Treasury Buybacks - Extended Abstract*

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1 Introduction

In May 2024, the U.S. Treasury quietly resumed a tool it had not used in over two decades. The Treasury Buyback Program, relaunched as a permanent, rules-based facility, allows the Treasury to repurchase off-the-run securities in exchange for newly-issued on-the-run debt, with the stated goals of improving market liquidity and smoothing cash management. Operations began modestly but have grown steadily in frequency and scale, occurring roughly weekly across maturity segments ranging from short-term notes to 30-year bonds. Yet despite their growing footprint in the world's most important fixed-income market, very little is known about how these operations transmit through the financial system.

This paper provides novel empirical evidence on the effects of the Treasury Buyback Program on liquidity and yields. Using public data on buyback operations matched to daily trading volumes, yield curve estimates, and off-the-run/on-the-run yield spreads, we document three main findings. First, buyback operations generate a sharp and immediate increase in dealer-customer trading volume, roughly 23% above normal levels on operation days, which is consistent with dealers actively sourcing off-the-run inventory from client portfolios to submit to the Treasury. Second, the program's effects on the liquidity premium are nuanced: while operations are associated with wider off-on-the-run yield spreads on average, this reflects the fact that heavily oversubscribed operations signal

*The views and materials are those of the author and do not necessarily represent the official position of the Board of Governors of the Federal Reserve System or other members of its staff.

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excess dealer demand that the program is too small to fully absorb. When the Treasury does fill a larger share of submitted offers, the spread narrows, confirming that supply absorption improves liquidity at the margin. Third, buybacks transmit well beyond the targeted maturity segment: a long-end operation compresses yields across the entire curve, with the strongest effects concentrated in the middle (5–7 year maturities), consistent with duration rebalancing by preferred-habitat investors.

From a theoretical perspective, buybacks operate as negative supply shocks that remove hard-to-intermediate off-the-run securities from dealer inventories, relaxing balance-sheet constraints and potentially improving market functioning both within and outside the Treasury market. Understanding this mechanism is particularly important given the simultaneous Federal Reserve balance sheet normalization and the increasing reliance on primary dealers to intermediate historically large volumes of Treasury supply. In ongoing work, we use regulatory primary dealer inventory data from the Federal Reserve to identify the causal effects of Treasury purchases on liquidity and to trace the transmission of buybacks to other fixed-income markets, including corporate bonds and agency mortgage-backed securities.

2 Literature Review

A large literature studies Treasury market functionality, and how various policies may improve or worsen this functionality. Pflueger and Viceira [2011], Hu et al. [2013], Adrian et al. [2025], Somogyi et al. [2024] study the evolution of Treasury market functioning. A large body of literature studies the implications of dealer balance sheet constraints for Treasury market liquidity [Brunnermeier and Pedersen, 2009, Trebbi and Xiao, 2019, He et al., 2022, Duffie, 2023, Bräuning and Stein, 2025, Correa et al., 2025, d'Avernas et al., 2025], and the effects on convenience yields [Duffie, 2018, He et al., 2022, Klingler and Sundaresan, 2023]. Other related work focuses on how central bank interventions may improve Treasury market functioning, e.g., Kashyap et al. [2025]. A growing literature studies the effects of Treasury buyback programs on Treasury market liquidity. Garbade and Rutherford [2007], Han et al. [2007], Connolly and Struby [2024] study the effects of the 2000-2002 buyback program. More recently, Zhou [2025] empirically studies the effects of the new Treasury buyback program introduced in 2024. Duffie and Keane [2023], Duffie [2025] explore theoretically the potential benefits of Treasury buyback programs. We study the effects of the new Treasury buyback program on market liquidity, examining not only the market directly targeted by the program but also spillover effects in markets where intermediation is conducted by the same dealers.

We also contribute to the literature studying the effects of liquidity, and of changes to supply and demand, on asset prices within the Treasury market. Amihud and Mendelson [1991], Longstaff [2002], Acharya and Pedersen [2005] study the effects of liquidity on asset prices. We study the effects that a program designed to improve liquidity in the Treasury market has on Treasury yields, as well as yields in other bond markets. Krishnamurthy and Vissing-Jorgensen [2012], Greenwood and Vayanos [2014], Greenwood et al. [2015], Vayanos and Vila [2021] study the effects of the supply and maturity structure on Treasury yields. We contribute to this literature by studying how a program that reduces the supply of particular Treasuries affects Treasury yields, both locally to the segment being targeted, and more broadly across other areas of the market.

3 Data and Descriptive Statistics

We use data on buyback announcements and results since April 3rd 2024 released by the Treasury. We obtain data on daily aggregate nominal coupon volumes by maturities from FINRA TRACE aggregate statistics. Off-the-run yields are from the Gürkaynak et al. [2007] zero-coupon curve and on-the-run yields are Treasury CMT par yields from FRED.

The first three rows of Table 1 provide summary statistics for various variables that we study the effects of buyback operations on. The off-the-run/on-the-run yield spread has a median of 1.91 basis points during our sample. Average daily dealer-to-customer trading volumes within a given maturity bucket during our sample takes a value of 12.67 billion USD, while average daily ATS (Alternative Trading System) and interdealer volumes stand at 6.75 billion USD.

