

# The Volatility Positioning Ledger

Blow Ups, Buried Bodies and Behavioral Biases



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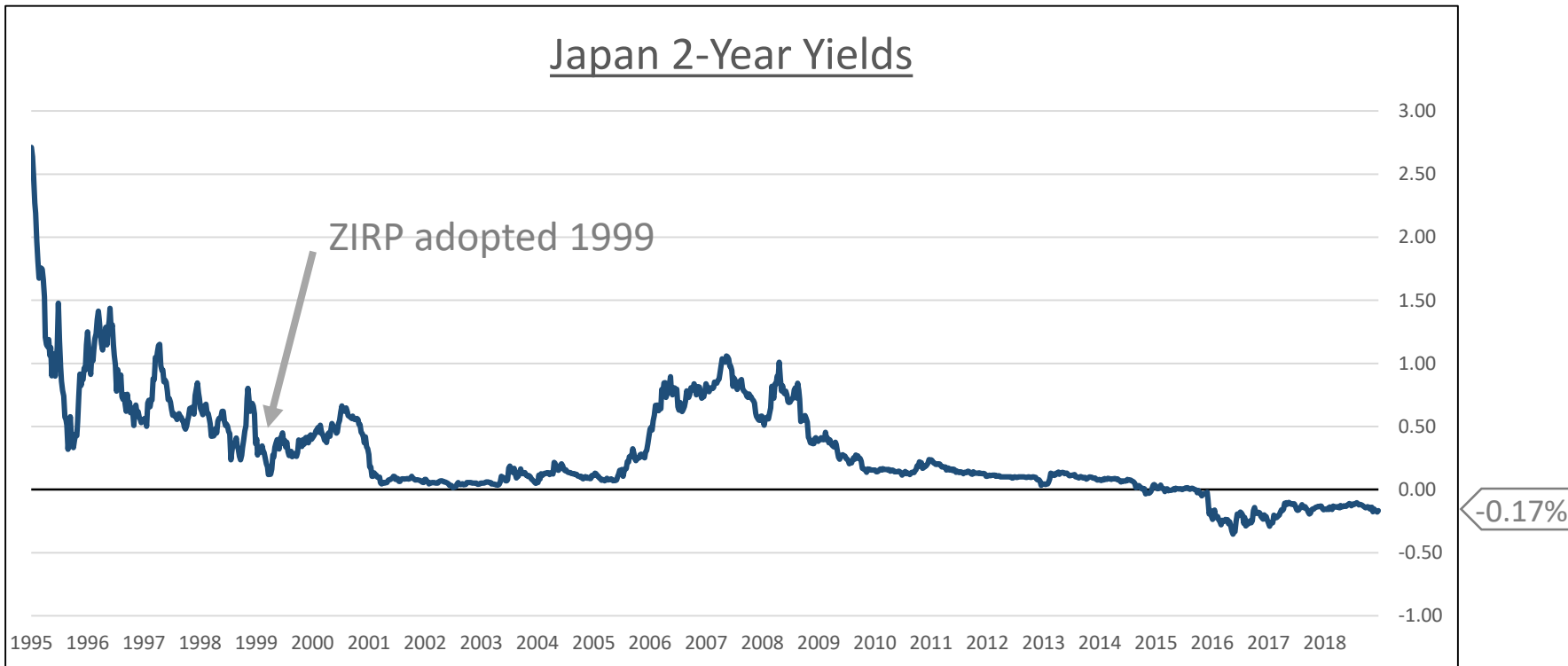
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- Zero Interest Rate Policies (ZIRP) and Quantitative Easing (QE) have altered investor behavior in a search for yield.
- This is particularly pronounced in income-producing securities:
  - IG Corporates
  - High Dividend Equities
  - High Yield Corporates
  - Bank Loans
  - Levered Loans
  - CLOs
  - Option-Writing Strategies
  - REITs
  - BDCs
  - Catastrophe Bonds



# ZIRP Began In Japan

- Japan adopted ZIRP in 1999....and never escaped.

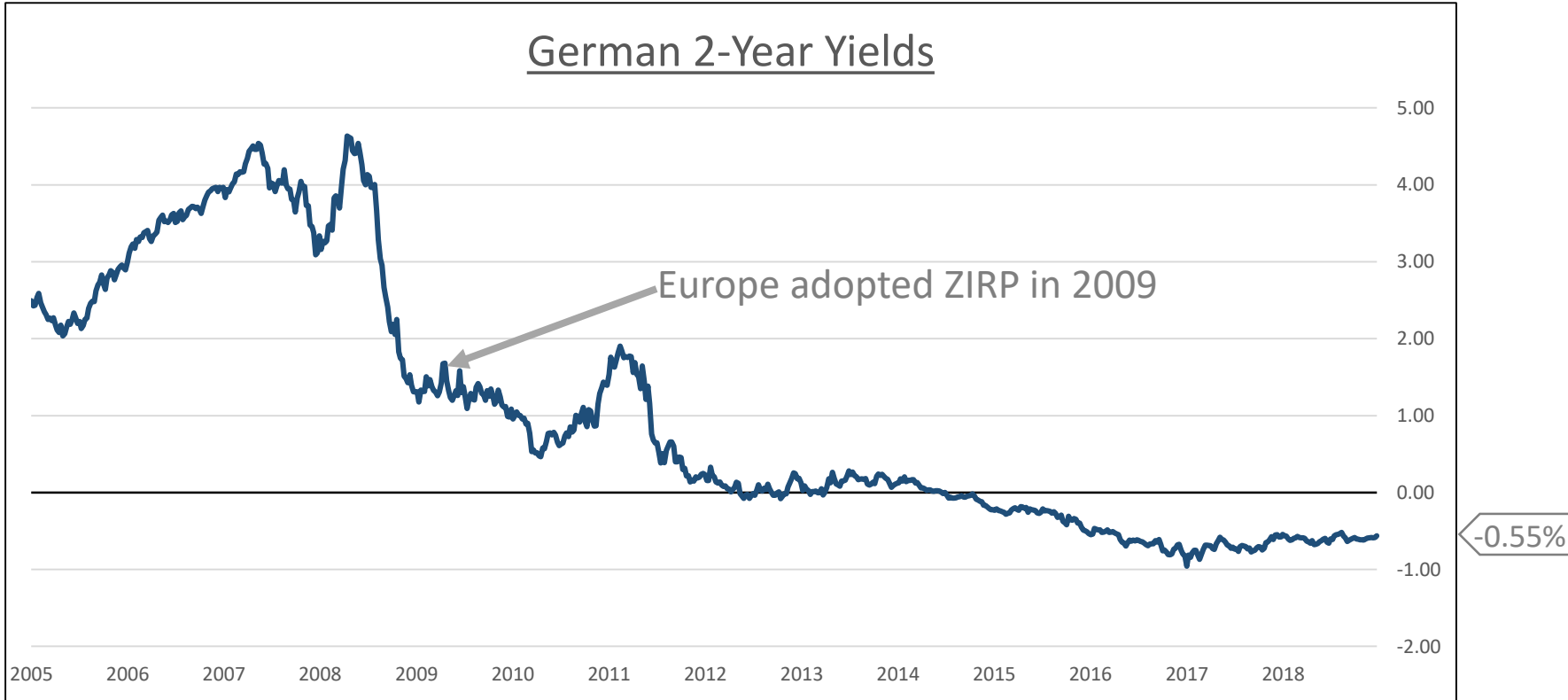


Source: Bloomberg

- Land of the setting sun.

# And Moved to Europe...

- Europe adopted ZIRP in 2009....and hasn't escaped.

