# Monthly Update Chartbook Sep2026

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Monthly Interest Rates Chartbook September 2026 Troy Ludtka US Macroeconomics SMBC Nikko Securities (212) 224-5483 Troy.Ludtka@smbcnikko- si.com Monty Gandhi US Rates Strategy SMBC Capital Markets (212) 224-5114 Monty.Gandhi@smbc- cm.com Joseph Abate US Rates Strategy SMBC Nikko Securities (212) 893-1592 Joseph.Abate@smbcnikko -si.com

1 Economic summary

2 Summary of views ð— Inflation 3b '&ö B ÖV 7W&W2 öb –æfÆ F–öâ † ve decelerated this summer %ª But, “they d not tell me that underlying trends have meaningfully improved” 1/ %ª In addition to still above-target (PCE) inflation, over half of the PCE basket has increased by more than 3% in the past year 3b –æfÆ F–öâ † 2 exceeded the Fed’s 2% PCE target for 5y, although expectations remain anchored 3b We look for PCE and core PCE to both increase 3.2% y/y in 2026 2/ ð— Labor markets 3b The economy appears to be at full employment despite weak monthly job gains %ª The unemployment rate has held between 4.1-4.5% since mid-2024 %ª Despite the slowing in hiring 3b Wage growth is subdued ð— Capital expenditures are strong driven by the AI buildout ð— And consumer spending remains solid despite sour sentiment ð— We look for GDP to increase 2.2% Q4/Q4 this year and next year 1/ See “In Our Time”, Fed Chair Warsh, Kansas City Federal Reserve Presentation, August 28, 2026 2/ And 1.5% and 2.2%, respectively in 2027

3 Fed forecast ð— Our economics team looks for the Fed to raise interest rates this month 3b æB v –âÂ gFW" the mid-term elections at the December FOMC meeting • This is consistent with market pricing 1/ • Financial conditions are not restrictive • And economic growth remains solid despite the oil price shock, tariffs and weak consumer sentiment • Because core inflation is sticky there is a risk that by delaying rate hikes the Fed could allow longer- term inflation expectation to creep higher 2/ • Eroding its monetary policy credibility • And, in turn, making it harder to restore without a sharp increase in interest rates • Our economics team expects the Fed to gradually reverse all of last year’s rate cuts by next spring 1/ As of early September 2/ See “ Magical Thinking ”, July 21, 2026

4 PCE inflation remains above target PCE (% y/y) ð— Chair Warsh reiterated that the Fed’s 2% inflation target is against PCE ð— Rather than other measures of prices ð— Although he considers other indicators that reflect the speed of adjustment ð— How quickly is inflation moving to target? ð— Is inflation narrowly concentrated or broadly distributed across a range of goods and services? Sources: BEA, SMBC Nikko. 0 1 2 3 4 5 6 7 8 Jan-11 Jan-14 Jan-17 Jan-20 Jan-23 Jan-26 PCE PCE Core

5 Key principles • Fed Chair Warsh outlined some of his key principles regarding monetary policy. • While these are not defined as forward guidance or even as a reaction function, they suggest he is considering more than the level of inflation • Trends • It is not clear what establishes a trend • The last few months of weaker-than-expected payrolls and inflation do not appear sufficient to deter the Fed from raising rates in September • QE should be used sparingly • And only at the zero lower bound • Pre-committing to a policy path without an explicitly defined exit strategy increases the risk of a policy mistake as in 2022 • Policy pre-commitments apply both the rates and asset purchases • “Money matters” • A large Fed balance sheet creates distortions in financial markets • And encourages moral hazard • The Fed should be “quieter” • The Fed should “listen” to market signals rather than “directing”

them

6 Wage inflation Average hourly earnings (% y/y) ð— Measures of wage inflation remain subdued ð— But Warsh recently observed that they these have not been correlated with price inflation for some time 1/ Note: We exclude the COVID period when average hourly earnings spiked and then retreated. Sources: BLS, SMBC Nikko. 1/ See his Jackson Hole remarks 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 Jan-11 Jan-14 Jan-17 Jan-20 Jan-23 Jan-26

7 Other wage measures Sources: BLS, SMBC Nikko Employment cost index (% y/y) Labor market tightness (index) Note: HPW Labor market tightness index. Sources: Federal Reserve Bank of New York. SMBC Nikko 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 Mar-21 Mar-23 Mar-25 Wages & Salaries Benefits -0.5 0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 Jan-21 Jan-22 Jan-23 Jan-24 Jan-25 Jan-26 This measure of labor market tightness relates voluntary quits and job vacancies by search. It is closely correlated with the ECI. Positive values indicate that wages are likely to be above their average since 1994. The June 2026 reading is consistent with ECI wage growth of 3.1% y/y.

