



Inflation Roundup

February 4, 2021

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Summary

Global synchronized growth appears here with 80+% of economies and commodities producing above one-year trend growth. TIPS breakevens have habitually performed well under this scenario, including recoveries from global slowdowns.

TIPS breakevens remain cheap to expectations derived from risk assets. For example, our modeling places the 10-year near 235 bps. The big question going forward is can market-based inflation expectations keep up their strongest performance on record AND will a right-side tail show up in the outlook for headline CPI.

We are watching three items VERY closely:

- TIPS breakeven curve inversion: A lasting inversion would signal the Fed is committed to AIT and this time is indeed different.
- Inflation expectations for headline CPI > 2.5% YOY: Probabilities are rebounding toward best levels since in early 2017 and 2018.
- Search activity forecasting a bottom for owners equivalent rent (OER). Searches positively correlated with OER have moderated into 2021.

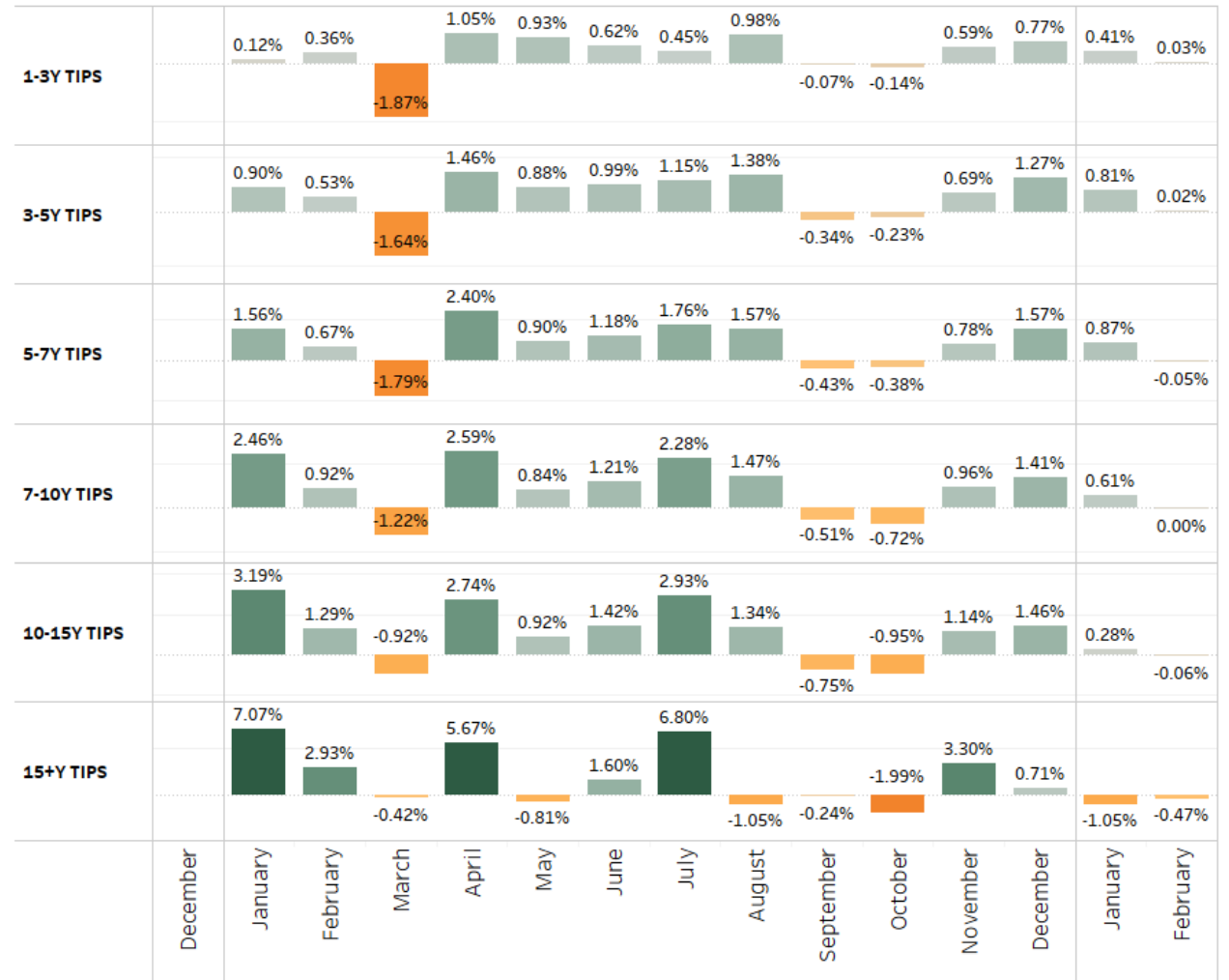
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TIPS TOTAL RETURNS:

U.S. TIPS: Monthly Returns

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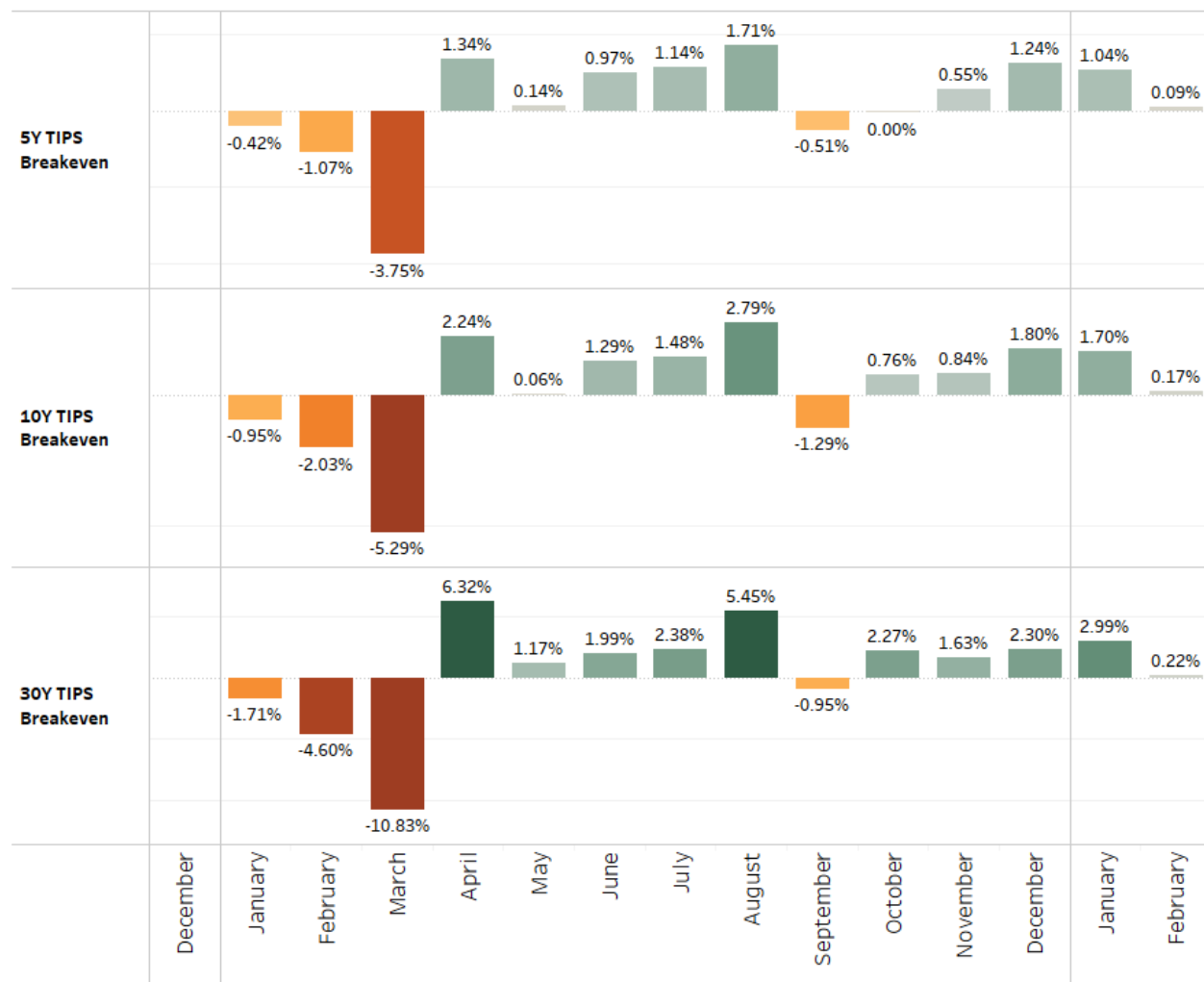


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U.S. Inflation Expectations (duration weighted): Monthly Returns