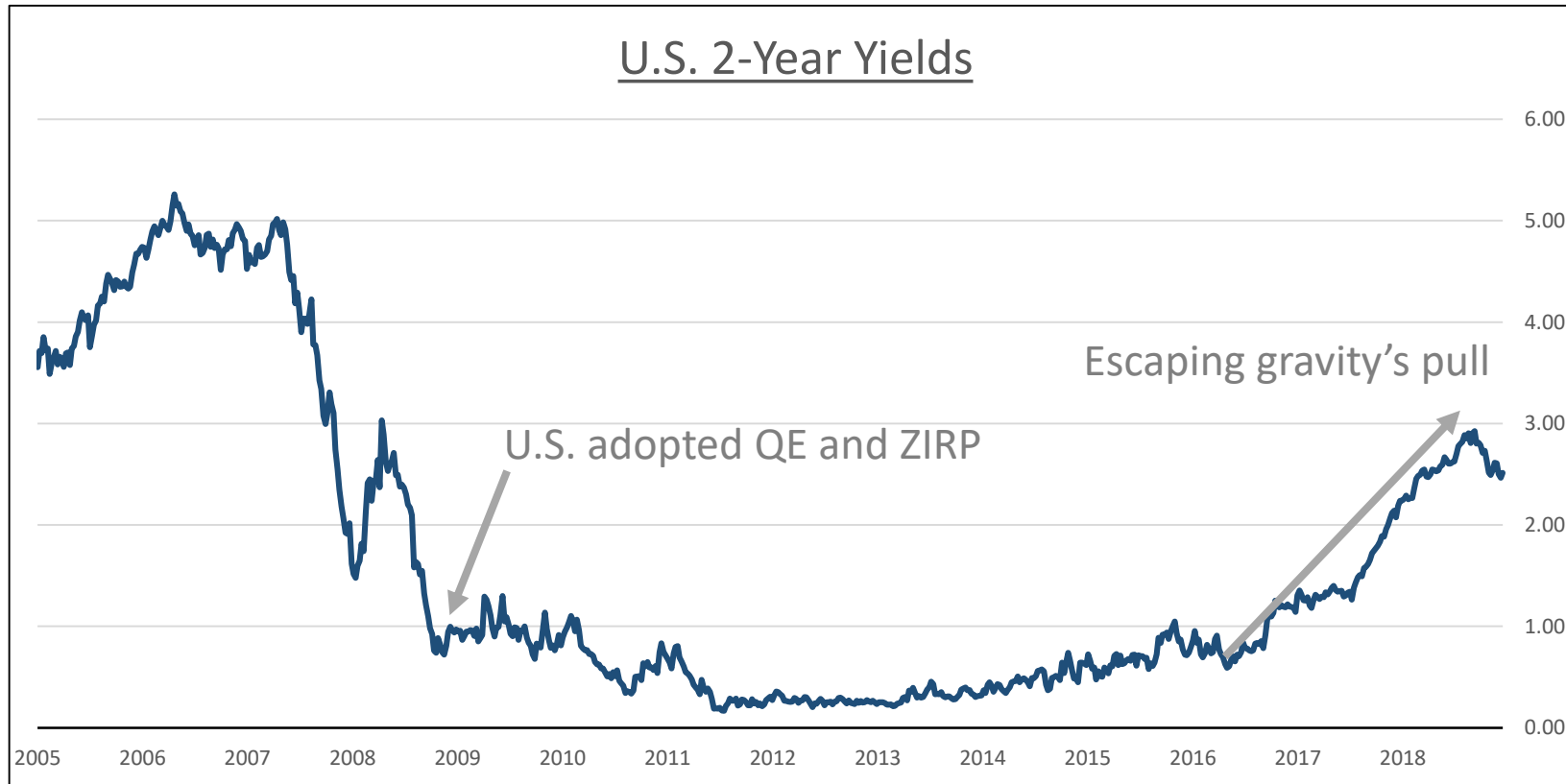


Source: Bloomberg

- 10 years after the crisis, Europe continues to stagnate.

# U.S. – The Best of the Bunch

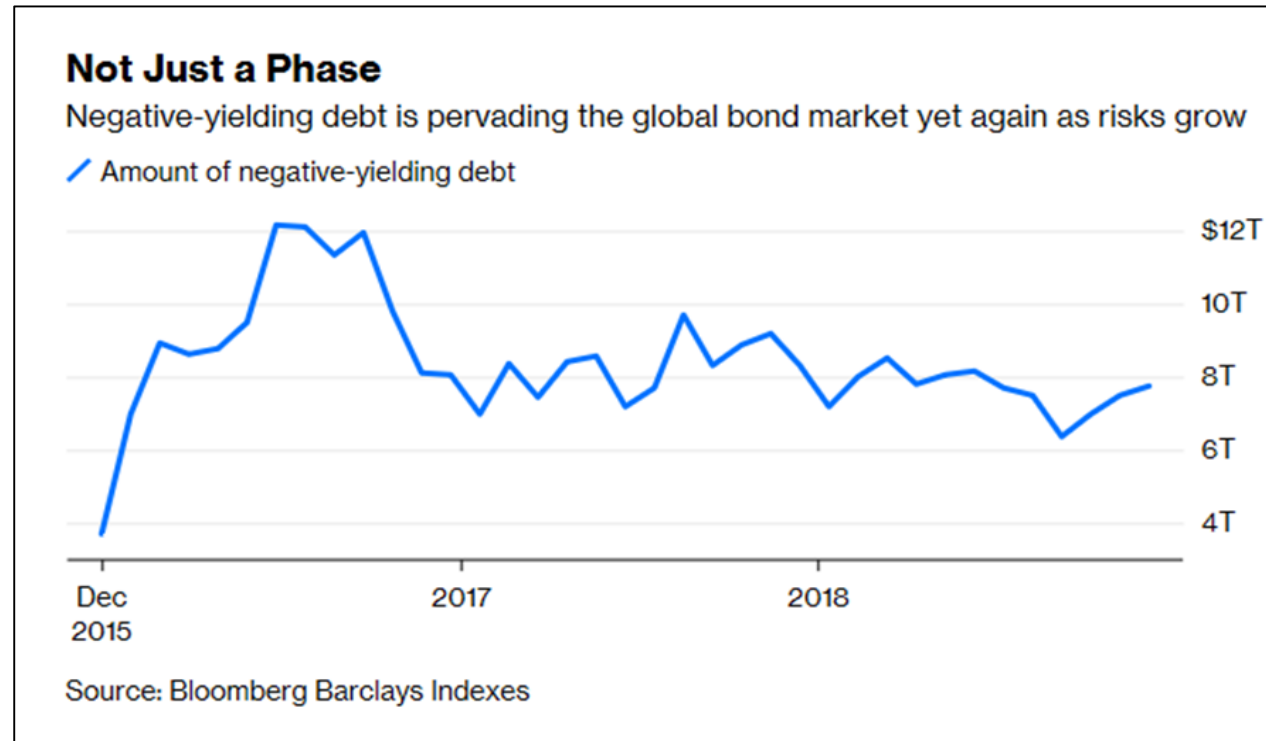
- The U.S. has been able to lift off zero...



Source: Bloomberg

- U.S. rates have been able to lift, but ran into a wall roughly 50bps above current levels.

- Desperately seeking safety.

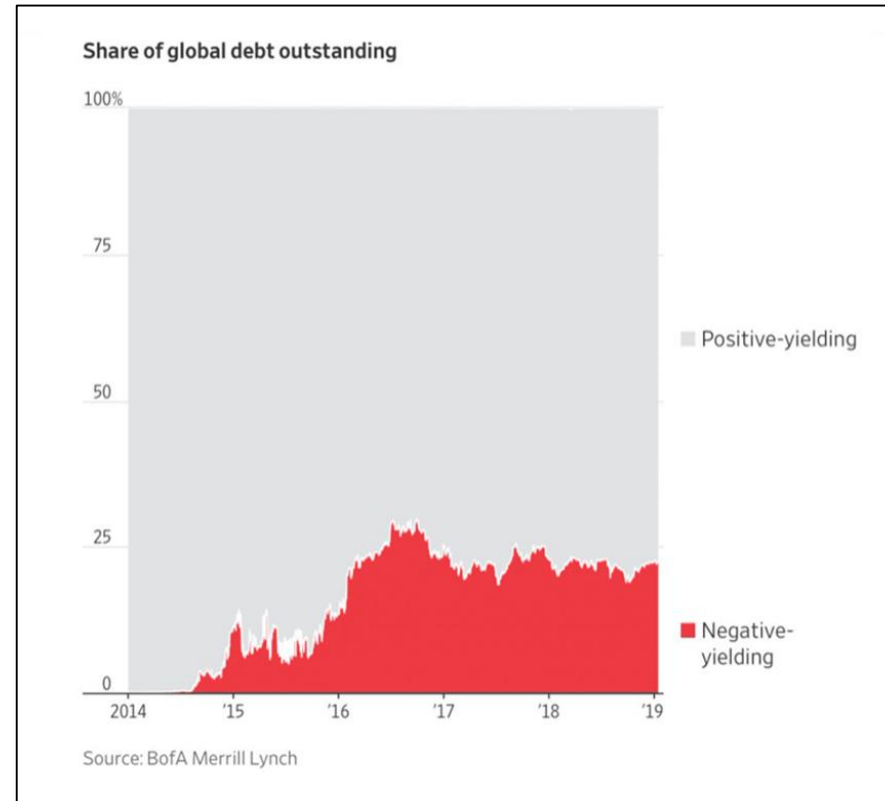


Source: WSJ

- The flight to safety peaked with negative nominal yields on over \$12 trillion of bonds in 2016.
- There remains \$8.8 trillion of negative nominal yielding bonds globally.

