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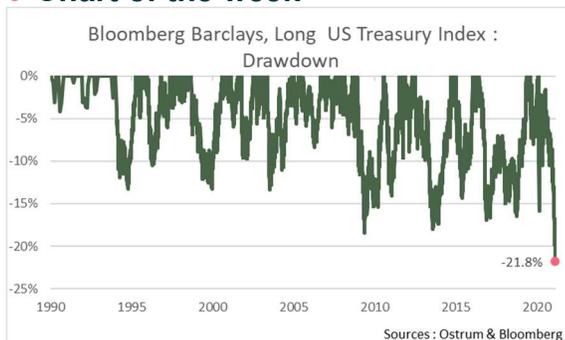
● Topic of the week: The Fed and the \$10T mortgage market

- The sharp increase in home prices in the US is definitely worth monitoring.
- Strong home sales and mortgage refinancing demand spurred by Fed monetary easing resulted in near-record residential mortgage origination in 2020.
- It will be interesting to see if Fed policymakers find appropriate to dial down support to a booming housing market in light of building risks to financial stability.

● Market review: The Fed's virtual reality

- Powell maintains current stance despite disagreements within FOMC.
- Several banks raised rates last week
- Treasury note yields hover about 1.70%
- Modest pullback in equity markets

● Chart of the week



The drawdown measures the decline of an asset from its previous peak. It is therefore a measure of the maximum potential loss incurred by an investor.

We apply the measure to the Bloomberg Long-term Treasury index composed of Treasuries with a maturity exceeding 10 years. It is currently down 21.8%, the worst in more than thirty years.

This chart illustrates the move in the US yield curve, especially the long part. That has been especially aggressive.

● Figure of the week

16%

Source : Ostrum AM

The depreciation of the Turkish lira this morning after the sudden firing of Turkish central bank head Naci Agbal by President Recep Tayyip Erdogan over the weekend.



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● **Topic of the week**

The Fed and the \$10T mortgage market

It has been a decade since the collapse of the US housing market triggered the 2008 financial crisis. Since the outbreak of the pandemic, the Fed resume direct support to mortgage lending via MBS purchases. The Fed will have to address risks linked to rapid home price appreciation and rising mortgage debt.

The rise in US home prices must be monitored

The housing market is sometimes characterized as the bedrock of the US economy. Home ownership plays a central role in the American social contract. The US government has always fostered a high level of household home ownership. Government-sponsored enterprises are the practical arm of public policy enabling the US federal government to effectively underwrite mortgage lending activity. Mortgage interest deductions also represent significant financial incentives to borrow for housing investment.

A brief comparison of the 2008 Great Financial Crisis with the Covid recession

During the 2008 financial crisis, the seizing up of the mortgage markets inflicted great damage on large US financial institutions and households. Housing is the main source of collateral for households. As home prices took a turn for the worse in 2006-2007, falling collateral values resulted in a broad-based bank credit crunch. Credit rationing hit aggregate demand well beyond housing investment causing a prolonged period of mass unemployment.

The 2020 pandemic crisis also left many American households in disarray. The share of homeowners having trouble to pay down mortgage debt did increase considerably. However, direct support from the CARES Act (including income security policies), moratoriums on debt payments (mortgage, student loans) and a temporary ban on foreclosures helped to prevent higher default rates and personal bankruptcies. In fact, only about 30k individuals had a new foreclosure notation during the second half of 2020, by far the lowest on record.

A vibrant housing market reminiscent of 2005-2006 excesses

Home sales have swiftly recovered from an initial drop at the start of the pandemic. New home sales have rebounded from 570k in April 2020 at annualized rate to 928k, their highest level since 2002. Existing home sales also jump from 5.5mn units at annualized rate before the pandemic to 6.7mn (just half a million below 2005 all-time high), and homes available for sale suggest supply is restraining housing investment at present. Current single-family home inventories are indeed very low at just over 1 million units. Unprecedented levels of homebuilder confidence (NAHB soared in the second half of 2020 to 82 in March 2021) suggest however that residential construction will remain upbeat. Housing starts and permits currently run at a 1.5mn annualized clip.

