



Investment Update, Cash Management Best Practices

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Agenda

- I. Market Update
- II. Money Market Reform
- III. Basel III and Bank Reform Impact
- IV. Banking Best Practices

I. MARKET UPDATE

Market Themes in the 2nd Quarter of 2016



- **The United Kingdom voted to leave the European Union, known as “Brexit”**
 - Markets reacted violently due to the unexpected result and the uncertainty of what's to come
 - Most economists are expecting the U.K. to slow, perhaps even fall into recession, by next year
 - May embolden populous movements in other EU member states
 - Global sovereign bond yields declined significantly amid a flight-to-safety while equities fell sharply but were quick to recover losses



- **The U.S. economy’s expansion slowed in the 1st quarter**
 - U.S. GDP only grew 1.1% in the 1st quarter, but is expected to recover to 2.5%
 - Much of the slowdown can be attributed to lackluster consumer spending, though retail sales in the 2nd quarter have indicated a rebound
 - Job growth was volatile, while inflationary pressures continue to build



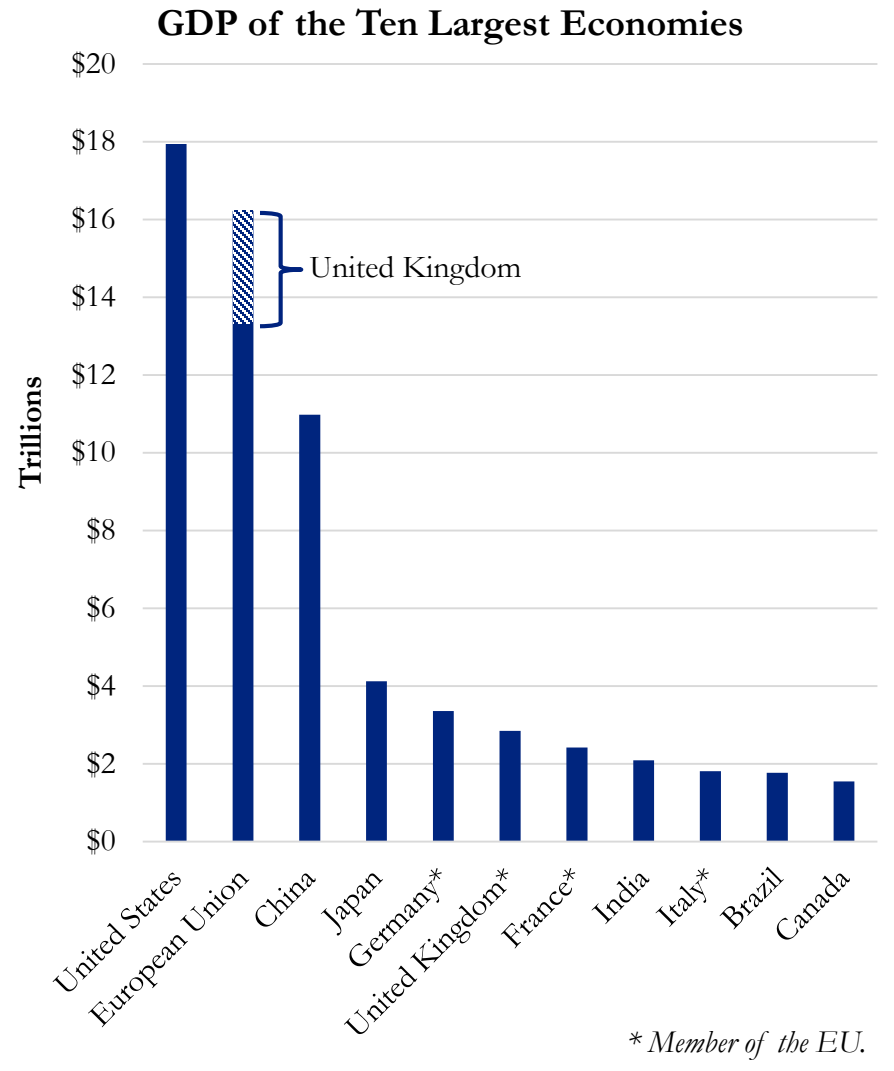
- **The Federal Reserve kept rates unchanged in the 2nd quarter**
 - Continued to express a “dovish” tone at their June meeting
 - Pre-Brexit vote, expectations were lowered further, down to one rate hike in 2016, from two in March
 - Post-Brexit, markets expect no rate hikes in 2016



- **Uncertainty continues to hang over financial markets**
 - The 2016 U.S. Presidential election
 - Global tensions
 - Global economic growth imbalances

European Union: Pre & Post Brexit

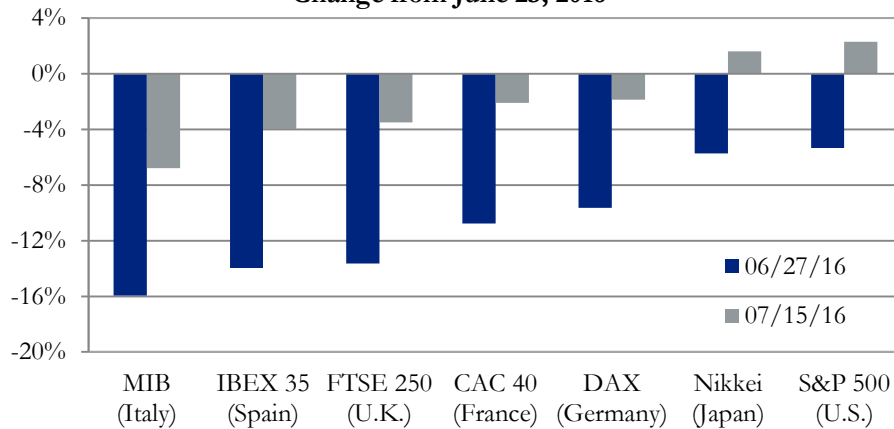
- The European Union (EU) is an economic and political union of 28 member countries, including the U.K.
- **Members:**
 - Represent over 500 million people
 - Are part of the *European single market*, which provides for the four freedoms: free movement of goods, services, people, and capital within the union
 - Are also part of a *customs union*, which applies a common external tariff on all goods entering the market
 - Must adhere to regulations set by the group and contribute to an annual budget