# Risk-Free Return or Return-Free Risk?

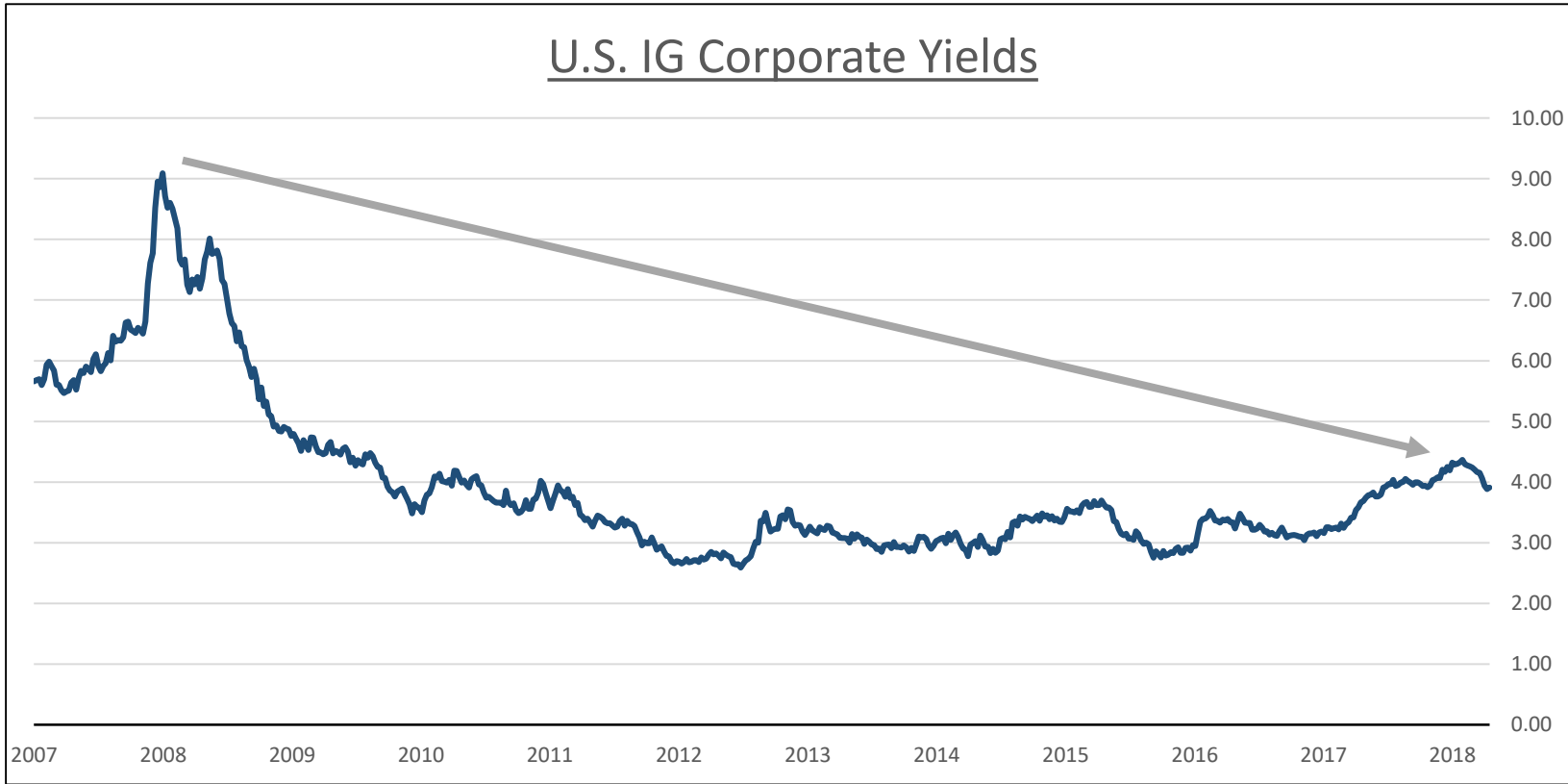
- Desperately seeking safety.



Source: WSJ

- Approximately 20% of global sovereign debt outstanding still carries negative nominal yields.





Source: Bloomberg

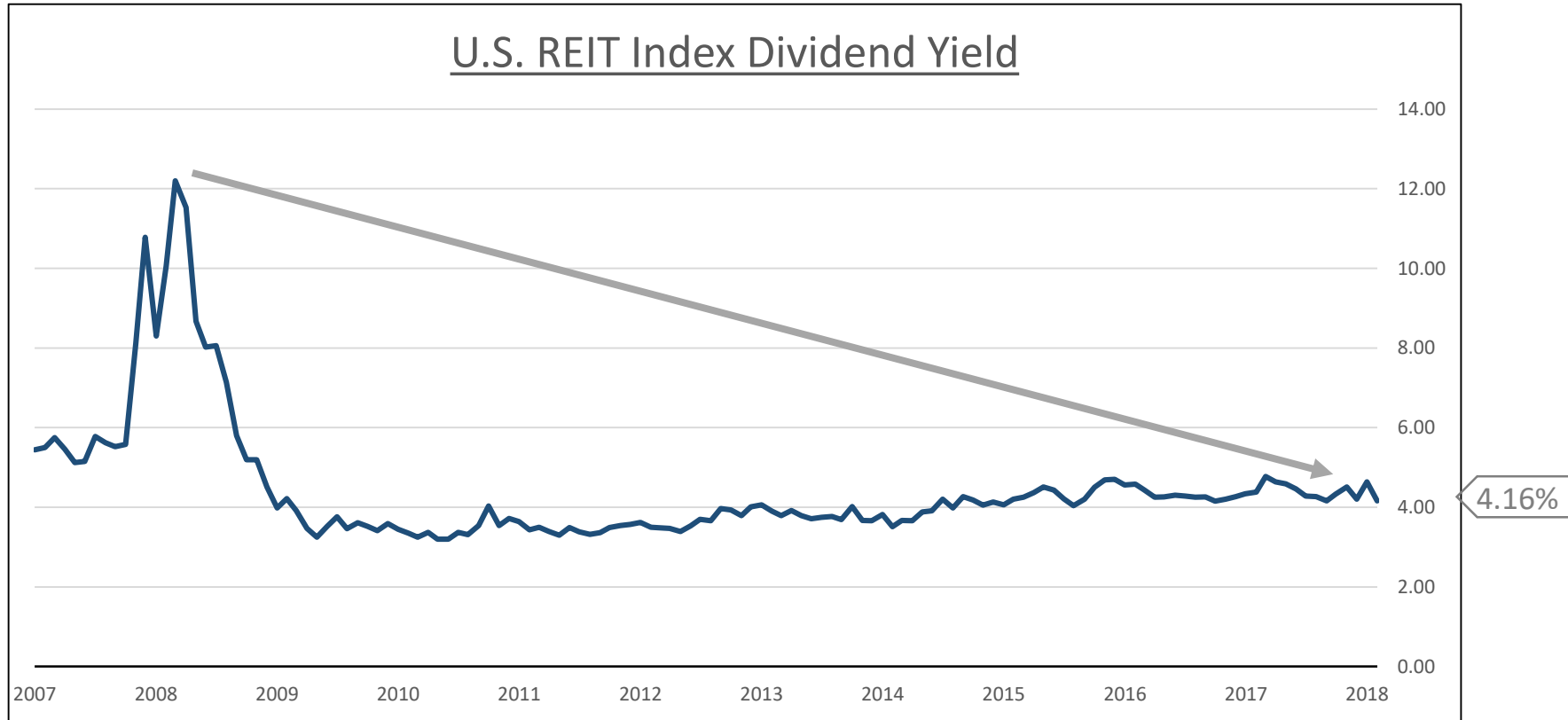
▪ As the crisis subsided, U.S. Investment Grade Corporate yields fell from 9% to below 3%. They remain below 4% today.