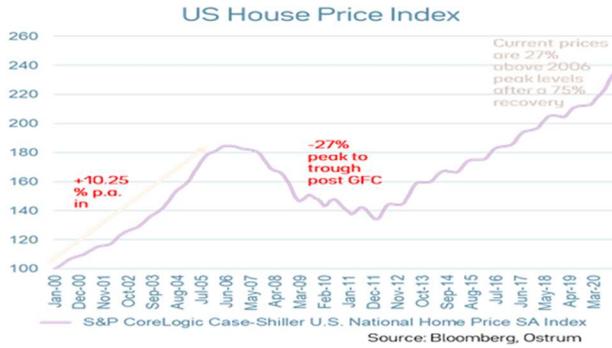
The Fed's balancing act: supporting growth in the context of financial and price stability

Residential investment spending provided a much-needed boost to the US economy in the second half of 2020. The contribution of residential investment to GDP came in close to 4% at annual rate. Housing investment is highly sensitive to long-term interest rates and monetary policy played a key role in the pickup in investment. As is the case for spending on consumer durable goods, monetary policy spurred home buying by making credit conditions more attractive. Keeping long-term rates at low levels for a prolonged period may fan financial stability risks in the long run. Furthermore, rent indexation to home prices also represent unwelcome upside risks on inflation in years ahead. At this stage of the recovery, the last thing Fed policymakers would want to see is a rollover in housing prices impacting household confidence and banks' ability to extend credit. Undoubtedly, the Fed will be walking a tight rope in quarters ahead.

Home prices are through the roof. Using the S&P CoreLogic Case-Shiller national index as reference, home prices are up 10% from a year ago. In the 2000s, the nationwide price gauge rose by 10.25% annually. The collapse in housing and the Great Financial Crisis that ensued, brought prices down by 27% to a low point in the first quarter of 2012.

Since then, home price gains averaged 6.5% per annum on a way to a 75% recovery. Home prices now stand fully 27% above the 2006 peak. The rise in housing prices appear to be a nationwide phenomenon although the development of work-for-home did lead to relatively smaller increases of condominium prices in some metropolitan areas.

*US housing prices
now stand fully 27%
above the 2006 peak.*



Outsized mortgage origination amid Fed easing

US household mortgage debt total \$10 trillion at the end of 2020. Mortgage origination hit record highs since 2000 in the fourth quarter of 2020. A total of \$1.2 trillion worth of mortgages (in gross terms, or \$ 182 billion in net terms) were originated in the three months to December 2020 as US households took advantage of low interest rates engineered by the Fed's accommodative monetary policy.

Historically low interest rates spurred mortgage credit demand



Mortgage rates have fallen considerably in the wake of Fed monetary easing. The average 30-year loan rate reported by the Mortgage Bankers Association diminished from above 5% in 2018 to just under 3% late last year. Equivalently, 15-year effective rates hit an all-time low about 2.5% in December 2020. Mortgage rates have moved up recently and remained below pre-pandemic levels.

Originations include refinancing transactions. Refi volumes were very strong and even slightly higher than during the 2003 refinancing boom. The median credit score on newly

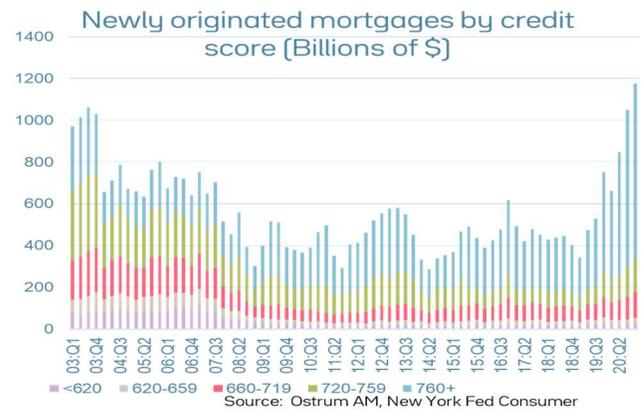
originated mortgages improved, which is typical of a high proportion of refinancing transactions.

However, overall credit quality may be harder to assess than it seems. Forbearance resulted in lower delinquency transition rates for mortgages (0.4% in the fourth quarter) than otherwise would be the case. As of late December, the share of outstanding mortgage debt in delinquency was 1.6pp *below* the level that prevailed before the pandemic hit the US. Personal bankruptcies continued to decline towards the end of 2020, and indeed stand at their lowest on record.