The Brexit Effect On Financial Markets

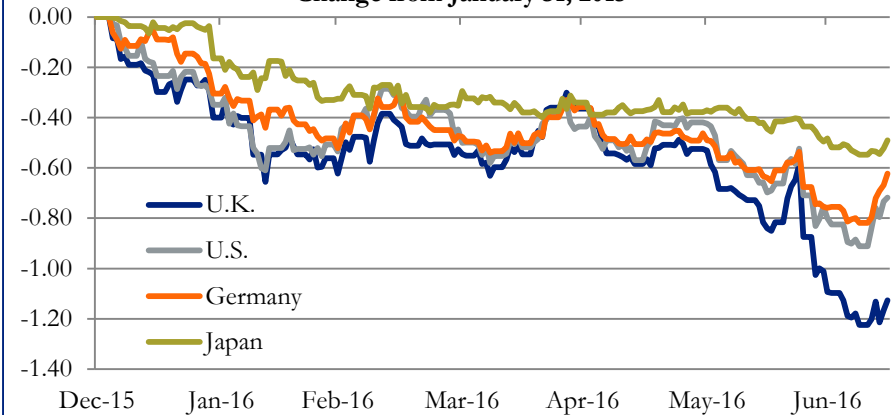
Equity Markets

Change from June 23, 2016



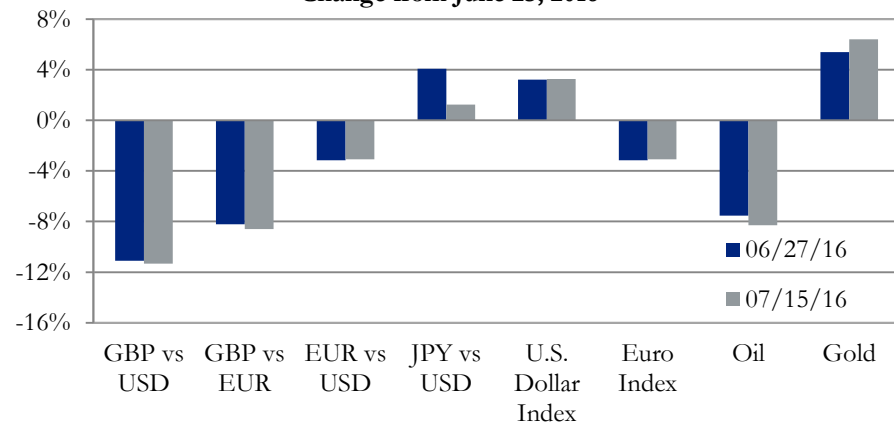
10-Year Bond Yields

Change from January 31, 2015



Currencies and Commodities

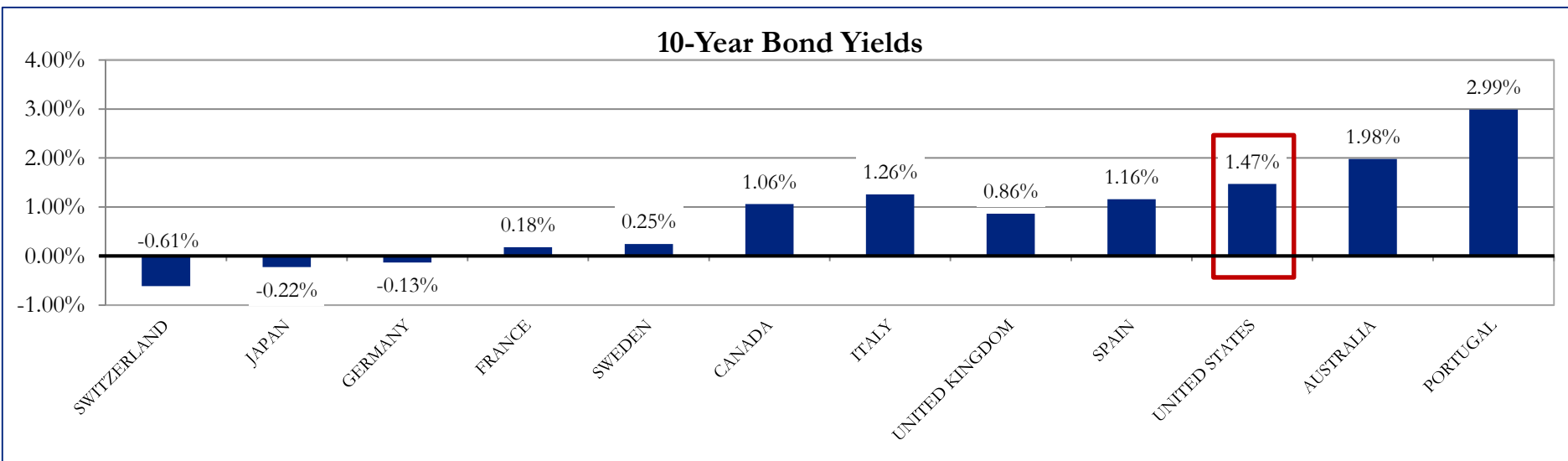
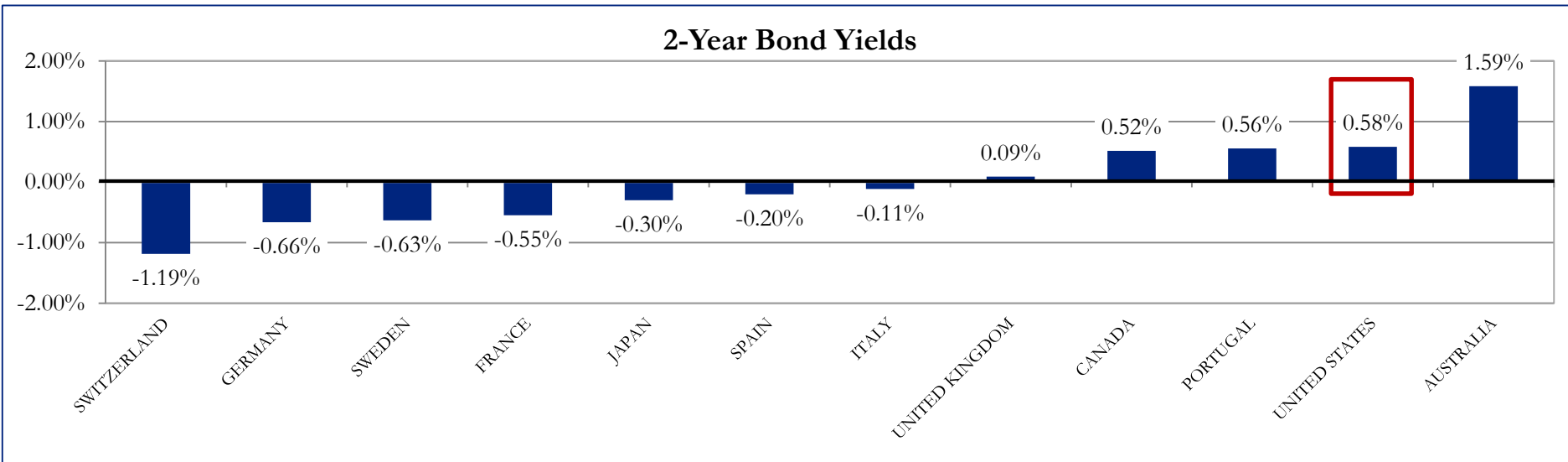
Change from June 23, 2016



Credit Indicators	June 23	June 27	July 15
	Before Brexit	After Brexit	Current
CDX Investment Grade	76 bps	91 bps	73 bps
CDX High Yield	422 bps	479 bps	329 bps
Euro Investment Grade	75 bps	99 bps	71 bps
Euro High Yield	321 bps	418 bps	326 bps
U.S. CDS	25 bps	29 bps	24 bps
German CDS	19 bps	24 bps	18 bps
U.K. CDS	36 bps	47 bps	37 bps

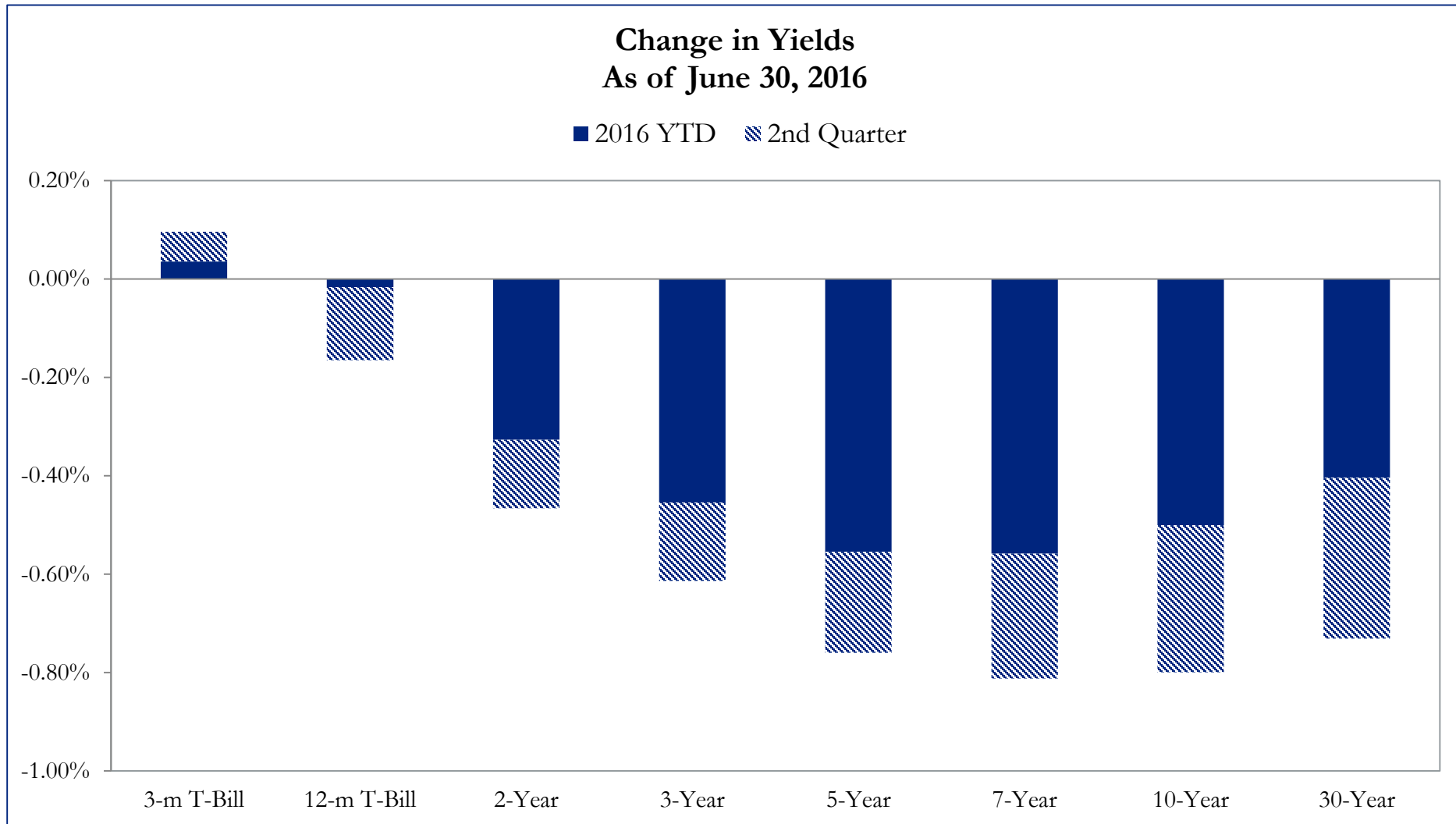
Source: Bloomberg, as of 07/15/16. Change is from 06/23/16.