# Reach For Risk – U.S. High Yield Corporates



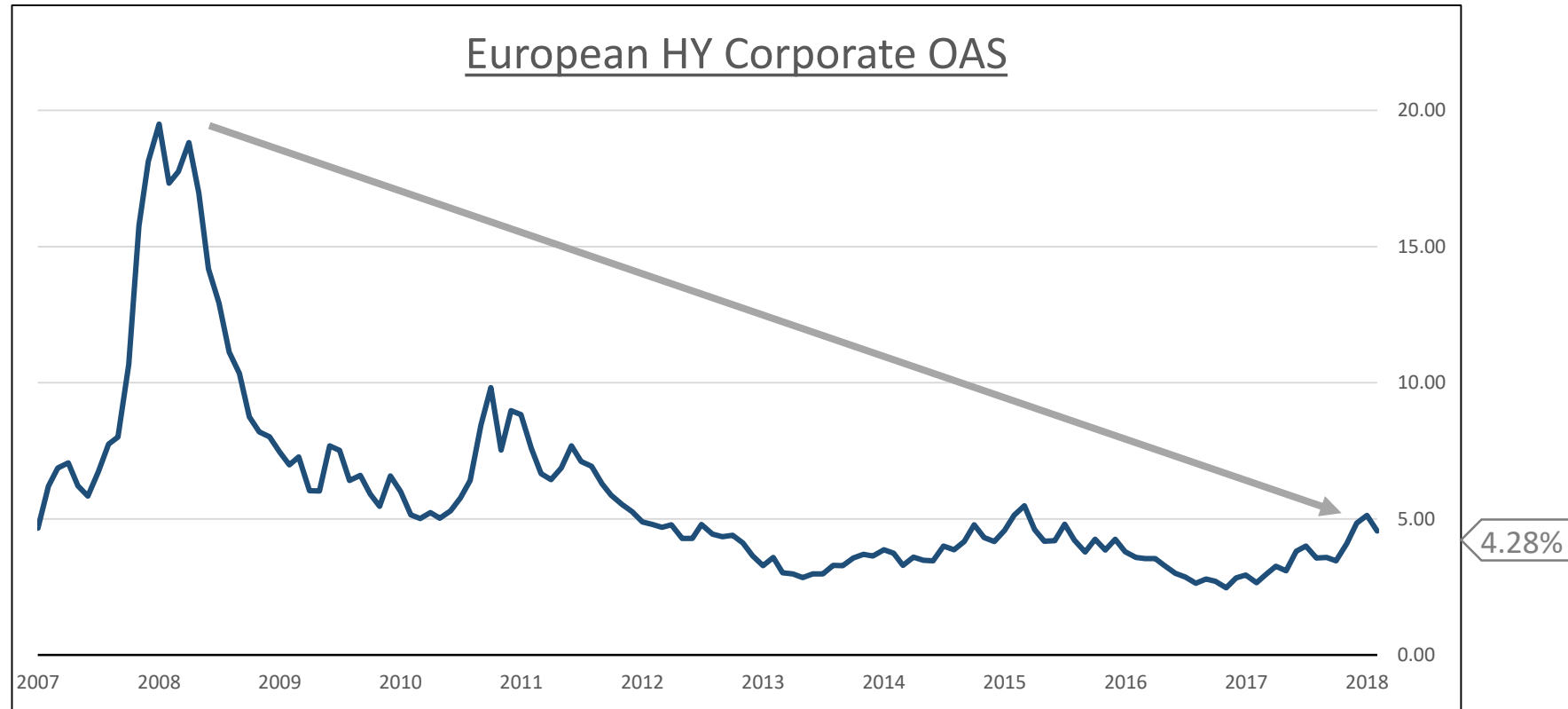
Source: Bloomberg

- As the crisis subsided, U.S. High Yield Corporate yields fell from 22% to below 5%. They remain below 7% today.



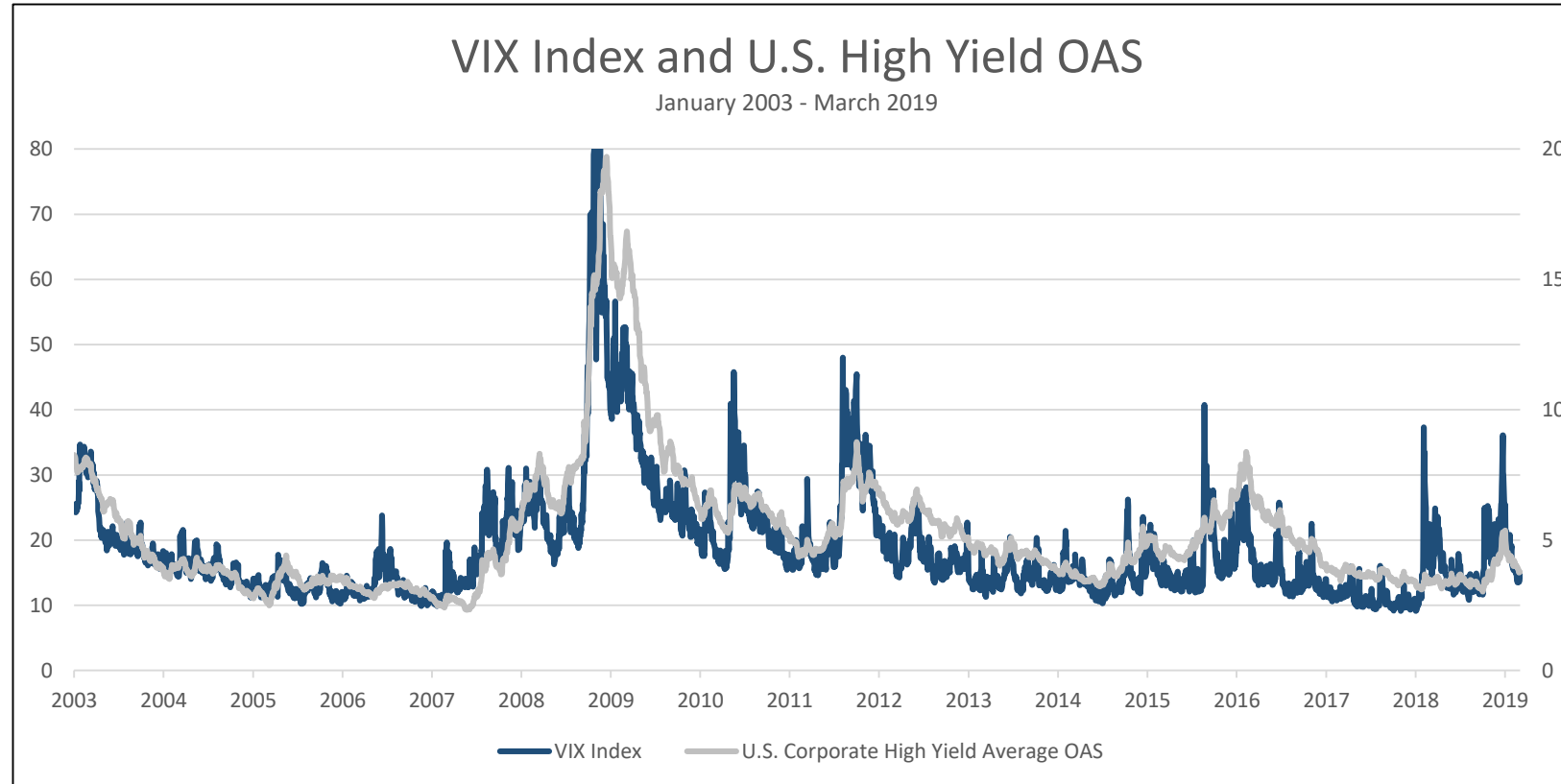
Source: Bloomberg

▪ As the crisis subsided, U.S. REIT yields fell from 12% to below 4%. They remain near 4% today.



Source: Bloomberg

▪ As the crisis subsided, European HY spreads fell from 19% to below 3%. They remain near 4% today.

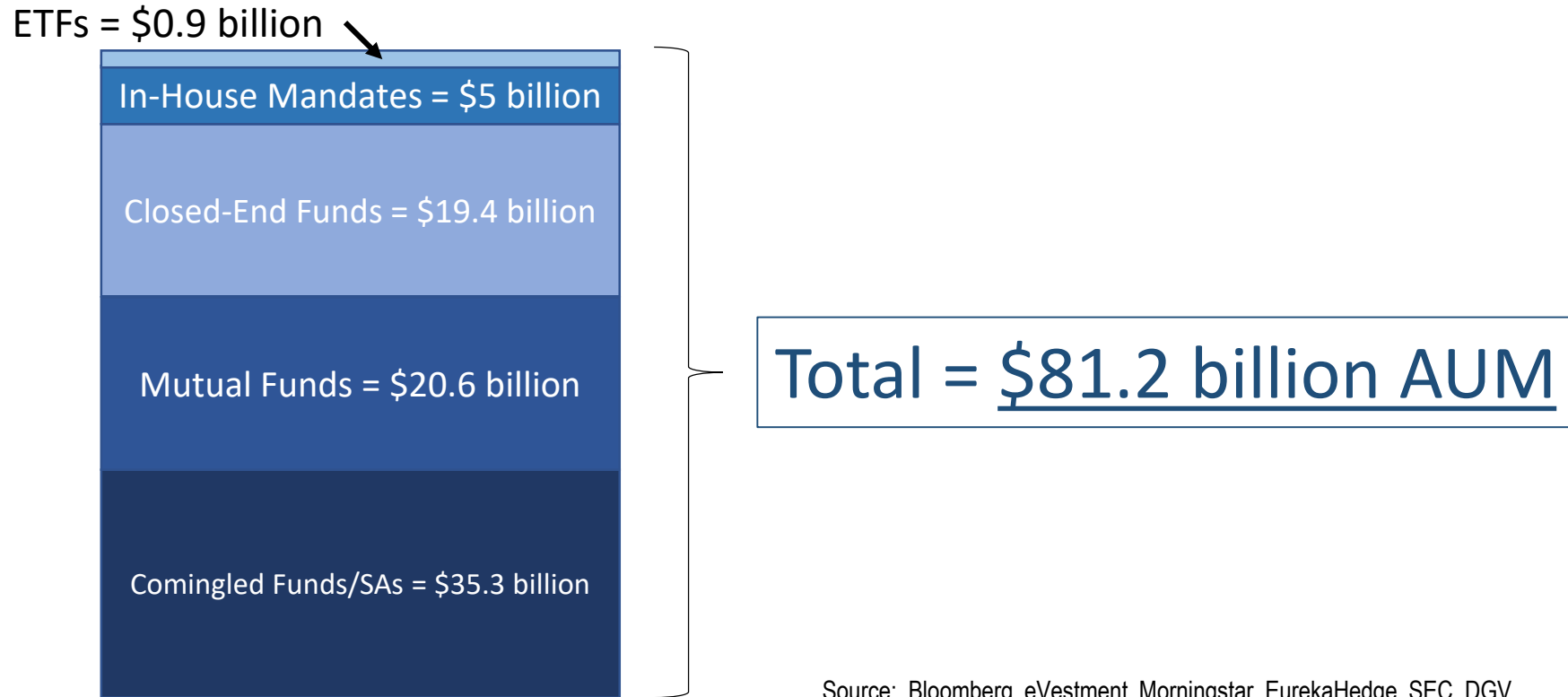


Source: Bloomberg

- Option volatility is highly correlated with other measures of risk premia, like credit spreads.
- Option-selling strategies tend to have similar profiles to long corporate debt as a result.

