

The physical gold collateral inventory held by SPDR for the GLD ETF: 923.76 tonnes worth \$44,705,440,369.65 as of 1:48 PM PST, October 8, 2019.

See http://www.s

http://www.spdrgoldshares.com USA

ETPs: Exchange Traded Products

The hottest game in town



Exam 1 distribution

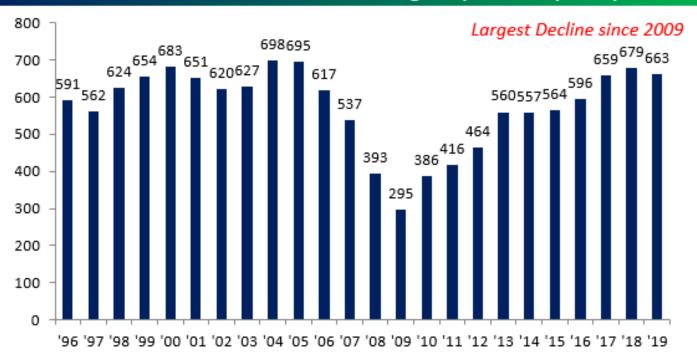
	Grade distribution						
First Econ 104 exam							
	Fall	2019					
From	To	Number	Grade eq				
170	200	99	Α				
160	169	32	A-				
155	159	21	B+				
150	154	23	В				
140	149	25	B-				
130	139	9	C+				
120	129	12	С				
115	119	4	C-				
Bel	Below 8						
To	tal	233					

First, add 11.1 points to your numeric score, then find it in this distribution. If you only remember your percentage score, add 5.55 to that, then double it.

You can also email me with subject line MY EXAM SCORE?

Topical: Ford F150 sales slowing down

Ford F-Series Truck Sales YTD Through September ('000s)



Topical (last year) ... Market has a huge drop today!!

(on huge volume, a true Quadrant IV event)

U.S. INDEXES



	3 Days/3			ile <u>E</u> dit	<u>V</u> iew			<i>-</i> } O+	
	0, 0,						Alert	Buy Sell	Consolidated
*L: 278.2	9 CH: -9.11	CH%: -3.	17%						289.00
			.3 1	• • • · ·					288.00
		111			<u> </u>	<u> </u>			
1	1	1	- 1						287.00
	T T L								286.00
									285.00
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							- [† †	+ + + .	283.00
									282.00
									281.00
									280.00
									279.00
									278.29
Volume									30.0M
									20.0M
									_
	T.	1	B1						10.0M
10.00	10.00	4.00	0-40	10.00	14.00	0-410	10.00	14.00	
10:00			Oct 9	12:00	14:00	Oct 10	12:00		
		Jul 30	'Aug		Aug 27	Sep :		Sep 24	Oct 8

				٦
S&P 500	Dow 30	Nasdaq	Russell 2000	
2,785.92 -94.42 (-3.28%)	25,606.67 -823.90 (-3.12%)	7,422.05 -315.97 (-4.08%)	1,580.20 -41.67 (-2.57%)	