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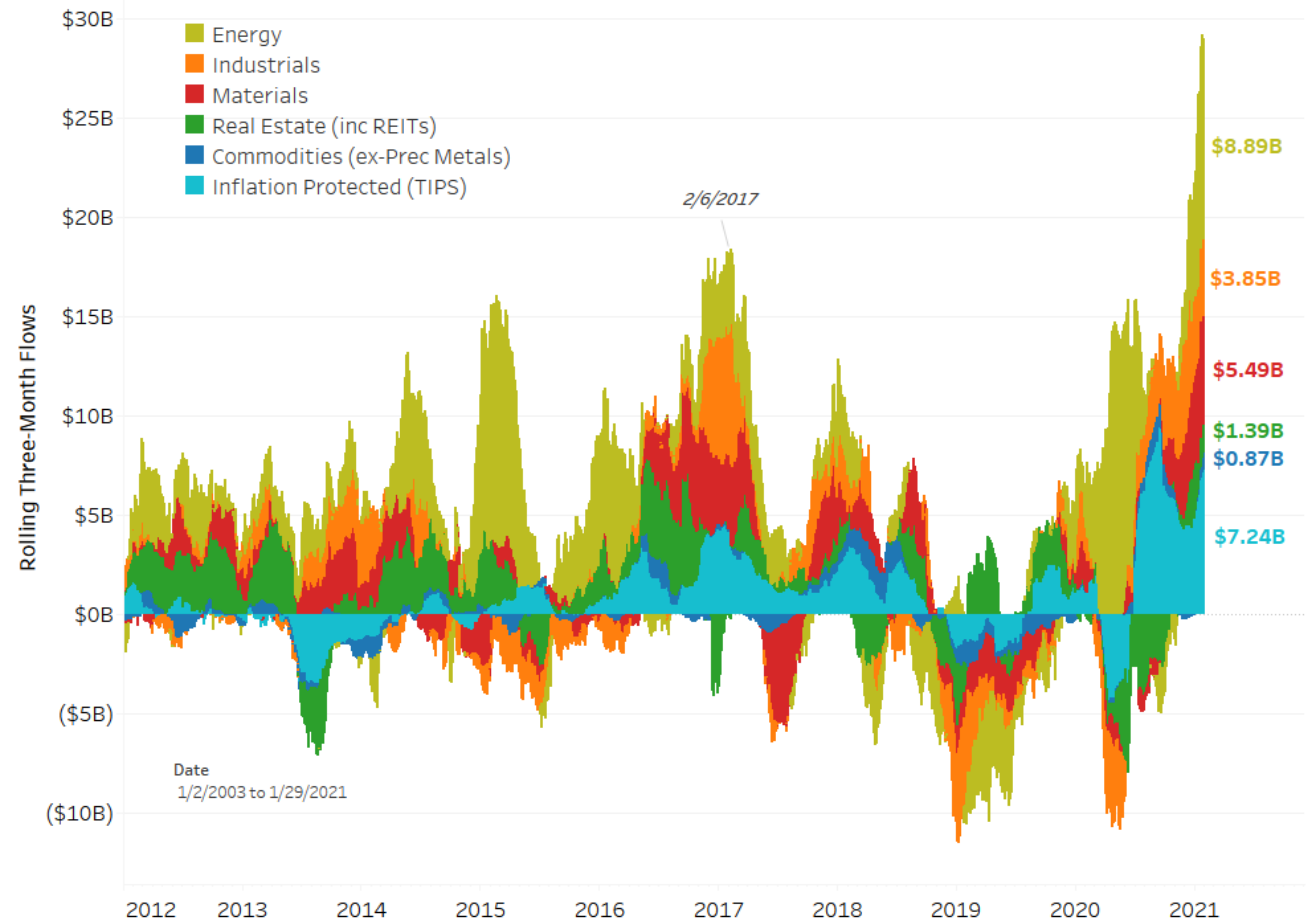
**TIPS BREAKEVENS
TOTAL RETURNS:**

Investors All-In on Inflation-Friendly Assets

- Flows into TIPS-focused ETFs are again intensifying to a rolling three-month pace of \$7.24 billion.
- On the equity front, investors are opting for lower-beta risk-on opportunities to capitalize on rising prices via industrials and materials. We have preferred these sectors since summer thanks to China's speedier rebound and favorable search activity world-wide.

ETF Flows: Unprecedented Surge Into Inflation-Friendly Assets

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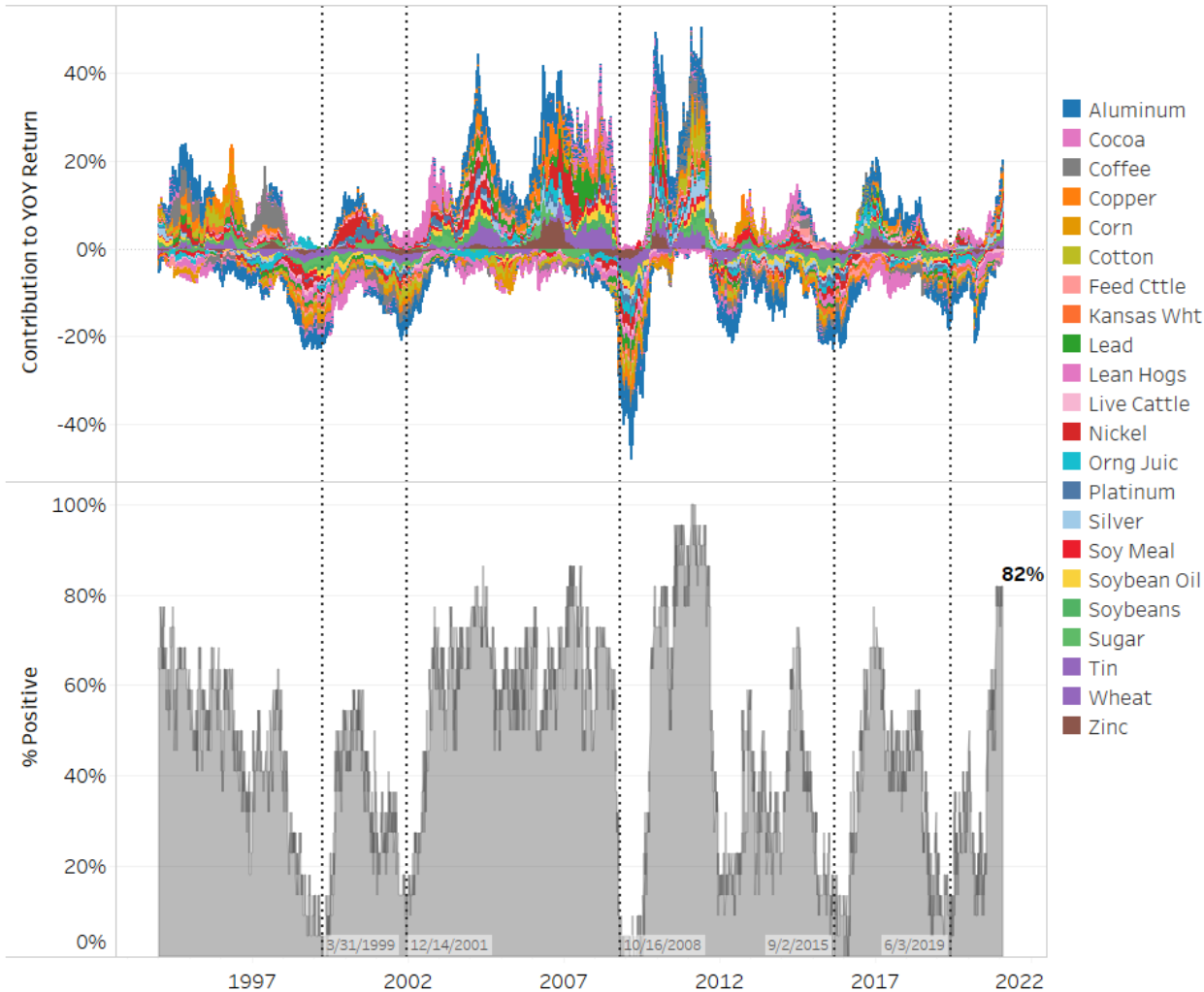
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Commodities (ex-energy and gold) on a Tear