Originations to the highest credit score borrowers rose sharply during 2020: 71 percent of originations went to borrowers with credit scores over 760, compared with just under a third in the 2003 boom¹. A total of 7.2 million mortgages were refinanced in 2020, much less than in 2003 but it's worth noting that non-agency mortgage lending was in full swing in the early 2000s and credit quality of the marginal borrower was poor.

Borrowers with high credit scores are more represented in refinancing deals. This is because households repaying mortgage build up their credit history. Homeowners take advantage of low interest rates by reducing monthly payments and/or withdrawing cash out with their refinanced debt. This is not to say that the current boom only reflects refinancing.

Mortgage originations totaled \$1.2T in 4Q20 on refinancing demand and strong home sales



See footnote for data references

Purchase originations are close to 2006 levels, which is consistent with elevated levels of home sales and rising home prices (and thus average mortgage amount).

¹ Chart data for "Mortgage Rates Decline and (Prime) Households Take Advantage" by Andrew F. Haughwout, Donghoon Lee, Joelle Scally, and Wilbert van der Klaauw

<https://libertystreeteconomics.newyorkfed.org/2021/02/mortgage-rates-decline-and-prime-households-take-advantage.html>
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Purchase mortgages can be broken down into three sub-categories: first-time homebuyers; repeat buyers; and second home buyers and investors.

Households are cashing out and drawing against their home equity. In 2020, the cash-out refinance volume (i.e. the difference in mortgage balances between new and replaced mortgages) amounted to \$188 billion. For individual borrowers, the take-out averaged \$27k with a median of \$6.7k. The lower-than-average median suggests that most homeowners borrowed just enough to roll their mortgages and some chose instead to reduce monthly payments. Monthly savings are estimated at about \$200.

Cashout Refi Volume (Billions of \$)



See footnote for data references

Whether households will maintain these levels of home purchases and refinances throughout the economic recovery is uncertain at this juncture. If house prices take a turn for the worse, second home buyers and investors are most likely to sell property and pay off their mortgages. Indeed, in most instances of financial crises, the unwinding of stressed speculative investment in residential housing resulted in fire sales of property. Such fire sales tend to add to imbalanced housing markets exacerbating downward pressure on prices.

Fed MBS purchases remain critically important

The Federal Reserve is still buying close to 40% of net MBS issuance

The purchase of mortgage-backed securities by the Federal Reserve is critically important to the flow of credit to American households. The recovery in mortgage origination naturally resulted in a significant increase in MBS (and similar CMOs - Collateralized Mortgage Obligations) issuance through 2020. In gross terms, MBS issuance skyrocketed from \$111 billion per month on average in 2018 to \$142 billion in 2019 and \$295 billion last year. In the second half of 2020, SIFMA records show average MBS issuance reaching 381 billion per month. The busy fourth quarter in terms of mortgage originations will undoubtedly show up in the 2021 numbers.

U.S. Mortgage-Related Securities Issuance - Agency (FHLMC, FNMA, GNMA, \$ bn)

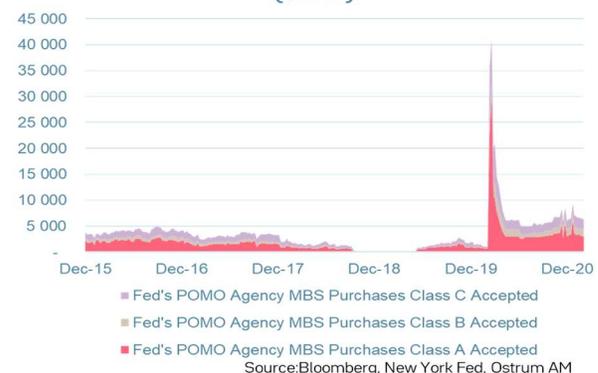


The Fed owns just north of \$2.1 trillion worth of MBS and still intends to buy up to \$40 billion MBS each month under the current asset purchase program. In the financial panic that ensued the outbreak of the pandemic in the US, Fed extended purchases to as much as three times net monthly issuance as investors retreated from potentially risky spread products. Current buying absorbs around 40% of net issuance.