Dow Jones Indexes (Roll over for c	harte)	4:07 n m F	EDT 10/10/1
DOW JOHES INDEXES (ROHOVELIOFC	Last	Change	% Chg
DJIA*	25598.74	-831.83	-3.15
DJ Transportation Average*	10550.92	-445.16	-4.05
DJ Utility Average*	739.54	-3.44	-0.46
DJ Composite Average*	8495.34	-263.87	-3.01
DJ Total Stock Market*	28718.88	-962.06	-3.24
DJ Broad Stock Market*	6830.71	-229.05	-3.24
DJ Large-Cap Growth TSM*	7765.70	-327.95 -125.59	-4.05
DJ Large-Cap Value TSM*	5177.49	-125.59	-2.37
DJ Mid-Cap Growth TSM*	11059.68	-373.20	-3.26
DJ Mid-Cap Value TSM*	8703.08	-224.06	-2.51
DJ Small-Cap Growth TSM*	9804.90	-308.43	-3.05
DJ Small-Cap Value TSM*	9964.36	-207.21	-2.04
DJ Micro-Cap TSM*	14331.50	-386.58	-2.63
DJ Select REIT*	264.75	-3.73	-1.39
DJ U.S. Select Dividend*	704.04	-12.75	-1.78
DJ Internet*	564.65	-31.21	-5.24
Barron's 400*	722.04	-18.95	-2.56
lasdaq Stock Market (Roll over for	r charts)	Change	% Chg
Nasdag*	7422.05	-315.97	-4.08
Nasdaq 100*	7092.30	-279.32	-3.79
Nasdag Biotech*	3498.21	-124.05	-3.42
Nasdaq Computer*	4443.82	-188.42	-4.07
Nasdag Industrials*	5957.25	-252.59	-4.07
Nasdag Insurance*	8384.74	-182.71	-2.13
Nasdaq Banks*	4032.39	-34.41	-0.85
Nasdag Telecommunications*	369.84	-11.24	-2.95
S&P 500* S&P 100* S&P 400 Mid Cap*	2785.68 1247.70	-94.66 -35.90	-3.29 -2.80 -2.26
S&P 400 Mid-Cap*	1912.54	-44.31 -28.11	
S&P 600 Small-Cap*	987.83		
			-2.77 2.71
S&P 1500 SuperComp*	646.98	-18.00	
S&P 1500 SuperComp* New York Stock Exchange (Roll of	646.98 ver for charts) Last	-18.00 Change	-2.71 % Chg
S&P 1500 SuperComp* New York Stock Exchange (Roll of NYSE Composite*	646.98 ver for charts) Last 12678.96	-18.00 Change -281.49	-2.71 % Chg -2.17
S&P 1500 SuperComp* New York Stock Exchange (Roll of NYSE Composite* NYSE Financial*	646.98 ver for charts) Last 12678.96 7803.96	-18.00 Change -281.49 -165.64	-2.71 % Chg -2.17 -2.08
S&P 1500 SuperComp* New York Stock Exchange (Roll of NYSE Composite* NYSE Financial* NYSE Health Care*	646.98 ver for charts) Last 12678.96 7803.96 15938.75	-18.00 Change -281.49 -165.64 -247.61	-2.71 % Chg -2.17 -2.08 -1.53
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S&P 1500 SuperComp* New York Stock Exchange (Roll of NYSE Composite* NYSE Financial* NYSE Health Care* NYSE Benerys* NYSE Arca Biotech NYSE Arca Biotech NYSE Arca Pharmaceutical NYSE Arca Tech 100	646.98 ver for charts) Last 12678.96 7803.96 15938.75 12035.39 4911.56 585.60 3085.32	-18.00 Change -281.49 -165.64 -247.61 -359.40 -157.96 -7.66 -116.03	-2.71 % Chg -2.17 -2.08 -1.53 -2.90 -3.12 -1.29 -3.62
S&P 1500 SuperComp* NYSE Composite* NYSE Financial* NYSE Health Care* NYSE Health Care* NYSE Arca Biotech NYSE Arca Forman Care NYSE Arca Score NYSE Arca Score NYSE Arca Sec. Broker/Dealer	646.98 ver for charts) Last 12678.96 7803.96 15938.75 12035.39 4911.56 585.60 3085.32 266.07	-18.00 Change -281.49 -165.64 -247.61 -359.40 -17.66 -116.03 -7.18	-2.71 % Chg -2.17 -2.08 -1.53 -2.90 -3.12 -1.29 -3.62 -2.63
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Government Bonds	onds 4:02 PM EDT 10/10/201	
	PRICE CHG	YIELD
U.S. 10 Year	3/32	3.196
German 10 Year	-1/32	0.556
Japan 10 Year	2/32	0.156

I thought that I would leave this in from last year ...

For ETPs, we rely upon Chapter 6!

Chapter 6 is very detailed, technical, and important. This lecture is just an introduction. ETPs are so important in the future that I expect you to understand them as explained in that chapter, including their limitations. Try to understand:

- 1. Difference between direct (long), inverse, and leveraged
- 2. Terms in *italicized red*
- 3. Primary ways different ETPs are collateralize (or not ETNs)
- 4. What is a delta fund?
- 5. How is USO collateralized?
- 6. The tracking issue (section 6, item 3).
- 7. Summary or research steps (slow down when reading this)
- 8. Flash crash warnings (Appendix A)
- 9. The grim danger of ETNs (Appendix B)

ETPs instead of mutual funds

- You can build a "mutual fund" portfolio with ETPs that match these funds
- Can be bought and sold just like stocks, and you can trade in and out of them quickly without penalty.
- Taxed like stocks ... big advantage!! Some exceptions!
- Price tracks throughout the day
- Fees may be slightly higher, but also can be lower.
- Many **inverse** and **leverage** funds available, designed to move in opposite direction of stocks, indexes, or commodity prices.
- You can invest in the prices of some commodities as well, like oil, gold, and silver.
- Fees are simply collected from collateral inventory (which can have a slight long-term impact on the tracking price).

The Net Asset Value (NAV) issue

- The NAV of any mutual fund or ETF is the total value of the collateral assets owned by the fund (weighted price times quantity divided by total shares outstanding.
- **Mutual Fund**: The NAV of is calculated each day at 4:00 PM (market close) and all buy and sell trades are executed in the evening *at that NAV price*.
- **ETP**: The price of an ETP is determined by supply and demand, not the NAV, even though for most the iNAV is calculated and published frequently throughout the day, and some funds do not track the iNAV all that well and some have a consistent bias at premium or discount!
- Implication: When researching an ETF thorough its prospectus, always evaluate the premium/discount to NAV!!