8 Inflation credibility: Households Sources: Federal Reserve Bank of New York, SMBC Nikko HH median inflation expectations (%) ð— Has the Fed lost some of its inflation-fighting credibility with PCE above target for 5y? ð— 5y median household expectations have been steady at 3% ð— Higher oil prices have pushed their 1- and 3y expectations up ð— Does the Fed need to raise interest rates to restore its credibility ð— To bring down term-interest rates? 2.0 3.0 4.0 5.0 6.0 7.0 8.0 Jun-13 Jun-16 Jun-19 Jun-22 Jun-25 1y 3y 5y

9 Inflation credibility: markets Sources: Bloomberg, SMBC Nikko 5y/5y inflation expectations (%) ð— 5y/5y inflation expectations have been mostly steady around 2.25% since 2023 1.25 1.45 1.65 1.85 2.05 2.25 2.45 2.65 2.85 Jan-15 Jan-18 Jan-21 Jan-24

10 Market expectations have retraced Sources: US Treasury, Bloomberg, SMBC Nikko ð— 1y inflation swaps have increased this summer Inflation breakevens (%) 1.5 2.0 2.5 3.0 3.5 4.0 Aug-25 Feb-26 Aug-26 % 1y

11 Are inflation expectations anchored? • Anchoring involves three dimensions 1/ • Sensitivity • Short-term inflation expectations may react to a shock • But long-term expectations should not • Households and markets “believe” the Fed will respond to the price shock • To achieve and maintain price stability • Level • Long- term expectations are anchored at the “right level” • That is, the Fed’s PCE inflation target is 2% • Uncertainty • Uncertainty reflects the possibility for a shock to widen the bands around household future expectations 1/ See, “A Steady Anchor in a Stormy Sea”, J. Williams, Federal Reserve Bank of New York, November 9, 2022

12 Too transparent? • The Fed tries to avoid surprising financial markets • Through clear communications • The dot plot and the quarterly Survey of Economic Projections (SEP) • Descriptive policy statements • And post-FOMC press briefings • There have only been three rate hikes since 2006 in which the market wasn’t fully priced for higher interest rates 1/ • And only one meeting (December 2018) when the rate hike probability ahead of the meeting was less than 70% 1/ Out of 23 rate hikes over the period

13 Hall of mirrors • Fed predictability has encouraged markets to look for the Fed to telegraph its policy intentions • Even when the Fed has not pre-committed to a policy path • Markets cannot separate “data dependence” from a policy promise • Fed Chair Warsh feels that this reverses the direction of the policy signal • Instead, the Fed should look to the “collective wisdom” of markets • For interpreting and judging the health of the economy • The Fed’s role is then to confirm (or refute) market -based interpretations • In active “family” debates at the FOMC meeting • By reversing the direction, the Fed is getting a

distorted reflection of the economy • That reflects what the market thinks the Fed will do • Based on the strength of the Fed's credibility • And the sense that the Fed's "knows more" than the average investor

14 Forward guidance 1/ • Forward guidance can take 3 forms: 1. Path pre-commitments • "Rates will remain low for an extended period" • Or asset purchases will continue until the full employment is restored • Pre-commitment works best at the zero lower bound when the Fed needs to add additional stimulus but cannot (or is unwilling) take short-term rates below zero 2. Communicating the FOMC's reaction function • Which measures of inflation matter more to the FOMC? • How it thinks – about tariffs, unemployment, AI-driven productivity? 3. Publishing the FOMC's economic forecasts 2/ • Where is the economy relative to the FOMC's expectations? • State contingent forecasting – "if/then" • Scenario analysis 1/ See, "Current Issues in Forward Guidance", T. Adrian, IMF Notes, August 2026 2/ This may be a more structured/detailed version of communicating the FOMC's reaction function.

15 Forward guidance: Misguided or misjudged? • We think criticism of forward guidance may be somewhat overstated 1/ • The slow policy response in 2022 reflected policy assumptions based on the post-GFC recovery • That said, the Fed's own models tend to overstate the importance of forward guidance – particularly at longer horizons where its models overstate the relationship between interest rates and consumer spending 2/ • Other studies that modify the rate/consumption relationship suggest that forward guidance is useful at the zero lower bound 3 /, 4/ • Slow rate hikes after COVID reflected an over-correction from past policy mistakes • Policy was tilted to maximum employment because of the jobless recovery after the GFC • And the Fed wanted to proceed in an orderly, well-telegraphed manner from QE to tightening • To prevent a replay of the 2013 taper tantrum 1 / See, " Forward guidance: Misguided or misjudged? ", June 24, 2026 2/ See, "The Power of Forward Guidance Revisited", A. McKay, E. Nakamura, and J. Steinsson, American Economic Review, 2016 3/ See, "The Forward Guidance Puzzle", M. Del Negro, M. Giannoni and C. Patterson, Federal Reserve Bank of New York, December 2015 4/ As discussed above, policy pre-commitment works best in a liquidity trap or at the zero lower bound. But there are other forms of guidance.

