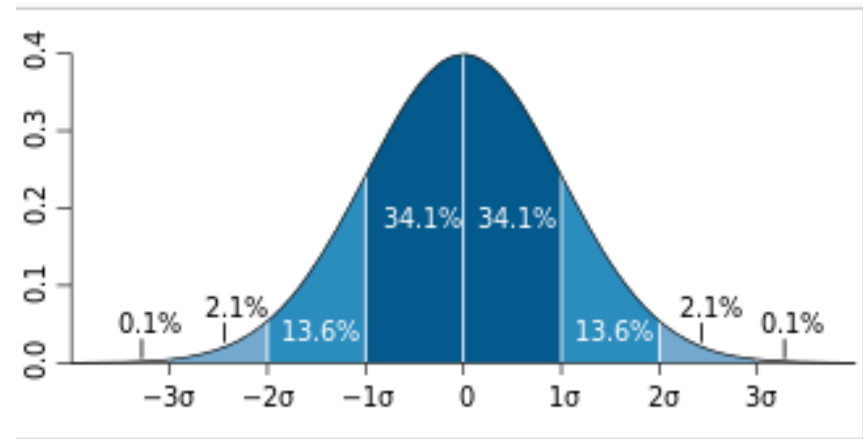
Standard Measures of Volatility

CBOE Volatility Index (VIX )

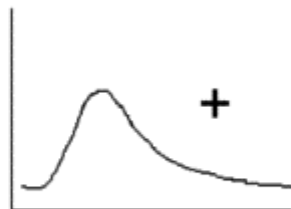
# Standard Measures of Volatility

## Normal Distribution

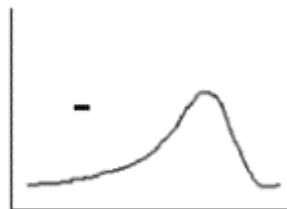
- Mean
- **Standard Deviation**
- Skewness
- Kurtosis



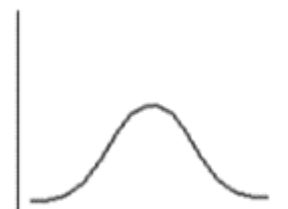
Normal Curve



Positive Skew



Negative Skew



Mesokurtic Curve



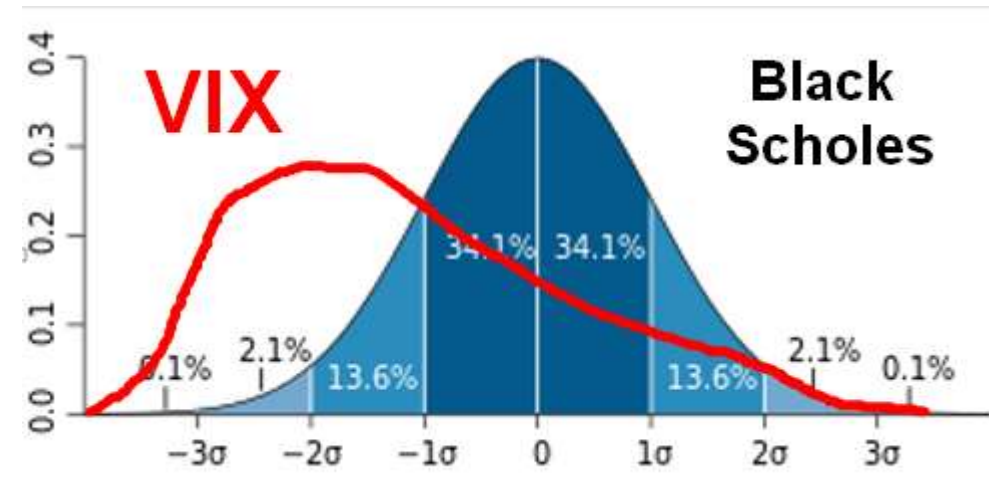
Leptokurtic Curve



Platykurtic Curve

# Financial Volatility

- **Realized Volatility**
  - **Historical Volatility** = Annualized Standard Deviation of Returns  
 $\text{STDEV}(\text{LOG}(\text{Daily Return})) * \text{SQRT}(252)$
  - **Average True Range (ATR)** = Average Absolute Return  
 $\text{AVG}(\text{ABS}(\text{Daily Return}))$
- **Implied Volatility (Options)**
  - Black Scholes
- **Expected Volatility**
  - CBOE VIX Methodology





# CBOE S&P 500 Volatility Index (VIX )

- The VIX
  - Created by Robert Whaley in 1993
  - Measures **Expected Volatility** of the S&P 500
  - Calculated off **SPX Option Series** prices
    - Call and Puts (Front/ack month)
    - Between 23 days and 37 days to expiration
    - Weighted sum of option prices
  - 68% chance how much will SPX move in a year
  - Rule of 16 (VIX of 16 = 1% in next 3 days)