A REPRESENTATIVE SELECTION OF EXCHANGE TRADED FUNDS

Domestic Index					
DJIA	DIA				
S&P500	SPY				
RUSSELL 2000	IWM				
NASDAQ 100	QQQ				
RUSSELL MIDCAP	IWR				
Global Index					
AUSTRALIA	EWA				
BELGIUM	EWK				
BRAZIL	EWZ				
CANADA	EWC				
EURO STOXX	FEZ				
FRANCE	EWQ				
GERMANY	EWG				
HONG KONG	EWH				
ITALY	EWI				
JAPAN	EWJ				
MEXICO	EWW				
SINGAPORE	EWS				
SOUTH AFRICA	EZA				
SOUTH KOREA	EWY				
SPAIN	EWP				
TAIWAN	EWT				
UNITED KINGDOM	EWU				

Commodities and	Metals					
GOLD	GLD					
SILVER	SLV					
U.S. OIL	USO					
Yield-bearing FA						
UST 20-YR BOND	TLT					
UST 7-10 YR NOTE	IEF					
UST 1-3 YR NOTE	SHY					
UST TIPS	TIP					
UST BILLS	SHV					
I-GRADE BONDS	LQD					
JUNK BONDS	JNK					
Technology Specialty						
CYBERSECURITY	HACK					
CLOUD	SKYY					
SEMICONDUCTOR	XSD					
SOFTWARE	IGV					
Sector						
ENERGY	XLE					
HEALTHCARE	XLV					
US OIL & GAS	IEO					
FINANCIAL	XLF					
US REAL ESTATE	IYR					
UTILITIES	IDU					

... and this is just a tiny sample. Online ETF screeners are everywhere now, so it is easy to find a dedicated ETF for your investment needs.

Go to seeking alpha ..

Funds that track indexes

Funds that track the actual prices of commodities (not companies)

Funds that track the prices of these financial assets (not companies)

Market baskets of stock in these industries (typically with an index)

Most popular ETPs by trading volume

as of Oct 8, 2019

Symbol	Name	Avg Volume	AUM
SPY	SPDR S&P 500 ETF	71,988,375	\$266,586,618.41
GDX	VanEck Vectors Gold Miners ETF	66,040,469	\$11,592,358.36
EEM	iShares MSCI Emerging Markets ETF	60,414,957	\$24,926,903.31
XLF	Financial Select Sector SPDR Fund	51,938,660	\$22,366,115.39
TVIX	VelocityShares Daily 2x VIX Short Term ETN	37,695,469	\$1,156,006.78
VXX	iPath Series B S&P 500 VIX Short-Term Futures ETN	36,579,055	\$882,655.83
QQQ	Invesco QQQ	29,983,727	\$73,214,728.10
USO	United States Oil Fund	29,810,938	\$1,356,095.71
XOP	SPDR S&P Oil & Gas Exploration & Production ETF	29,108,826	\$1,557,617.26
EFA	iShares MSCI EAFE ETF	25,023,270	\$58,174,045.10
IAU	iShares Gold Trust	24,344,787	\$16,663,344.00
SLV	iShares Silver Trust	24,182,477	\$6,680,529.00

ETPs like these satisfy the all-important volume criteria.

GDX



Source: Most Popular ETFs: Top 100 ETFs by Trading Volume, ETFdb.com. It is worth perusing this site to see the others in the list.

Index ETP Price Ratios

(October 8, 2019)						
	Same-time quotes					
Index/Commodity	ETF	Ratio	Index	ETF		
DJIA	DIA	1/10	26,164.04	261.68		
S&P500	SPY	1/10	2,893.06	288.64		
RUSSELL 2000	IWM	1/10	1,472.60	146.54		
NASDAQ 100	QQQ	1/40	7,604.27	185.42		
GOLD	GLD	1/10	1,500.94	141.92		
U.S. OIL	USO	N/A	52.50	10.89		

Bad kerning

For some, like GLD, this relationship decays over time because of fees. This is not undesirable. All that matters is that the price accurately tracks the NAV. Oil price is futures, just for reference.

To make their prices attractive, ETPs are typically priced at some even fraction of their indexes, as shown above. As can be seen by the prices, the ETPs don't track the indexes perfectly; there is usually an error of around 1%. Also over time as fees are deducted the ratio can decay, as it has done for GLD. This is not undesirable so long as the stock price accurately tracks the NAV!

Index Long and Short ETPs

Index Long	& Short	ETFs
Index	Long	Short
DJIA	DIA	DOG
		DXD
S&P500	SPY	SH
	IVV	SDS
S&P Small Cap	IJR	SBB
	SAA	SDD
S&P Mid Cap 400	MDY	MYY
		MZZ
NASDAQ 100	QQQ	PSQ
		QID
Russell 2000	IWM	RWM
		TWM

The Ultra-shorts are shown in yellow. These are 2X short ETFs.

The 2X long is in orange.

There are also short ETFs in Treasuries and other YBFAs, currencies, many commodities, and nearly all classes and sectors of equities.