16 Policy misjudgment Sources: BLS, SMBC Nikko CPI and unemployment (%y/y, %) Long-term inflation forecasts (%y/y) Sources: Philadelphia Federal Reserve Bank, Federal Reserve, SMBC Nikko 1.5 1.7 1.9 2.1 2.3 2.5 2.7 Mar-19 Mar-21 Mar-23 Mar-25 PCE_SPF SEP FOMC participants kept their long-term inflation forecasts steady at 2% despite an increase in the market's expectations. 0 2 4 6 8 10 12 14 16 Jan-19 Jan-20 Jan-21 Jan-22 Jan-23 Unemp rate CPI The Fed waited until the unemployment rate was at 4% to begin raising rates even as inflation was at 8%

17 Ending forward guidance • Fed Chair Warsh has been critical of forward guidance – particularly pre-committed policy paths • Arguing that the Fed kept policy too accommodative for too long after COVID • He did not include a dot in the June FOMC Survey of Economic Projections • And one of this year's task forces will focus on communications • He is also critical of other forms of guidance • Arguing that communicating the Fed's reaction function or providing forecasts works well in a "lab" but not in practice • Instead, he outlined "key principles" for policy communication 1/ • But markets may be looking for a bit more direction 1/ See " Key principles rather than forward guidance ", August 28, 2026 and slide 5

18 Data dependency: Looking for direction • Markets are unused to a less communicative Fed or one that does not provide forward guidance • And is, instead, more data dependent • But this is likely to increase interest rate volatility across two dimensions 1. Data surprises • Economic data is noisy and subject to revision • As a result, the market should focus on trends • Although discerning between the start of a trend and noise is difficult for economists inside and outside the Fed 2. Reaction function uncertainty • How does the Fed see the data? • Less communication should be balanced with better

communication

19 Better communications • Better communications might include publishing the Fed's medium -term growth and inflation forecasts • Markets would have a benchmark to compare current activity • And could signal back to the Fed their rate expectations as data shift • Alternatively, the Fed could publish qualitative scenario analyses • A Monetary Policy Report would be based on forecasts provided by the Fed Board. It might include a summary of alternative scenarios for growth and inflation 1/ • However, scenario analysis is complicated by politics (how might the Fed avoid commenting on the debt ceiling) • And too many scenarios are less useful; like fan charts 2/ • Either might give markets a sense of the Fed's reaction function without providing explicit forward guidance • Our expectation is that communications task force will recommend significantly changing or eliminating the dot plot 1/ See " Revising the dots ", August 14, 2025 2/ Fan charts "have not proved to be an effective way of communicating with the public about the risks", See, "Response of the Bank of England to the Bernanke Review of Forecasting for Monetary Policy Making and Communication at the Bank of England", Bank of England, April 2024

20 Family debates – more dissents? • Heavier data dependence might include more "family" arguments at FOMC meetings • As members interpret data trends differently • And are more likely to dissent

21 Dissents Note: Percent of dissenting votes as a share of the aggregate votes. Dissents on policy only rather than language and operational disagreements. Sources: Federal Reserve, SMBC Nikko Dissent share (%) Dissent distribution (%) Sources: Federal Reserve, SMBC Nikko 0 1 2 3 4 5 6 7 1957-2013 1994-2013 2013-2026 Dissents have declined over time… 0 10 20 30 40 50 60 70 80 90 100 1957-2013 1994-2013 2013-2026 President Governors …with presidents more likely to dissent than governors

22 AI FOMC simulation 1/ • Analysts regularly examine Fed commentary and based on their experience and context, determine whether it is hawkish or dovish. But this approach is not scientific. • ChatGPT can break down and rank the relative hawkishness of Fed commentary . 2/ It accurately mimics human reasoning and is closer to human logic than simple dictionary-based assessments. • AI can create simulated FOMC meetings. 3/ These involve simulating FOMC members interacting with each other in a "lab" structured like an actual FOMC meeting . • Creating a simWarsh is complicated because he provides little information about his reaction function and his commentary is terse. • At simulated and real FOMC meetings the Fed Chair has two roles • As a voter • And as the agenda setter who summarizes the Board forecasts and the alternative views of members before submitting everything to a vote • AI simulations suggest that political pressure is more likely to change meeting outcomes when the criticism is public . Simulated outcomes are unaffected when the pressure is privately applied to the Chair; if the view is too out of consensus, other FOMC members will ignore it. 1/ See, " Sim FOMC ", September 1, 2026 2/ See, " Can ChatGPT Decipher Fedspeak ?", A. Lundgaard Hansen, and S. Kazinnik, Federal Reserve Bank of Richmond, April 10, 2024 3/ See, ""FOMC in silico: A Multiagent System for Monetary Policy Decision Modeling", S. Kazinnik and T. Sinclair, Stanford University and George Washington University, July 12, 2026

23 Global supply chain pressures have eased… Sources: Federal Reserve Bank of New York, SMBC Nikko GSCPI (%) ð— Global supply chain pressures eased since May ð— Renewed tensions in the Straits of Hormuz could push prices higher and slow delivery times ð— Creating supply chain bottlenecks -2 -1 0 1 2 3 4 5 Jan-19 Jan-21 Jan-23 Jan-25

24 …but may continue to echo through consumer goods prices Sources: Green Markets North America Fertilizer Index, SMBC Nikko Fertilizer prices ($/short ton) Plastic packaging (% y/y) Sources: BLS, SMBC Nikko 200 400 600 800 1000 1200 1400 Jan-19 Jan-21 Jan-23 Jan-25 -10 -5 0 5 10 15 20 25 30

Jan-17 Jan-19 Jan-21 Jan-23 Jan-25

25 Energy prices are off their highs Sources: BLS, SMBC Nikko Residential electricity (% y/y) Note: US average. Sources: AAA, SMBC Nikko AAA retail gasoline prices ($/gal) -2 0 2 4 6 8 10 12 14 16 18 Jan-17 Jan-19 Jan-21 Jan-23 Jan-25 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Jun-21 Jun-22 Jun-23 Jun-24 Jun-25 Jun-26