# Tallying Short Option Strategies in the Market

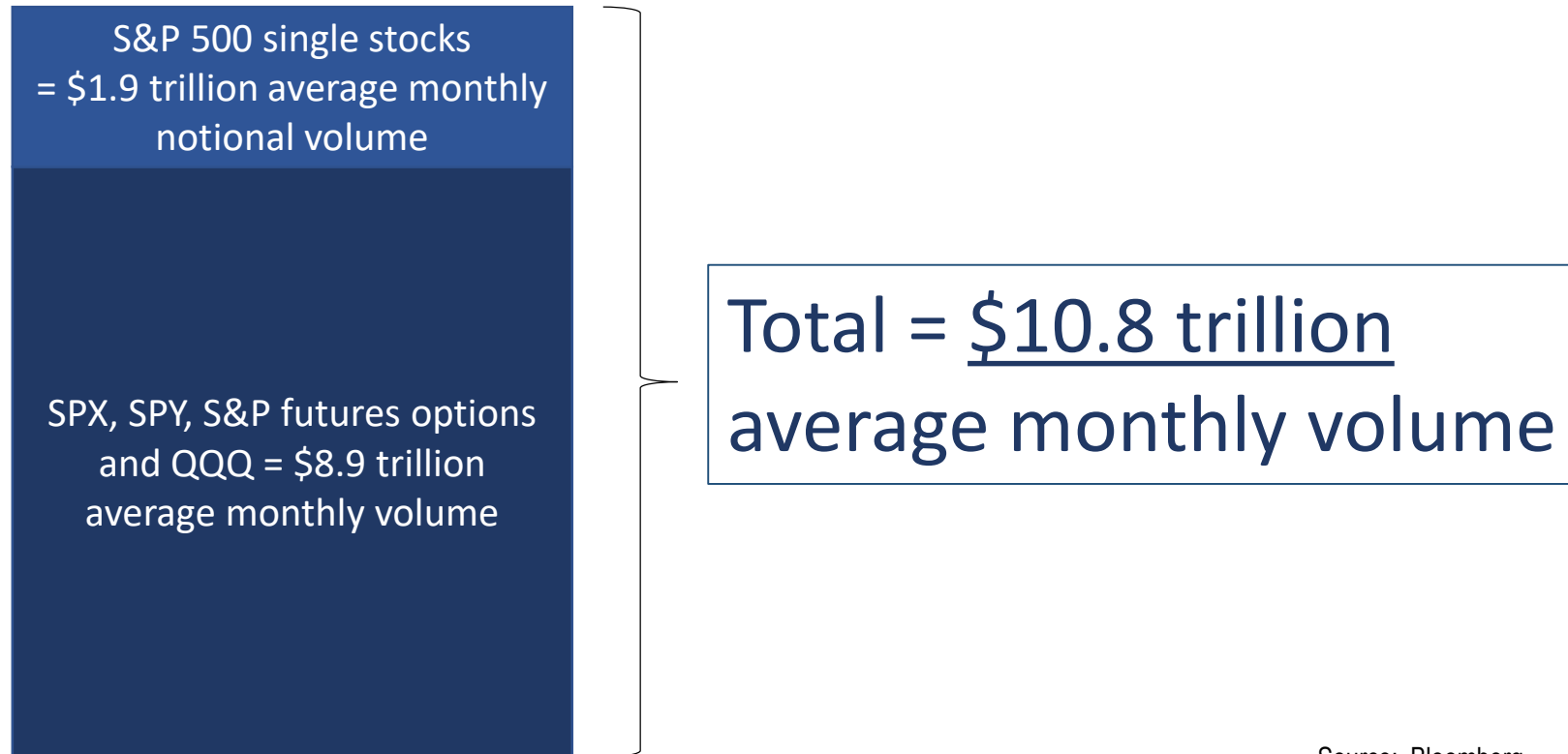
- DGV conducted searches of short-option strategies using Bloomberg, eVestment, Morningstar, EurekaHedge, SEC and other industry sources.



▪ **Dedicated short-option strategies currently manage approximately \$81.2 billion in AUM.**

# Tallying the Size of the Options Market

- DGV analyzed the notional size of the options market.



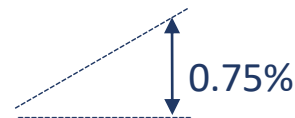
Source: Bloomberg

- Conservatively, the equity index and single stock option market trades \$10.8 trillion monthly.
- This does not include other ETF, index, OTC or single-name options than listed above.

# Tallying the Size of the Options Market

- Assuming the average option-selling strategy turns over monthly, dedicated short-option strategy AUM represents just 0.75% of the overall market

SPX, SPY, S&P futures options,  
QQQ and S&P 500 single-stock  
= \$10.8 trillion average  
monthly volume