The shorts are collateralized with futures contracts, which will become important, but we can't explore until we get to the futures chapter,

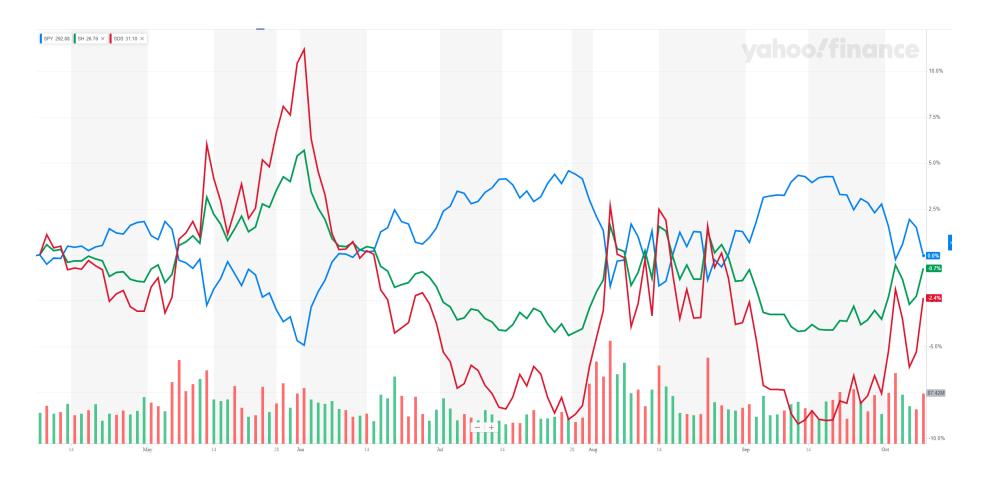


DOG on 10/10/2018

Replace this!

How inverse index ETPs can be used to short or hedge

Price Performance of the S&P500 ETFs SPY, SH, and SDS



Source: finance.yahoo

The S. Korean ETF (EWY) in recent years

iShares MSCI South Korea Capped ETF



Samsung is nearly

25% of assets!

... and warning ... the Mysterious Orient!

... but there is exchange rate risk!

The last year ...



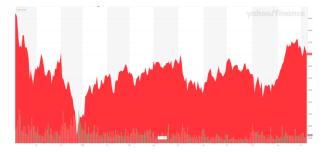


The Japan ETF (EWJ) benefits from Abenomics devaluation in December 2012

iShares MSCI Japan Index ETF



The last year ...



The iShares MSCI Emerging Markets ETF (EEM) - five years



One of the reasons why I say stay away from international unless you know what you are doing.

Topical ... FOSS and related historical personalities

Introduction to ...



Evi Nemeth

From Wikipedia, the free encyclopedia

Evi Nemeth (born June 7, 1940 – missing-at-sea June or July, 2013) was an engineer, author, and teacher known for her expertise in computer system administration and networks. She was the lead author of the "bibles" of system administration: *UNIX System Administration Handbook* (1989, 1995, 2000), *Linux Administration Handbook* (2002, 2006), and *UNIX and Linux System Administration Handbook* (2010). Evi Nemeth was known in technology circles as the matriarch of system administration.^{[1][2]}

Nemeth was best known in mathematical circles for originally identifying inadequacies in the "Diffie-Hellman problem", the basis for a large portion of modern network cryptography.^[3]

Contents [hide]

- 1 Career
- 2 Later life
- 3 Selected publications
- 4 Awards
- 5 Quotes
- 6 See also
- 7 References

Evi Nemeth



Born June 7, 1940

Disappeared June 4, 2013 (aged 72)

Tasman Sea

Status Missing for 5 years and

9 months

Occupation Author, retired professor

Known for Lead author of "bibles" of

system administration

Collateralizing ETPs

All exchange traded products collateralize their value by holding securities or commodities (depending of course upon the type of fund) in an amount roughly equal to the market value of the shares of the ETP in circulation. For example, the title slide showed a picture (and stated the value) of the physical gold that is held by StreetTrackers for their popular GLD ETF.

The collateral is typically held in the form of (1) a market basket of securities (such as those that would make up a global index fund), (2) a futures or forward contract or portfolio of futures contracts, including some for physical commodities (like USO), and (3) inventories of physical commodities (like GLD).

The method of securing collateral is always described in the ETF prospectus and is something you must review.