26 High prices haven’t deterred travelers Sources: CPI, SMBC Nikko Airfares (%y/y) ð— Airfares have increased sharply this year ð— Yet there has been little slowing in travel bookings ð— Or a decline in the number of passengers passing through TSA security checkpoints. -40 -30 -20 -10 0 10 20 30 40 50 Jan-16 Jan-18 Jan-20 Jan-22 Jan-24 Jan-26

27 Can AI make better inflation forecasts? 1/ • AI-based inflation forecasts appear to be more accurate that economist predictions • These models are trained on historical data • With AI producing its own, learned, time-varying probability- based “black box” models • Forecasts can be “temperature” adjusted to produce narrow, more deterministic forecasts or ones with more random and variable forecasts • But it is difficult to segregate historical data in these models • “Data leakage” means that AI - based models may not be true predictions but instead “pre - memories” of events influencing inflation that happened after the training cut -off date • This may account for the seeming outperformance of AI forecasts • True out of sample AI models that do not use any post cut-off data perform relatively poorly • The MSE is about 7x larger than the forecast errors from the Cleveland Fed’s expected inflation model 2/ • AI models tend to more frequently miss directional changes in inflation • As they rely too heavily on mean reversion to the Fed’s 2% inflation target 1/ See “ US Rates Strategy Weekly ”, August 14, 2026 2/ See, “Evaluating Inflation Forecasts of Generative AI”, M. J. Alam, S. Boyle, and T. Sekhposyan, Federal Reserve Bank of San Francisco, January 2026

28 Replacement tariffs • Since March 1, the Treasury has collected about $150bn in tariffs but paid out $120bnbn in IEEPA refunds • On July 24, it expanded Section 301 duties to include 10 or 12.5% tariffs on 60 countries in violation of forced labor rules • These are expected to fully replace the roughly $20bn/ mo that Section 122 tariffs were collecting 1/ • As of August 19, a new 50% duty will apply to Canadian alcohol, dairy, wood and consumer products • We do not expect the new Section 301 duties to increase inflation although there may still be some lingering pass-through effects in coming months from earlier tariffs 1/ Section 122 tariffs that applied 10% duties on imports for 150d. These were implemented after the IEEPA tariffs were reversed. They expired on July 24 and were not renewed by Congress.

29 Tariff revenues Note: Difference between revenues collected and IEEPA refunds paid out. Sources: US Treasury, SMBC Nikko Net tariff revenues ($bn) Effective tariff rate (%) Sources: PennWharton Model, SMBC Nikko -30 -20 -10 0 10 20 30 40 Nov-25 Jan-26 Mar-26 May-26 Jul-26 The Treasury may have another $40bn or so in IEEPA refunds to pay out 0 2 4 6 8 10 12 Jan-25 Apr-25 Jul-25 Oct-25 Jan-26 Apr-26 The effective tariff rate is the ratio of duties to import value

30 Pass-through effects • Most businesses (about 75%) pass along some or all of their higher tariff cost to their customers 1/ • About 1/3 of manufacturers pass along their higher duties • And 45% of service providers • But, they may not increase customer prices immediately • Because prices are covered by earlier contracts • Or because they prefer to phase in higher prices to avoid customer sticker shock • As of June 2026, roughly half of goods and service providers have fully passed along earlier tariffs • The remainder have yet to push their customer prices higher • And a plurality expected their pass-through to be completed by December 2/ 1/ See, “Are Businesses Absorbing the Tariffs or Passing them on to Their Customers?”, J. Abel, R. Deitz, S. Heise, B. Hyman, and N. Montalbano, Federal Reserve Bank of New York, Liberty Street Economics, June 4, 2025 2/ See Abel et al.

31 Consumer confidence remains low Sources: University of Michigan, Conference Board, SMBC Nikko Consumer sentiment (1985=100) Jobs plentiful less hard to get (%) Sources: Conference Board, SMBC Nikko -10 0 10 20 30 40 50 Jan-21 Jan-22 Jan-23 Jan-24 Jan-25 Jan-26 Worker assessments of the job market turned more optimistic in August – fewer reported that jobs were hard to get and more reported that they were plentiful 45 55 65 75 85 95 105 115 125 135 Jan-21 Jan-22 Jan-23 Jan-24 Jan-25 Jan-26 U/M Conf Board

32 Is AI spending causing the economy to overheat? Contributions to real GDP (%q/q, ar) Sources: BEA, SMBC Nikko ð— Rapid spending on building out AI is adding to GDP growth ð— And should accelerate in H2 26 ð— But for all the headlines about the AI buildout the GDP data show relatively modest growth -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0 Mar-25 Jun-25 Sep-25 Dec-25 Mar-26 Jun-26