Interest Rates Are At Historical Lows In Advanced Economies



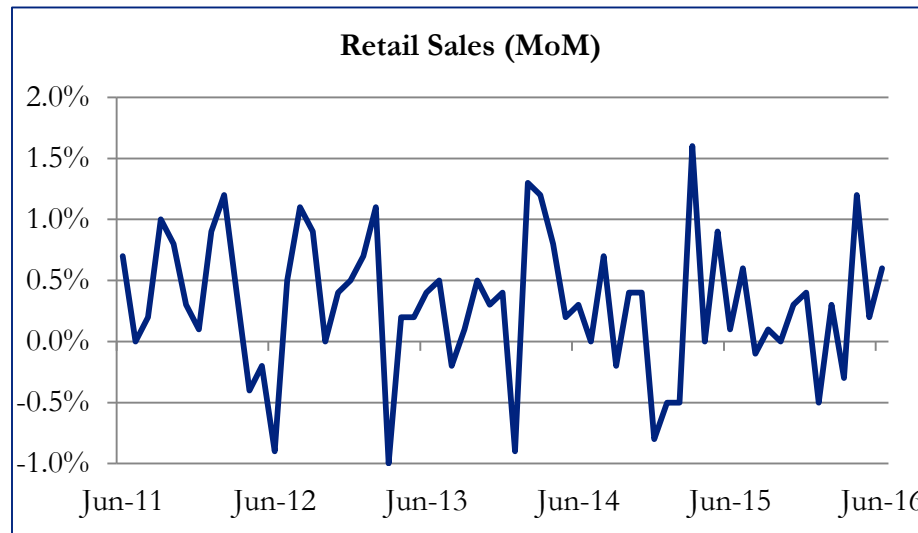
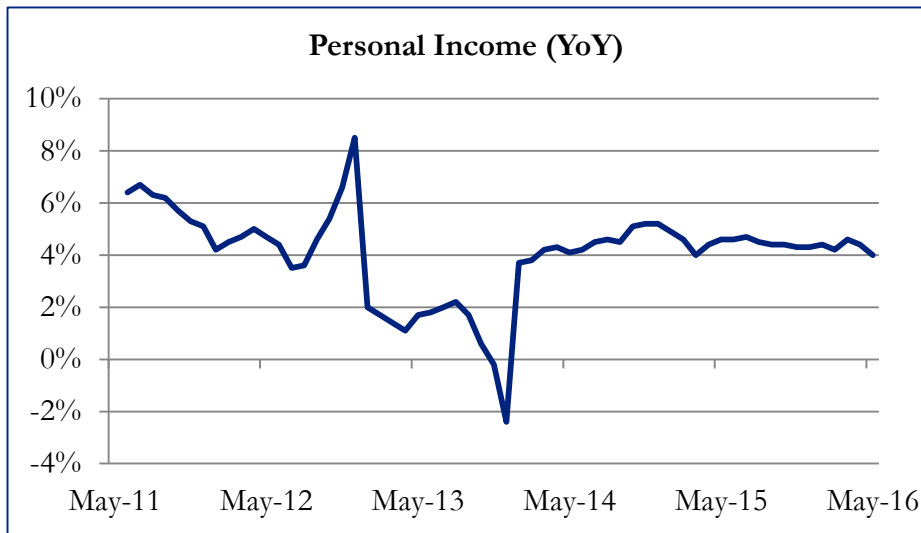
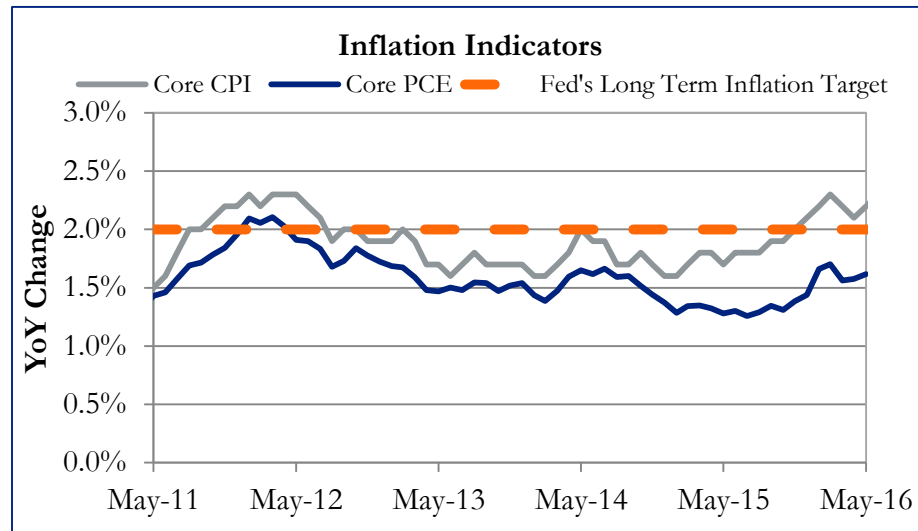
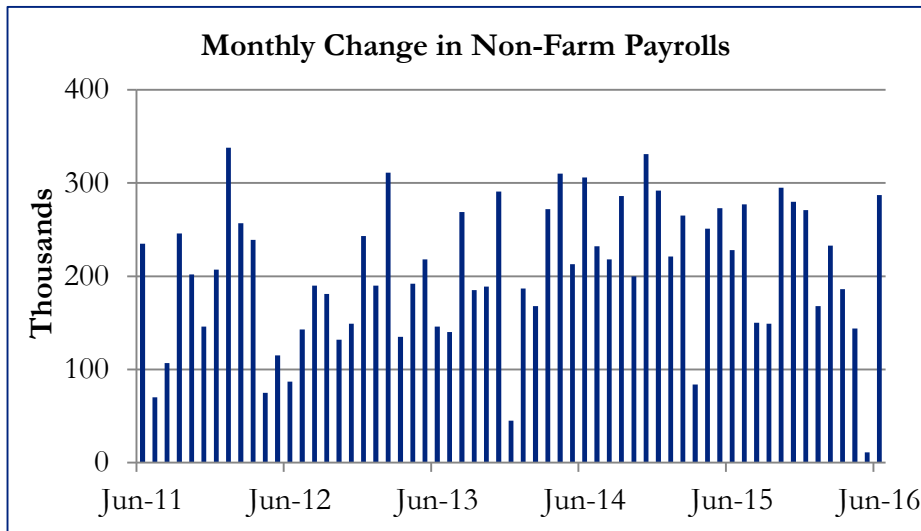
Source: Bloomberg, as of 06/30/2016.

Yields Have Plunged This Year



Source: Bloomberg, as of 06/30/2016.

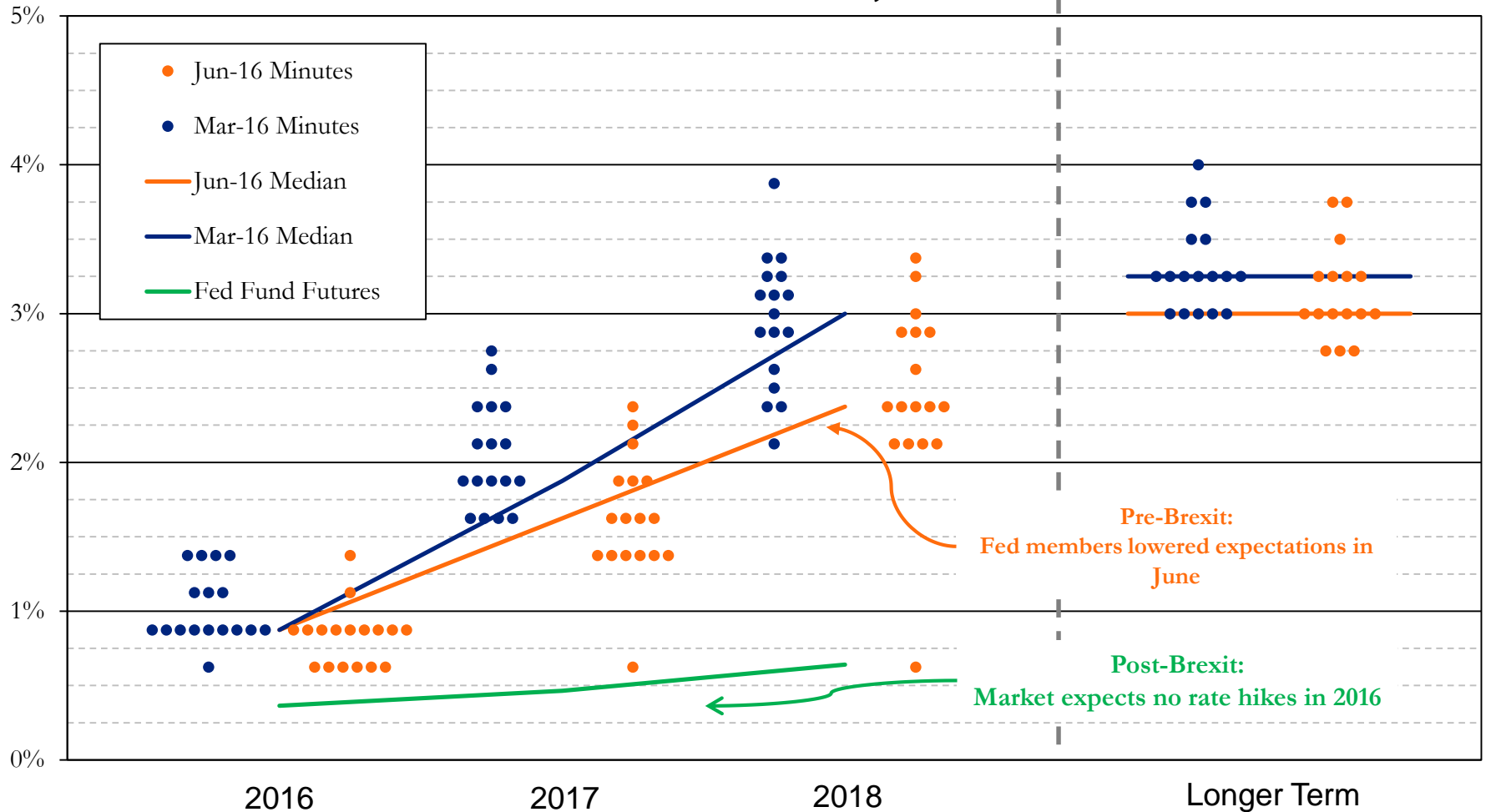
Post-Brexit: U.S. Economy Remains On Track For Slow Growth