Figure 4 TLT: iShares 20+ Year Treasury Bond Fund Portfolio Composition on October 8, 2019

NAV: 145.32 Shares Out: 130,600,000

Maturity	Years	Market Value	Weight %	Coupon	YTM	Price
15-Feb-45	29.38	1,381,661,865.19	7.26	2.50	2.00	109.95
15-Feb-46	30.38	1,324,201,929.38	6.96	2.50	2.01	110.06
15-Aug-44	28.88	1,222,480,073.35	6.42	3.13	1.98	122.32
15-May-43	27.62	1,216,194,636.19	6.39	2.88	1.97	117.02
15-May-46	30.63	1,210,858,798.87	6.36	2.50	2.01	110.08
15-Aug-48	32.88	1,200,709,263.19	6.31	3.00	2.01	121.51
15-Nov-45	30.13	1,038,265,865.08	5.46	3.00	1.99	120.46
15-Feb-48	32.38	960,900,549.47	5.05	3.00	2.01	121.29
15-Nov-40	25.13	891,193,476.79	4.68	4.25	1.87	141.37
15-May-48	32.63	882,263,323.31	4.64	3.13	2.01	124.15
15-Nov-43	28.13	718,881,949.41	3.78	3.75	1.96	134.16
15-Aug-43	27.88	700,789,871.18	3.68	3.63	1.96	131.56
15-Aug-47	31.88	696,425,925.34	3.66	2.75	2.01	115.69
15-Aug-45	29.88	673,159,527.43	3.54	2.88	2.00	117.71
15-May-47	31.63	659,195,780.81	3.46	3.00	2.00	121.02
15-Aug-40	24.88	634,701,759.12	3.34	3.88	1.86	134.69
15-Nov-47	32.13	630,362,468.91	3.31	2.75	2.01	115.77
15-Aug-42	26.88	605,306,418.93	3.18	2.75	1.95	114.60
15-Nov-42	27.13	580,088,630.11	3.05	2.75	1.96	114.54
15-Feb-43	27.38	560,689,371.10	2.95	3.13	1.96	121.69
15-Nov-46	31.13	534,743,229.23	2.81	2.88	2.00	118.21
15-Feb-40	24.38	436,411,449.80	2.29	4.63	1.83	147.36
15-Nov-39	24.13	80,518,596.98	0.42	4.38	1.82	142.83
15-Nov-48	33.13	30,097,366.92	0.16	3.38	2.00	130.13
15-May-39	23.62	28,727,530.04	0.15	4.25	1.81	140.23
15-May-49	33.63	25,674,875.09	0.13	2.88	2.01	119.2
15-Aug-41	25.88	24,389,402.04	0.13	3.75	1.91	132.84
15-Nov-41	26.13	14,759,825.52	0.08	3.13	1.93	121.52
15-Feb-47	31.38	13,834,420.90	0.07	3.00	2.00	121.06
15-May-40	24.62	13,252,773.97	0.07	4.38	1.85	143.2
15-May-37	21.62	12,920,791.78	0.07	5.00	1.70	149.96
15-Nov-44	29.13	6,593,587.30	0.03	3.00	1.99	119.94
15-May-44	28.63	6,324,092.67	0.03	3.38	1.98	127.09
15-May-38	22.62	3,945,374.74	0.02	4.50	1.75	143.44
15-Feb-38	22.38	3,004,810.11	0.02	4.38	1.75	141.12
15-May-45	29.63	2,447,010.85	0.01	3.00	1.99	120.2
Total Bo	nd Value:	19,025,976,621.10				
Cash and	other (net):	-46,750,989				
То	tal Assets:	18,979,225,631.92				

 $^{^{\}star}$ Other is mostly dividends receivable from bond holdings, plus cash less borrowings.

Source: iShares online prospectus for iShares 20+ Year Treasury Bond Fund, this date.

Mudd Finance

TLT, the UST long-bond bellwether





Also ahead of us ... the inverse relationship between interest rates and these market value.

^{**}Weighted average of bonds only.

How the ETP enters the market

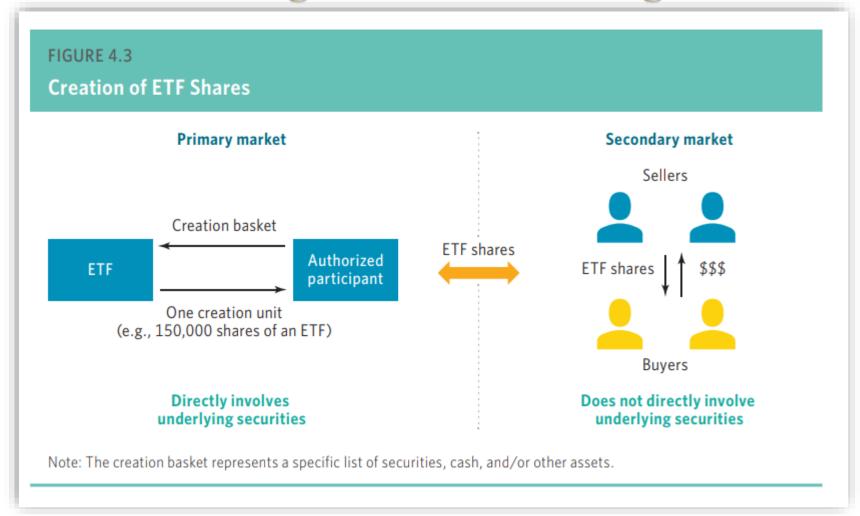
Problem: As general demand grows for the ETP, popularity has the potential to pull the price above the tracking price that the ETP is supposed to follow (and if the fund becomes less popular, the sell-off could push the price the tracking price below).