33 AI buildout 1/ • Hyperscalers ' spending is large and growing. These companies are expected to double their spending on capital and software this year – to more than $770bn . Their recent earnings reports suggest they could spend as much as $1.3trn next year. • Despite double-digit growth, spending on IT equipment and software has accounted for 15% of real GDP growth since December 2024 although last quarter, this share was over 50%. 2/ • About 75% of hyperscalers ' spending on computers and peripherals is imported – up from less than 35% in 2022 . Monthly imports of computer equipment from Taiwan have increased 4-fold since January 2025. • GDP data reliably track spending on AI infrastructure. But the use of AI as an intermediate input into other products is harder to measure. Business and consumer purchases of AI services appear in the corporate profit data in the national accounts . • The modest GDP effect, however, belies its impact on capital markets. Hyperscalers account for roughly 40% of the net supply in dollar-denominated corporate debt issuance this year – even though they make up just 5% of the IG debt market. 1/ See, " AI capital expenditures ", August 5, 2026 2/ See previous slide

34 AI-related spending Sources: US Census Department, SMBC Nikko Data center construction ($bn) IT equipment and software (% real GDP) Sources: BEA, SMBC Nikko 2.0 2.5 3.0 3.5 4.0 4.5 Mar-22 Mar-23 Mar-24 Mar-25 Mar-26 Equip Software 0 1 2 3 4 5 6 Jan-22 Jan-23 Jan-24 Jan-25 Jan-26

35 Imported AI Sources: BEA, SMBC Nikko Import share computers and periph. (%) Imports from Taiwan ($bn) Sources: BEA, SMBC Nikko 0 5 10 15 20 25 Jan-22 Jan-23 Jan-24 Jan-25 Jan-26 Comp Semis 30 35 40 45 50 55 60 65 70 75 80 Mar-22 Mar-23 Mar-24 Mar-25 Mar-26

36 Memory chips remain scarce and expensive Sources: Bloomberg, SMBC Nikko Memory chip prices ($) ð— AI programs have become more task efficient 1/ ð— But each model needs more memory ð— So increased chip demand is pushing prices higher ð— Companies are signing contracts committing to buy future (yet to be produced) chip production ð— Samsung has raised prices by up to 15% and has locked up as much as 70% of its memory capacity in multiyear contracts 2/ 1/ See, "Moonshot's Kimi K3 May be More About Memory Than Compute", S. Bangia, Bloomberg, July 20, 2026 2/ See, "AI Trade Confronts Complex World of Cheaper Tokens, Rising Costs", J -P Barnert, Bloomberg News, August 27, 2026 0 10 20 30 40 50 60 Jan-24 Jul-24 Jan-25 Jul-25 Jan-26 Jul-26 DDR5 DDR4

37 Compute expenditures 1/ Sources: Silicon Data Token Expenditure index, SMBC Nikko Compute ($/ mTok) ð— Better chips are reducing the cost of producing tokens ð— And even as the demand for AI increases and the intensity of its usage rises, compute expenditures are falling 1/ The Silicon Data Token Expenditure index is a normalized measure of the expenditures (in dollars) per million tokens. It includes input and output expenditures and adjusts expenditures for different task prices. 0.5 0.7 0.9 1.1 1.3 1.5 1.7 1.9 2.1 2.3 Dec-25 Feb-26 Apr-26 Jun-26 Aug-26

38 Market summary

39 Fed policy expectations Note: Using SOFR futures. Sources: Bloomberg, SMBC Nikko Terminal rate pricing (%) ð— The market looks for the Fed to hike by nearly 37bp by this year-end ð— And expects the funds rate to hold near 4.25% through year-end 2027 2.50 2.75 3.00 3.25 3.50 3.75 4.00 4.25 4.50 Jul-24 Jan-25 Jul-25 Jan-26 Jul-26

40 Where is r*? Sources: Federal Reserve Bank of New York, SMBC Nikko Estimated r* (%) ð— AI-driven productivity gains should push r*, or the economy's equilibrium interest rate, higher ð— As it increases the imbalances between savings and investment ð— Heavy investments in tech should bid up interest rates ð— At the same time, productivity gains increase employees' expected earnings and reduce savings 0.00 0.50 1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 Jan-00 Jan-05 Jan-10 Jan-15 Jan-20 Jan-25

41 Buyback announcements have help pull term premia lower 10y term premia (bp) Sources: Adrian, Crump, and Moench, Federal Reserve Bank of New York, SMBC Nikko ð— Since the 2024 election, the 10y term premium has increased 70bp ð— The premium has been range-bound this year between 60-90bp ð— Averaging 70bp ð— The recent doubling of term buybacks has helped pull the premium toward the lower end of its range ð— Hawkish post-Jackson Hole commentary has also pulled the term premium lower 0.40 0.50 0.60 0.70 0.80 0.90 1.00 Jan-26 Mar-26 May-26 Jul-26

42 Buybacks • In mid-August, the Treasury announced plans to at least double the size of its regular liquidity buybacks • These operations are designed to remove off-the-run supply from the market to promote secondary market liquidity ð— But the timing of the announcement was unusual; it occurred after the quarterly refunding which is when the Treasury normally announces the size of these operations ð— As a result, the market interpreted the Treasury move as an "activist" effort to manage term interest rates lower ð— Unlike the Federal Reserve which can create (unlimited) reserves to purchase Treasuries in the secondary market, the Treasury must finance its purchases by issuing more debt 1/ ð— The Treasury is expected to finance these purchases by issuing more bills ð— As bill demand is strong ð— And despite increased supply, bill yields are still trading close to OIS 1/ Or reducing its precautionary operating cash buffer