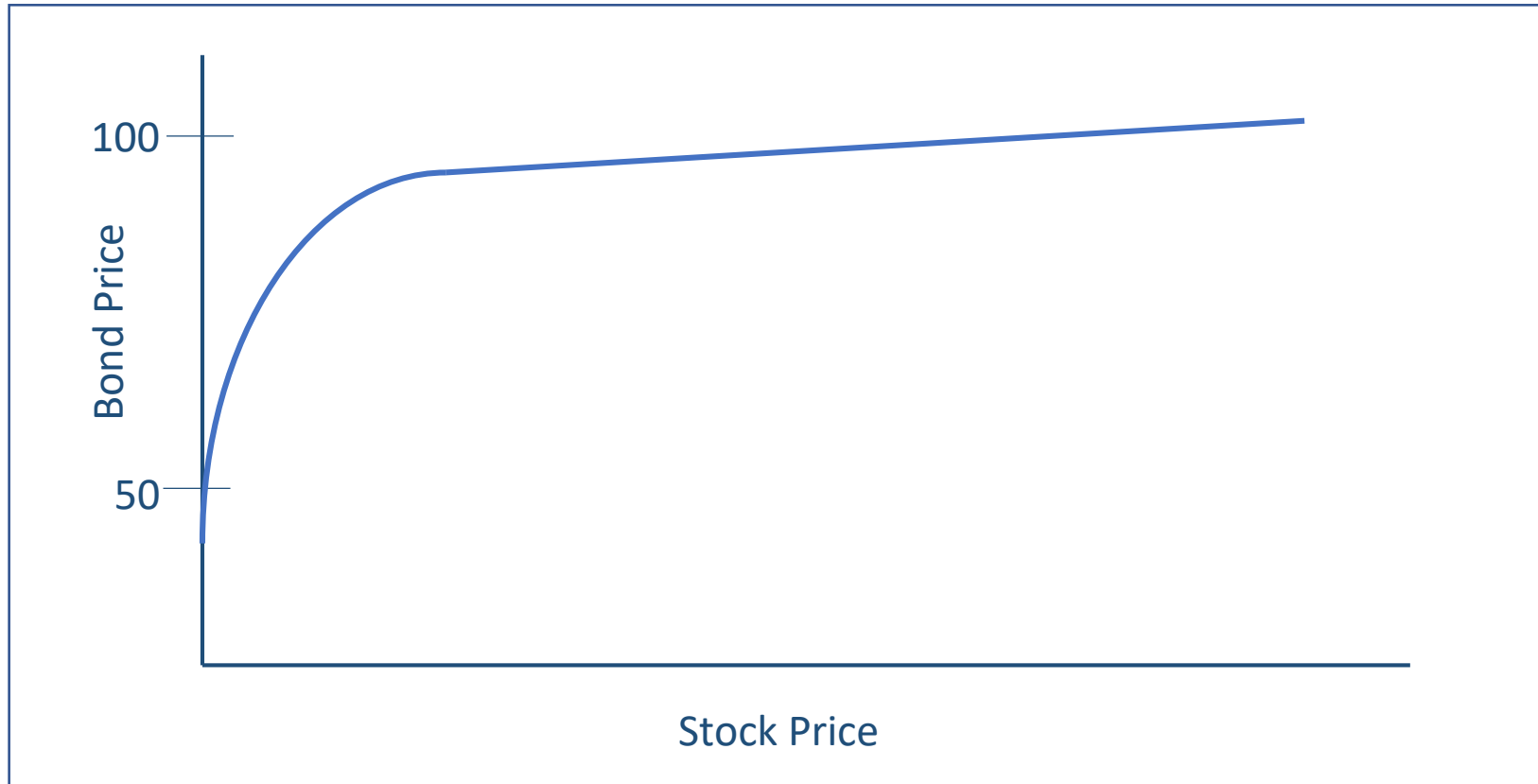


Short option strategy monthly  
volume estimate = \$0.08 trillion

Source: Bloomberg, eVestment, Morningstar, EurekaHedge, SEC, DGV

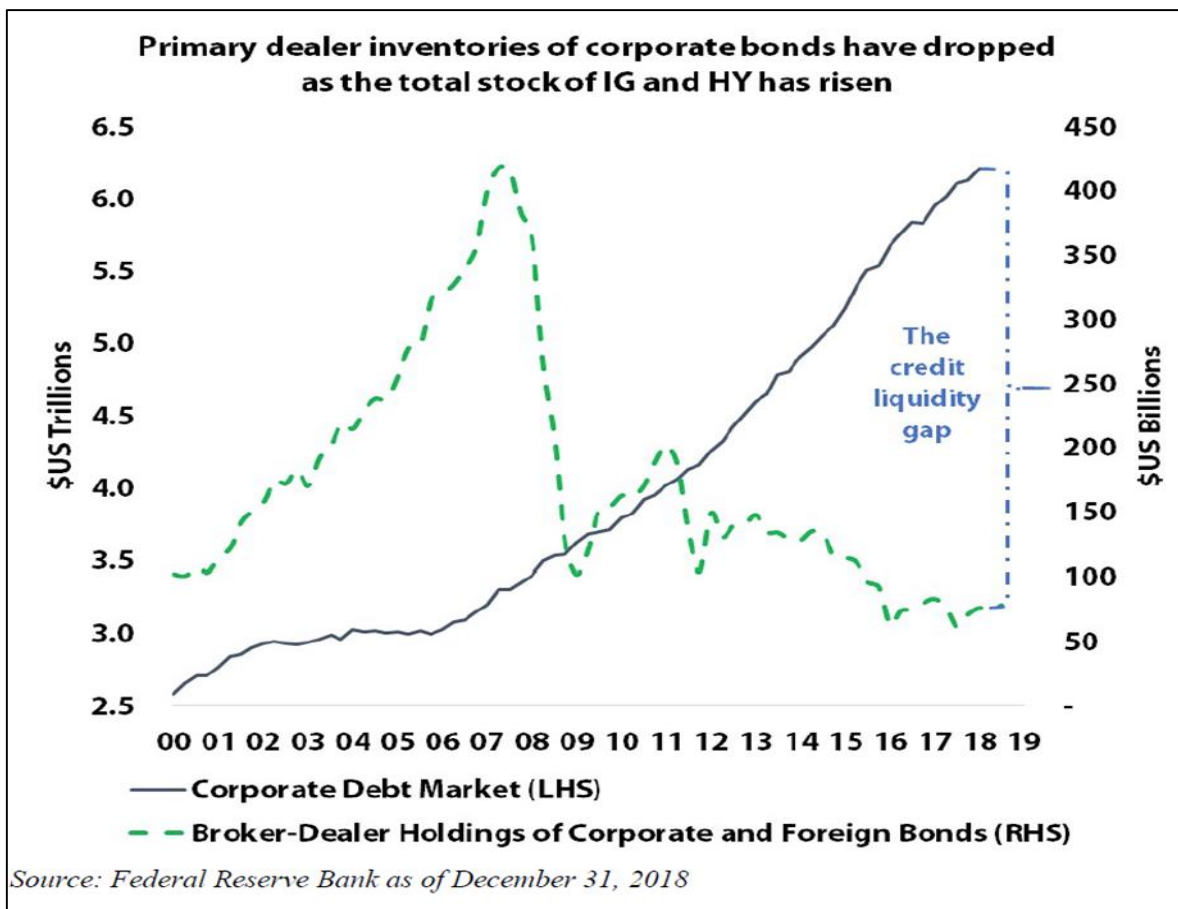
- Conservatively, the volume of dedicated short-option strategy funds represents just 0.75% of the market, and is probably less.**





- Unsecured debt looks a lot like a short put profile.
- Collect coupons (premiums) in the upside, but suffer impairment as stock price goes to zero.

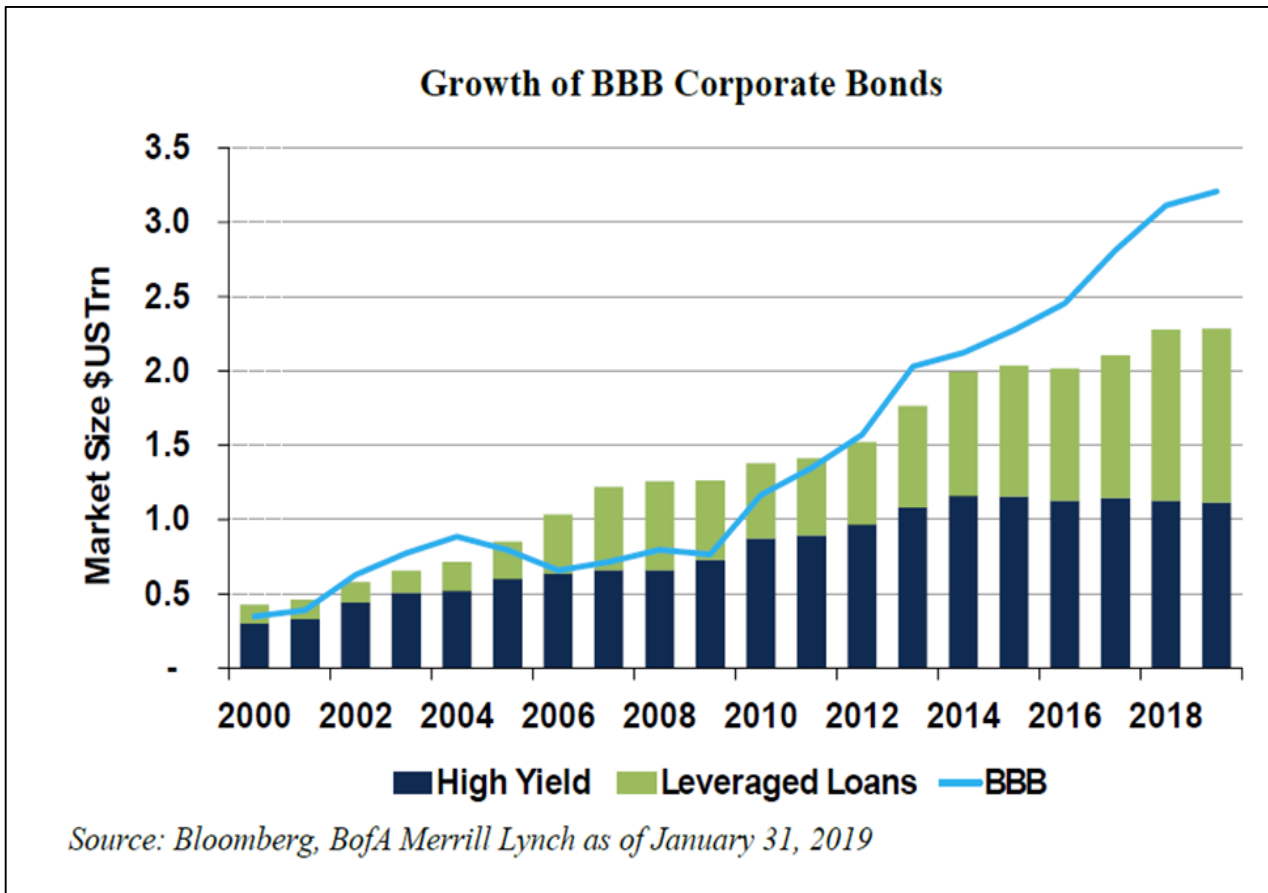
# Corporates Feast On Low Rates, While Banks Retreat



Source: Federal Reserve

- Corporate debt up \$3.1 trillion (97%) since 2008.
- Broker-dealer holdings down \$350 billion (82%) since 2008.

■ Who is going to absorb the debt if/when a shock occurs? Not the banks...