Initially the fund sells blocks of the ETP, called *creation units*, to distributors who are essentially specialized market makers (often the same companies) at the NAV. The distributors then sell off their inventory to the markets as demand grows. For liquid ETPs (not all are) arbitrage tends to keep the prices more or less in line.

The proceeds from these unit sales are invested in collateral. For the GLD ETF, StreetTraks requests payment in gold!

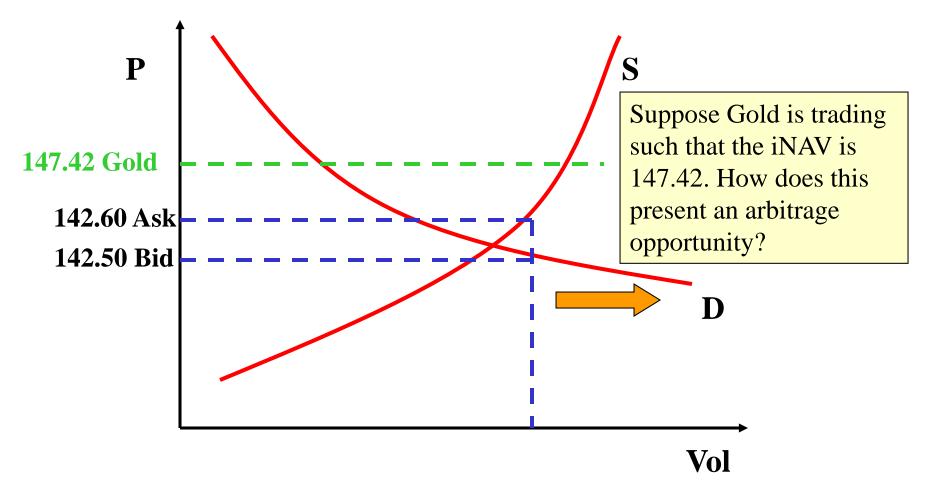
The ETP is also required to buy back the creation units on supply. daily, at the NAV at the discretion of the distributor (Achilles Heel?).

Releasing ETP shares through units



Source: Investment Company Institute, 2018 Investment Company Factbook, 58th ed.

How arbitrage is supposed to keep the GLD ETF at the correct price (iNAV)

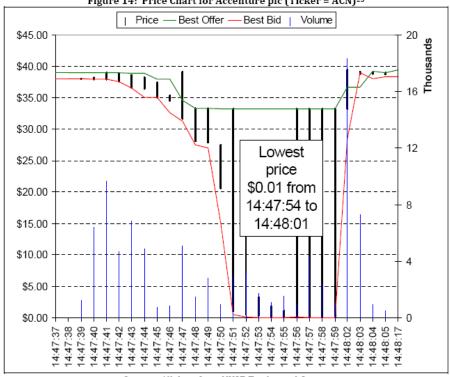


Basically take a long position in this and possibly use a futures contract to short gold, profiting as the spread narrows.



ETFs during the Flash Crash

Figure 14: Price Chart for Accenture plc (Ticker = ACN)25



Source: All data from NYSE Trades and Quotes

Figure 20: Price Chart for iShares Russell 1000 Growth Index Fund (Ticker = IWF) Price - Best Offer Best Bid Volume \$50.00 \$45.00 \$40.00 \$35.00 \$30.00 \$25.00 \$20.00 Lowest \$15.00 price \$0.0001 at \$10.00 14:47:28 \$5.00

Source: NYSE Trades and Quotes

... many stocks, like Accenture, went down to the stub quotes ...

... but so did many of the ETFs, like IWM. They recovered, but if you had stops, you were royally @%\$&*%@!

Shopping for ETPs

• Because of flash crash, some advisors are warning against using these instead of mutual funds for sizeable long-term investments, *so*, if you are going to use them, do your research with data sheets (online) and prospectus!! Bottom line may be that these are not perfect replacements for mutual funds.

To check:

- The stated investment objective (of *exactly* what they claim to track).
- How the fund is collateralized
 - direct market basket of asset or asset
 - direct portfolio that matches an index
 - futures or other derivatives (not suitable for LT investments!)
- Does the NAV track the investment objective? And
- Is the fund tracking the NAV, or is it at premium or discount, and how much?
- Compare the fund for *daily volume* to competing or similar popular funds volume at a small fraction of a popular fund is typically a **red flag** especially for larger Long-Term investments (go back to **Most Popular ETP** slide).

The reading (Chapter 6) has much more detail about this.





Q: How do you get (a) inverse, (b) leverage,(c) delta? A: Use futures contracts

The investment objective of USO is for the *changes in percentage terms* of its units' net asset value ("NAV") to reflect the *changes in percentage terms* of the spot price of light, sweet crude oil delivered to Cushing, Oklahoma, as measured by the changes in the price of the futures contract for light, sweet crude oil traded on the New York Mercantile Exchange (the "NYMEX"), [...] less USO's expenses.