43 Will it work? 10y TSY (change, bp) Note: Cumulative change in yield since the August 19 buyback announcement. Sources: Bloomberg, SMBC Nikko ð— The extra $14bn in buybacks this quarter may have little effect on 20y and bond yields ð— There is $5.5trn in outstanding debt >10y to maturity ð— But there may be a more significant announcement effect ð— The Treasury Secretary has warned markets that he has significant resources ð— That could be deployed to corral term interest rates ð— And a more activist Treasury could consider reductions in term auction size ð— Or larger buybacks -10 -8 -6 -4 -2 0 2 4 6 8 10 8/19 8/21 8/25 8/27 8/31

44 Expanding buyback fire power 1/ Sources: US Treasury, SMBC Nikko Daily cash balance less E(1w) ($bn) ð— The Treasury might be able to divert some of its surplus cash to increasing its term buybacks ð— On average this year, it has held $165bn in its account at the Federal Reserve above its expected 5d cash outflows – E(1w) ð— In theory, it could use a portion of this extra cash – say $100bn – without jeopardizing its precautionary cash buffer ð— But the Treasury has already eyed using this cash to invest in the repo market 2/ 1/ See, " Increasing buyback firepower ", August 25, 2026 2/ See, " Investing Treasury's cash ", July 29, 2026 -600 -400 -200 0 200 400 600 800 Nov-25 Jan-26 Mar-26 May-26 Jul-26

45 Bill demand is strong Auction bid/cover ratio Sources: US Treasury, SMBC Nikko Money fund bill holdings (% assets) Sources: Crane's Data, SMBC Nikko 35 36 37 38 39 40 41 42 43 44 45 Oct-25 Dec-25 Feb-26 Apr-26 Jun-26 …m oney funds hold nearly $3.5trn in Treasuries 2.70 2.75 2.80 2.85

2.90 2.95 3.00 3.05 3.10 3.15 4w 6w 8w 13w 17w 26w 2022-25 2026 Auction demand is strong enough to accommodate additional bill issuance…

46 Demand is strong despite increased supply Bill/outstanding debt ratio (%) Sources: US Treasury, SMBC Nikko 3m bill less OIS (bp) Notes: 20d average. Sources: Bloomberg, SMBC Nikko 10 12 14 16 18 20 22 24 26 28 Jan-18 Jan-20 Jan-22 Jan-24 Jan-26 Treasury has increased its reliance on the bill market since 2023… -50 -40 -30 -20 -10 0 10 20 Jan-22 Jan-23 Jan-24 Jan-25 Jan-26 …and bill yields have mostly been steady over the period

47 Cash management buybacks • The Treasury uses periods of strong cash inflows to conduct periodic buybacks • These operations are designed to smooth out the Treasury's cash flows while flattening out seasonal swings in bill issuance • The Treasury uses $150bn/y of these cash flows to retire bills and short coupons (<2y) • Individual operations are between $12.5bn and $15bn (par) • In theory, the Treasury could devote some of this cash to longer maturity buybacks where demand is stronger Par offer to max ratios by sector Note: Average over the last 10 operations. Sources: US Treasury, SMBC Nikko 0 2 4 6 8 10 12 14 16 Cash management 10-20y 20-30y

48 Buybacks and hawkish Fed favors a flatter curve 5s30s UST Curve (bp) Sources: SMBC Nikko, Bloomberg, ICAP ð— A hawkish Fed against the backdrop of a resilient economy and above-target inflation argues for a flatter curve ð— With pressure on front-ends yields and lower term premia 1/ 1/ Term premia may fall as confidence in the Fed's inflation fighting willingness increases. -150 -100 -50 0 50 100 150 200 250 300 1995 2000 2005 2010 2015 2020 2025 bps 5y30y Treasury Curve

49 Treasury cash Treasury cash balance ($bn) Sources: US Treasury, SMBC Nikko ð— We estimate the Treasury has another $40bn or so in IEEPA refunds to process ð— Bill issuance has already slowed ð— The Treasury is looking to end the year with $850bn in cash ð— As some payments that normally would be processed at the start of the year are pulled forward because of the New Year holiday ð— We look for net bill issuance in Q4 of $250bn 200 300 400 500 600 700 800 900 1000 1100 Oct-24 Apr-25 Oct-25 Apr-26

50 Bank reserves and RMPs Bank reserves (% bank assets) Sources: Federal Reserve, SMBC Nikko ð— The Fed paused its reserve management bill purchases (RMPs) in August ð— Bank reserves have been ample and steady all summer ð— And funding markets have been tame ð— The Fed will increase the size of its RMPs in preparation for next April's tax receipts ð— Probably beginning in December 2850 2900 2950 3000 3050 3100 3150 3200 Jan-26 Mar-26 May-26 Jul-26