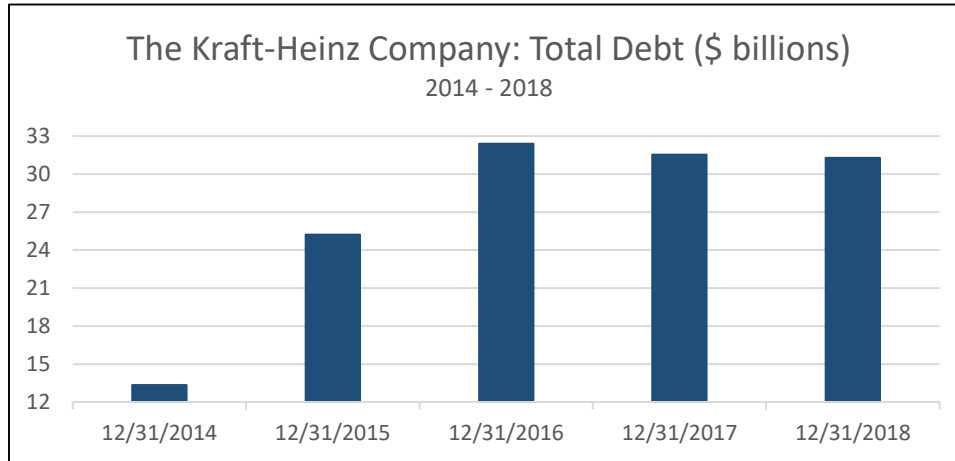


- BBB Corporate debt market up \$2.5 trillion (4x) since 2008.

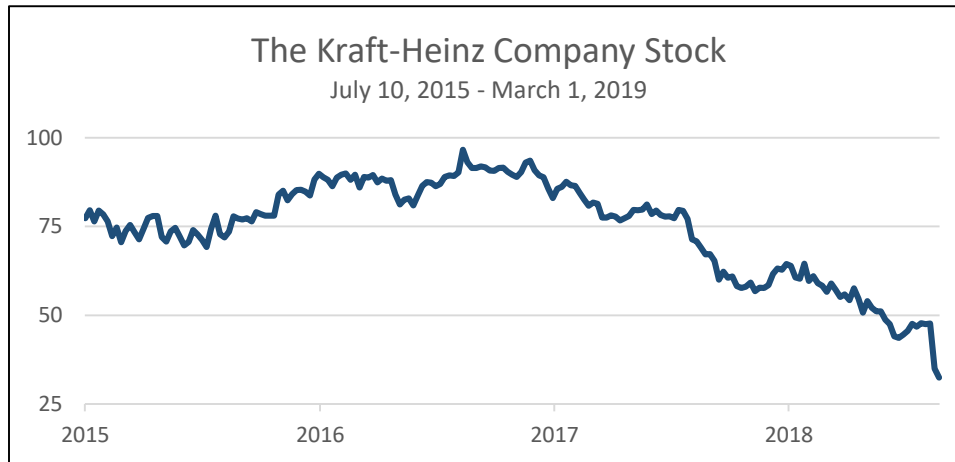
Source: Bloomberg, BAML

▪ The growth in corporate debt has been tremendous...particularly in the lowest IG ratings.

# Bingeing On Debt – Fine, Until It's Not



- Debt increased 134% from 2014 through 2018.

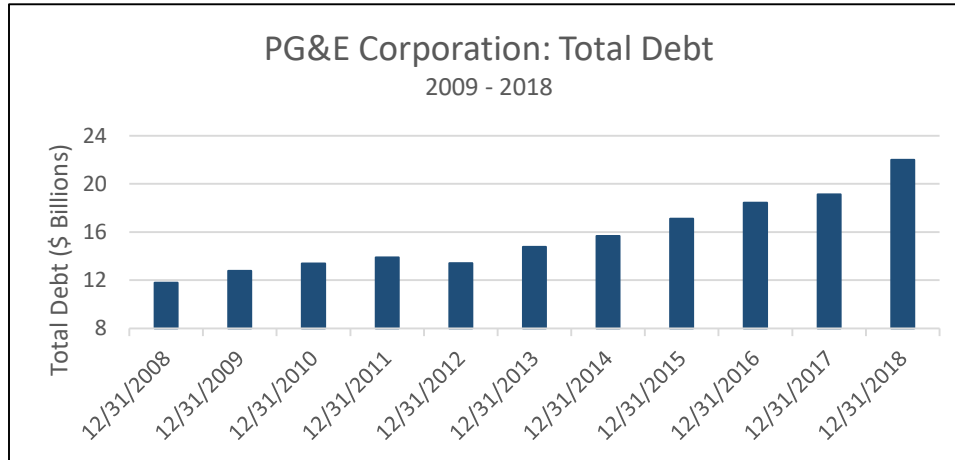


- Stock declined -66% from 2/17 through 2/19.

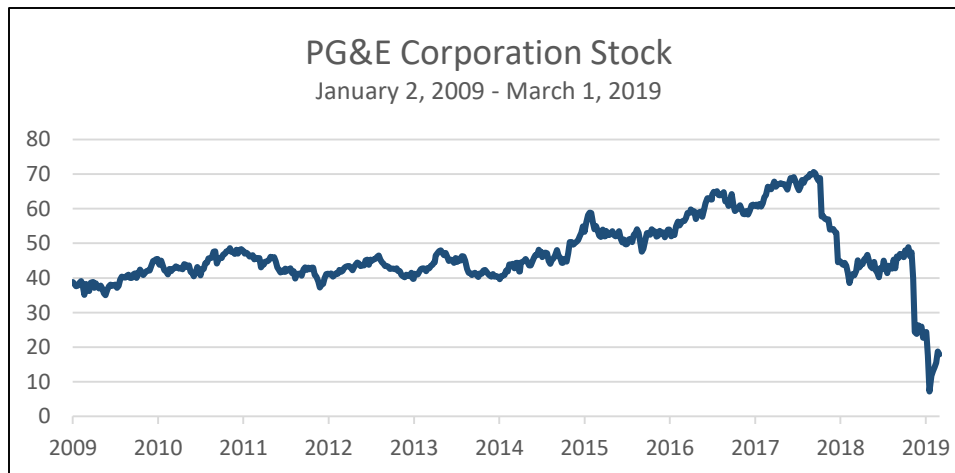
Source: Bloomberg

▪ Internal issues with cost cuts, rising debt and failure to invest saw the stock collapse.

# Bingeing On Debt – Fine, Until It's Not



- Debt increased 86% from 2008 through 2018.

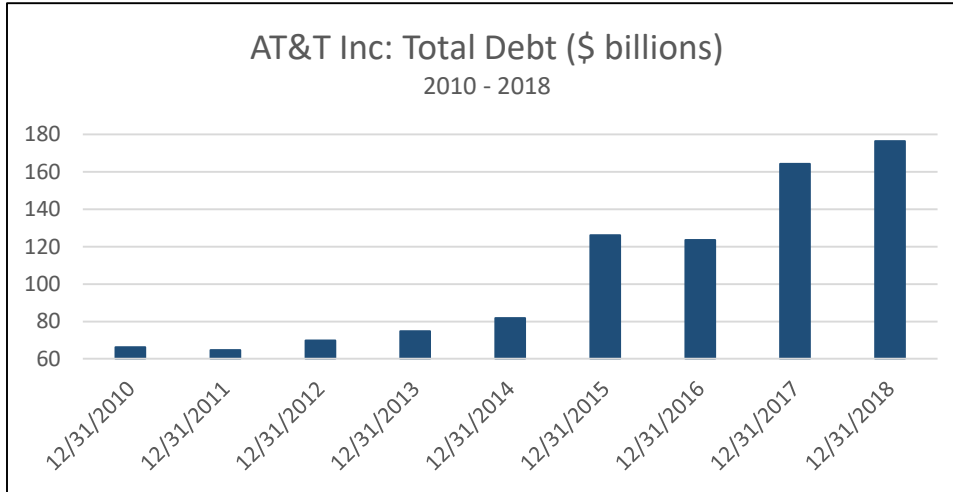


- Stock declined -87% from 11/18 through 1/19 and the company filed for bankruptcy.

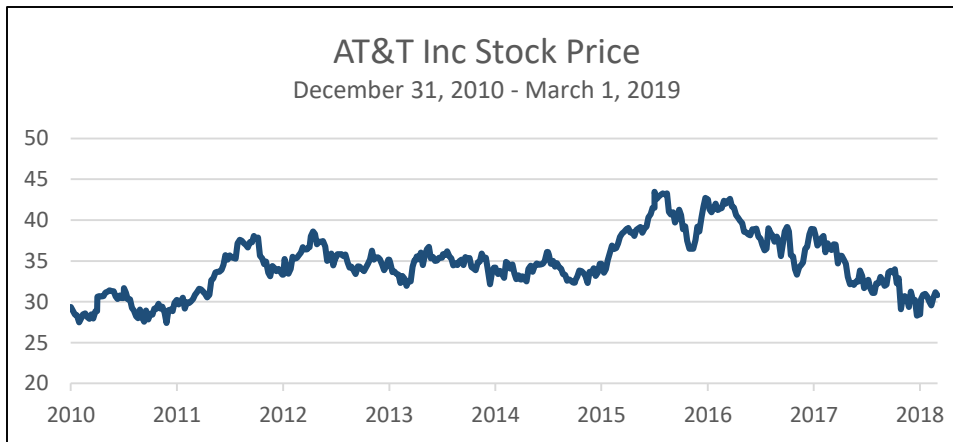
Source: Bloomberg

▪ Exogenous shock from wildfire liabilities sent the company into bankruptcy.