USO invests primarily in listed **crude oil futures contracts** and **other oil-related** futures and may invest in forwards and swap contracts. These investments will be collateralized by cash, cash equivalents and US government obligations with remaining maturities of two years or less.

Source: USO United States Oil Fund under http://www.unitedstatescommodityfunds.com, Oct 6, 2015

However, we really can't explain this until we study futures contracts, so we come back to this



USO is a delta fund:

Figure 5 – Portfolio Holdings of the USO ETP on 10/8/2019

Daily Funds Holdings			as of	October 8, 2019
Futues Contracts	Quantity	Price		Market Value
NYMEX WTI Crude Oil Nov 19	24,770		56.23	\$1,303,645,100
Liquid (Cash) Assets				
US T Bills different maturities				\$1,268,966,538
Cash				\$178,410,532
Total Liquid Assets				\$1,447,377,070

Source: USO Oil Fund Holdings: http://www.uscfinvestments.com/holdings/uso

4 important research questions ...

- 1. Is the ETP marker price tracking the NAV?
 - or is there a consistent premium or discount?
- 2. Is the NAV and market price tracking the target?
 - and do you actually understand the target?
- 3. How is the ETP collateralized?
- 4. What are the fees associated with long-term ownership of this ETP?

Our ETF of interest: Pure Funds Cyber Security ETF: HACK Holdings as of 10/9/2019





StockTicker	Shares	Price	MarketValue	Weightings
CSCO	1086585	46.39	\$50,406,678	3.62%
SPLK	406898	117.61	\$47,855,274	3.43%
PANW	223791	206.94	\$46,311,310	3.32%
CACI	197336	226.59	\$44,714,364	3.21%
CYBR	432424	103.28	\$44,660,751	3.21%
4704 JP	912106	5230	\$44,538,671	3.20%
PFPT	343754	125.05	\$42,986,438	3.09%
AKAM	487367	88.17	\$42,971,148	3.08%
FEYE	3073864	13.84	\$42,542,278	3.05%
CHKP	385356	109.39	\$42,154,093	3.03%
FTNT	553345	76.335	\$42,239,591	3.03%
SYMC	1812864	23.23	\$42,112,831	3.02%
SAIC	507047	82.54	\$41,851,659	3.00%
SOPH LN	8272187	4.136	\$41,807,720	3.00%
AVST LN	9157612	3.672	\$41,090,414	2.95%
JNPR	1775591	23.15	\$41,104,932	2.95%
CVLT	919014	44.4	\$40,804,222	2.93%
NET	2369913	17.19	\$40,738,804	2.92%
SWI	2242837	18.11	\$40,617,778	2.92%
TUFN	2415983	16.86	\$40,733,473	2.92%
QLYS	529235	75.8	\$40,116,013	2.88%
TENB	1824992	21.79	\$39,766,576	2.85%
CARB	2731075	14.25	\$38,917,819	2.79%
SAIL	1990590	18.78	\$37,383,280	2.68%
PSN	1143476	32.36	\$37,002,883	2.66%
OKTA	160022	115.19	\$18,432,934	1.32%
CRWD	233333	65.3	\$15,236,645	1.09%
ZS	320669	46.9	\$15,039,376	1.08%