51 Intraday liquidity Average intraday overdrafts ($bn) Sources: Federal Reserve, SMBC Nikko ð— Faster payments and a shift to 24/7 payment processing might increase the demand for reserves ð— As banks would seek to hold thicker intraday liquidity buffers ð— But this depends on their willingness to borrow intraday liquidity ð— From the market 1/ ð— Or from the Fed's discount window 2/ 0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 Jan-16 Jan-18 Jan-20 Jan-22 Jan-24 1/ See next slide 2/ Collateralized intraday loans from the discount window are interest free

52 Intraday repo 1/ • Intraday repo allows banks and dealers to coordinate the timing of their payment and collateral in- and outflows. It improves repo market efficiency by smoothing out the troughs in funding liquidity while allowing collateral to be (re)used more efficiently throughout the day. • The intraday market is currently small, but we think it could grow to $1trn as dealers and banks shift to "as needed" temporary repo financing" . Bank lenders can use the market to earn an extra return on cash that still is deposited at the Fed at the end of the day. • We expect borrowers to replace their use of the daylight overdraft credit provided by the clearing banks with intraday repo . Most of this credit is very

short-term – generally less than an hour. • Excluding “late return fees” we think the intraday repo rates might be below (pro-rated) overnight rates. Clearing banks’ daylight overdraft charges are likely the ceiling for intraday repo rates. • Operational issues could slow the expansion of intraday repo . Currently, transactions are not subject to clearing and regulatory reporting is based on end-of-day balances. • Importantly, transactions must settle seamlessly; trades that fail to unwind on time could cause a cascade of other fails and a surge in borrowing 1/ See, “ Intraday repo ”, August 12, 2026

53 Intraday cash and collateral flows are lumpy Fedwire settlements (% distrib) Sources: Copeland et al (2024), SMBC Nikko Fed Securities wire (% distrib) Sources: Copeland et al (2024), SMBC Nikko 0 2 4 6 8 10 12 Fedwire is open from 9pm the preceding day to 7pm. Most cash settlements occur early in the morning or late afternoon. 0 10 20 30 40 50 60 70 By contrast, securities mostly settle first thing in the morning See, “The Dueling Intraday Demands on Reserves”, A. Copeland and S. Yu Wang, Liberty Street Economics, Federal Reserve Bank o f New York, October 21, 2024

54 Intraday repo demand ð— BNY offers intraday tri-party repo ð— Users specify the maturity of their trade or use the default intraday setting (8.30-15.30) ð— Interest is calculated by the second up to the end time ð— The trade automatically unwinds at the end time provided the borrower has enough cash in its tri-party account ð— If there isn’t, the trade maturity is extended ð— Activity is light ð— We estimate intraday volume might grow to $1trn ð— Alexandrova Kabadjova et al calculate the amount of daily intraday liquidity used by US banks at around $630bn 1/ ð— Scaling up for the increase in Fedwire volumes since 2020 suggests that intraday liquidity might be around $1trn ð— In theory, banks might be able to use the intraday repo market to provide this intraday liquidity without the need for maintaining similarly sized precautionary reserve balances ð— The Fed might then be able to reduce the size of its balance sheet 1/ See, “Intraday Liquidity Around the World”, B. Alexandrova Kabadjova et al., Bank for International Settlements, April 11, 2023

55 Intraday repo rate ð— Provided intraday cash lenders can get their cash back in time, the yield from intraday activity is “extra” – above what they might earn in overnight repo or IORB ð— That said, money funds may be more reluctant to participate in the intraday market as they have few alternatives for late returning money ð— Their cash might be limited to the morning only as later returning cash might miss the RRP backstop ð— For borrowers, the cost of intraday cash is their cost of alternative funding ð— Banks have access to the Discount Window with their pre-placed collateral and so they might be unwilling to pay to borrow in the intraday repo market ð— Non-bank borrowers, however, would use the intraday repo market to replace the daylight overdraft credit provided by the repo clearing banks ð— More than half (64%) of daylight overdrafts occur before 10am and 1/3 are resolved within a minute ð— And nearly all (86%) are resolved within an hour 1/ ð— We think daylight overdraft costs are likely to be the ceiling on intraday repo rates 1/ See, “TBAC presentation to Treasury, August 2026”, US Treasury

56 Tokenizing repo 1/ • Shifting repo transactions onto distributed ledger (DLT) blockchains promises significant efficiencies • But much of the current focus is on using blockchains to increase intraday repo trading • Replacing the exchange of cash and collateral with a blockchained token would allow for real time atomic settlement, 24/7 markets along with a potential expansion of collateral eligibility 2/ • Smart contracts would make collateral substitution and optimization simpler and faster • Tokenized repo could be tailored to “just in time”, intraday funding 1/ See, “ Tokenizing repo: Just - in - time funding? ”, May 26, 2026 2/ In atomic settlement both legs of the trade have to clear for it to settle; all or none

57 Efficiency gains from blockchaining repo: Tri-party • While the cash and collateral all sit at the tri-party clearing bank, there are three different ledgers that must be coordinated • The cash borrower • The lender • And the tri-party clearing bank • Each participant needs to match what its ledger shows with what is recorded in the clearing bank’s ledger • Blockchaining would replace this with a single ledger

visible (and accessible) to all three parties in the repo • Settlement can occur faster and more transparently