% of commodities producing positive YOY return

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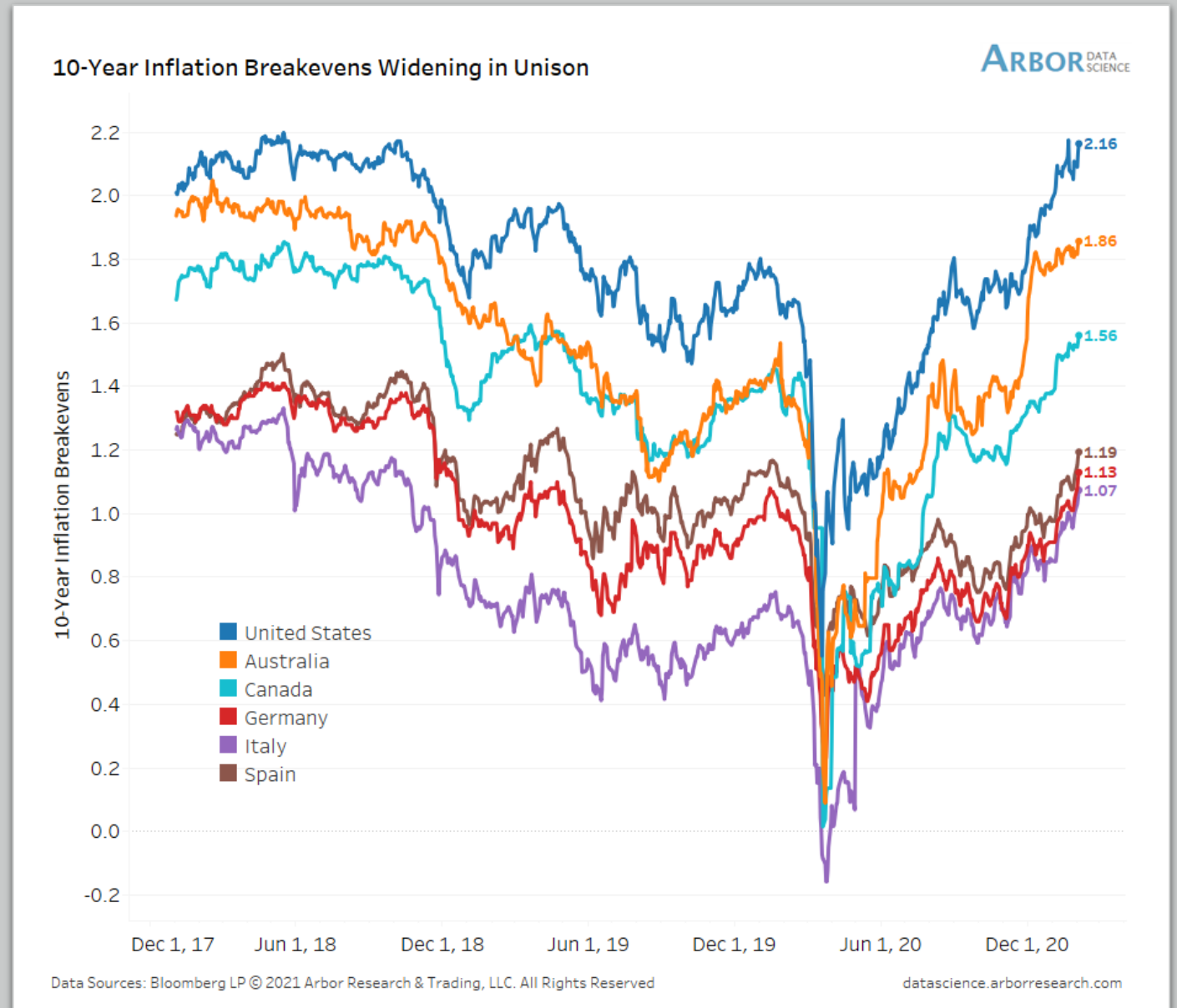


Commodities Roaring Higher

- 82% of the world's commodities (ex-energy and gold) are producing positive YOY gains, the highest since September 2011.
- Not surprisingly, roughly 82% of economies have been producing data releases above one-year averages.
- Global synchronized growth remains the baseline for 2021!

Inflation Hope a Global Phenomenon

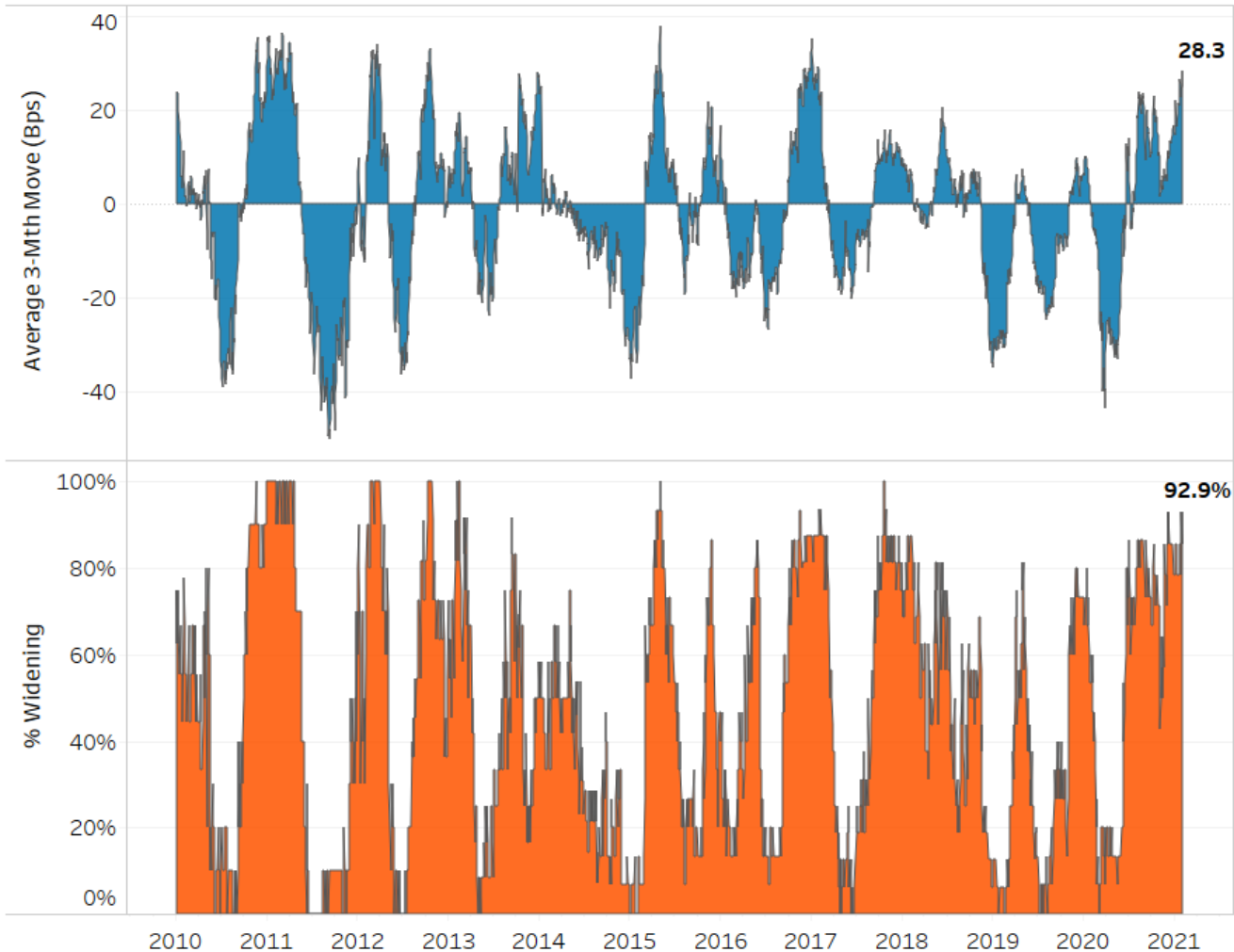
- Developed and emerging economies' 10-year inflation breakevens are both an average of ~100 bps ABOVE CPI YoY
- **Base effects alone** should close these gaps between inflation breakevens and headline CPIs by April 2021.



Global 10-Year Inflation Breakevens: Rolling 3-Mth Changes Reach Extreme

includes 14 economies from Australia to the U.S.

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10-year Inflation Expectations Across the Globe Reach Extremes

- The average three-month change across 10-year inflation expectations has shot to 28.3 bps, the highest since January 2017. Note we are now tracking 14 economies.
- 92.9% of 10-year inflation expectations across the globe have advanced over these past three months.
- History suggests investors should temper inflation expectations going forward, but maybe this time will be different?!