Table 1: Summary Statistics

	N	Mean	SD	Min	Median	Max
Off-on yield spread (bps)	5243	-0.09	7.27	-18.98	-1.91	24.44
Log DC volume (off-run)	5276	2.54	0.99	-6.91	2.61	4.61
Log ATS volume (off-run)	5276	1.91	1.02	-6.91	1.97	4.37
Fill ratio	87	0.83	0.30	0.00	1.00	1.00
Offer-to-max ratio	88	5.51	4.30	0.77	3.34	17.25
Breadth	87	0.29	0.19	0.00	0.30	1.00
HHI	86	0.38	0.31	0.05	0.26	1.00

Daily panel of date-by-maturity-bin observations, 2024–2026.

The last four rows of Table 1 provides summary statistics on various Treasury buyback outcome variables at the operation level. The fill ratio in Treasury buyback operations has a median value of 1, meaning that the Treasury ends up purchasing the maximum amount they indicated they would be willing to purchase across Treasuries in a given operation. The offer-to-max ratio is high across operations, with the average operation being oversubscribed with a ratio of 5.51, meaning that the Treasury receives bids for 5.5 times the notional value they stated they are willing to purchase in the operation. This suggests the Treasury faces considerable choice when deciding which securities to purchase in a given buyback operation. The Treasury tends to concentrate its purchases in a few securities each operation, with an average HHI of 0.38.

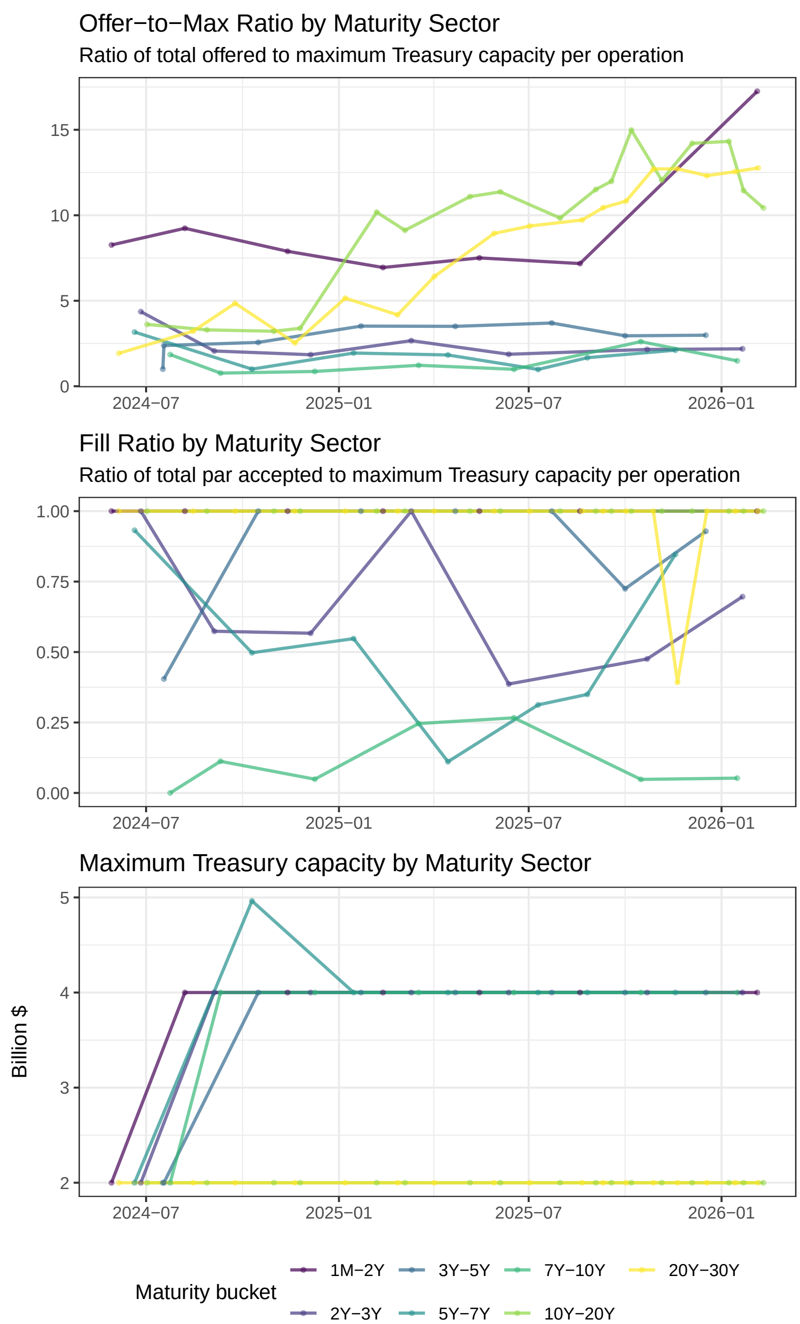

Figure 1: Buyback Intensity Measures by Maturity Buckets

Notes: This figure plots the time series of the offer-to-max ratio, fill ratio, and maximum Treasury purchase capacity for each liquidity support Treasury buyback operation between 2024-2026. Different colored lines represent operations for different maturity buckets, as indicated by the key.

