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CME Group

Ready for the 80s? How to Trade the Deepest Yield Curve Inversion in 40 Years

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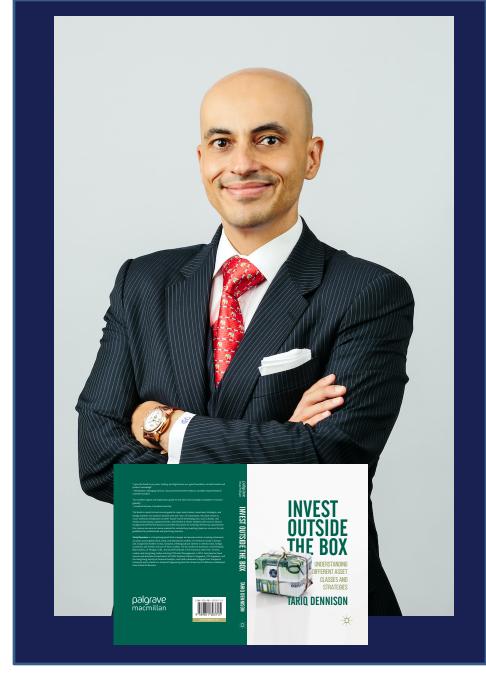
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About Tariq Dennison TEP

- Independent Advisor Managing Accounts on the IBKR platform
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 - HK Advisor: GFM Group Limited
- In the market since 1998
 - Commerzbank (NY, London, Frankfurt)
 - Bear Stearns (NY)
 - J.P. Morgan (NY)
 - Canadian Imperial Bank of Commerce
 - Societe Generale (HK)
- Masters in Financial Engineering
 - University of California at Berkeley
- Lecturer at ESSEC Singapore
 - Fixed Income
 - Alternative Assets
- "Neither Standard Nor Poor"
- Author "Invest Outside the Box"





The Yield Curve Inversion

- 2022 vs 1982
 - Similarities
 - Differences
- What the curve means
 - Economy
 - Mortgage rates
 - Student loans
- Drivers of rates
 - Why rates may fall
 - Why rates may rise
 - Steepening / flattening

Strategies To Consider

- Micro yield futures
- Directional strategies
- Flatteners / steepeners
- "Big" bond futures & options
- Fed funds futures & options



2022 vs 1982: Yield Curve Inversion & Why It Matters



Similarities (explained here)

- Inflation surge
 - Oil prices
 - Gold flat or down
- Iran : Afghanistan
 - Soviet Union : China
 - Nuclear MAD¹
 - Carter : Biden
- Volker : Powell
 - See Fed Funds Futures

¹ Mutually Assured Destruction

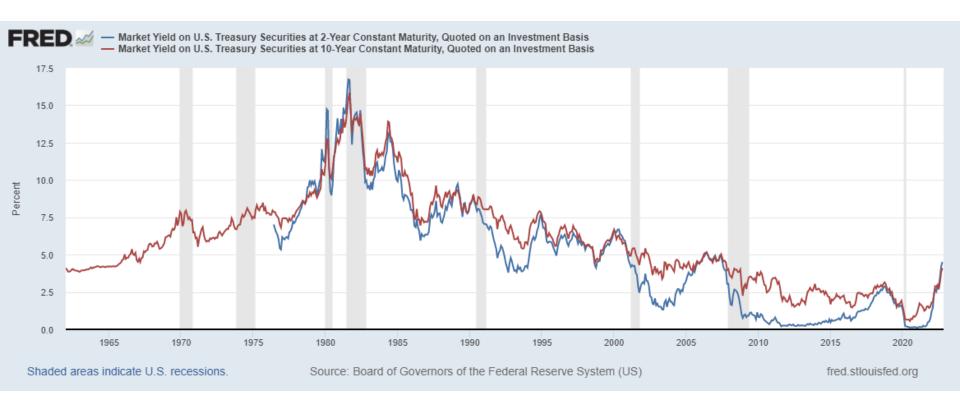
Differences (graphed later)

- Demographics
- Debt levels
- Asset valuations
 - Stocks
 - Real estate

First, let's look at how the yield curve has evolved...