# Bingeing On Debt – Who's Next In The Barrel?



- Debt increased 167% from 2010 through 2018.

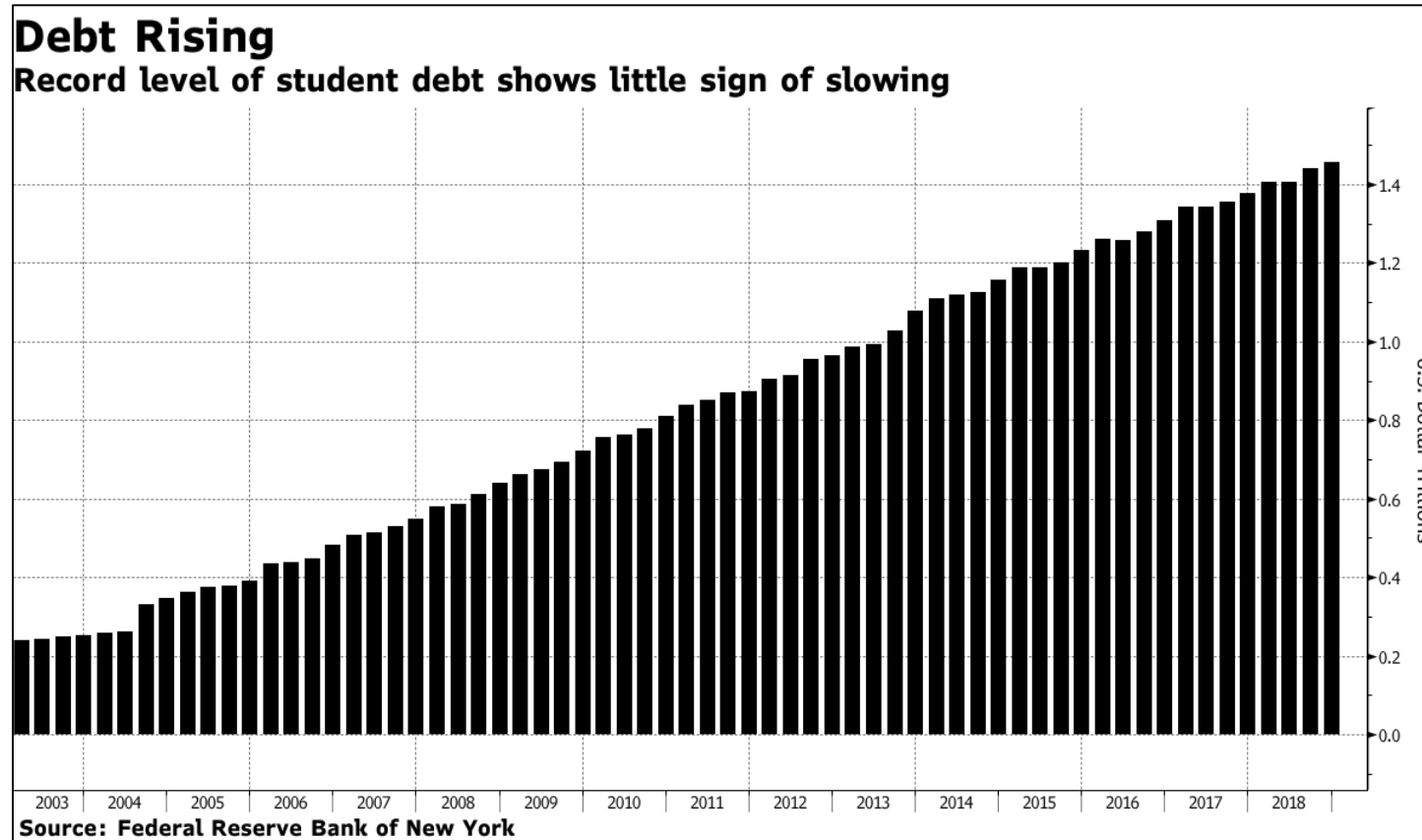


- Stock price TBD...

Source: Bloomberg, Grant's

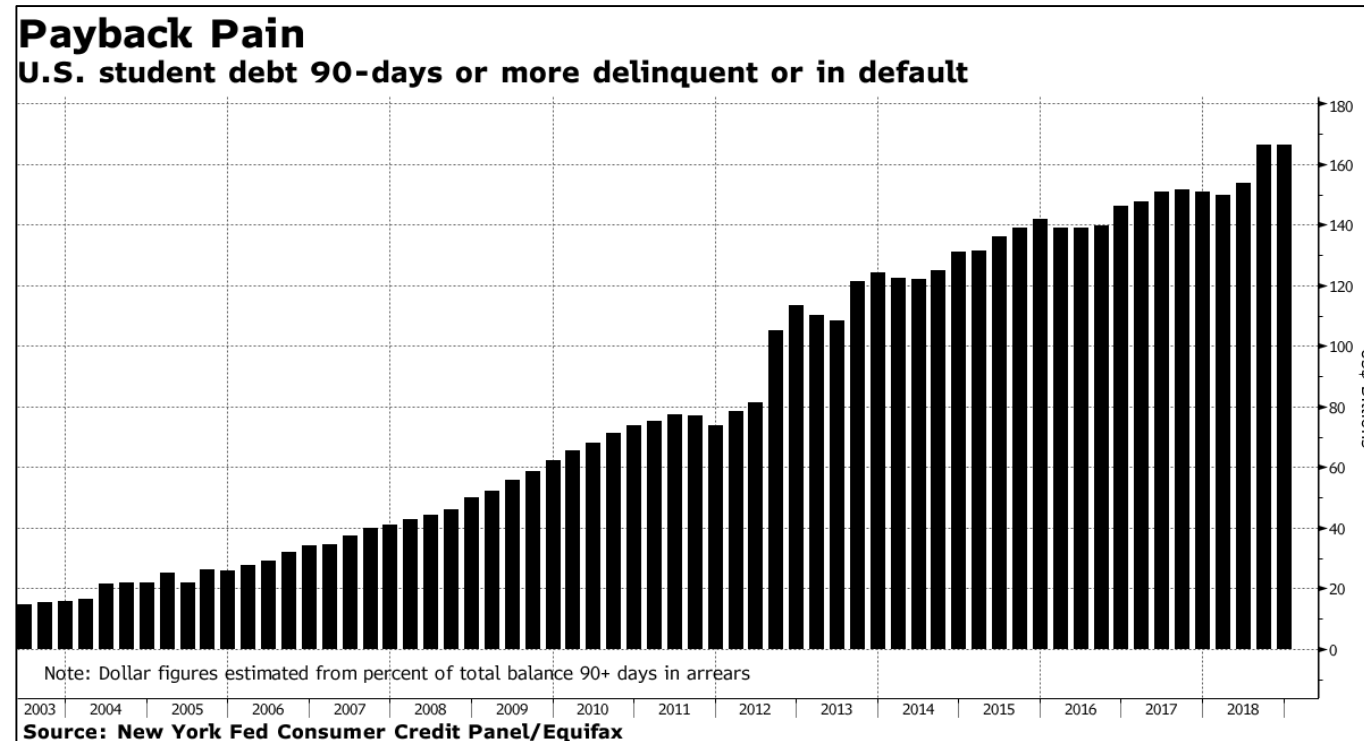
▪ AT&T is the largest non-bank debtor. More debt than Portugal.

- Student loans became a favored source of funds for consumers after the crisis.



- Student loans outstanding have increased by nearly \$1 trillion since 2008. 12% are delinquent.

- Hoping for relief?



- Delinquencies have surged by more than \$130 billion in 10 years.
- While disturbing given the strength of the labor market, this is unlikely to become a systemic problem as the U.S. government holds most of the debt.



- Zero Interest Rate Policies and Quantitative Easing served to drive investors out the risk spectrum, particularly into “yield chasing” behavior.
- Growth in dedicated option-selling strategies has been robust, now totaling approximately \$81 billion, but remains a tiny percentage of overall option volumes.
- Corporate debt holders have a very similar payoff profile to short equity puts, collecting coupons (premiums) in the upside case and facing capital losses in the downside.
- Corporate debt since the Financial Crisis has nearly doubled from \$3.2 trillion to \$6.3 trillion. HY and Leveraged Loan markets have doubled in size, while the BBB market has grown ~4x.
- Individual companies, having leveraged their balance sheets, face serious risks in the event of internal missteps or exogenous shocks.