# What Moves The VIX

## Institutional Investors

Hold Stocks For Dividend

Protect Principal

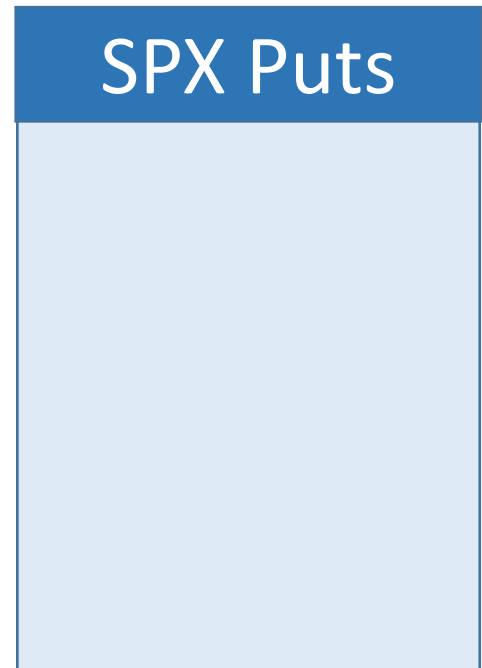
With SPX puts

VIX Goes Up when Market Goes Down

## Portfolio

ABT	MMM	ADT
GAS	AA	MO
M	T	AN
BHI	BLL	BMJ
COF	CBS	KMX
EA	OI	RL

Dividends



# It's not just the VIX

<b>VXST</b>	9 day (1 week)
<b>VIX</b>	30 day (1 month)
<b>VXV</b>	90 day (3 months)
<b>VXMT</b>	180 day (6 months)
<b>VVIX</b>	VIX of VIX (1 month)

# Other Asset Classes?

- OVX – Oil VIX
- GVZ – Gold VIX
- TYVIX – 10-Year Treasury VIX
- VXAAPL – Apple VIX
  
- Not as widely known or used

# Trading Volatility

VIX Futures Market

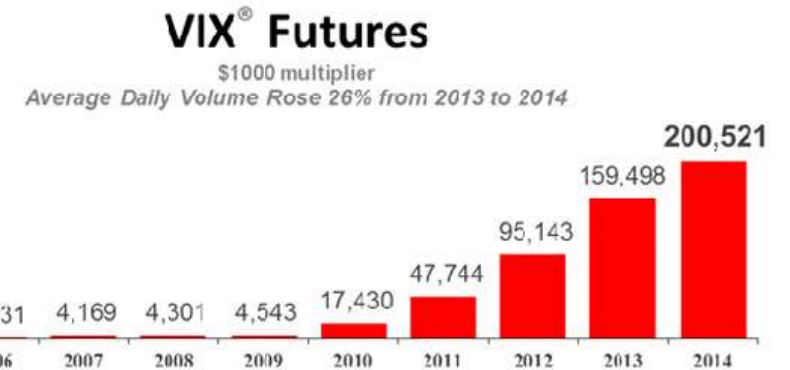
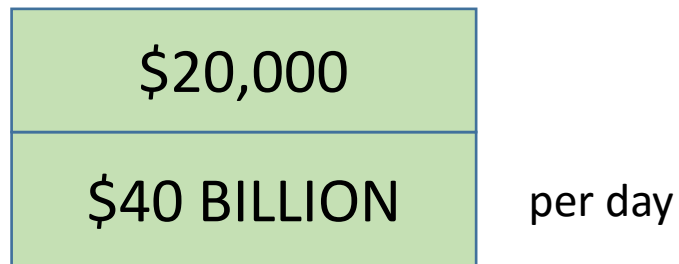
VIX Options Market

# VIX Futures

You can't trade the VIX, it is a calculation

But you can trade VIX Futures

- Venue: Chicago Futures Exchange (CFE)
- Ticker: VX
- Notional value =  $1000 \times \text{VIX} = \$20,000$  per contract
- Daily Volume: 200,000 contracts