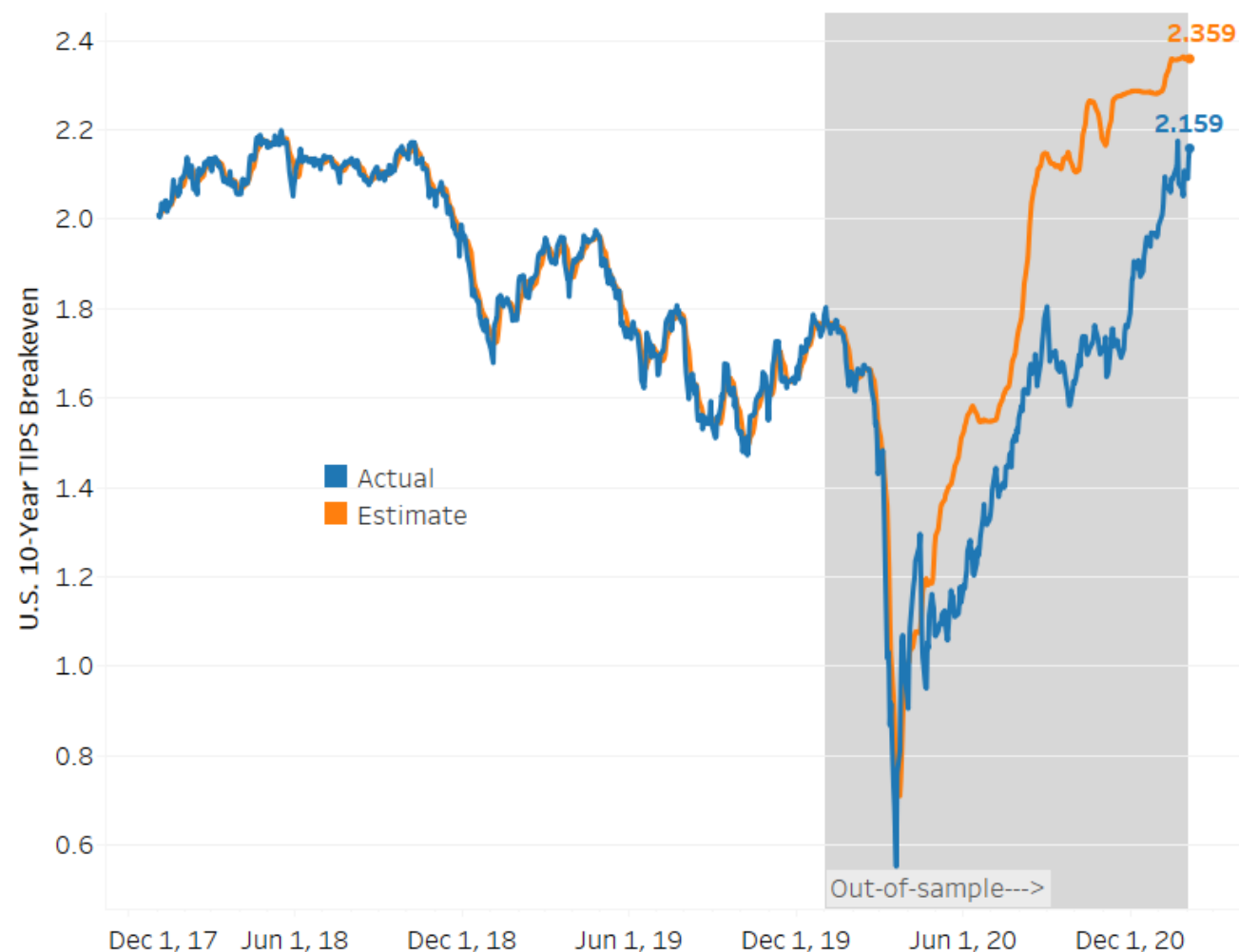
Yet TIPS Breakevens Underperforming Where Risk Assets Suggest They Should Reside

- Model (QRF) explaining U.S. 10-year TIPS breakevens places fair value higher and higher near 236 bps.
- Model uses WTI crude oil, copper, global implied volatility, liquidity, materials, USD, and FOMC rate timing.
- Note we amended the model type from an SVM to QRF due to improved out-performance.
- **Are risk assets overdone or TIPS breakevens still cheap?!**

Where Do Risk Markets Say TIPS Breakevens Should Reside?

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Model trained Jan 2001-Mar 2020 using WTI, copper, global vol and liquidity, materials, USD, and FOMC rate timing



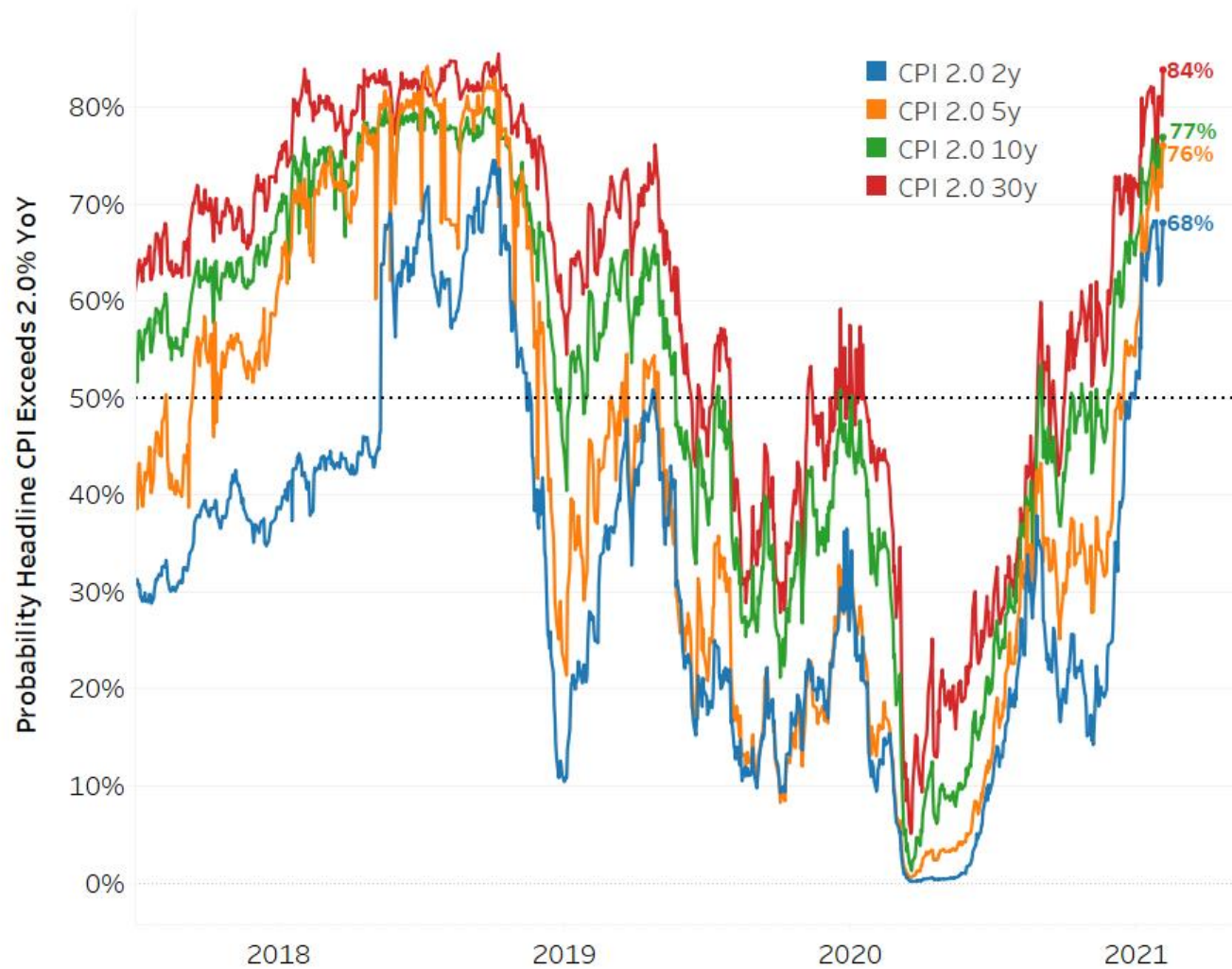
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U.S. Inflation Expectations for CPI at 2.0+% YOY

Implied probabilities using inflation swap caps and floors with a strike CPI of 2.0% YoY

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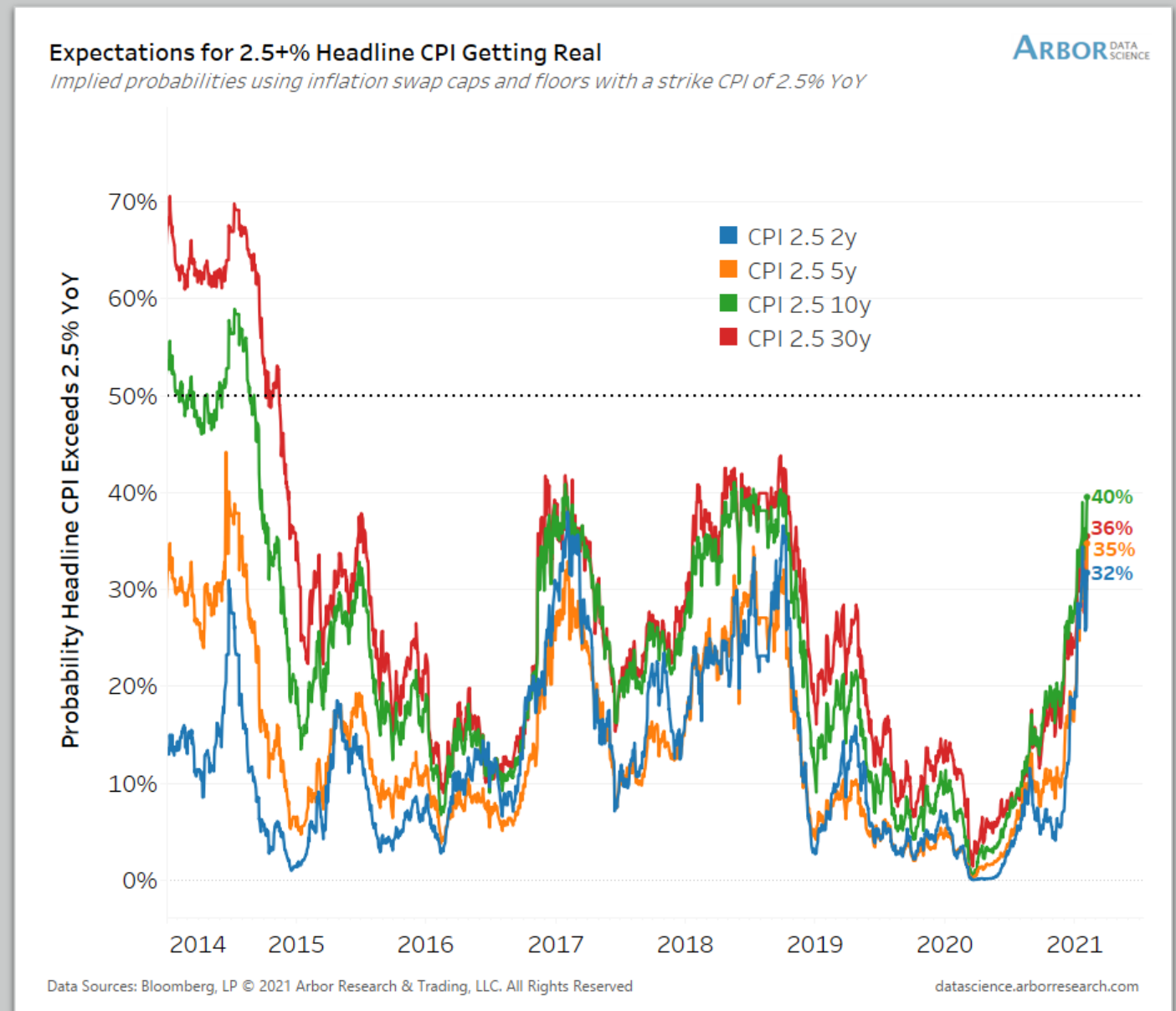
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Investors Firmly Place Floor for Headline CPI at 2% YOY