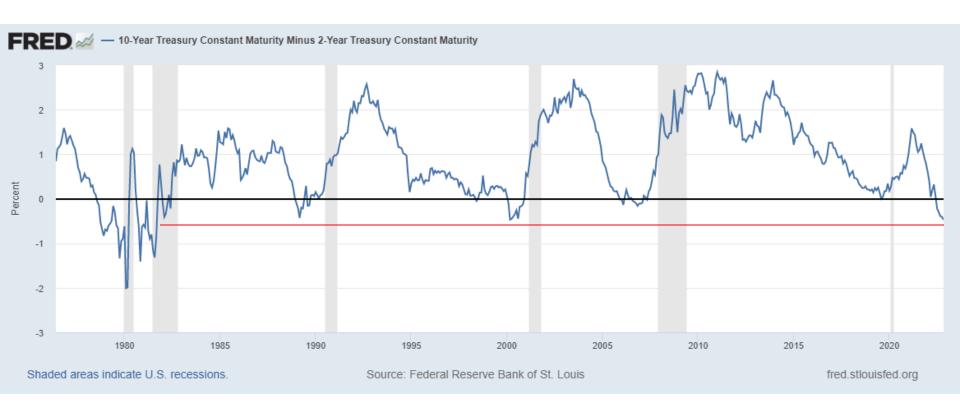


2-year vs 10-year US Treasury Yields, 1962-2022



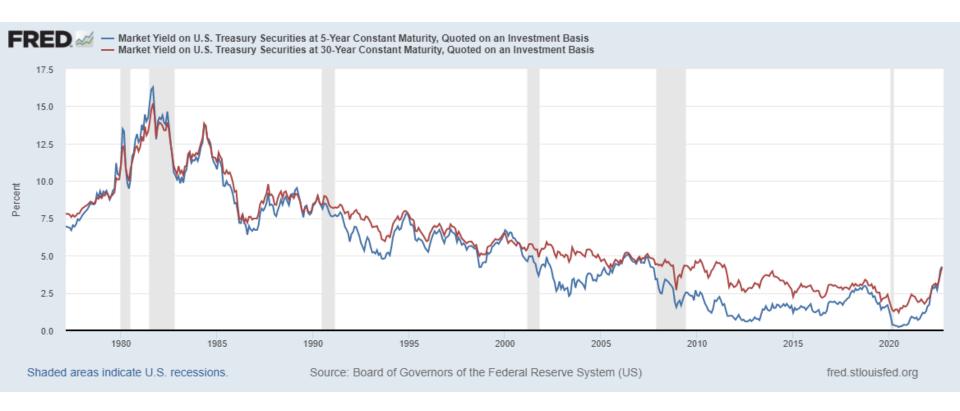
Source: https://fred.stlouisfed.org/

Focus on the "2s10s" spread



Source: https://fred.stlouisfed.org/

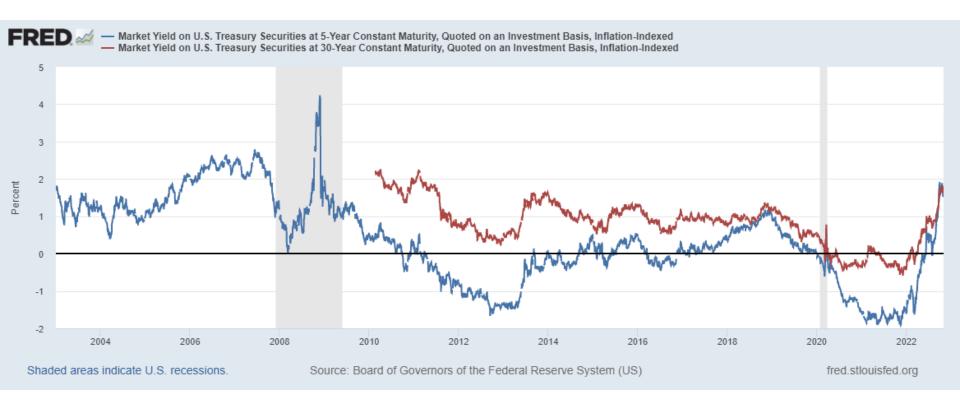
5yr vs 30 year yields, in prep for the next slide...



Source: https://fred.stlouisfed.org/

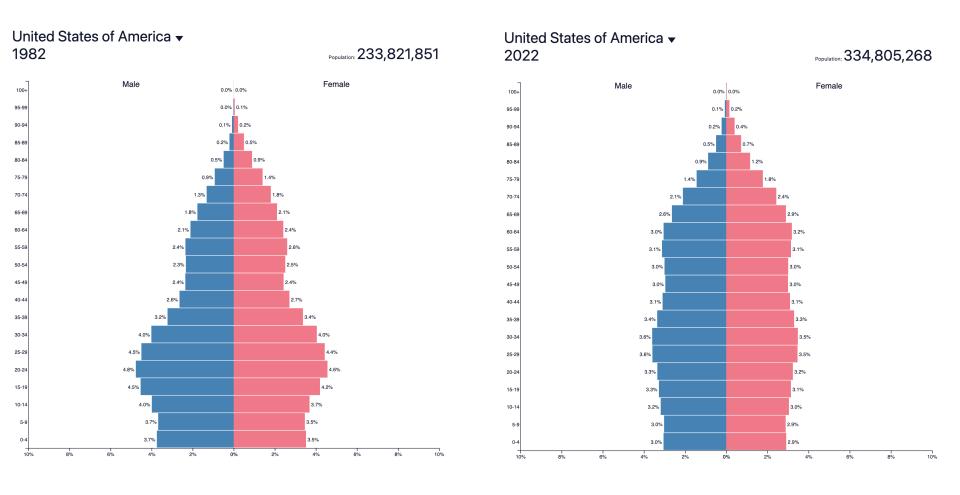
Perhaps more important: Real yields highest since GFC