Figure 1 plots the time-series of several outcome variables of Treasury buyback operations, separately for the various maturity buckets targeted during the operations. The first panel shows that early operations in mid-2024 saw offer-to-max ratios of a level of 2-3 for most maturity buckets, except for the shortest maturity 1M-2Y bucket, which was oversubscribed by a value of 8. Interestingly, from late 2024 on, operations in the two longest maturity segments, namely the 10-20Y and the 20-30Y, became similarly oversubscribed. This is around the same time where the long-end off-the-run/on-the-run yield spread experienced a pronounced spike, as shown in Figure 2. At present, operations at the very short and long end of the curve are heavily oversubscribed, with offer-to-max ratios consistently exceeding 10. Demand for operations to the intermediate maturity segment remains at slightly lower levels, though the operations are still consistently oversubscribed by an order of around 3.

The second panel shows that the fill ratio for operations at the short and long end of the curve are consistently around 1, meaning that the Treasury purchases the maximum amount possible. This suggests a high demand for liquidity intervention in these segments. Fill ratios for operations in the intermediate maturity sector (2Y-10Y) are below 1 consistently. Combined with the offer-to-max ratios exceeding 1 for these operations, this perhaps suggests that while the Treasury receives bids for a larger total nominal amount than it wishes to purchase in these buckets, it decides not to fill many of those bids. This may be because it views the bids it receives as not attractively enough priced relative to fair value.

The third panel displays the maximum amount the Treasury states they are willing to purchase in each operation. Since late 2024, the maximum operation sizes are mostly 4 billion USD for the short and intermediate segment (1M-10Y). Since the introduction of the buyback program, operations in the long segment (10Y-30Y) are consistently capped at 2 billion USD.

Figure 2 shows the time-series of the off-the-run/on-the-run spread since 2005. Since late 2023, it is increasing. The off-the-run/on-the-run spread is a key indicator of liquidity for the Treasury market, with higher values typically associated with a deterioration of market functioning. This development was likely the motivation for the introduction of the Treasury buyback program in 2024. As of early 2025, the spread is consistently at levels previously reached during the Treasury market liquidity crisis during the early days of the 2020 pandemic.

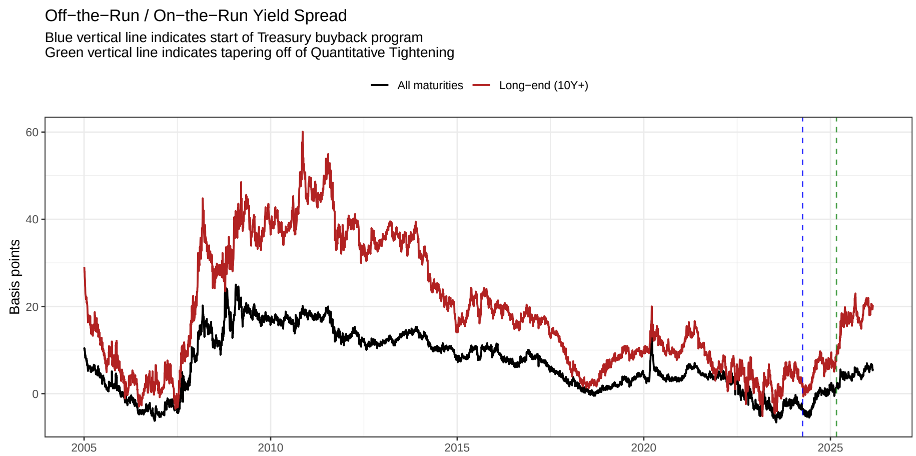

Figure 2: This figure plots the time series of the off-the-run/on-the-run yield spread. The black line plots the average spread across all maturity buckets. The red line plots the average spread for maturity buckets exceeding 10 years to maturity.

4 Empirical Setup

We wish to study the effects of the Treasury buyback program on liquidity. As our preliminary measure of liquidity, we use two measures: volumes traded, and the off-the-run/on-the-run spread.

To construct the off-the-run/on-the-run spread, we compute the implied on-the-run and off-the-run yield for the midpoint maturity in each bucket through linear interpolation, where the maturity buckets correspond those used by the Treasury in their buyback operations: 1M-2Y, 2Y-3Y, 3Y-5Y, 5Y-7Y, 7Y-10Y, 10-20Y, and 20Y-30Y. We then compute the spread as the difference between these two yields.

For volumes traded in the Treasury market, we obtain data from Treasury TRACE Aggregate Statistics. We obtain daily data on total volumes traded in the dealer-to-customer segment of the market (denoted by DC Volume), as well as the alternative trading system and interdealer segment of the market (denoted by ATS Volume), for each of the different maturity buckets that the Treasury conducts buyback operations.