... also check out GAMR



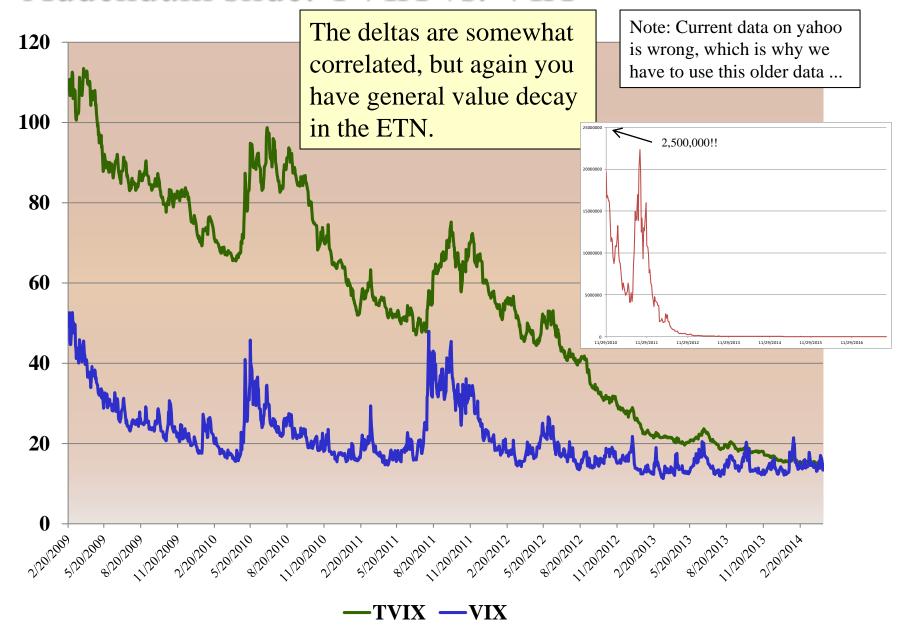
The VIX etns



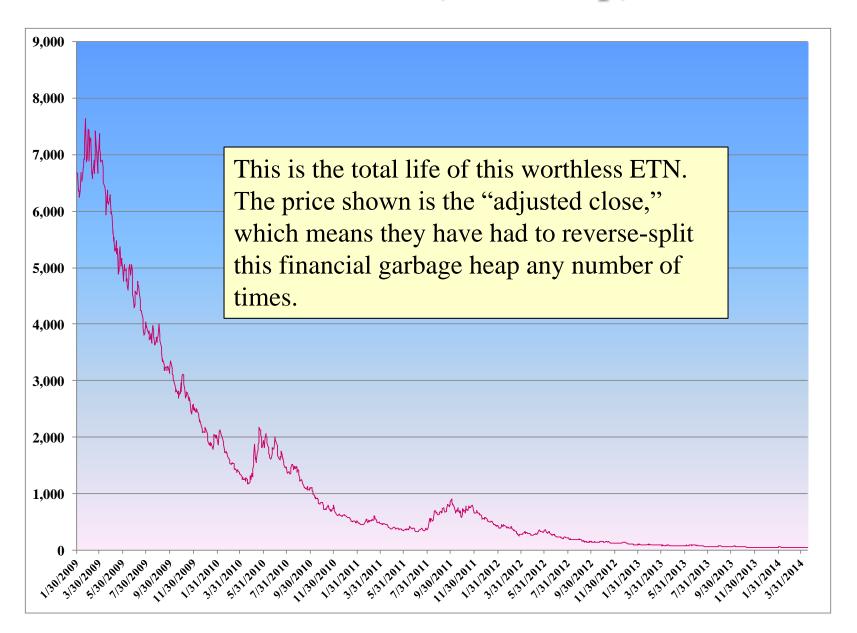
Remember, the VIX is an index designed to measure the volatility of the S&P 500, hence the market.

The VIX is low right now.

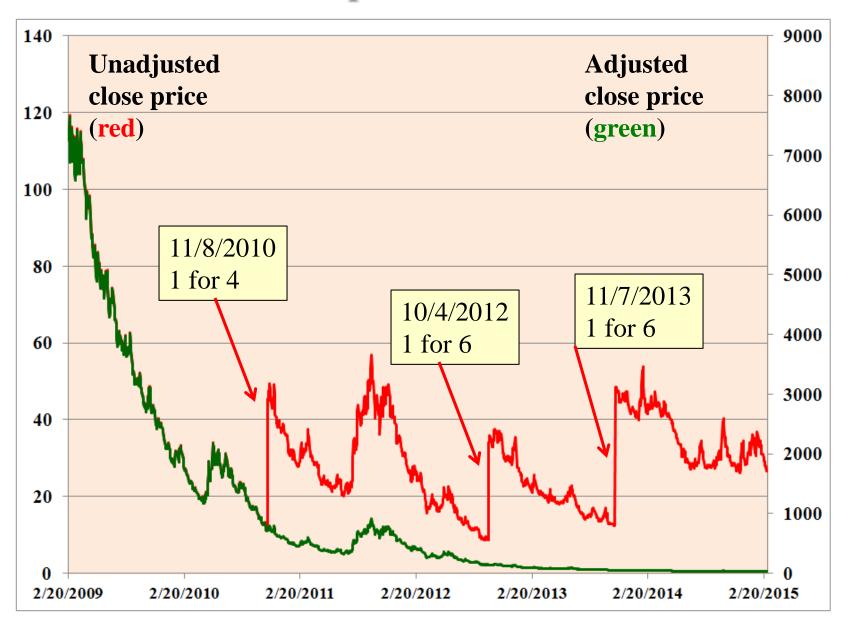
Addendum slide: TVIX vs. VIX



The VXX ETN (total crap)



The VXX reverse splits ...





And remember that these pay dividends!!

Dividend News

SPDR Dow Jones Industrial Average ETF announces monthly distribution of \$0.5458

Sep. 21, 2018 7:37 PM ET | About: SPDR Dow Jones Industri... (DIA) | By: Mohit Manghnani, SA News Editor 🔀

- SPDR Dow Jones Industrial Average ETF (NYSEARCA:DIA) announces monthly distribution of \$0.5458.
- 30-Day Sec yield of 1.91% (as of 09/20/2018).
- Payable Oct. 15; for shareholders of record Sep 24; ex-div Sep 21.
- Visit Seeking Alpha's Premium ETF Screener, the best ETF research tool for your portfolio