- Inflation swap caps and floors act as calls and puts on headline CPI.
- All outlooks from 2 thru 30 years are pricing a 65+% probability headline CPI will average above 2% YOY.
- U.S. 5 – 30 year TIPS breakevens have a floor at 200 bps.

Investors Pricing in 2.5+% YOY Critical

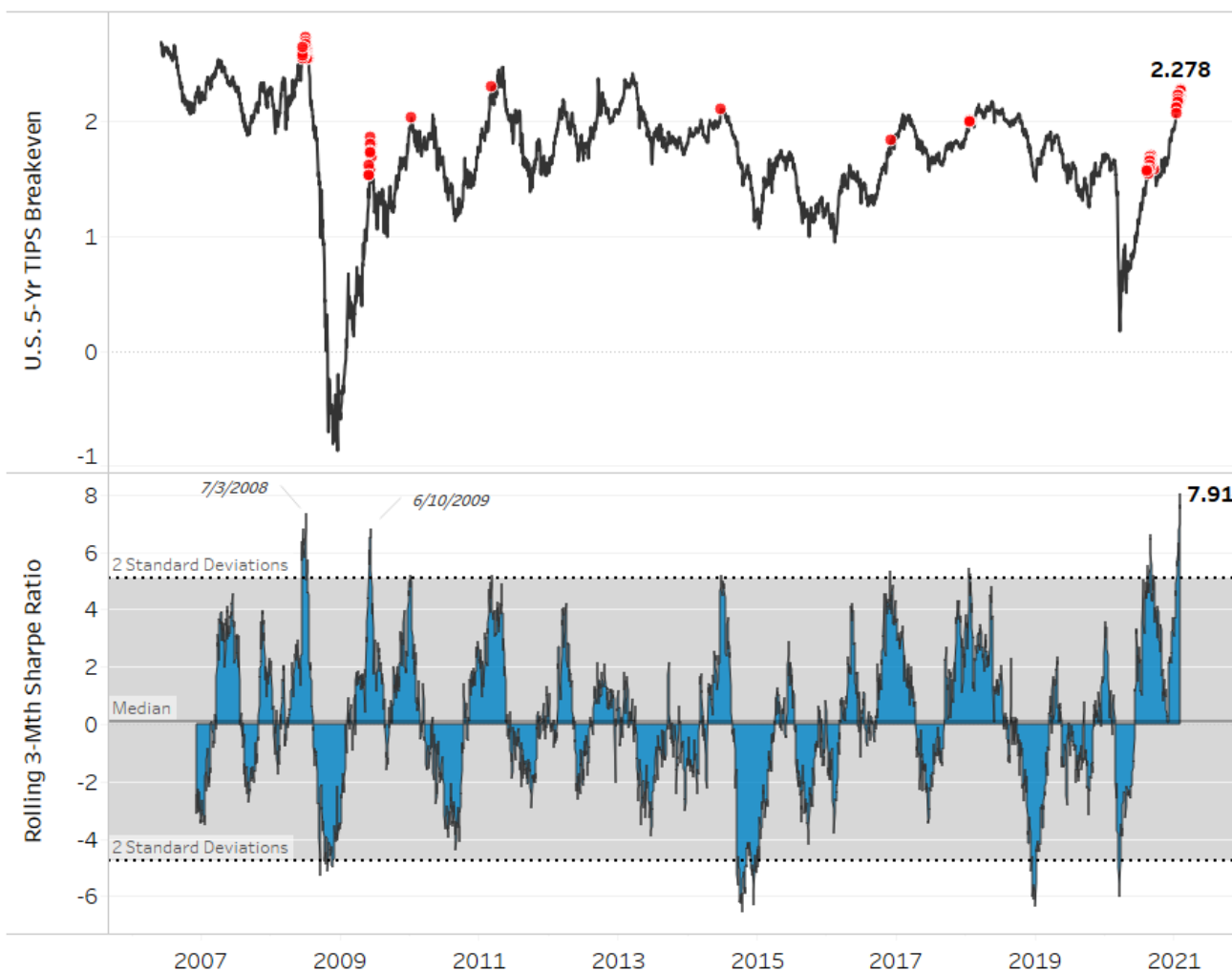
- Probabilities are threatening to break the best levels since in early 2017 and 2018.
- Officials (e.g. Bostic and Brainard) have suggested 2.5% inflation is needed to fulfill new AIT framework.
- **Ultimately, 50+% probabilities will be needed to signal a lasting rise in core and headline inflation.**



U.S. 5-Year TIPS Breakevens Produces Record-High Sharpe Ratio

Rolling 3-mth Sharpe ratio (avg daily return - bills return) / st dev daily returns

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U.S. TIPS Breakevens Producing Rock Star Risk-Adjusted Returns

- U.S. 5-year TIPS breakevens over the past 3 mths have a Sharpe ratio of 7.91!
- Red dots highlight past episodes when this Sharpe ratio exceeded 2+ st devs (5.08).
- Again, we need to see a right-side tail emerge (2.5+% CPI) to warrant such tremendous performance.

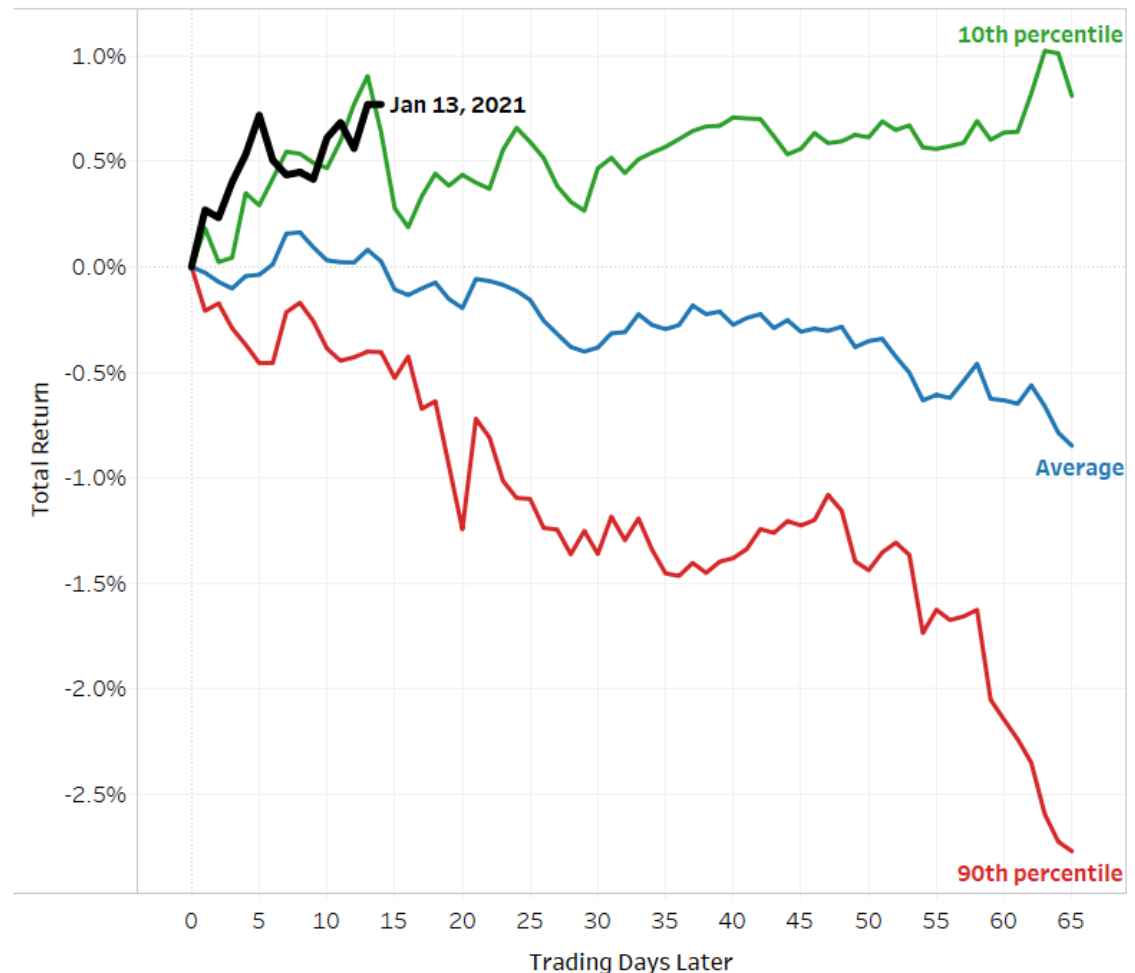
U.S. TIPS Breakeven Do Not Fare Well After Such Strong Performance