# VIX Options

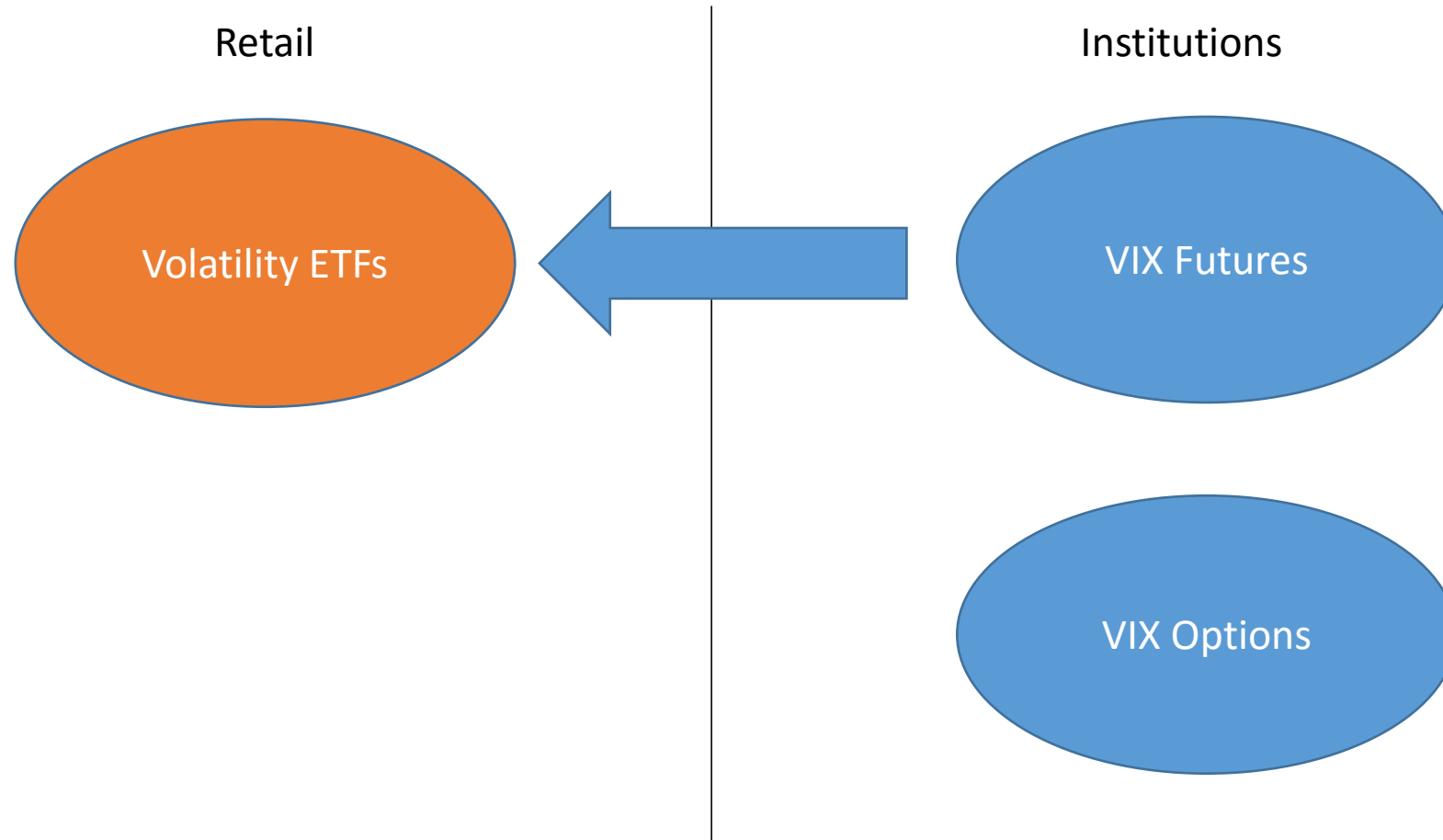
- And you can also trade VIX Options
  - Venue: Chicago Board Options Exchange (CBOE)
  - Notional value =  $100 \times \text{VIX} = \$2,000$  per contract
  - Daily Volume: 650,000 contracts
  - Liquidity makes it somewhat inconsequential