Source: Bloomberg, as of June 30, 2016.

FOMC "Dot Plot": Lower For Longer

Pre-Brexit: Outlook Had Moderated; Post-Brexit: No Hike



Source: FOMC; Fed Funds Futures as of 06/30/2016. Individual dots represent each of the 17 FOMC members' judgment of the midpoint of the appropriate target range for the federal funds rate. One participant did not submit longer-run projections in the June 2016 meeting.

II. Money Market Reform

Money Market Reform

The Securities and Exchange Commission (“SEC”) adopted money market fund reform measures on July 23, 2014.

Objectives:

- Reduce heavy redemptions during periods of economic stress
- Mitigate negative impact on financial system created by a “run” on the funds
- Increase risk transparency
- Preserve, “as much as possible,” fund benefits

Key Features:

- Floating net asset value (“NAV” or share price) for prime funds
- Default liquidity fees on non-governmental funds
- Authorization for funds boards to impose liquidity fees/redemption gates

Implementation:

- July 2015 - new reporting requirements
- April 2016 - new risk monitoring and disclosure requirements
- **October 2016 - floating NAV, redemption gates and liquidity fees**

Possible Investor Actions:

- Shift to government money market funds
- Use bank deposits and overnight repo for liquidity
- Shift assets into separately managed accounts



Money Market Reform – New Classifications

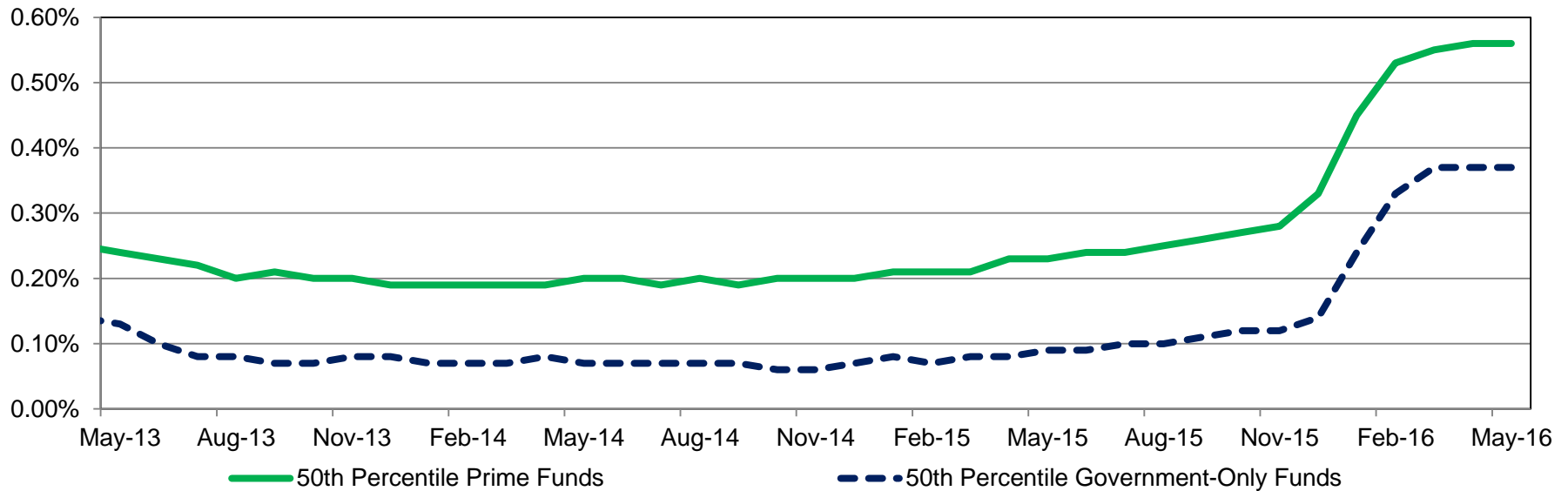
	Prime Fund Government securities, commercial paper, certificates of deposit, corporate notes, and other debt investments	Government Fund 99.5% of total assets in cash, government securities or repos
Retail Fund Limited to “natural persons”	<ul style="list-style-type: none"> • Constant NAV • Gates • Liquidity Fees 	<ul style="list-style-type: none"> • Constant NAV • Optional Gates • Optional Liquidity Fees
Institutional Fund	<ul style="list-style-type: none"> • Variable NAV • Gates • Liquidity Fees 	<ul style="list-style-type: none"> • Constant NAV • Optional Gates • Optional Liquidity Fees

Effective 10-14-2016

Government Funds vs. Prime Funds

- A comparison between historic gross yields on iMoneyNet's 50th Percentile Government Institutional and Prime Institutional funds is depicted in the graph below
 - The average difference between the iMoneyNet 50th Percentile Government and Prime funds over the prior 3-year period ending May 31, 2016 is 14 basis points (0.14%)
 - The spread between Prime and Government funds could widen to 35 bps post-reform

Difference in Gross Yields – Government vs. Prime Funds



Source: As measured by the average of the gross rate advantage of the 50th percentile of the iMoneyNet Fund Rankings for Prime Funds over the 50th percentile of the iMoneyNet Fund Rankings for Government Funds for the five years ended May 31, 2016. The iMoneyNet Prime Institutional Average includes 258 highly rated Prime funds, and the iMoneyNet Government Institutional Average includes 321 highly rated Government funds.