To measure Treasury buyback activity, we compute several preliminary measures. One measure we use is a simple indicator variable that takes a value of 1 if a buyback occurred in the maturity bucket considered, and 0 otherwise. We denote this variable by "Buyback (binary)" in our tables throughout. As a continuous measure of Treasury buyback activity, we also compute the total face value outstanding purchased by the Treasury in a particular maturity bucket, scaled by the total amount outstanding of all Treasury securities. Alternative continuous measures of Treasury buyback activity that we also consider are the offer-to-max ratio, the fill ratio, and the security-level HHI. The offer-to-max ratio is defined as the total face value offered by dealers to the Treasury, divided by the total face value the Treasury stated they would maximally be willing to purchase in an operation. It is a measure of how oversubscribed a given operation is. The fill ratio is defined as the total face value purchased by the Treasury, divided by the total face value the Treasury stated they would maximally be willing to purchase in an operation. A low fill ratio combined with a high offer-to-max ratio suggests the dealers demand balance sheet relief and offering a large quantity of securities to the Treasury, but the Treasury deems the offers it received too rich relative to fair value and so does not fill them. The HHI is constructed at the Treasury security level, and measures how concentrated the Treasury's purchases are within particular CUSIPs in each operation. A high value represents more concentrated purchasing by the Treasury in fewer CUSIPs.

5 Key Empirical Results

5.1 Trading Volumes

We begin with the most direct prediction of intermediation theory: buyback operations should increase secondary market activity in the targeted maturity bucket. When the Treasury repurchases off-the-run bonds, dealers facilitate the transaction by sourcing supply from clients, generating dealer-customer turnover. If the program also induces portfolio rebalancing by institutional investors, inter-dealer activity on electronic platforms should rise as well.

We estimate the following two-way fixed effects regression on the daily panel:

$$\log V_{i,t} = \alpha_i + \alpha_t + \beta \cdot \mathbb{1}[\text{Buyback}_{i,t}] + \varepsilon_{i,t}, \tag{1}$$

where $V_{i,t}$ is either dealer-customer (DC) or ATS trading volume in maturity bucket i on day t, both measured for the off-the-run segment. Maturity-bin fixed effects α_i absorb permanent differences in trading activity across segments, and date fixed effects α_t absorb market-wide volume fluctuations common to all buckets on a given day. The coefficient β is therefore identified from within-bucket variation on buyback versus non-buyback days, after removing the aggregate daily time trend. Standard errors are clustered at the maturity-bin level.

Table 2: Buybacks and Treasury Trading Volumes

	DC Volume (binary)	ATS Volume (binary)	DC Vol (short-end)	DC Vol (long-end)
Buyback (binary)	0.205***	0.105**	0.205***	0.176***
	(0.039)	(0.035)	(0.040)	(0.000)
Observations	5276	5276	3769	1507
R^2	0.867	0.864	0.882	0.913
Maturity bin FE	X	X	X	X
Date FE	X	X	X	X

* p <0.1, ** p <0.05, *** p <0.01
Columns (1)–(2): full sample. Columns (3)–(4): split by maturity buckets less than 10 years and more than 10 years. Standard errors clustered at the maturity-bin level.

Table 2 shows that buyback operations are associated with a large and significant increase in secondary market activity. On days when the Treasury conducts a buyback in a given maturity bucket, log dealer-customer volume in that bucket rises by 0.205 log points (column 1), implying approximately 23% higher turnover relative to non-buyback days.[1] The effect on ATS volume is smaller at 0.105 log points (approximately 11%, column 2) but remains significant at the 5% level. The smaller ATS response relative to the DC response suggests that the primary mechanism is direct dealer intermediation (dealers sourcing supply from client portfolios to fulfill Treasury demand), although inter-dealer rebalancing on electronic platforms plays a role as well.

Columns (3) and (4) split the DC volume effect by maturity. The estimate is 0.205 for short-end buckets (maturities below 10 years) and 0.176 for the long end (above 10 years), both strongly significant. The broad uniformity of the volume response across the maturity spectrum indicates that the intermediation effect is not confined to a particular segment of the curve.

Figure 3 presents an event study of dealer-customer volume around buyback

[1] $e^{0.205} - 1 \approx 0.228$.

operations, estimating

$$\log \text{DC Volume}_{i,t} = \alpha_i + \alpha_e + \sum_{\substack{k=-10,\\ k\neq -1}}^{10} \delta_k \cdot \mathbf{1}[\text{event day} = k] + \varepsilon_{i,t}, \qquad (2)$$

where α_e are operation fixed effects and day $k = -1$ is the omitted reference category. Each coefficient δ_k measures the level of log DC volume on day k relative to the day immediately before the operation. The pre-event estimates ($k = -10, \ldots, -2$) are scattered around zero with wide confidence intervals, supporting the parallel trends assumption: targeted maturity buckets show no systematic pre-trend in trading activity. On the operation day itself ($k = 0$), log DC volume is approximately 0.25 log points above the pre-operation baseline, consistent with the DiD estimate in Table 2. In the days following the operation, coefficients drift slightly below zero, suggesting that the buyback pulls forward trading activity that would otherwise have occurred in subsequent days rather than generating a persistent increase in market depth. This pattern is consistent with a one-time inventory adjustment by dealers: the operation clears a stock of off-the-run bonds from client portfolios, temporarily exhausting the near-term order flow in the targeted segment.