The math: 4.2% nominal minus 1.8% real implies 2.4% inflation



Source: https://fred.stlouisfed.org/

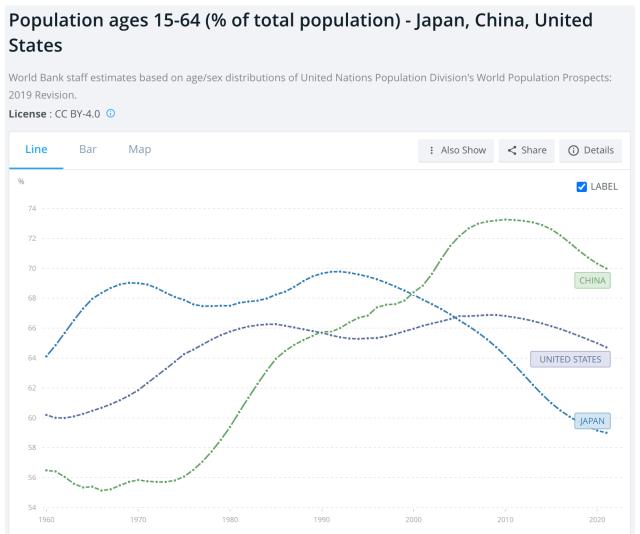
HUGE difference between now vs then: Demographics



Source: https://www.populationpyramid.net/united-states-of-america/1982/



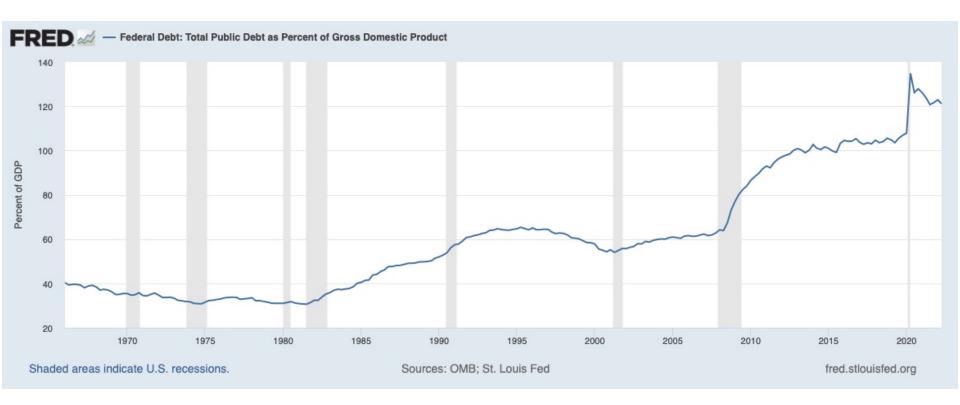
Key variable: Declining Working-Age Population



Source: https://data.worldbank.org/indicator/SP.POP.1564.TO.ZS?locations=JP-CN-US

Another big difference: much more debt now

Debt weighs down growth rates, limits government interest payment budget

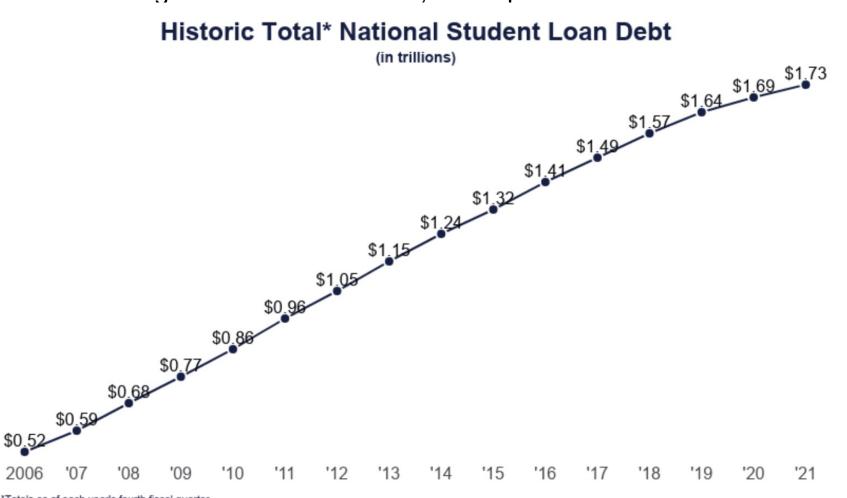


Source: https://fred.stlouisfed.org/

7% mortgage rates vs 3x student debt burden

Two factors hitting American millennials, not Japanese ones

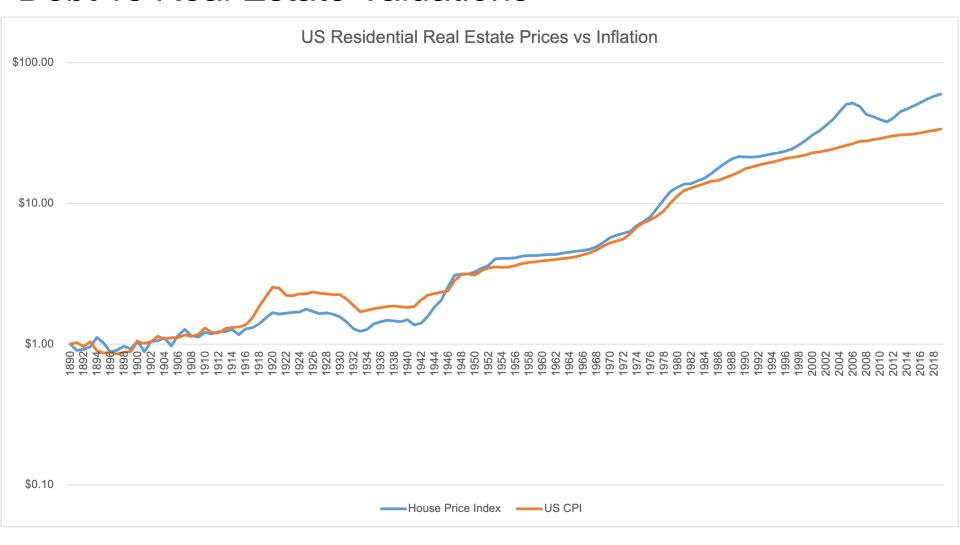




*Totals as of each year's fourth fiscal quarter. Education Data Initiative source: U.S. Federal Reserve