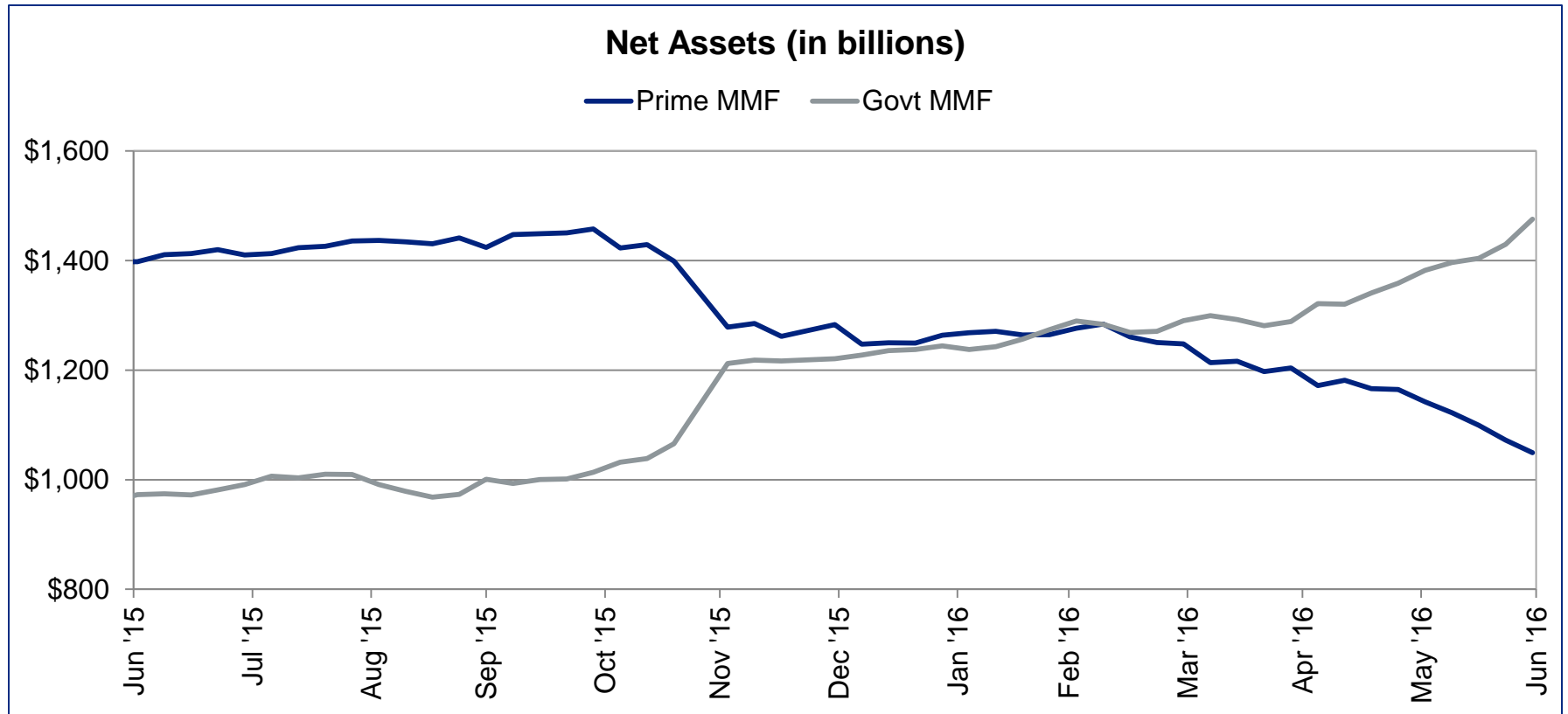
LGIPs

- Local government investment pools (LGIPs) get accounting and reporting guidance from GASB not the SEC.
- In response to MMF reform, GASB published new guidelines for LGIPs.
- The new guidelines paralleled many aspects of the SEC's 2010 amendments to Rule 2a-7.
 - Maturity
 - Credit Quality
 - Diversification
 - Liquidity
 - Shadow pricing
- LGIPs will still be able to maintain a stable \$1.00 NAV without becoming a government securities-only fund.



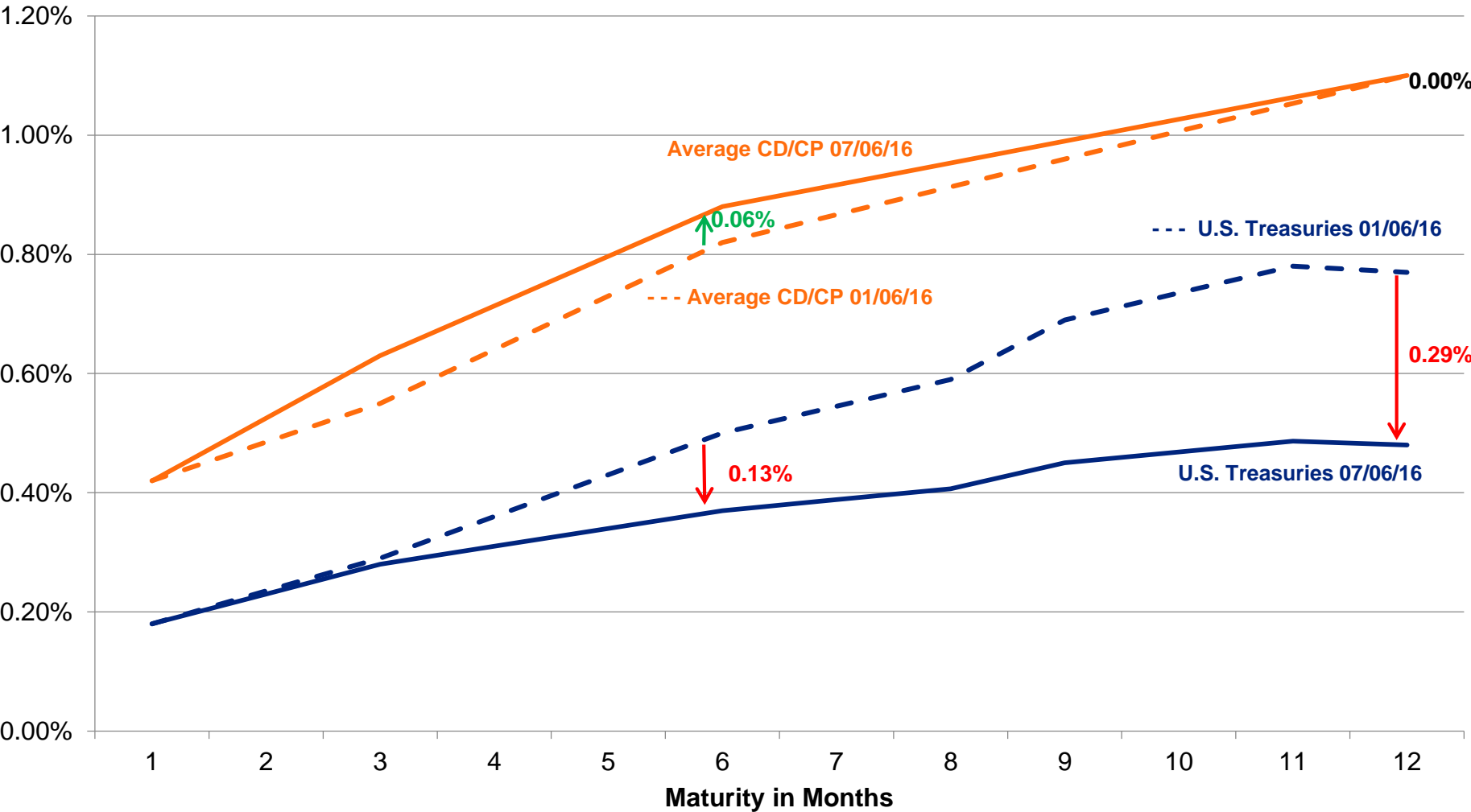
2a7 Reform Driving Asset Flows

- Reform measures set to begin on 10/14/16 will reshape money market industry
- Funds continue to flow from Prime MMFs to Government MMFs ahead of reform
- Flows thus far driven by fund conversions, voluntary investor movement likely forthcoming
- Significant supply/demand implications for front-end investors



Source: Bloomberg, as of 06/30/16.

Short-Term Markets Bifurcate



Source: Bloomberg. PFMAM. Information on CD/CP averages are estimates based on independently compiled data, and are for general information purposes only.

Money Market Reform - Implications

- Governmental investors unlikely to invest in Prime money market funds
 - Floating NAV, gates and liquidity fees
- Greater demand for short-term government obligations
 - Higher prices, lower yields
- Lower demand for CP drives inverse relationship
- Expected result
 - Wider spread between Government and Prime Funds
 - LGIP's become excellent option (stable NAV/Yield)

III. Basel III and Bank Reform Impact

Basel III

- Produced by Bank for International Settlements
- Implemented independently by each nation's banking regulators