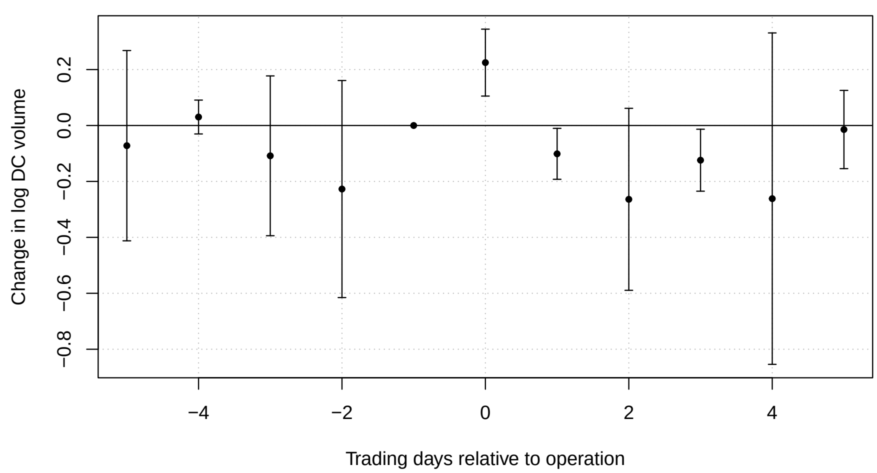

Figure 3: Effect of Buyback Operations on Dealer-Customer Volume

5.2 Off-On-the-Run Yield Spread

The off-on-the-run yield spread is the difference between the GSW off-the-run yield and the on-the-run CMT yield in each maturity bucket and measures the liquidity premium investors demand to hold less-liquid bonds. If buybacks improve the functioning of the off-the-run market, we would expect the spread to narrow. Table 3 examines this prediction.

Column (1) estimates the same two-way fixed effects specification as for volumes, with the off-on spread in basis points as the dependent variable and a binary buyback indicator as the treatment. Columns (2)–(5) restrict to operation days only and replace the binary indicator with continuous intensity measures (the fill ratio, the OTM ratio, and the HHI of accepted CUSIPs) with only maturity-bin fixed effects (date fixed effects are not identified on the operation-only subsample).

Column (1) shows that on buyback days the off-on spread is 0.961 basis points wider than on non-buyback days, significant at the 5% level. This initially appears paradoxical: if buybacks improve liquidity, why does the spread widen? The intensive margin results in columns (2)–(5), identified from variation across buyback days only, help inform the mechanism. The offer-to-max ratio ratio is positive and significant in columns (3) and (5) meaning that among buyback days, those with higher offer-to-max ratios (dealers submitted larger quantities relative to what the Treasury was willing to absorb) have wider spreads. Since the typical operation is heavily oversubscribed (the mean OTM ratio is 5.51, Table 1), most buyback days are characterized by substantial unmet dealer demand, which keeps the spread elevated. This is likely what drives the positive binary coefficient in column (1): buyback days see high demand from primary dealers to offload their illiquid securities and this unmet demand leads to wider spreads. The fill ratio enters negatively and is significant in column (5): on buyback days where the Treasury accepts a larger fraction of submitted offers, the spread is narrower, confirming that supply absorption does improve liquidity at the margin. HHI is not significant in either specification. Overall, on heavily oversubscribed days, the volume of unmet dealer demand is large enough that the net effect on the spread remains positive. Taken together, the results point to a single coherent story about program scale: buybacks have the right mechanism but are currently too small relative to dealer demand to move the spread in the right direction on average.

Table 3: Buybacks and the Off-the-Run / On-the-Run Yield Spread

	(1)	(2)	(3)	(4)	(5)
Buyback (binary)	0.961**				
	(0.391)				
Fill ratio		−2.106			−3.548*
		(1.970)			(1.721)
Offer-to-max ratio			0.962**		0.991**
			(0.378)		(0.322)
HHI				5.379	−0.430
				(3.671)	(1.492)
Observations	5243	87	87	86	86
R^2	0.798	0.771	0.875	0.787	0.880
Maturity bin FE	X	X	X	X	X
Date FE	X				

* p <0.1, ** p <0.05, *** p <0.01
Dependent variable: off-the-run minus on-the-run yield (bp). SEs clustered at maturity-bin level.

5.3 Local Projections

Figure 4 presents a local projection impulse response estimating how the offer-to-max ratio, the degree to which an operation is oversubscribed, shapes the cumulative yield response over a ±5 day window. The specification interacts event-day indicators with the offer-to-max ratio, controlling for maturity-bin and operation-date fixed effects, so identification comes from cross-sectional variation in offer-to-max across maturity buckets within the same operation. The coefficients measure cumulative basis point changes in the GSW off-the-run yield per unit of offer-to-max ratio, relative to day −1.

The pre-event estimates (days −5 through −1) are close to zero and statistically indistinguishable from zero, confirming the absence of pre-trends. Starting on the operation day itself ($k = 0$), the yield response turns negative and remains so through day +5: a one-unit increase in the offer-to-max ratio is associated with a yield decline of approximately 0.15 basis points on day 0, rising in magnitude to roughly 0.25–0.30 basis points by days 3–5. Evaluated at the mean offer-to-max ratio of 5.51, this implies a total yield compression of approximately 0.8–1.7 basis points for the average operation, an effect that is economically meaningful and appears to persist rather than revert over the five-day horizon.