Fed MBS gross purchases sum up to 937 billion since December 2015. In net terms, the Federal Reserve gobbled up \$357 billion. As shown in the chart above, Fed purchases have now stabilized at about \$25 billion over rolling 4-week periods. This is somewhat lower than the stated FOMC guidance of \$40 billion a month. However, market operations have at times responded forcefully to market turmoil. MBS purchases indeed peaked at \$40 billion a week during the March 2020 market collapse. It appears that the Fed accepts about 40% of MBS securities submitted at its regular operations.

Furthermore, Fed operations focus on newly issued securities. When purchasing agency MBS, the New York Fed Desk transacts on a forward basis in the so-called to-be-announced (TBA) MBS market. Settlement for each security class (Class A includes 30-year Fannie Mae and Freddie Mac MBS, Class B includes 15-year Fannie Mae and Freddie Mac MBS, and Class C includes Ginnie Mae 30-year MBS) takes place once a month and trading typically occurs up to three months forward.

Federal Reserve Weekly MBS purchases (\$ mn)



It will be interesting to hear from Fed Chair Jerome Powell

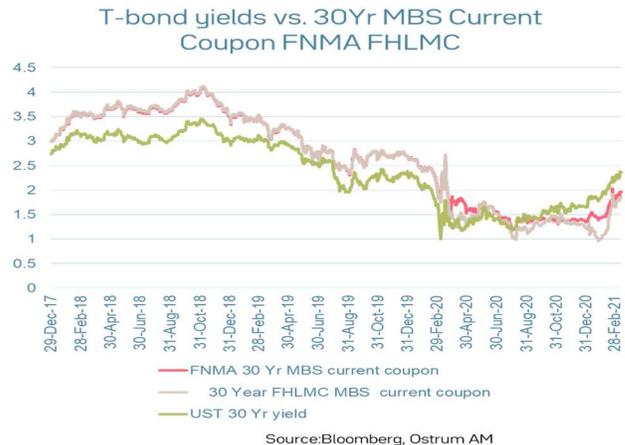
about large-scale asset purchases as the recovery unfolds and inflation accelerates. Policymakers are aware of the pitfalls of excessive leverage against an illiquid asset like housing. Given the recent run-up in home prices and elevated sales levels, there is little need to stimulate residential investment. Yet, MBS issuance will be extremely heavy this year and it is unclear whether markets will be able to absorb new securities. At some point, the Fed may nevertheless convey a message by trimming monthly MBS purchase guidance to, say, 30 billion to make room for additional buying of Treasury securities at a time when the Biden Administration will have to fund the \$1.9 trillion stimulus bill.

Recent MBS market developments

The MBS market has been slow to factor in rising Treasury bond yields. As stated above, mortgage origination remained very strong through the second half of 2020 even as 30-year yields started drifting higher from the end of July. Recent changes of the mortgage lending businesses contributed to getting mortgages out of door more quickly than before. Intense competition among non-bank lenders, which originate more than half of new mortgages in the US, continue to press interest rates lower even as market-determined bond yields began to rise. Non-bank lenders need high mortgage volumes and origination fees to make up for liquidity and hedging costs when processing new mortgage loans.

Yields on MBS benchmark 30-year securities (issued by Fannie Mae or Freddie Mac) have nevertheless started to turn the corner early on this year, and, as stated above, interest rates on mortgage loans have now begun to head north. The yield increase impacts performance, but the excess return on MBS relative to Treasuries is still positive to the tune of 16bp so far in 2021.

The key question for MBS going forward is the change in the pace of prepayments. As interest rates rise, prepayment estimates will decline since borrowers will be less interested in exchanging their current low-rate mortgage. Looking at past refinancing waves, a 3.5% 30-year mortgage rate could represent *the* tipping point. The prepayment phenomenon is generally pronounced because mortgage loan principals are large and there are no prepayment penalties. As prepayments fall, the duration of the underlying loan pool increases, and MBS holders must assume greater duration risk.



The flow of refinancing contributed to lower duration on underlying loan pool and result in tightening of MBS spreads to USTs. At some point, Treasury yields will have risen enough to dent refinancing demand. MBS investors will then face duration extension and the possibility of unpleasant negative convexity losses. Potential losses inflicted on MBS investors may have Fed policymakers wary of the consequences of overdue normalization of lending conditions.