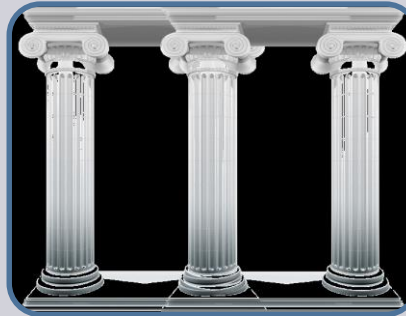


Basel I

1988

Focused on credit risk

Created the credit default swap



Basel II

2004

Initiated 3 Pillars

Minimum Capital Requirements

Supervisory Review Process

Market Discipline



Basel III

2010

Response to 2008 Financial Crisis

Strengthens Basel II Pillars

Stringent Credit, Liquidity and Leverage Rules

Three Primary Categories

Capital



Leverage

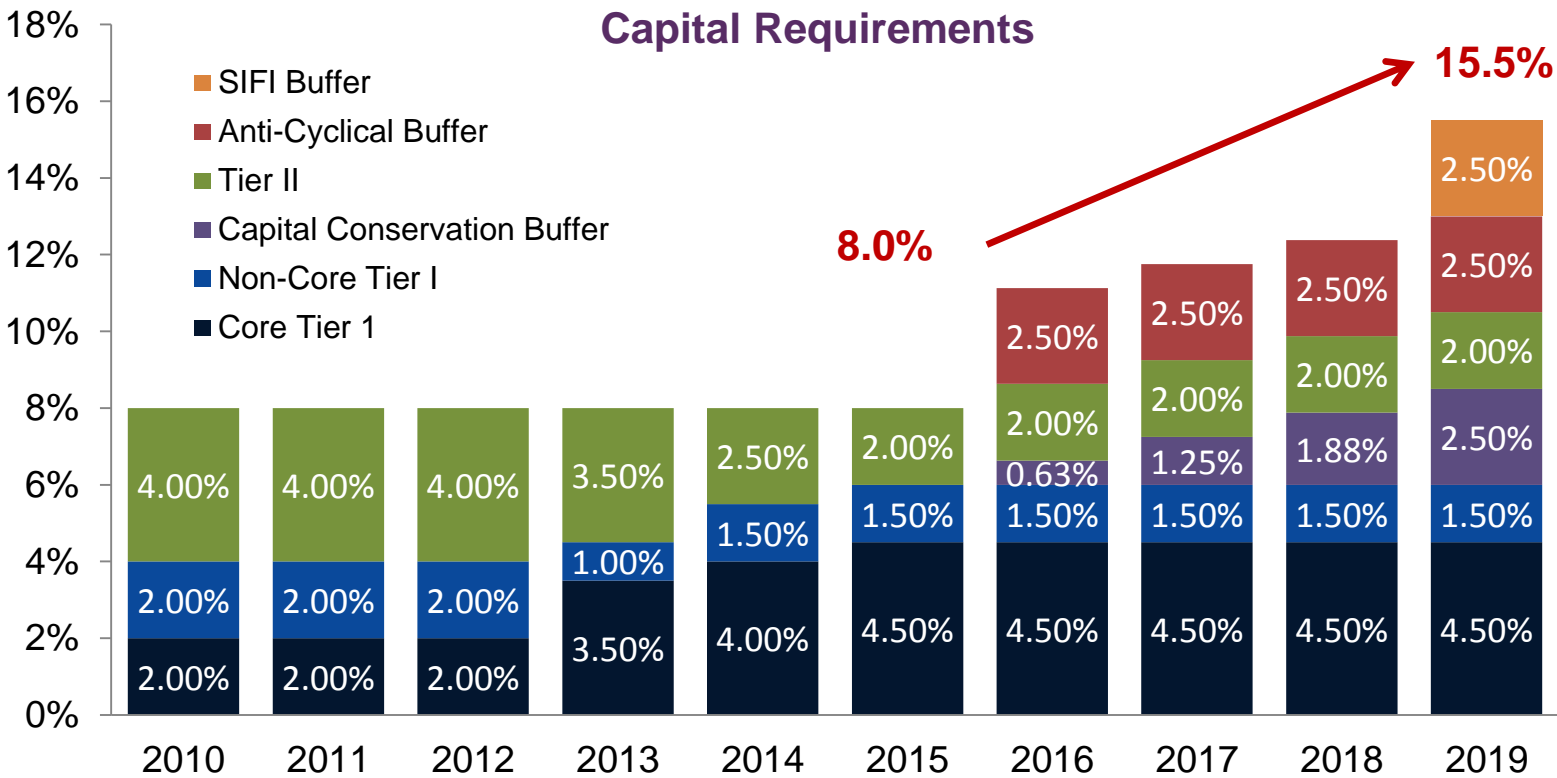


Liquidity



Capital Ratio Requirements

$$\text{Required capital ratio} \uparrow = \frac{\text{Capital (according to new definition)} \downarrow}{\text{Risk-Weighted Assets} \uparrow}$$



Source: JPMorgan, US Fixed Income Regulatory Update for 3Q14

Impact of Capital Rules

- Higher cost of capital
- Lower profitability
 - Lower rates on deposits and other bank products
 - Shift by banks to higher value (more profitable) clients
 - Branch closings and other cost reduction measures

Leverage Restrictions

- To limit the build-up of leverage

$$\frac{\text{Tier 1 Capital}}{\text{Exposure Values (Assets \& Off Balance Sheet Items)}} \geq 3\%$$

- Enhanced 5% supplementary leverage ratio proposed.

Globally Systemic Important Banks (GSIB) in the United States

De-Leveraging Requirements by Bank (\$bn)		
	Capital Increase	(or) Asset Reduction
BAC	-	-
C	2	(49)
JPM	10	(204)
WFC	-	-
GS	5	(107)
MS	8	(166)
BK	4	(72)
STT	-	-
Total	30	(598)

Source: Barclays Research, Leverage Ratio, An Attack on Repo, August 2013

Reduce Asset Exposure

February 24, 2015

J.P. Morgan to Start Charging Big Clients Fees on Some Deposits

New deposit fees likely to reduce deposits by billions



Specifics of the plan are likely to be unveiled on Tuesday by J.P. Morgan executives...

The largest U.S. bank by assets is aiming to reduce the affected deposits by up to \$100 billion by the end of 2015, according to a bank presentation Tuesday morning.

Source: Wall Street Journal

<http://www.wsj.com/articles/j-p-morgan-to-start-charging-some-big-clients-deposit-fees-1424743293>

Liquidity Standards

- Implementation beginning June 2015
- The Liquidity Coverage Ratio (LCR)

$$\frac{\text{High Quality Liquid Assets}}{\text{Total Net Cash Outflows}} \geq 100\%$$

Liquidity Crisis: Withdrawals of deposits,
draws on letters of credit, etc.)

- High Quality Liquid Assets
 - U.S. Treasuries, 100%
 - GSEs, 85%
 - High grade corporates and exchange traded equity, 50%

Total Net Cash Outflows

		Deposit Type	Assumed Runoff %
		Stable retail deposits	3%
		Fully insured operational deposits	5%
		Not fully insured operational deposits	10%
Public Deposits	}	Level 1 (Treasuries) Assets Collateralizing Deposits	0%
		Level 2A (Agencies) Assets Collateralizing Deposits	15%
		FHLB LOC Collateralizing Deposits (Operational)	25%
		Non-operational, not fully insured deposits (Corporate / Commercial)	40%
		Non-operational, Deposits from Financial Companies	100%

Impact of Liquidity Requirements

- Retail and “operational wholesale” deposits more valuable
 - Higher earnings credit rates
 - Extended analysis settlement
- High quality, liquid assets are precious
 - Securities pledged as collateral don’t count
 - FHLB LOCs are good alternative
 - **Some banks are refusing public deposits**
- Liquid reserves needed for undrawn commitments
 - Higher cost of credit
 - Fewer loans
- Desire for longer-term funding
 - Repo volume down
 - Average maturity of deposits up

IV. Banking Best Practices

Banking Best Practice Summary

- Safeguarding of assets – safety comes first
 - ✓ No award for high earnings, but public flogging for loss
 - ✓ Calculate your credit exposure (uninsured portion)
 - ✓ If uninsured or not backed by U.S. – need to do credit analysis on bank
 - ✓ Take steps to mitigate risk through informed investing

- Cash Flow analysis is fundamental to managing district funds
 - ✓ Whether you are borrowing or investing, need to know ebb and flow of funds

- Understand your bank relationship to gain efficiencies and lower costs
 - ✓ Analysis statement identifies all of your costs for banking
 - ✓ Consider a banking RFP to help keep your pricing competitive (realize – ton of work)

- Historically, yield curve provides higher earnings longer-term
 - ✓ Avoid timing market by consistently investing

- One of your best resources is sitting right next to you
 - ✓ Shake hands with your new found friend next to you.
 - ✓ MCCBOA
 - ✓ Vendors you trust

Sector Allocation Summary

Investment Type	Permitted Under PA 331 Community College Act
(a) U.S. Treasury / Agency Obligations	✓
(b) Bank Deposits	✓
(c) Bankers' Acceptances	✓
(d / e) Commercial Paper	✓ must be rated prime
(f) Mutual funds (composed of permitted investments)	✓
(g) Repurchase Agreements	✓
(h) Investment Pools	✓
(i/j) CDARs / FDIC deposits	✓
(k) Michigan Municipal Bonds	✓ must be rated at least investment grade.

Note: Information taken from PA 331, as amended in January 2015; Chapter 389.142 Investment of funds; restrictions; commingling prohibited; disposition of earnings; limitation on investment or deposit of funds; compliance with divestment from terror act; definitions. [http://www.legislature.mi.gov/\(S\(begoaut1ajjmt4gnq4dhnyyc\)\)/mileg.aspx?page=GetObject&objectname=mcl-389-142](http://www.legislature.mi.gov/(S(begoaut1ajjmt4gnq4dhnyyc))/mileg.aspx?page=GetObject&objectname=mcl-389-142)

Allowable Bank Accounts and FDIC Coverage

- School Code allows for deposits into checking, NOW, savings, money market, CD's, and CDARs