- Since 2007, U.S. 5-year TIPS breakevens have suffered losses nearing 1% over the ensuing three months.
- Thus far, the most recent signal of extreme on January 13, 2021, is outperforming even the most lofty expectations.
- This episode of demand for inflation expectations is beginning to prove different than the past.

U.S. 5-Year TIPS Breakevens After 3-Mth Sharpe Ratio Exceeds +2 St Devs

Eight instances since 2007

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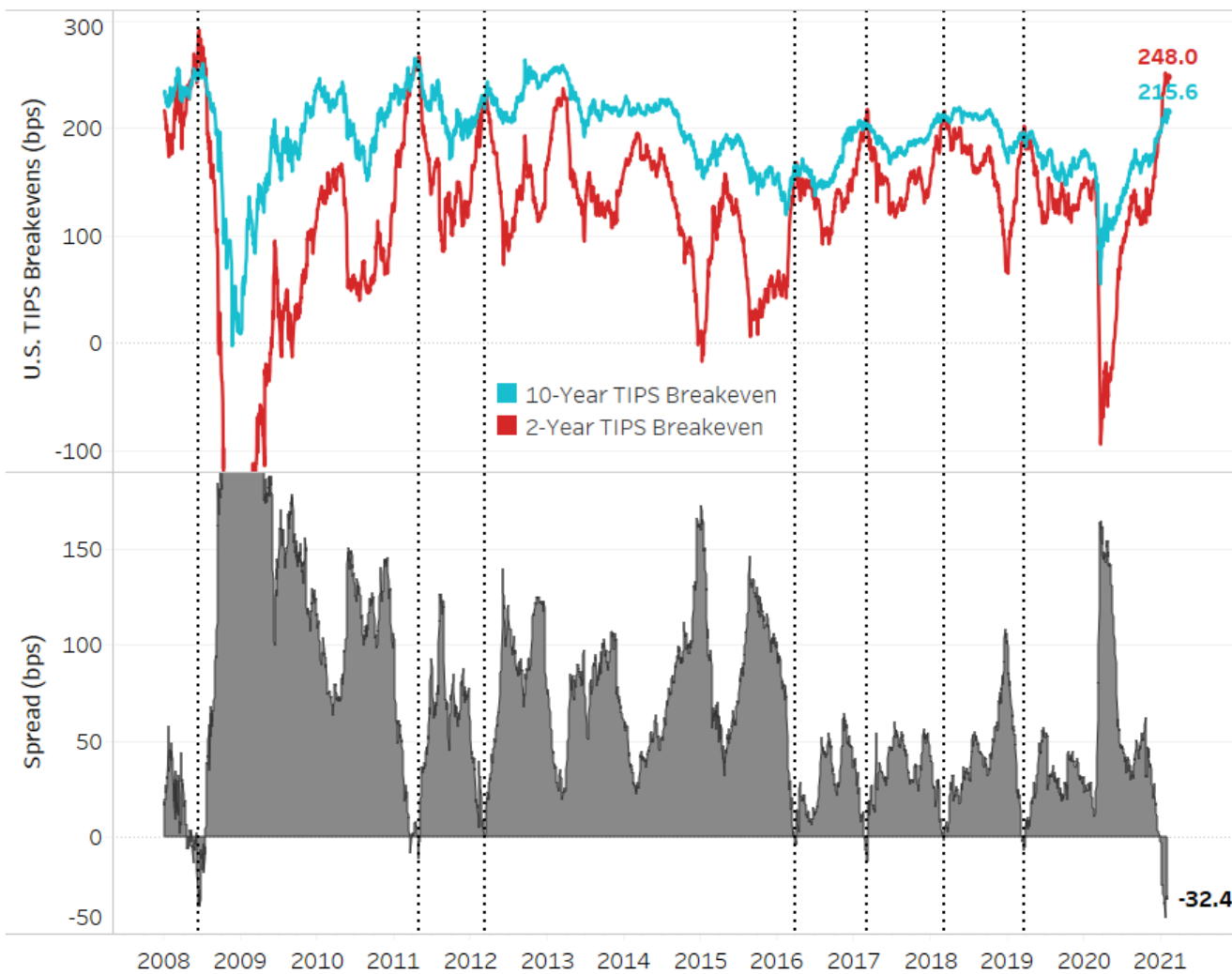
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U.S. 2-Year 10-Year TIPS Breakeven Curve Inverted

Dashed lines mark troughs at or below zero basis points

1/1/2008 to 2/3/2021

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Inflation Expectations Dive Deeper Into the Rare World of Inversion

- U.S. TIPS breakeven curve inversions have habitually marked the peak in inflation expectations.
- This is the big test for the Federal Reserve's new AIT framework. Will they react to not to rising short-term inflation expectations? So far, the answer appears no.
- Our baseline has been lasting, deeper inversion than any seen since the financial crisis.

Owners Equivalent Rent of Residences Remains a HEAVY Weight on Inflation

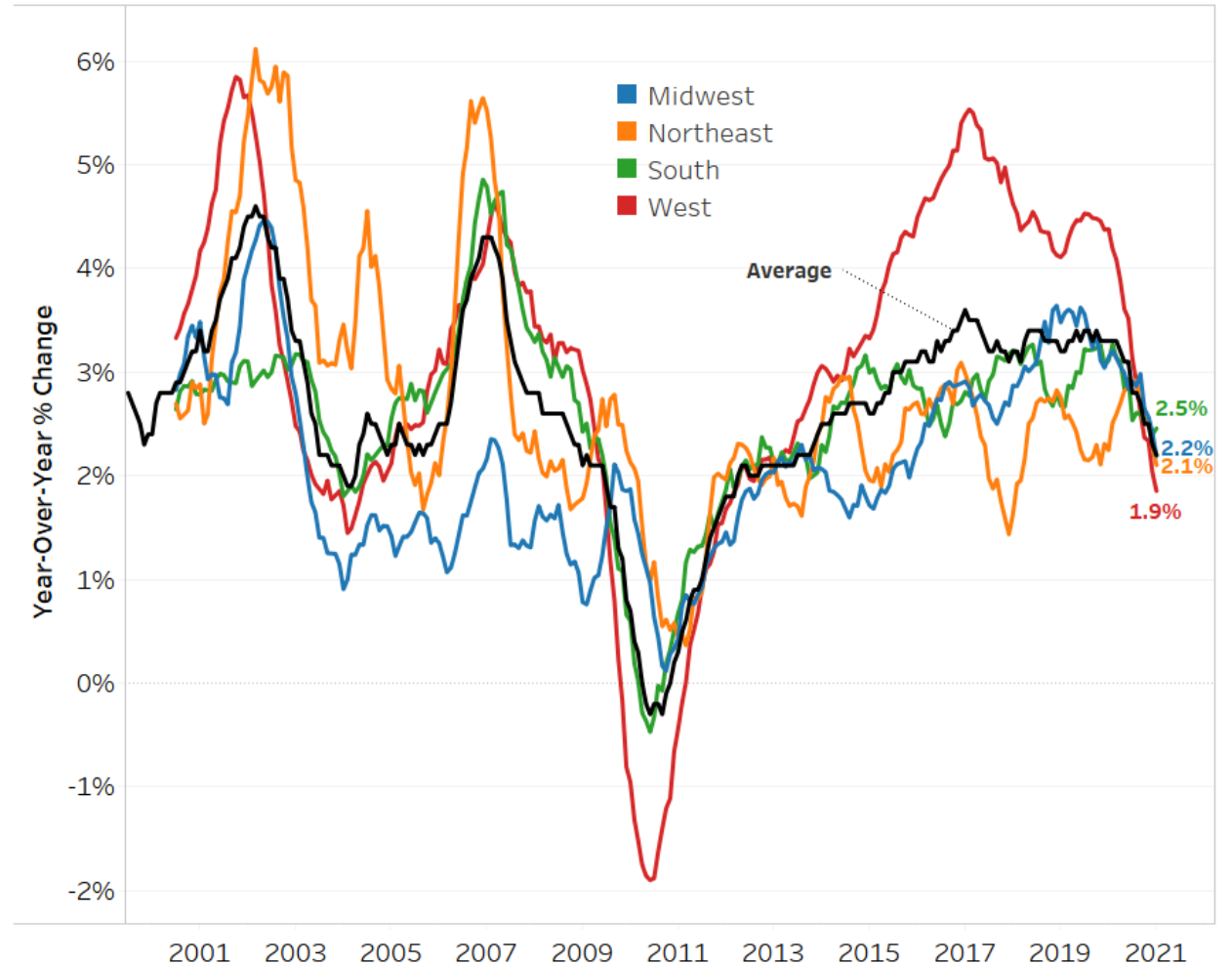
- Owners equivalent rent (OER) remains the 800-pound gorilla weighing heavily on headline and core inflation. Remember OER comprises 24% of headline CPI.