Source: https://educationdata.org/student-loan-debt-statistics

Debt vs Real Estate Valuations



Source: http://www.econ.yale.edu/~shiller/data.htm

Like Real Estate, Stocks Also Pricier Now Than Then US CAPE ~26.5 and Europe ~18, vs ~9 in 1982





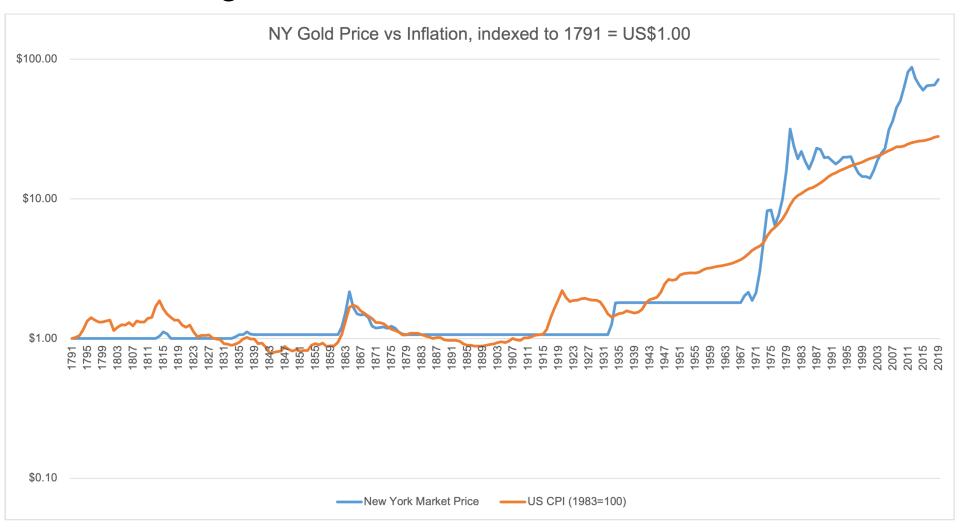
Select a country in the chart below to compare historic CAPE® ratios over time.



Source: https://indices.cib.barclays/IM/21/en/indices/static/historic-cape.app



What about gold? That's more like 1982



Source: https://www.measuringworth.com/datasets/gold/result.php

What Drives 2Y Yields

- FED POLICY
 - Exp¹ hikes degree 2Y Yields
 - Exp cuts \$\forall 2\$Y Yields
- Fed hikes when:
 - Inflation worrying, AND
 - Employment robust
- Fed cuts when employment is weak, and investment can stimulate
- Powell vs Volker?

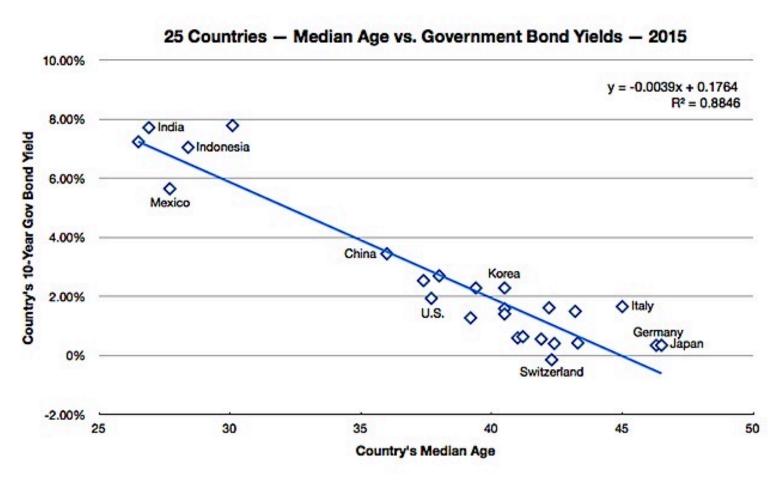
¹ Exp = Expected

What Drives 10-30Y Yields

- Longer-term nominal growth expectations
- Demographics Older populations mean:
 - More pension assets
 - Less demand to borrow
 - Slower growth
 - Resistance to inflation
- Compare US vs Japan



Demographics may cap rate rises?