The negative sign on the offer-to-max ratio is notable given the positive offer-to-max coefficient in Table 3. The key difference is identification: the LP absorbs operation-date fixed effects, isolating within-operation cross-sectional variation in offer-to-max across maturity buckets. The result here therefore says that, conditional on a given operation, the maturity buckets facing higher relative demand pressure experience larger yield compression, consistent with the supply removal channel. The Table 3 result, which lacks operation fixed effects, instead captures cross-sectional differences across buyback days and reflects market stress correlated with high offer-to-max days.

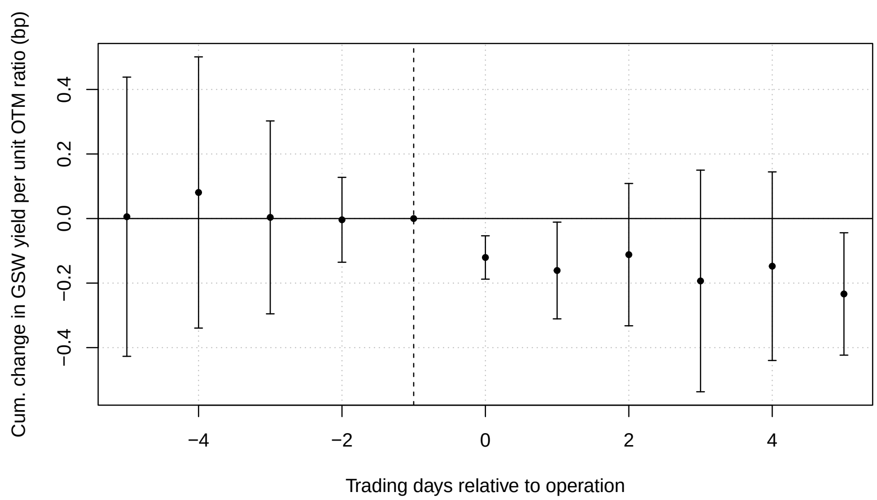

Figure 4: GSW Off-the-Run Yield Response to Buyback Shock

5.4 Spillovers Along the Yield Curve

A key question for the Treasury buyback program is whether demand shocks in one maturity segment transmit to the broader yield curve. Preferred-habitat theory predicts that investors with fixed maturity preferences partially rebalance toward substitute segments when supply in their preferred habitat is reduced, propagating yield compression outward Vayanos and Vila [2021]. We test this directly by examining how a buyback in bucket j moves yields in all other maturity buckets i.

For each operation event date t and treatment bucket j, we measure cumulative changes in GSW yields and off-on spreads for every maturity bucket i at horizons $h = 1, \ldots, 5$ trading days:

$$\Delta y_{i,t,h} = y_{i,t+h} - y_{i,t-1}, \ \Delta s_{i,t,h} \qquad = s_{i,t+h} - s_{i,t-1}, \tag{3}$$

where $y_{i,\tau}$ is the GSW zero-coupon yield at maturity bucket i on day τ, and $s_{i,\tau}$ is the off-on-the-run yield spread. The treatment variable is

$$X_{j,t} = \frac{\text{Par accepted} j, t}{\text{Par outstanding} j, t} \times 100, \tag{4}$$

expressed as the percentage of par outstanding in bucket j that the Treasury repurchased on date t. Par outstanding is drawn from the Monthly Statement of the Public Debt and forward-filled to each operation date. We then estimate, separately for each (i, j, h) triple,

$$\Delta y_{i,t,h} = \alpha + \beta_{i,j,h}, X_{j,t} + \varepsilon_{i,t}, \tag{5}$$

and the analogous equation for $\Delta s_{i,t,h}$. Standard errors are HC1 robust. The sample consists of the n_j dates on which at least one operation targeted bucket j.

Tables 4 and 5 report results for the 20–30Y treatment bucket, which has 17 operations and a mean acceptance rate of $\bar{X}_j = 0.077\%$ of par outstanding (mean par accepted: \$1.9 billion).

The GSW yield estimates in Table 4 reveal strong, statistically significant yield compression that extends across the entire maturity spectrum. Evaluated at the mean buyback size, a 20–30Y operation reduces yields by approximately 6.4 basis points in its own bucket at a one-day horizon ($h = 1$), rising to 14.4 basis points by $h = 3$ before stabilizing. The transmission to other segments is at least as large. The belly of the curve (3–5Y and 5–7Y buckets) shows the strongest response, with cumulative declines of 23.1 and 23.8 basis points at $h = 3$, respectively. The short end (1M–2Y) also responds substantially (13.2 bp at $h = 3$), though its response is front-loaded relative to the belly. This hump-shaped pattern of cross-maturity responses, peaking in the 5–7Y segment at $h = 3$, is consistent with duration rebalancing by preferred-habitat investors: when long-end supply is removed, intermediaries extend duration into the middle rather than concentrating all rebalancing at the long end. Coefficients remain strongly significant ($p < 0.01$ for nearly all cells) and are stable across horizons, suggesting that price pressure is not immediately arbitraged away.

The spread results in Table 5 tell a different story. Effects are generally negative, consistent with a modest narrowing of the off-on spread, i.e., improved relative liquidity, but are smaller in magnitude and less consistently significant. The 2–3Y bucket is an exception, exhibiting a significant spread compression of roughly 3.1 basis points at $h = 2$. The muted spread response relative to the large yield response suggests that both the on-the-run and off-the-run segments of each maturity bucket reprice together when the long end is purchased, rather than one segment moving independently of the other.