Potential damage is significant. Commercial banks hold some \$2.6T worth of agency MBS. Savings and loans, pension funds also have significant exposure to mortgage-backed securities. In addition, MBS fund inflows have been positive

The Fed always walks a tight rope. Policymakers have employment and inflation objectives, which are only attainable in the context of financial stability. The sharp run-up in home prices and sizeable mortgage borrowing entails risks of financial meltdown and renewed economic weakness. It will be interesting to see whether the Fed judges appropriate to tweak MBS purchases as the recovery unfolds.

Axel Botte

• **Market review**

Fed: virtual reality

Fed credibility to be put to test by markets

Central banks around the world are no longer unanimous as regards the need for further monetary accommodation. Peak monetary stimulus is likely behind us. The central bank of Brazil, Turkey and Russia raised interest rates last week. The Norges Bank brought forward expected tightening. Financial markets also press the Bank of Canada and The Reserve Bank of Australia to act as their monetary stances seem increasingly at odds with the underlying economic situation. In addition, the Bank of Japan may tolerate 10-year yields as high as 0.25%.

Furthermore, the reluctance to act expressed by Christine Lagarde and Jerome Powell fail to hide disagreements within their respective policy meetings. The decision to accelerate PEPP asset purchases in the second quarter is a consensus decision, not a unanimous decision. Furthermore, Christine Lagarde comments aiming at reducing tensions on euro area bond yields have had limited impact. PEPP is ill-equipped to deal with daily volatility episode but does weigh on yields over long periods of time by removing large pool of bonds from markets. In the US, Jerome Powell continues to argue for zero interest rates until 2023 but 4 FOMC participants foresee a rate increase as early as next year. Seven of eighteen FOMC participants expect liftoff before the end of 2023. Fedchair Powell struggled to justify monetary status quo as growth forecasts were raised by 2pp in 2021, inflation is expected to accelerate, and unemployment rate will fall faster to 4.5% by year-end under the Fed's summary of economic projections. Jerome Powell insisted that rate projections on the dot plot do not represent a committee decision, which only highlights the divide between Board members and Regional Fed Presidents. The policy stance championed by the Fed's Board is to be deliberately behind the curve and be fully aligned with fiscal policy. Fiscal dominance, which constrains the Fed's ability to act independently, is a reality in the US. The tapering of Treasury bond purchases is tied to improvement in fiscal deficits. This will require measured ambitions as regards the Administration's next infrastructure investment program and tax increases (as indicated in Biden's platform). Quantitative easing cancels out refinancing risk but does not ensure solvency as it defers the adjustment to the currency. Furthermore, the expiration of the exemption of Treasuries holdings from the regulatory SLR constraint may reduce the incentives for banks to purchase government bonds. Commercial banks have purchased \$585b Treasuries in the past year. The return of foreign investors is uncertain at this juncture and QE may remain an adjustment variable.

The Fed's credibility is clearly put to test by bond market participants. T-note yields are moving up in lockstep from 1.15% in January to beyond 1.70% nowadays. Asset managers continue to accumulate short positions on 10-year futures. Expected inflation keeps drifting higher despite a pullback in oil prices by more than \$6 last week. The inflation swap rate currently trades at 2.43%. The 10-year tenor is the most liquid across the curve and tends to overreact to changes in investor sentiment. In this context, the 2s10s spread widened but convexity trades (to hedge out the risk of high volatility) push bond investors to move up the curve as 30-year yields hit 2.50%. In the euro area, the announced PEPP acceleration does not prevent sporadic tensions on sovereign spreads. Peripheral sovereign bonds widened somewhat as yields creep higher in the context of higher US yields. The issue of a 30-year Greek bond (€2.5b) weighed on surrounding issues. That said, ECB intervention and negative net issuance in April may alleviate pressure on sovereign bond yields. In addition, bank demand at the March 2021 TLTRO-III.7 amounted to €315b in net terms about €100b above expectations. The liquidity draw likely explains success at the latest 3-year Spanish bond auction given the attractive carry net of funding cost (-0.42% yield funded at -1% for one year).