Source: https://www.bogleheads.org/forum/viewtopic.php?t=158040



Actionable Strategies To Consider



All of today's futures, at a glance

FINANCIAL INSTRUMENT		LAST	BD SZ	BID	ASK	ASK SZ	FUT OI	VLM
2YY ∞ Nov30'22 @ECBOT	•	4.513	1	4.510	4.520	6	754	37
5YY ∞ Nov30'22 @ECBOT	•	4.238	5	4.256	4.266	5	9	4
10Y ∞ Nov30'22 @ECBOT	•	4.041	1	4.040	4.048	3	2.52K	272
30Y ∞ Nov30'22 @ECBOT	•	4.124	5	4.115	4.123	5	392	13
2YY Dec30'22 @ECBOT	•	c4.468	1	4.463	4.545	6	1	1
5YY Dec30'22 @ECBOT	•	c 4.275	5	4.166	4.365	5		
10Y Dec30'22 @ECBOT	•	4.045	1	4.045	4.067	3	3	2
30Y Dec30'22 @ECBOT	•	c 4.163	5	4.064	4.198	5		
ZT ∞ Dec30'22 @ECBOT	•	102'042	325	102'041	102'042	61	2.23M	73.7K
ZF ∞ Dec30'22 @ECBOT	•	106'185	270	106'185	106'187	94	4.13M	124K
ZN ∞ Dec20'22 @ECBOT	•	110'205	146	110'205	110'210	759	3.94M	205K
ZB ∞ Dec20'22 @ECBOT	•	121'040	146	121'030	121'040	74	1.19M	31.1K
ZQ ∞ Nov30'22 @ECBOT	•	96.2150	25,027	96.2150	96.2175	15,691	382K	19.0K
ZQ Dec30'22 @ECBOT	•	95.825	1,593	95.825	95.830	1,544	174K	2.15K

Source: IBKR TWS, 2 Nov 2022 11:45am CET



Part 1: Micro Yield Futures



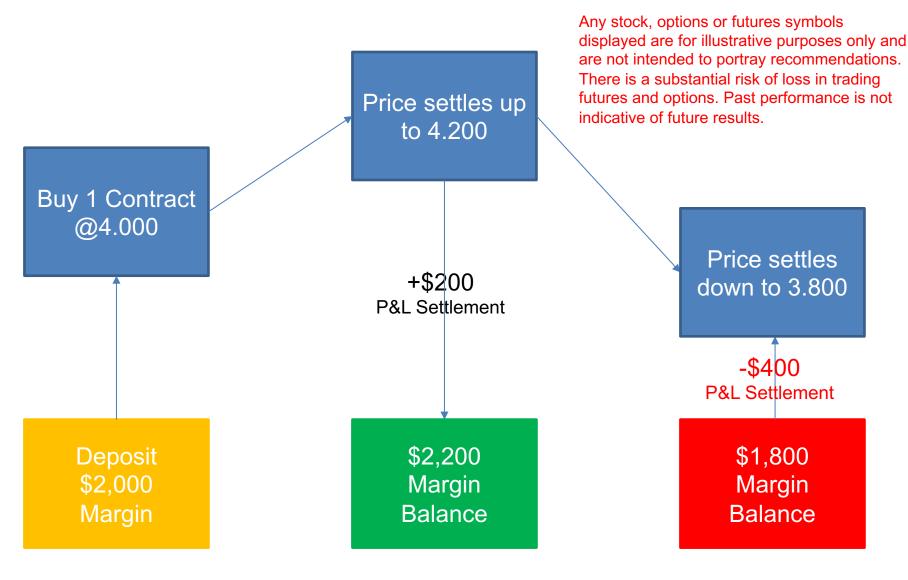
10Y Micro Yield Futures, Specs and Chart