- **See Pete's must read update from February 4, 2021:**

[The Rent Narrative May Get Messy](#)

Owners Equivalent Rent of Residences Led Lower by West

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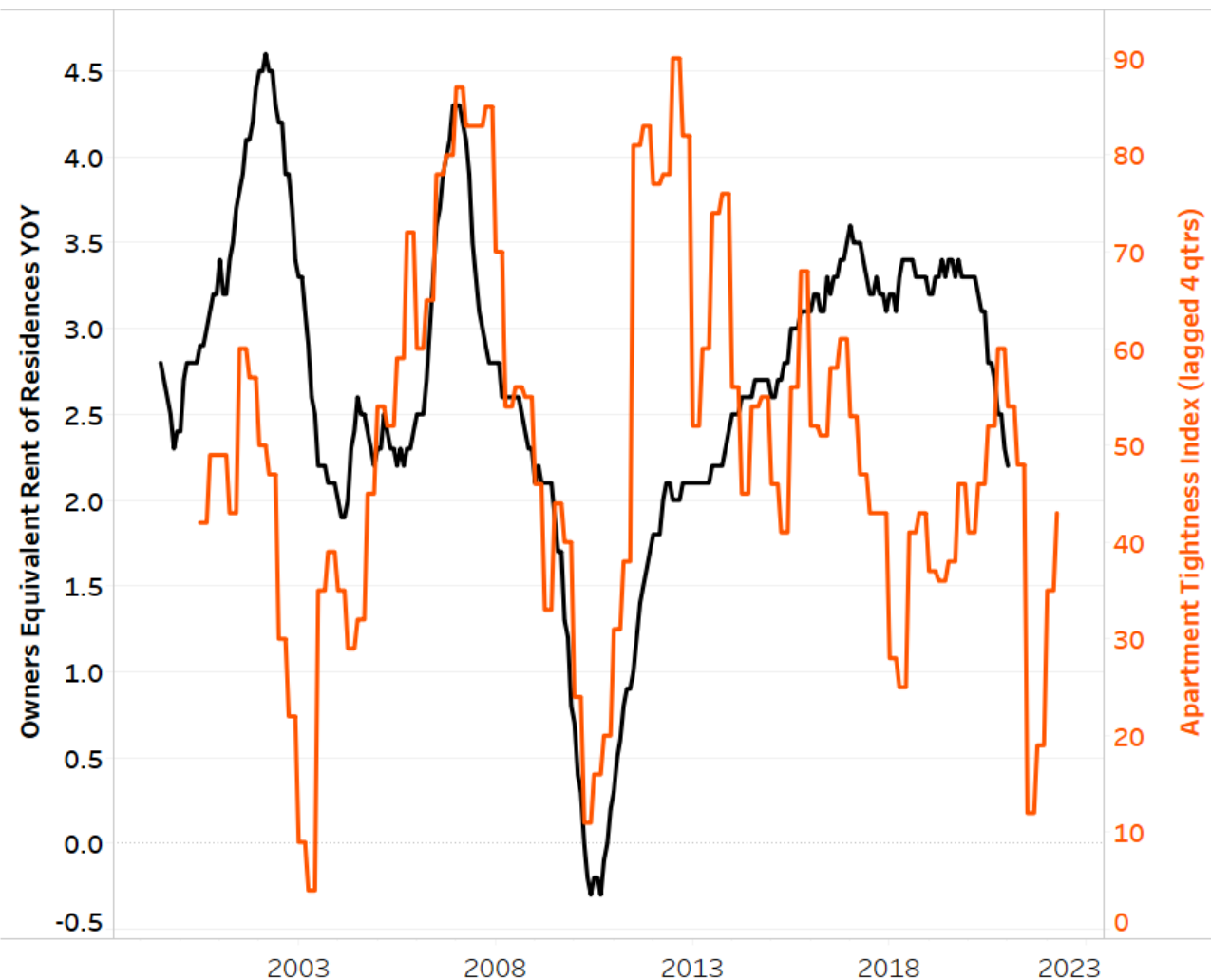


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U.S. Apartment Market Rebounding From Extremely Loose Conditions

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Apartment Tightness Returning

- Apartment conditions had become extremely loose near levels briefly seen in early 2003 and 2009.
- The chart below lags the NMHC's Apartment Tightness index by 12 months for comparison to OER.
- Rental conditions are finally beginning to tighten from here on out, suggesting OER's YOY growth should soon find a low.

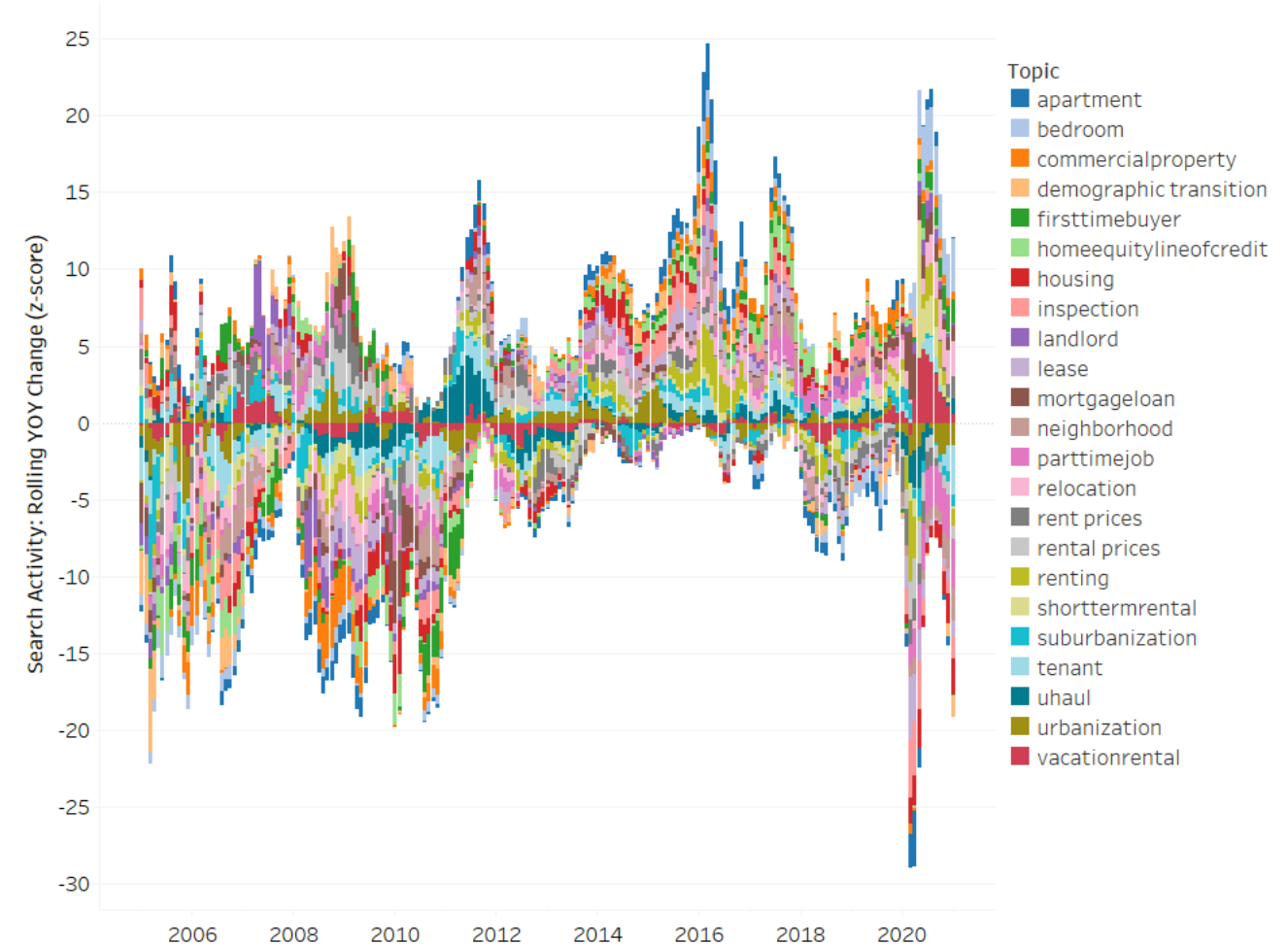
But Search Activity Connected to Rising Rents Begin to Falter