\$2,000
\$1.3 BILLION

per day



# Volatility ETFs



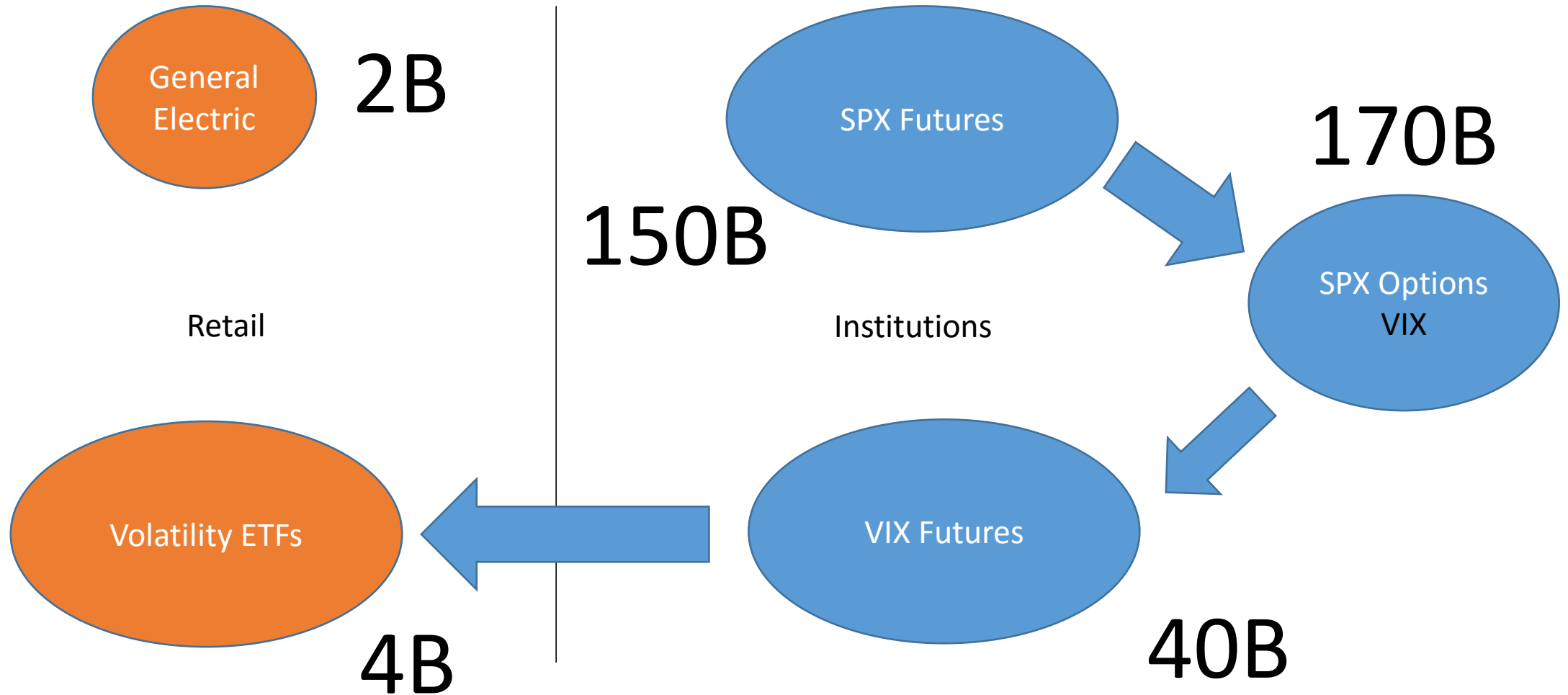


# What's Inside Volatility ETFs?

- **Volatility ETFs use VIX Futures**
- Most popular hold VX1/VX2 Futures
- Constant Maturity 30 days
- Holdings Change Daily
- Long Volatility ETFs
  - Buy Back Month VIX Future
  - Sell Front Month VIX Future
- Short Volatility ETFs
  - Short Back Month VIX Future
  - Cover Front Month VIX Future



# Most Sophisticated Derivative



# Volatility ETFs

ETF	Description	AUM
XIV, SVXY	Short Volatility (-1 VIX)	1-2B
VXX, VIXY	Long Volatility (+1 VIX)	500M-1B
UVXY, TVIX	Leveraged Long Volatility (+2 VIX)	500M-1B

- There are other volatility ETFs
- Only ETFs with 100 million AUM or more covered here
- In general, don't use ETFs without a big AUM

# Why Trade Volatility?

Price Stability Is Core Mandate of Central Banks

Central Banks enact policies aimed at reducing volatility of financial assets (including stocks)

Allows you to trade Central Banks policy directly



# Volatility ETF Performance

Year	Annual Return		
	SPY	XIV	VXX
2015	1.23%	-17.15%	-36.21%
2014	14.56%	-7.65%	-27.46%
2013	32.31%	107.23%	-66.56%
2012	15.99%	154.84%	-77.62%
2011	1.89%	-45.54%	-5.53%
2010	15.06%	25.08%	-72.39%
2009	26.35%		-67.42%
2008	-36.79%		
2007	5.15%		
2006	15.85%		
2005	4.83%		
2004	10.70%		

- Tied to the SPY but not really
- Tied to the VIX but not really
- Long Volatility is a big dog and should not be used as long term hedge
- Long Volatility suffers in all markets – bull, flat or bear
- Short Volatility can be an outstanding performer in flat or uptrending markets
- Short Volatility can suffer in flat or downtrending market
- Short Volatility is not a leveraged play on the SPY

# Volatility ETFs Must Be Timed

- Buy and Hold does NOT work for Volatility ETFs
- Must have a timing strategy
- You can achieve great returns in excess of the market. “Beat The Market”
- You can generate **ALPHA** by being a Beta investor

Next Video

**How** Can We Time The Market

**How** To Trade Volatility ETFs For Profit

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