Source: IBKR TWS, 2 Nov 2022 11:45am CET

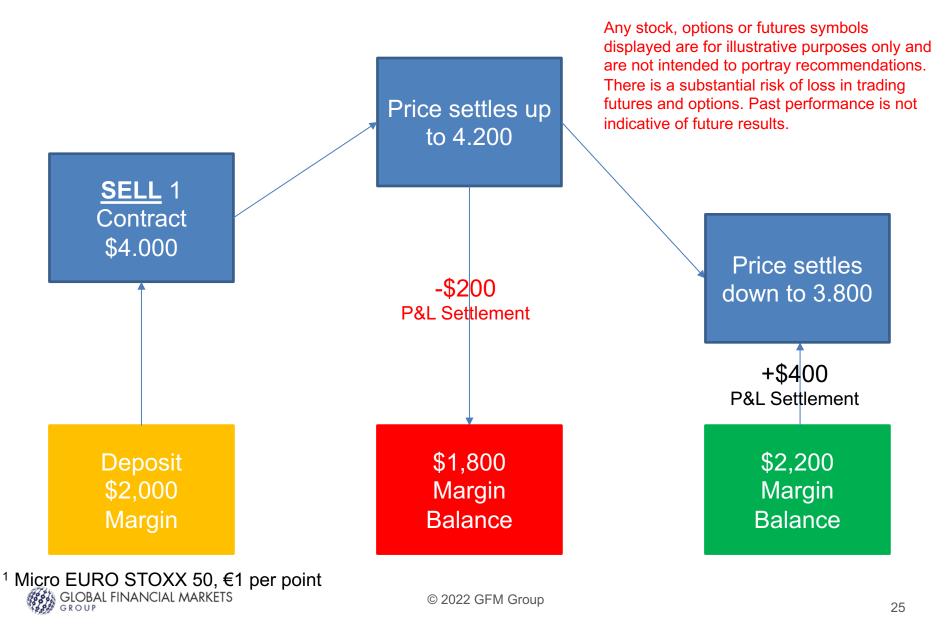


Quick recap: how micro yield futures trades work





Sell these futures to profit from falling rates



Sample "steepener": Buy 1x 10Y, Sell 1x 2YY

This trade expects the inversion to reverse, whether overall yields rise or fall

2YY \ 10Y	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0
5.5	\$ (2,000)	\$ (1,800)	\$ (1,600)	\$ (1,400)	\$ (1,200)	\$ (1,000)	\$ (800)	\$ (600)	\$ (400)	\$ (200)	\$ 0
5.3	\$ (1,800)	\$ (1,600)	\$ (1,400)	\$ (1,200)	\$ (1,000)	\$ (800)	\$ (600)	\$ (400)	\$ (200)	\$ 0	\$ 200
5.1	\$ (1,600)	\$ (1,400)	\$ (1,200)	\$ (1,000)	\$ (800)	\$ (600)	\$ (400)	\$ (200)	\$ 0	\$ 200	\$ 400
4.9	\$ (1,400)	\$ (1,200)	\$ (1,000)	\$ (800)	\$ (600)	\$ (400)	\$ (200)	\$ 0	\$ 200	\$ 400	\$ 600
4.7	\$ (1,200)	\$ (1,000)	\$ (800)	\$ (600)	\$ (400)	\$ (200)	\$ 0	\$ 200	\$ 400	\$ 600	\$ 800
4.5	\$ (1,000)	\$ (800)	\$ (600)	\$ (400)	\$ (200)	\$ 0	\$ 200	\$ 400	\$ 600	\$ 800	\$ 1,000
4.3	\$ (800)	\$ (600)	\$ (400)	\$ (200)	\$ 0	\$ 200	\$ 400	\$ 600	\$ 800	\$ 1,000	\$ 1,200
4.1	\$ (600)	\$ (400)	\$ (200)	\$ 0	\$ 200	\$ 400	\$ 600	\$ 800	\$ 1,000	\$ 1,200	\$ 1,400
3.9	\$ (400)	\$ (200)	\$ 0	\$ 200	\$ 400	\$ 600	\$ 800	\$ 1,000	\$ 1,200	\$ 1,400	\$ 1,600
3.7	\$ (200)	\$ 0	\$ 200	\$ 400	\$ 600	\$ 800	\$ 1,000	\$ 1,200	\$ 1,400	\$ 1,600	\$ 1,800
3.5	\$ 0	\$ 200	\$ 400	\$ 600	\$ 800	\$ 1,000	\$ 1,200	\$ 1,400	\$ 1,600	\$ 1,800	\$ 2,000

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Source: Author's calculation



Part 2: "Bigger" Bond Futures & Options



Specs and chart of ZN, the 10-year note future



Source: IBKR TWS, 2 Nov 2022 11:45am CET

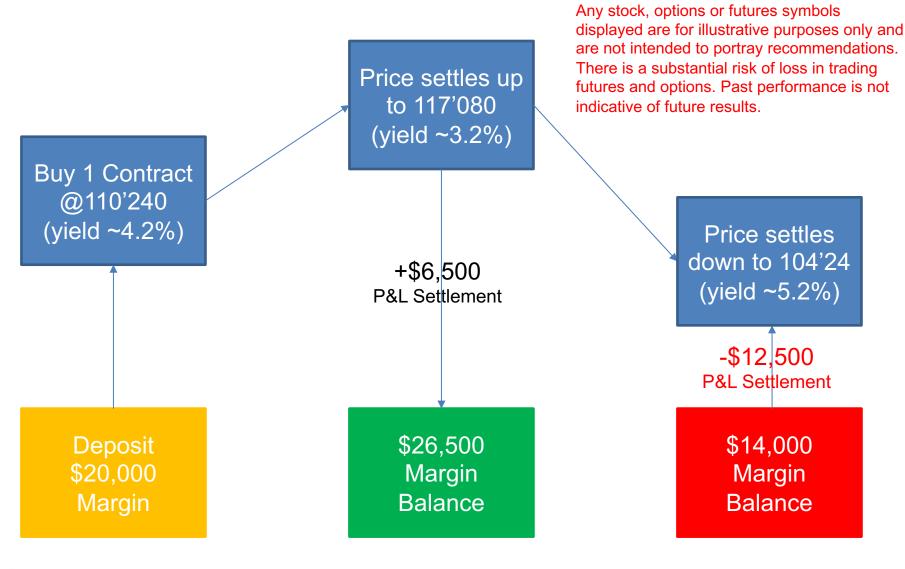
2244.71 USD

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Maintenance

The size of these contracts, in perspective





Micro Yield Futures

\$1,000 per point of yield

- Small and simple
 - Steepeners / flatteners use equal # contracts
- Cash settled
- Easier curve trades
- No options

Bond Futures

- \$1,000¹ x bond price
 - Must consider duration
- Big and liquid
 - Steepeners / flatteners must be duration-weighted
- Physically settled / CTD²
- Easy to hedge physical bonds
- Options available



^{1 \$2,000} for 2 year note futures

² CTD = Cheapest to deliver

About those ZN futures options, a sample chain:

0 0 0	ZN ∞ Dec	20'22 @ECBO	T▼ PUT/	CALLs (Side by Side)) 🔻						110'21	0 +0'025 (-	-0.07%)	? ‡∂-⊨▼		
OZI 100	DEC / MAR'23			OZN 1000		JUN'23 I) YS	MORE ▼		TABBED	VIEW ▼	PUT/CALL	▼ 2	21 STRIKES▼	ECBOT▼ TI	RADING CL	ASS▼ 1000
				CALLS				STRIKE					PUTS			IV: 8.7%
OPTN O	VOLUME	BID SIZE		BID x ASK	DELTA I	MPLD	ASK SIZE	SIKIKE	OPTN O	VOLUME B	ID SIZE		BID x ASK	DE	LTA IMPLC	ASK SIZE
3		51	• 5 33	/64 x 5 35/64 •	0.817	9.5%	1	106	1.26K		158	• 39	9/64 x 40/64 •	-0.	186 9.	5% 2,969
26		51	• 57	/64 x 5 9/64 •	0.795	9.4%	26	106.5	125		7,162	• 4	4/64 x 46/64 •	-0.	2 09 9.	4,518
27		26	• 4 46	/64 x 4 48/64 •	0.770	9.2%	51	107	667		359	• 5	1/64 x 52/64 •	-0.	234 9.:	3% 38
1		1	• 4 22	/64 x 4 24/64 •	0.743	9.2%	56	107.5	17.1K	355	3,121	• 58	8/64 x 60/64 •	-0.	261 9.:	2% 4,880
1		26	• 3 62	/64 x 4 •	0.714	9.1%	56	108	3.98K		3,420	• 1	2/64 x 1 4/64 •	-0.	290 9.	l% 3,431
30		56	• 3 39	/64 x 3 41/64 •	0.685	9%	1	108.5	1.59K		3,323	• 1 1	1/64 x 1 13/64	• -0.	320	9% 1,710
56		26	• 3 18	/64 x 3 20/64 •	0.652	8.9%	56	109	2.23K		3,286	• 1 2	1/64 x 1 23/64	• -0.	352	9% 795
155		62	• 2 61	/64 x 2 63/64 •	0.619	8.8%	26	109.5	345		1	• 1 3	3/64 x 1 34/64	• -0.	386 8.9	9% 420
1.04K		26	• 2 42	/64 x 2 44/64 •	0.583	8.8%	212	110	9.23K		26	• 1 4	5/64 x 1 47/64	• -0.	422 8.	3% 2,978
604		26	• 2 24	/64 x 2 26/64 •	0.547	8.7%	321	110.5	442		887	• 1 5	8/64 x 1 60/64	• -0.	458 8.	7% 514
3.15K		419	• 27	/64 x 2 9/64 •	0.510	8.7%	611	111	3.88K	23	426	• 2 <u>9</u>	9/64 x 2 11/64	• -0.	495 8.	7% 537
220		1,141	• 1 55	/64 x 1 57/64 •	0.473	8.6%	531	111.5	967	38	347	• 2 2!	5/64 x 2 27/64	• -0.	533 8.	5% 347
5.30K	38	500	• 1 41	/64 x 1 43/64 •	0.436	8.6%	1,117	112	384		1	• 2 4	3/64 x 2 44/64	· -0.	570 8.	5% 1
446		1,036	• 1 28	/64 x 1 30/64 •	0.400	8.5%	2,127	112.5	21	1	80	• 2 6:	1/64 x 2 63/64	· -0.	607 8.	5% 71
1.80K		1	• 1 17	/64 x 1 18/64 •	0.364	8.6%	438	113	252		26	• 3 1	7/64 x 3 19/64	· -0.	643 8.	5% 56
28		995	• 16	/64 x 1 8/64 •	0.329	8.5%	4,877	113.5	1	26	88	• 3 3	8/64 x 3 40/64	· -0.	678 8.	5% 26
577	26	65	• 61	/64 x 62/64 •	0.297	8.7%	189	114	700		26	• 3 6:	1/64 x 3 63/64	· -0.	711 8.	5% 62
1.30K		38	• 53	/64 x 54/64 •	0.266	8.6%	1,240	114.5	4	1	56	• 4 20	0/64 x 4 22/64	• -0.	743 8.	5% 26
5.71K	55	4,490	• 45	/64 x 47/64 •	0.239	8.7%	5,222	115	600		26	• 4 4	5/64 x 4 47/64	· -0.	770 8.	5% 51
293		2,752	• 39	/64 x 41/64 •	0.211	8.7%	8,057	115.5	27		51	• 5	6/64 x 5 8/64 •	-0.	799 8.	5% 26
		76	• 34	/64 x 35/64 •	0.188	8.7%	4,348	116	2		51	• 5 3:	2/64 x 5 35/64	• -0.	823 8.	5% 51