- Consumers' search activity across 35 topics from 'apartments' to 'vacation rentals' help paint a picture of overall economic health, migrations, and desire to rent.
- The chart shows rolling one-year changes (stacked) in search topics historically positively correlated to OER. **Many searches have begun to deteriorate including generic apartment and leasing searches.**

Rent-Related Search Activity POSITIVELY Correlated to Owners Equivalent Rent

Year-over-year changes as z-scores of Google search activity by topic

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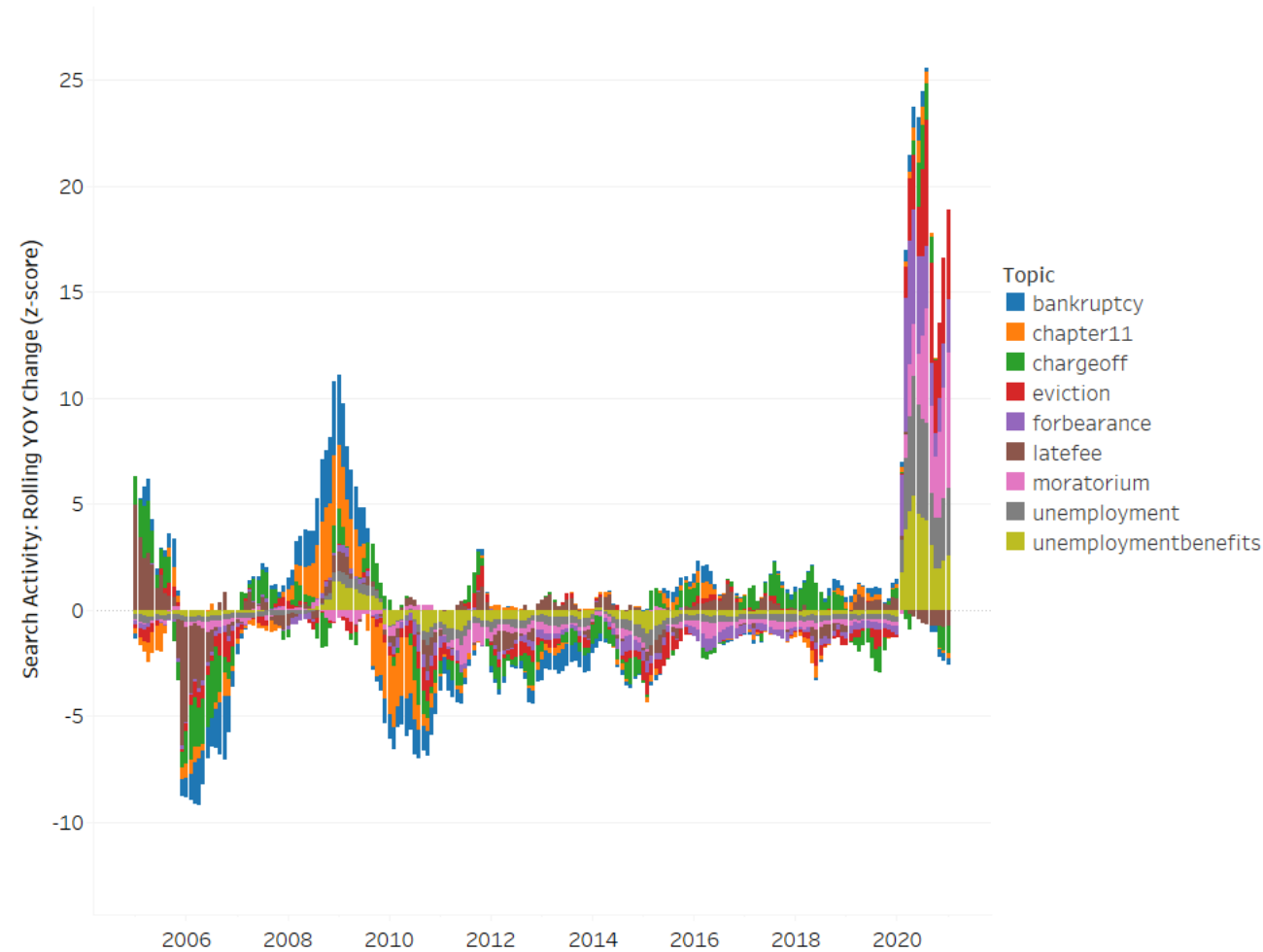


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Rent-Related Search Activity **NEGATIVELY** Correlated to Owners Equivalent Rent

Year-over-year changes as z-scores of Google search activity by topic



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Search Activity Inhibiting Consumers Again on the Rise

- On the flip side, search topics historically negatively correlated to OER remain very elevated.
- Searches for charge-offs, evictions, forbearance, and unemployment benefits are rebounding.
- All in all, we have a lot of favorable and unfavorable search activity occurring at the same time!

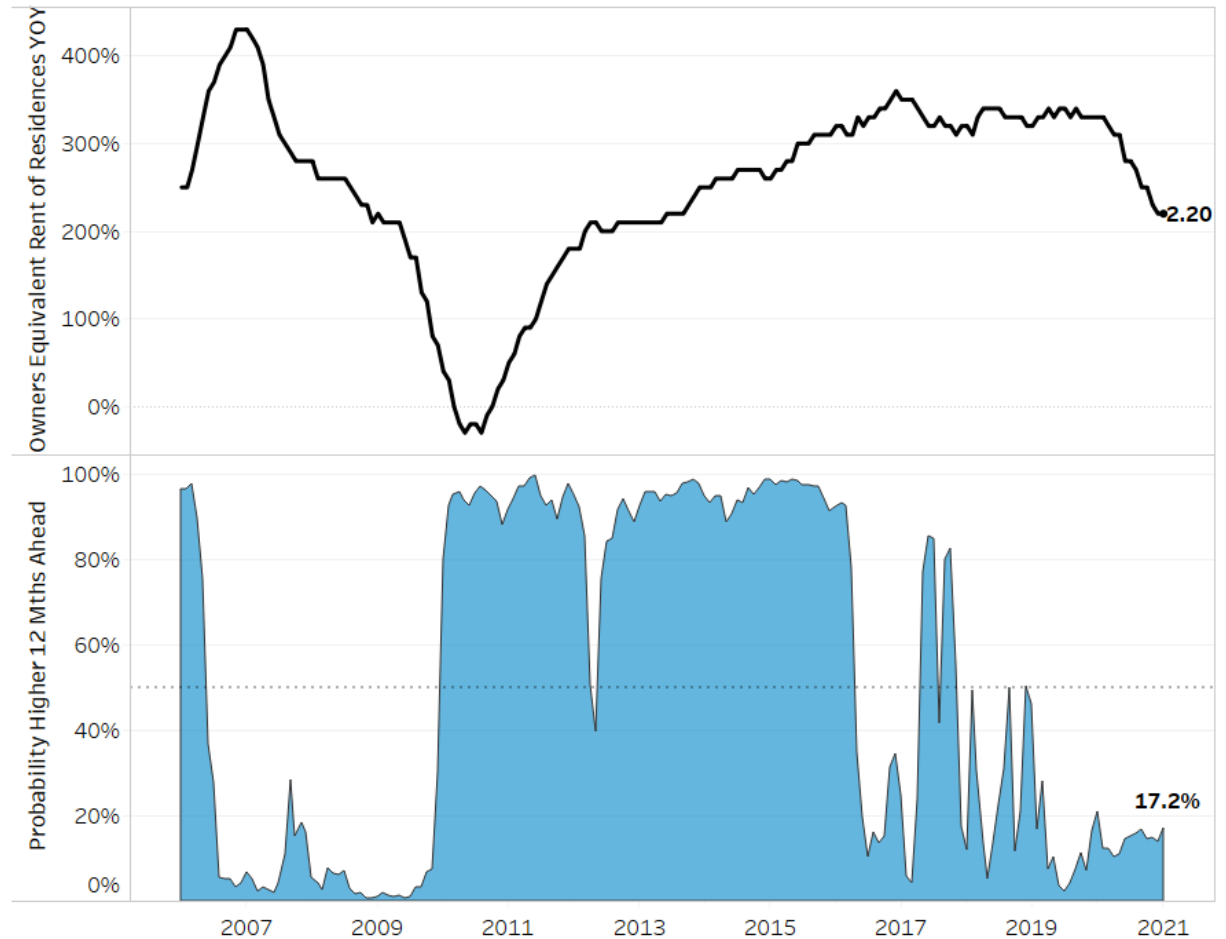
Awaiting High Probabilities OER Will Rise

- The 35 rent-related search topics are fed into a model (random forest) to produce probabilities OER year-over-year will be higher 12 months ahead.
- **As of February 3, 2021, rent-related search activity is at a paltry 17.2% probability OER's year-over-year growth rate will be higher next January 2022.**
- Note we updated this model for recent amendments to Google search activity for December 2020 and January 2021. In addition, we have included additional variables to improve performance.

Probability OER (YOY) Will Rise One Year Ahead

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Ensemble model trained since 2004 using rent-related search activity and apartment vacancies



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