As concerns credit, primary market activity remains solid with € 31bn issued last week split evenly between financials and non-financials. Most trades held up well on the secondary market, with the average euro IG market spread widening by 1bp for the week. Market performance remains homogeneous despite increased competition from sovereign debt diverting flows from insurance accounts from single-A corporate credit in particular. In the high yield market, spread curves remain relatively flat on the BB segment. Valuations can be considered stretched so spreads per unit of leverage is a paltry 73bp in the BB bond bucket. Compression in high yield spreads is very marked on the riskiest ratings (CCC). Caution remains warranted.

In equity markets, markets iterate around yield levels that could tip growth sectors into a more meaningful correction. The empirical link between long-term yields and Nasdaq remains quite strong but it is worth noting European technology stocks have weathered Nasdaq volatility better lately.

In general, indices are close to year-end objectives after 8% price gains in the first quarter across major European stock indices. Institutional investors are now inclined to take some money off the table at quarter-end window dressing looms large at the end of March.

Axel Botte
Global strategist

● Main market indicators

G4 Government Bonds	22-Mar-21	-1w k (bp)	-1m (bp)	YTD (bp)
EUR Bunds 2y	-0.7 %	-1	-1	+0
EUR Bunds 10y	-0.31%	+2	+3	+26
EUR Bunds 2s10s	39 bp	+3	+4	+26
USD Treasuries 2y	0.15 %	0	+4	+3
USD Treasuries 10y	1.68 %	+7	+31	+76
USD Treasuries 2s10s	153 bp	+7	+27	+74
GBP Gilt 10y	0.81 %	+2	+14	+62
JPY JGB 10y	0.08 %	-3	-4	+6
€ Sovereign Spreads (10y)	22-Mar-21	-1w k (bp)	-1m (bp)	YTD (bp)
France	25 bp	+1	+0	+2
Italy	96 bp	+3	+2	-15
Spain	65 bp	+2	-2	+3
Inflation Break-evens (10y)	22-Mar-21	-1w k (bp)	-1m (bp)	YTD (bp)
EUR OATi (9y)	115 bp	+3	+22	-
USD TIPS	232 bp	+5	+16	+34
GBP Gilt Index-Linked	348 bp	+0	+19	+48
EUR Credit Indices	22-Mar-21	-1w k (bp)	-1m (bp)	YTD (bp)
EUR Corporate Credit OAS	91 bp	+1	+4	-1
EUR Agencies OAS	39 bp	+0	+0	-2
EUR Securitized - Covered OAS	32 bp	+1	+2	-1
EUR Pan-European High Yield OAS	322 bp	+7	+9	-36
EUR/USD CDS Indices 5y	22-Mar-21	-1w k (bp)	-1m (bp)	YTD (bp)
iTraxx IG	55 bp	+7	+6	+7
iTraxx Crossover	272 bp	+27	+22	+30
CDX IG	57 bp	+5	+4	+7
CDX High Yield	297 bp	-1	-2	+3
Emerging Markets	22-Mar-21	-1w k (bp)	-1m (bp)	YTD (bp)
JPM EMBI Global Div. Spread	347 bp	-10	+1	-5
Currencies	22-Mar-21	-1w k (%)	-1m (%)	YTD (%)
EUR/USD	\$1.194	+0.08	-1.8	-2.28
GBP/USD	\$1.386	-0.27	-1.42	+1.41
USD/JPY	¥108.8	+0.3	-3.42	-5.1
Commodity Futures	22-Mar-21	-1w k (\$)	-1m (\$)	YTD (\$)
Crude Brent	\$64.5	-\$4.4	\$0.1	\$12.7
Gold	\$1 739.6	\$8.0	-\$70.0	-\$158.7
Equity Market Indices	22-Mar-21	-1w k (%)	-1m (%)	YTD (%)
S&P 500	3 947	-0.56	1.81	5.08
EuroStoxx 50	3 834	0.10	3.62	7.92
CAC 40	5 968	-1.12	3.49	7.51
Nikkei 225	29 174	-1.99	-3.26	6.30
Shanghai Composite	3 443	0.69	-5.31	-0.85
VIX - Implied Volatility Index	19.35	-3.39	-17.48	-14.95

Source: Bloomberg, Ostrum Asset Management

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Additional notes

Ostrum Asset Management

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