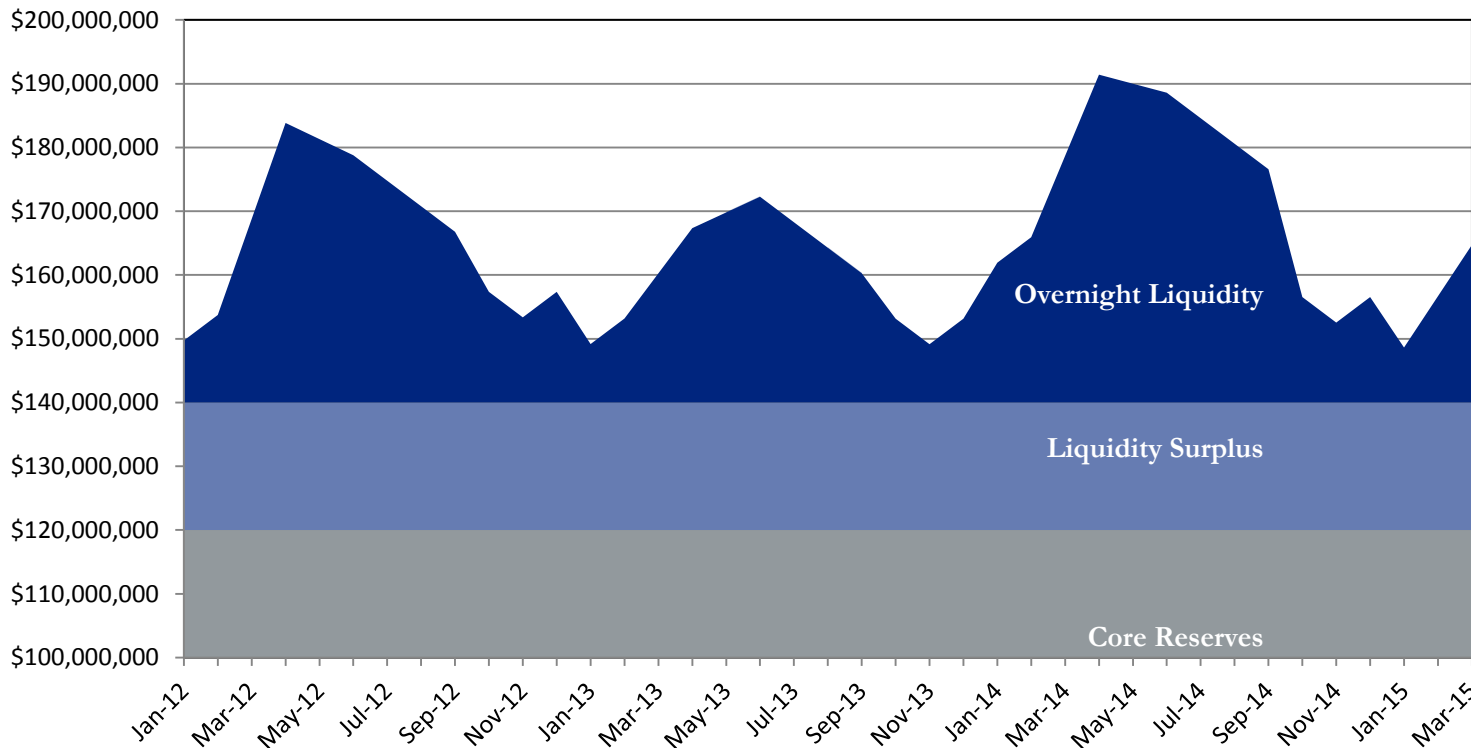
Bank Account Type	In State (bank is located in the same state as the public entity)	Out of State (bank is located outside of the state of the public entity)
Demand Deposit <i>including NIBTA and Interest Bearing Transaction Accounts</i>	\$250,000	Not separated
Time & Savings <i>including Negotiable Order of Withdrawal (NOW) and Money Market accounts</i>	\$250,000	Not separated
Total	\$500,000	\$250,000

Note: public entities are not allowed to invest in banks that do not have a physical place of deposit in the state of Michigan

Cash Flow Segmentation

- Excess liquidity in an investment management program can be an opportunity cost
- Detailed cash flow analysis may help prudently define fund balances that can be invested in intermediate – to longer-term investments at potentially higher yields

Sample Cash Flow Analysis
January 2012 through March 2015



Overnight Liquidity

- 100% liquid
- Fully flexible
- Overnight

Liquidity Surplus

- Laddered investments to known upcoming cash flows

Core Reserves

- Intermediate and longer investments
- Potentially higher returns over time
- Employ active management tactics

Sample Bank Structure

Investment Accounts
Safety based on underlying security. Permitted Investments listed in PA 331: Chap 389.142

Investment Account
Separate Custody Account

LGIP / Money
Market Fund

State Funds /
Tuition Collection

General Fund
Checking

Food Service
Account

Payroll
Account

Payables
Clearing

Bank Accounts
FDIC backed
Overnight
Liquidity

Composite Analysis Statement

- Summary statement that compiles all accounts in the composite into one statement
- Shows which accounts are included in composite, earnings credit and charges

001 016 C 2800457

 RELATIONSHIP SUMMARY

BANK	ACCDUNT NUMBER	NAME	NET AVERAGE COLLECTED	EARNINGS CREDIT	BALANCE REQUIRED	ANALYZED CHARGES
016	00000000002043036	SCH00 EAST GRAN	410,966	67	3,052,554	501.79
016	00000000002800457	EAST GRAND RAPI	904,209	148	2,880,274	473.47
016	00000000002800460	EAST GRAND RAPI	52,169	8	266,632	43.83
016	00000000002806985	EGRPS T&A	43,634	3	997,910	82.02
016	00000007163044808	PAYROLL	0	0	366,033	60.17
016	00000007163046084	VISION INS FUND	0	0	355,083	58.37
016	00000007166385810	CHILDCRE PRESCL	0	0	409,651	67.34
016	00000007515183031	EAST GRAND RAPI	5,007,463	0	0	628.76

 AVERAGE BALANCE ON DEPOSIT

Average Negative Collected Balance	957.94
Average Positive Collected Balance	6,419,401.56
Investable Balance Available for Services	6,419,401.56

Balance Summary

- Listing of all activities you are charged for
- AFP Code is industry standard to aid in comparing
- Deposit Admin Fee replaces “FDIC charge” – Fee / \$ on deposit

SERVICES PERFORMED	AFP CODE	UNITS	UNIT PRICE	SERVICE CHARGES	REQUIRED BALANCE
ACCOUNT SERVICES					
STANDARD					
DISB CHECKS PAID	15 0100	193	0.1900	36.67	297,049.14
ELECTRONIC DEBITS TRANSACTIONS	15 0100	22	0.4100	9.02	54,871.64
COMMERCIAL DEPOSITS	01 0101	129	0.6000	77.40	514,649.79
CHK DEPOSIT ITEMS REJECTED	10 0230	7	0.3000	2.10	12,775.00
CHK DEPOSIT ADJUSTMENT	10 0500	3	8.6000	25.80	156,949.91
COMPOSITE GROUP	01 9999	1	0.0000	0.00	
CHK RETURNED ITEM OR CHARGEBACK	10 0400	2	15.0000	30.00	182,499.90
DISB CHECK PAID MICR REJECT & RE	15 0300	1	0.3567	0.36	4,380.00
PAPER ANALYSIS STATEMENT FEE	01 0411	9	4.8000	43.20	262,799.86
CHK UNENCODED ITEMS DEPOSITED	10 022Z	1,110	0.1400	155.40	970,899.50
MONTHLY MAINTENANCE	01 0000	8	27.5000	220.00	1,338,332.91
PAPER ACCOUNT STATEMENT FEE	01 0310	8	4.8000	38.40	233,599.87
CHK PAPER CHECK ADMIN FEE	10 1030	1,110	0.0100	11.10	69,349.96
ACH CREDIT RECEIVED	25 0201	26	0.1800	4.68	28,469.99
ACH DEBIT RECEIVED	25 0200	16	0.1800	2.88	17,519.99
ACH ADDENDA RECEIVED	25 0202	15	0.0856	1.28	7,786.67
DEPOSIT ADMINISTRATION FEE	00 0230	6,433	0.1100 *	707.63	983,674.51
NEGATIVE COLLECTED FEE	00 0200	957	18.00000%	14.85	100,131.63
ZBA					
ZBA PARENT ACCOUNT	01 0020	1	20.2500	20.25	123,187.43
ZBA SUB-ACCOUNT	01 0221	3	20.0000	60.00	364,999.80
ACH					
ACH - STANDARD					
ACH NOTIFICATION OF CHANGE	25 0302	1	6.6000	6.60	40,149.98
ACH ORIGINATED - ONLINE					
ONLINE ACH MONTHLY FEE	99 9999	1	30.0000	30.00	
ACH CREDIT ORIGINATED	25 0101	734	0.1800	132.12	803,729.56
ACH ADDENDA ORIGINATED	25 0102	2	0.0859	0.17	1,034.17
ACH FILE PROCESSED	25 0505	2	0.0000	0.00	

Earnings Credit Allowance

- Earnings Credit is .20%
- Earnings Credit Allowance is calculated as follows:
 - ✓ $ECR\ 0.20\% * Investable\ Balance\ \$1,345,202 * Days/Year\ 31/365 = \228.50
- To totally offset service charges, would have required \$8,328,140