Table 4: Cross-Maturity Transmission: Buybacks in *20-30Y* and GSW Yield Change Across Buckets

DV Bucket	$h = 1$	$h = 2$	$h = 3$	$h = 4$	$h = 5$
1M-2Y	124.881***	169.877***	171.882***	120.795***	115.984***
	(28.644)	(34.348)	(35.564)	(39.245)	(23.142)
2-3Y	162.508***	242.898***	267.025***	222.513***	197.575***
	(46.601)	(53.541)	(49.890)	(51.440)	(38.957)
3-5Y	170.685***	255.575***	299.847***	273.387***	230.419***
	(46.227)	(51.956)	(56.269)	(51.523)	(48.406)
5-7Y	162.075***	244.384***	308.033***	296.697***	240.218***
	(41.087)	(46.452)	(67.980)	(53.751)	(57.713)
7-10Y	143.873***	229.261***	293.252***	300.278***	235.099***
	(38.422)	(42.331)	(72.883)	(56.356)	(62.803)
10-20Y	106.163***	212.965***	233.175***	283.735***	210.751***
	(40.031)	(38.155)	(55.205)	(54.301)	(58.722)
20-30Y	82.919**	181.834***	187.041***	255.923***	190.192***
	(39.107)	(34.983)	(56.708)	(53.722)	(56.137)
N	17	17	17	17	17
17	17				

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Treatment variable: X_j = par accepted in bucket *20-30Y* divided by par outstanding (from Monthly Statement of the Public Debt). Coefficient: effect in basis points per 1% of par outstanding accepted. DV: cumulative change from $t-1$ to $t+h$ trading days (GSW Yield Change). Sample: operation event dates. HC robust standard errors.

Table 5: Cross-Maturity Transmission: Buybacks in *20-30Y* and Spread Change Across Buckets

DV Bucket	$h = 1$	$h = 2$	$h = 3$	$h = 4$	$h = 5$
1M-2Y	-1.940	-11.573	-0.807	-16.124	-41.796***
	(5.926)	(11.466)	(14.965)	(14.158)	(12.933)
2-3Y	5.459	-39.898***	-36.186***	-27.362**	-27.783***
	(5.495)	(6.506)	(9.732)	(11.876)	(9.070)
3-5Y	-6.104	-4.749	-23.450***	-9.267	-11.207
	(3.731)	(3.948)	(4.482)	(7.644)	(7.363)
5-7Y	-5.677	-8.174	-15.947*	-23.164***	-20.022***
	(4.671)	(6.525)	(8.919)	(6.165)	(3.939)
7-10Y	-9.456*	-9.646	10.418	-7.387	-14.601**
	(5.081)	(7.845)	(12.974)	(8.428)	(7.180)
10-20Y	-13.428**	5.040	-16.232	5.832	-14.697
	(6.574)	(6.564)	(10.868)	(11.134)	(10.004)
20-30Y	-12.126	-2.478	-20.322**	-5.307	-6.457
	(9.371)	(9.419)	(9.035)	(10.139)	(7.945)
N	17	17	17	17	17
17	17				

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Treatment variable: X_j = par accepted in bucket *20-30Y* divided by par outstanding (from Monthly Statement of the Public Debt). Coefficient: effect in basis points per 1% of par outstanding accepted. DV: cumulative change from $t-1$ to $t+h$ trading days (Spread Change). Sample: operation event dates. HC robust standard errors.

Motivated by the significant yield and spread responses documented above, we further examine spillovers to immediately adjacent maturity buckets using the finer panel structure from the main analysis. Table 6 regresses the off-on yield spread of *non-targeted* buckets on the fill ratio of the nearest neighboring bucket:

$$s_{i,t} = \alpha_i + \alpha_t + \gamma \cdot \text{Fill Ratio}_{\text{adj}(i),t} + \varepsilon_{i,t}, \tag{6}$$

where α_i and α_t are maturity-bin and date fixed effects, and $\text{FillRatio}_{\text{adj}(i),t}$ is the fill ratio of the adjacent bucket on the same date (zero on days with no adjacent operation). The sample is restricted to observations where bucket i was not itself targeted.

The pooled estimate across all maturity buckets (column 1) is small and insignificant, suggesting that on average, adjacent-bucket buybacks do not meaningfully affect off-on spreads in neighboring segments. However, column 3 reveals important heterogeneity: restricting to the long end (7–10Y, 10–20Y, and 20–30Y), the adjacent fill ratio coefficient rises to 2.621 and is significant at the 5% level. A one-unit increase in the neighboring fill ratio, meaning the adjacent long-end bucket was fully filled, is associated with a 2.6 basis point narrowing of the off-on spread in the non-targeted adjacent bucket. This result corroborates the yield-level evidence: buyback demand pressure propagates most visibly within the long end, where preferred-habitat clienteles are most concentrated and dealer intermediation capacity is more binding.