58 Better collateral management • The same blockchain could contain a record of the ownership of a portfolio of different assets • Each with different haircuts • And real time margining • Smart contracts allow for instantaneous collateral substitution and enhanced collateral optimization • Multiple ledgers can be linked so that the movement of cash and collateral (or their repo tokens) can move without being constrained by borders or trading hours • As a result, borrowers can pledge a wider mix of collateral and more easily monetize their asset pools

59 Affiliate repo • Affiliate repo is an “internal capital market” for large banks 1/ • It is used to direct liquidity (and collateral) internally, within the same bank across subsidiaries and parents • In H2 2025, affiliate repo exceeded $2trn – mostly in non-centrally cleared bilateral repo transactions (NCCBR) • Most affiliate repo uses Treasury collateral • In tri-party and NCCBR trades, affiliate repo is used for general funding rather than specials (specific CUSIP) activity. 1/ Transactions are not included in the calculation of the Fed’s benchmark repo rates. Transactions between affiliates are exempt from clearing provided the bank centrally clears its non-affiliated trades.

60 Affiliate repo - rates • Affiliate repo rates are generally similar to the rates on trades between unaffiliated counterparties • However, rates on affiliated NCCBR trades are typically 7bp higher than similar transactions between unrelated counterparties • Reg W allows dealers to source liquidity from an affiliate without consuming balance sheet provided the trade is collateralized with Treasuries and the rate is at or above market rates • But Cenicola et al, find that affiliated repo trades occur between nonbank institutions and their subsidiaries that would not be affected by Reg W 1/ • And transactions occur in both directions - up to and down from the parent 1/ Which suggests that there are multiple reasons for these transactions. See “Affiliate Repo”, A. Cenicola, M. Friedrichs, R. Mann, and L. Olson, Office of Financial Research, US Treasury, May 28, 2026

61 Affiliate repo – haircuts • Are affiliate repo trades haircutted? • After all, the trades are within the same holding company • Most transactions are haircutted • Reflecting regulatory requirements • Subsidiary-level autonomy • And separate risk management teams • That said, affiliate repo haircuts are generally lower than those between unaffiliated counterparties • Cenicola et al, argue that lower haircuts could potentially amplify financial shocks across unconnected affiliates

62 NCCBR: Non centrally cleared bilateral repo 1/ • Outstandings in the uncleared bilateral repo market are about $5trn • Of which $3trn is against Treasury collateral • Just under half ($1.3trn) is with affiliated counterparties • Just over half of outstanding NCCBR has tenors 2d or longer • And 56% is unhaircutted • Although much of this reflects offsetting long and short positions • As well as cross product margining • Overnight NCCBR trades about 5bp above SOFR (excluding those securities that trade at a premium) • Approximately $1.5trn of currently uncleared Treasury repo would be subject to clearing once the clearing mandate goes into effect next July 1/ See, “A Closer Look at the US NCCBR Market”, A. Cenicola and C. Garriott, Office of Financial Research, US Treasury, August 18, 2026

63 NCCBR repo Sources: Cenicola and Garriott (2026), SMBC Nikko Haircut distribution (%) Maturity distribution ($trn) Sources: Cenicola and Garriott (2026), SMBC Nikko 0 10 20 30 40 50 60 <-2 -2 to 0 0 0 to 2 >2 0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 Intraday O/N Open 2-7 8-30 >31

64 Repo rates Note: 20d average. Sources: Federal Reserve, SMBC Nikko Tri-party less IORB (bp) SOFR-fed funds (bp) Note: 20d average. Sources: Federal Reserve, SMBC Nikko -15 -10 -5 0 5 10 Jan-24 Jul-24 Jan-25 Jul-25 Jan-26 Jul-26 -6 -4 -2 0 2 4 6 8 10 12 14 16 Jan-24 Jul-24 Jan-25 Jul-25

Jan-26 Jul-26

65 Has the demand for funding declined? Sponsored repo ($bn) Note: 10d average. Sources: DTCC, SMBC Nikko ð— Sponsored repo volumes have fallen since last year ð— And during the Iran-conflict ð— Declining volumes may reflect reduced demand for funding and leverage 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 Aug-25 Nov-25 Feb-26 May-26 Aug-26

66 Money funds sponsored repo activity Money funds sponsored repo ($bn) Sources: Crane’s Data, SMBC Nikko 40 45 50 55 60 65 70 75 80 Jan-23 Jan-24 Jan-25 Jan-26 Sources: DTCC, Crane’s Data, SMBC Nikko As a share of cash lent (%) Money funds account for roughly 65% of the cash lent in the sponsored repo market 300 400 500 600 700 800 900 1000 1100 Jan-24 Jul-24 Jan-25 Jul-25 Jan-26 Jul-26 At the end of July, money funds held a record amount of sponsored repo

67 Money fund balances Gov-only fund balances ($bn) Note: Institutional balances. Sources: Crane’s Data, SMBC Nikko WAMs (d) Note: Institutional balances. Sources: Crane’s Data, SMBC Nikko 4,300 4,400 4,500 4,600 4,700 4,800 4,900 Oct-25 Jan-26 Apr-26 Jul-26 36 37 38 39 40 41 42 43 Jan-26 Mar-26 May-26 Jul-26 …and portfolio WAMs have ceased shrinking Gov- only fund balances continue to grow…

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