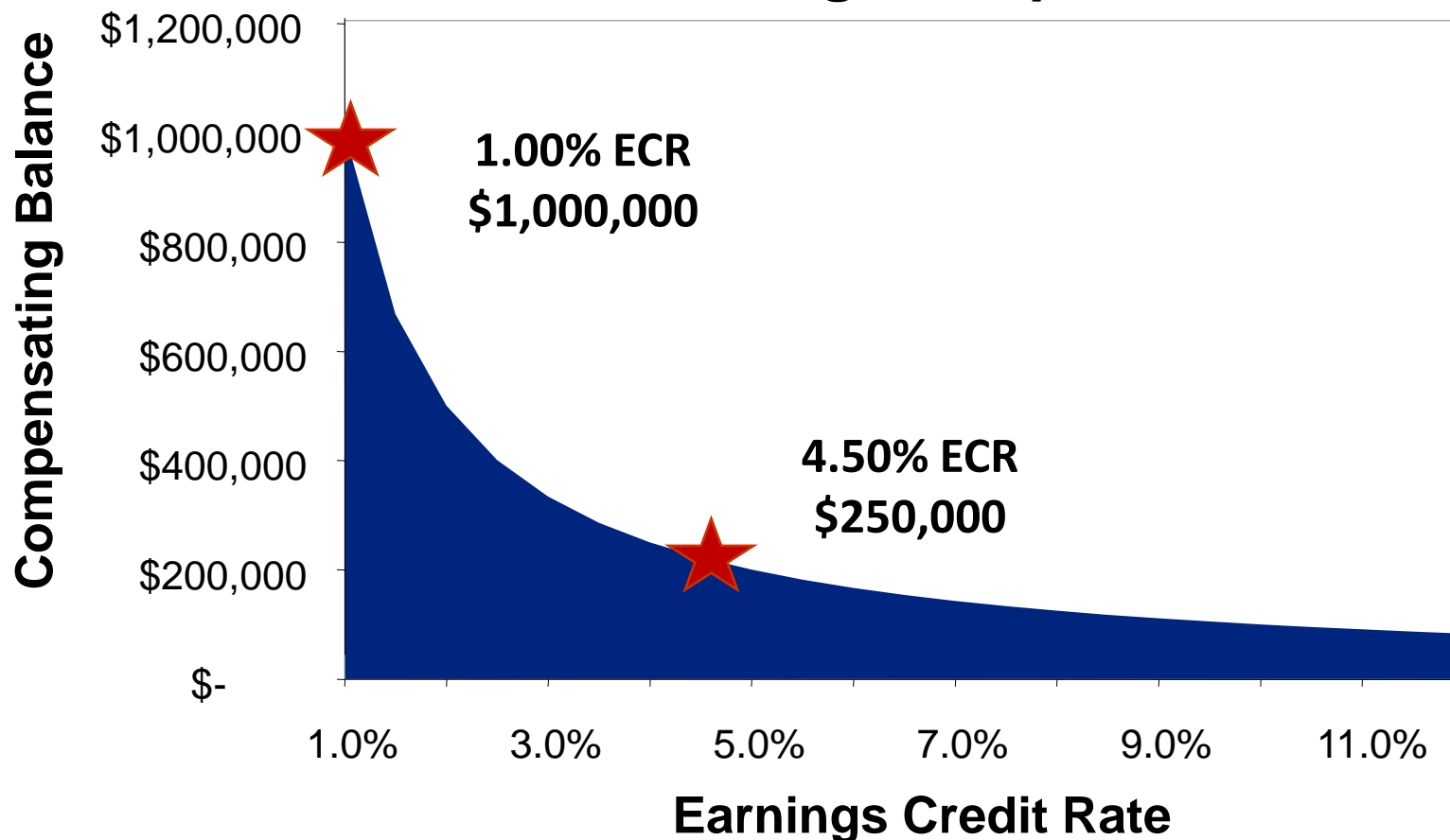
Earnings Credit Allowance	228.50		
- Less Actual Analyzed Charges	<u>1,915.75</u>		
Net Position	(1,687.25)		
Analyzed Results Transferred In		<u>(1,687.25)</u>	
Total Analyzed Result		(1,687.25)	
Charge posted to account (016) 2800457		on 04/10/15	1,687.25

\$1.00 Of Unit Price Is Equal To 6,083.33 Of Composite Balance

Investable Balance Receives An Earnings Credit Of 0.200000%

Impact of Rising Rates

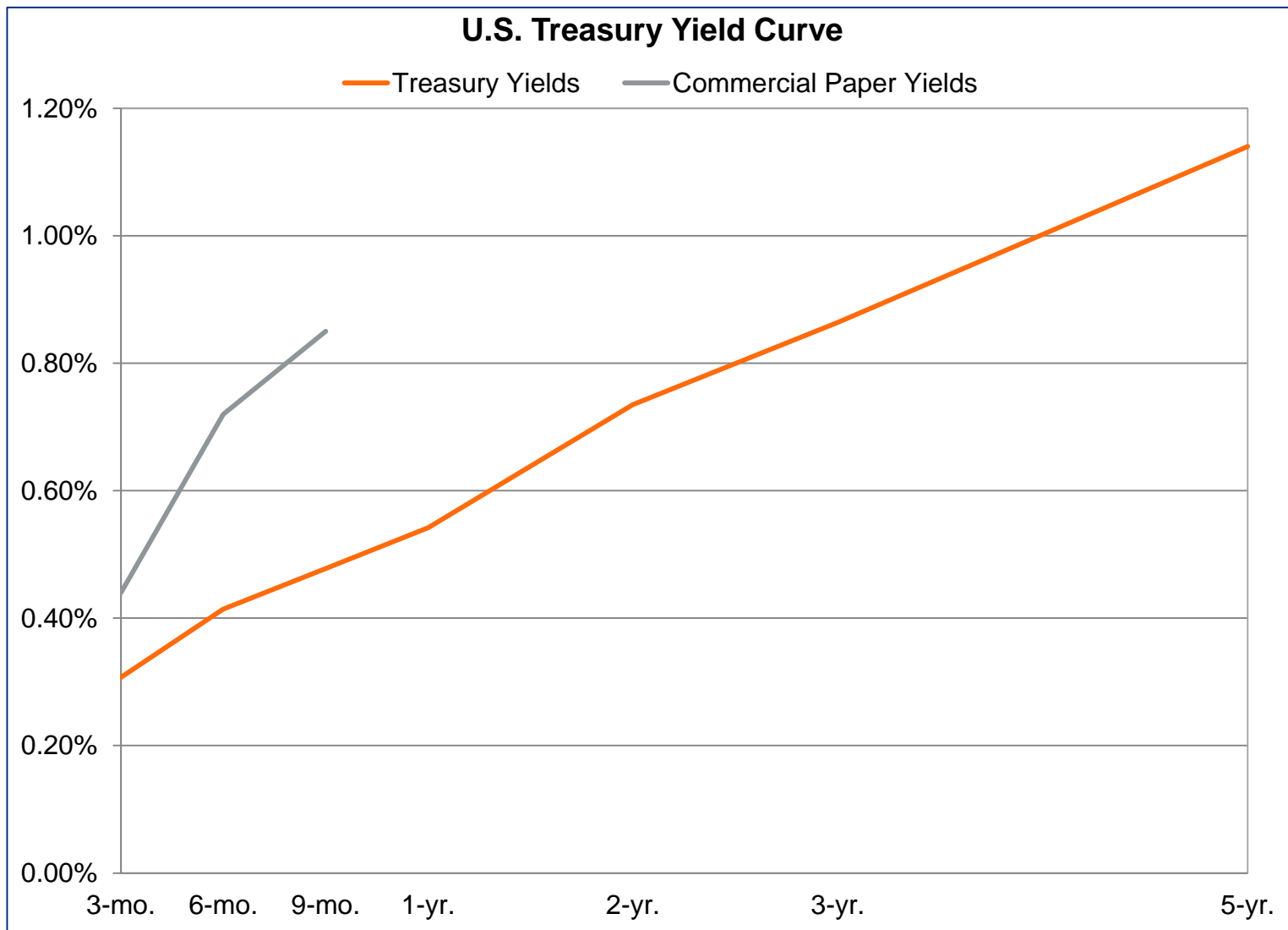
Balance Needed to Cover \$10,000 of Banking Fees per Year



Compensating Balance Gotchas

- Excess earnings credits
- No roll forward of excess earnings credit
- More money left on account, the more FDIC charge (net out)
- Out of sight (don't pay fees), Out of mind (fee creepage)
- Application of 10% reserve requirement
- Temporary "special" ECR
- Unneeded services
- Full list prices on services
- Fixed compensating balance

Fixed Income Market Yield Curves



Source: Bloomberg as of July 25, 2016. CP rates are indicative of Prime rated instruments.

Investment Opportunities in Longer Maturities

- An upward sloping yield curve provides higher returns for longer investments

Risk/Return of Various Benchmarks

10 Years Ended 3/31/2016

Merrill Lynch Index	Duration	Average Annual Return	Cumulative Value of \$40,000,000	Quarters With Negative Returns
3-Month Treasury Bill	0.25 Years	1.13%	\$44,780,048	0 out of 40
6-Month Treasury Bill	0.50 Years	1.49%	\$46,390,040	0 out of 40
1 Year Treasury Index	0.99 Years	1.74%	\$47,532,415	5 out of 40
1-3 Year Treasury Index	1.89 Years	2.48%	\$51,115,995	6 out of 40
1-5 Year Treasury Index	2.72 Years	3.20%	\$54,831,085	10 out of 40
1-10 Year Treasury Index	3.86 Years	4.08%	\$59,673,199	11 out of 40

Source: Bloomberg Bank of America / Merrill Lynch Global Indices. Based on historical results. Future results may vary.

Questions ???



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