Table 6: Cross-Maturity Spillover: Effect of Adjacent-Bucket Buybacks on Own Spread

	All sectors (adj. fill ratio)	All sectors (adj. binary)	Long-end only (adj. fill ratio)
Adjacent fill ratio	0.445		2.621**
	(0.919)		(0.492)
Adjacent buyback (binary)		0.265	
		(0.620)	
Observations	5156	5156	2206
R^2	0.796	0.796	0.898
Maturity bin FE	X	X	X
Date FE	X	X	X

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Sample restricted to maturity-bucket × date observations where the bucket was NOT targeted. *Adjacent fill ratio*: the fill ratio of the nearest neighboring bucket (lower or upper) on the same date; zero if no adjacent buyback. Col. (3) restricts to long-end buckets (7Y–10Y, 10Y–20Y, 20Y–30Y). Standard errors clustered at the maturity-bin level.

6 Ongoing Work Using Confidential Fed Data

Given the aggregate effects of Treasury buybacks on spreads and volumes, in ongoing work we are improving identification by using cross-sectional heterogeneity in dealer exposure to buyback shocks. We use FR 2004 Government Securities Dealers Reports collected by the Federal Reserve. In these reports, primary dealers disclose weekly outright positions in Treasury and other marketable debt securities (FR 2004A) and cumulative weekly data on the volume of transactions made by dealers (FR 2004B). Due to the confidential nature of these data, we are not able to report any results before receiving clearance for public release. Due to the lengthy nature of the process, we summarize below our research design and plan to have our results cleared for the 2027 AFA meetings.

Our identification strategy exploits mechanical discontinuities embedded in the Treasury's buyback design. Eligibility for buyback operations is set according to predetermined rules that exclude otherwise similar securities from participation, such as minimum outstanding amounts, SOMA ownership limits, and coupon payment timing. We define treatment and control groups by focusing on securities narrowly on either side of these thresholds, ensuring that buyback exposure is orthogonal to other determinants of liquidity and yields.

We investigate the spillover effects to other fixed-income markets—including corporate bonds, agency MBS, and foreign bonds—through primary dealer balance sheets. Treasury buybacks remove off-the-run securities from dealer inventories, freeing balance-sheet capacity that dealers may reallocate toward market-making and intermediation in other Treasury maturities or in non-Treasury fixed-income markets. If buybacks relax dealer constraints, this reallocation may lead to improved liquidity beyond the Treasury market. Analyzing dealer-level responses allows us to directly test this balance-sheet channel.

Our shocks are built in two steps. First, at the security level, we construct buyback shocks that capture unexpected buyback pressure at the CUSIP level, based on differences between quantities offered by the market and quantities absorbed by the Treasury within predefined purchase limits. Eligibility for buyback operations is determined by predetermined rules (such as minimum outstanding amounts, SOMA ownership limits, and coupon payment timing) that exclude otherwise similar securities from participation. We define treatment and control groups by focusing on securities narrowly on either side of these thresholds, ensuring that buyback exposure is orthogonal to other determinants of liquidity and yields. Second, dealer-level shocks are defined as

$$\text{Dealer buyback shock}_{d,t} = \sum_i \text{Security buyback shock}_{i,t} * w_{d,i,t-1},$$

where $w_{d,i,t-1}$ is the fraction of the dealer d's balance sheet that holds security i on date $t-1$. Because these weights are measured before the operation, the resulting dealer-level shock is predetermined with respect to post-buyback outcomes.

Using this dealer-level shock, we plan to estimate regressions of the form:

$$\Delta\text{inventory}_{d,m,t+h} = \alpha_d + \alpha_m + \alpha_t + b * \text{Dealer buyback shock}_{d,t} + \epsilon_{d,t},$$

where $\Delta\text{inventory}_{d,m,t+h}$ represents the change in dealer d's gross or net inventory in asset class m (e.g. Treasuries, corporate bonds, or MBS) between time

$t-1$ and $t+h$.

Together, these analyses will allow us to link security-level liquidity effects to dealer-level balance-sheet adjustments and to assess whether Treasury buybacks improve liquidity in other fixed-income markets through dealer intermediation.

7 Conclusion

This paper provides early empirical evidence on the effects of the U.S. Treasury Buyback Program, relaunched in 2024 as the first permanent repurchase facility in over two decades. Using public data on buyback operations matched to daily trading volumes, yield curve estimates, and off-the-run/on-the-run yield spreads, we document that buybacks generate significant increases in dealer-customer trading activity, transmit yield compression across the maturity spectrum through preferred-habitat rebalancing, and improve liquidity at the margin when the Treasury absorbs a sufficient share of dealer supply, though the program's current scale leaves substantial unmet demand on heavily oversubscribed days. Together, these findings suggest that the buyback program operates through the intermediation channel as intended, but that its liquidity benefits are constrained by program size relative to the volume of off-the-run securities dealers seek to offload.

The analysis presented here is preliminary. The results rely on public data and reduced-form identification, and while the evidence is consistent with a supply-removal mechanism, we cannot yet fully separate the direct price impact of Treasury purchases from broader market dynamics. The version of this paper presented at the conference will incorporate regulatory primary dealer inventory data from the Federal Reserve, enabling sharper causal identification of the transmission channel and an examination of spillovers to corporate bond and agency MBS markets. We view the public-data results documented here as a first look at a policy tool whose importance is likely to grow as Treasury issuance volumes remain elevated and dealer intermediation capacity continues to face regulatory pressure.

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