Source: IBKR TWS, 2 Nov 2022 11:45am CET

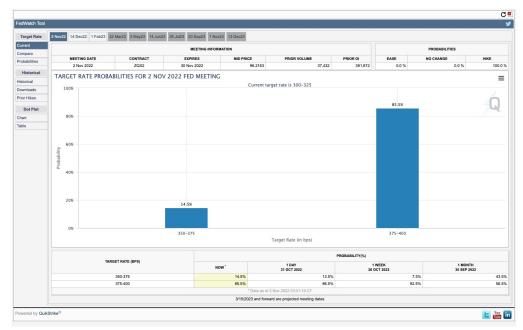


Part 3: Fed Funds Futures & Options



Fed Funds Futures: Fueling the "FedWatch" Tool

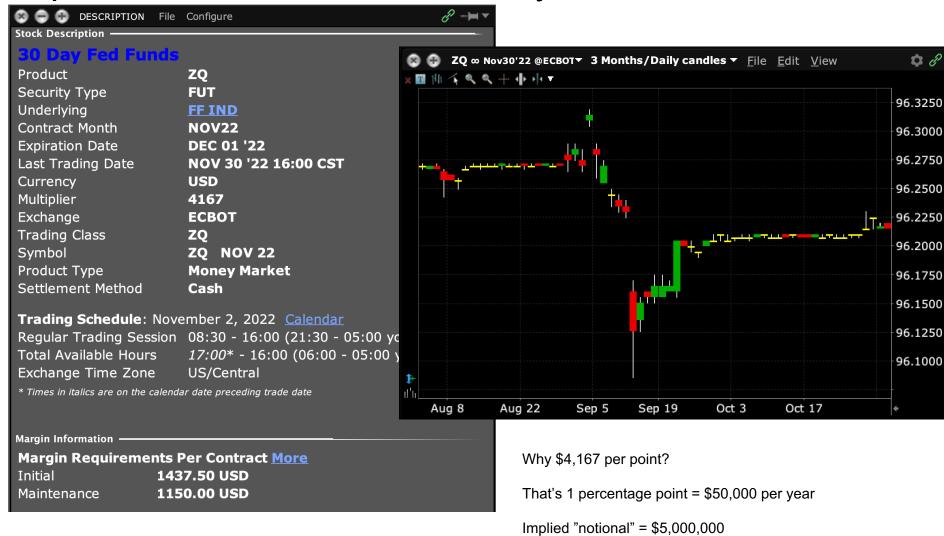




Source: https://www.cmegroup.com/markets/interest-rates/cme-fedwatch-tool.html?redirect=/trading/interest-rates/countdown-to-fomc.html, 2 Nov 2022 12:55am CET



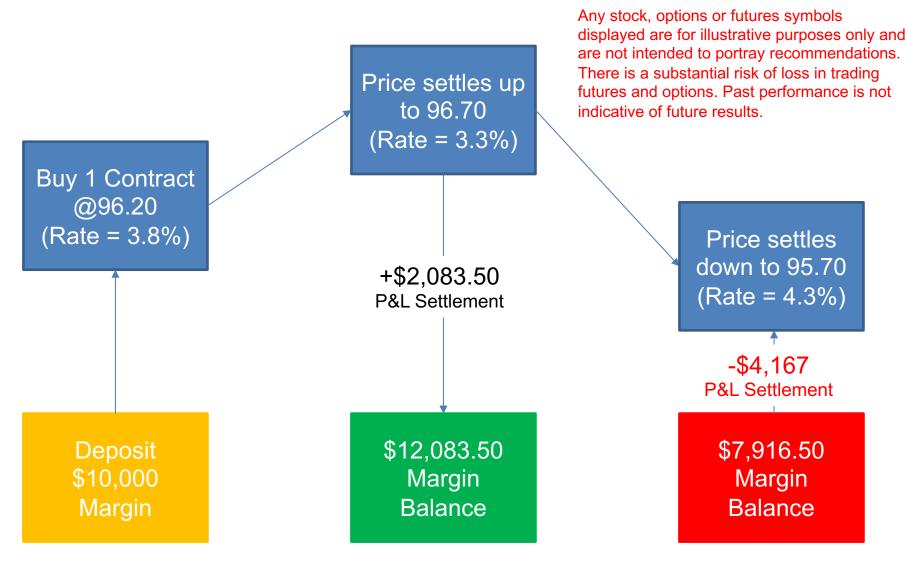
Specs and chart of ZN, the 10-year note future



Source: IBKR TWS, 2 Nov 2022 11:45am CET



Sample Fed Funds Futures P&L





Micro Yield Futures

- \$1,000 per point of yield
- Quoted in yield terms
- Better for trading the "curve", e.g. 2s-10s

- No options
- 2YY vs Fed Funds is an interesting spread to watch, short-end

Fed Funds Futures

- \$4,167 per point of "yield"
- Quoted in 100 rate terms
- Better for trading "binary"
 Fed policy decisions (e.g. 50 vs 75 bp hike or cut)
- Options available



Forming your yield curve strategy

- Do you have a view on the absolute direction of rates?
- Sustained inflation to drive rates higher, or
- Aging demographics to weigh rates down?
- Do you have a view on the curve inversion?
- Aggressive Fed to continue raising short end, raising recession risks, or
- Stagflation scenario with near-term recession vs higher long-term inflation?
- Best tool for the job?
- Small & simple view on yields or curve → Micro Yield futures
- Sizeable trade referencing bond prices → Bond futures or options
- Near term expectations of Fed policy rate → Fed Funds futures or options
- View on Fed Funds vs the curve → Fed Funds Micro Yield spread

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37

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