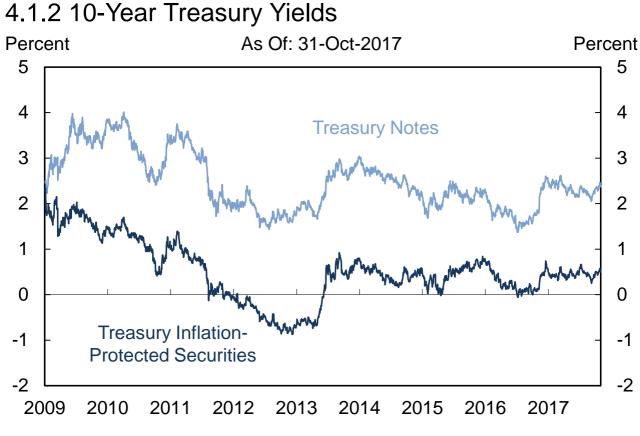
CBO Baseline **Projection** Note: Data for fiscal years. Source: CBO, Haver Analytics Years after 2016 are projected.

As Of: 2016

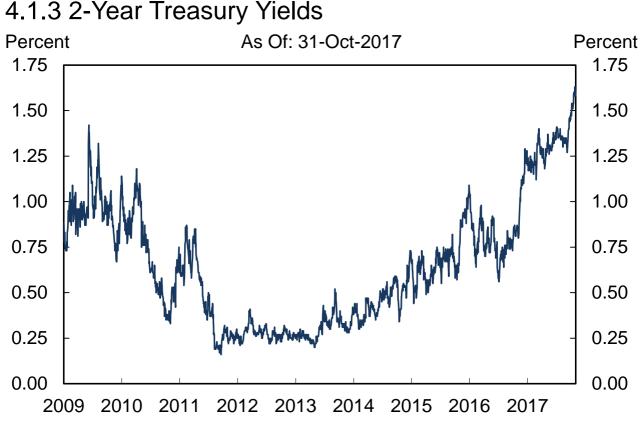
Percent of GDP

4.1.1 Federal Debt Held by the Public

Percent of GDP



Source: U.S. Department of the Treasury



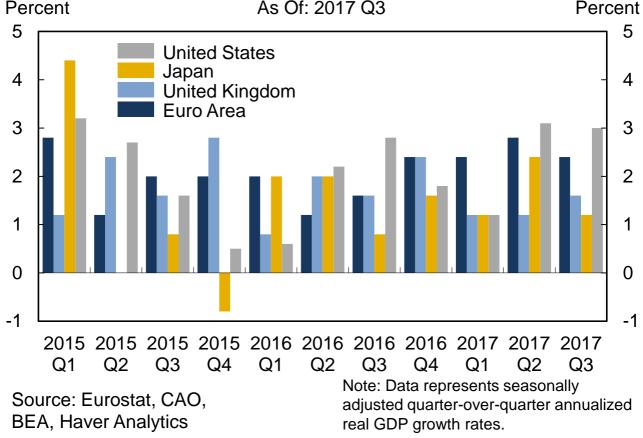
Source: U.S. Department of the Treasury

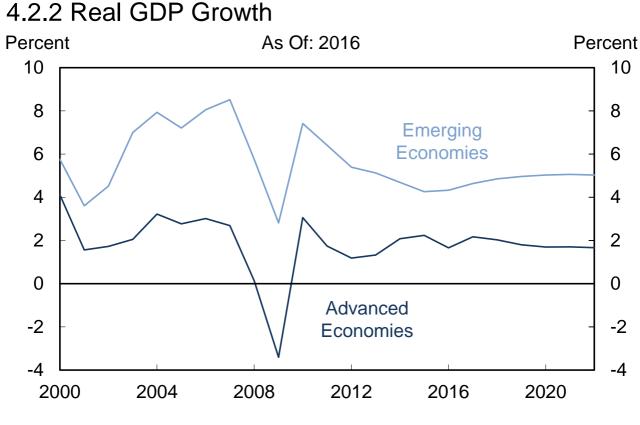
4.1.4 Fixed Income Implied Volatility **Basis Points** As Of: 31-Oct-2017 **Basis Points** 300 300 250 Merrill Lynch Option 250 Volatility Estimate (MOVE) Index 200 200 1994-Present 150 150 **MOVE** Average 100 100 50 50 0

2005 2007 2009 2011 2013 2015 2017

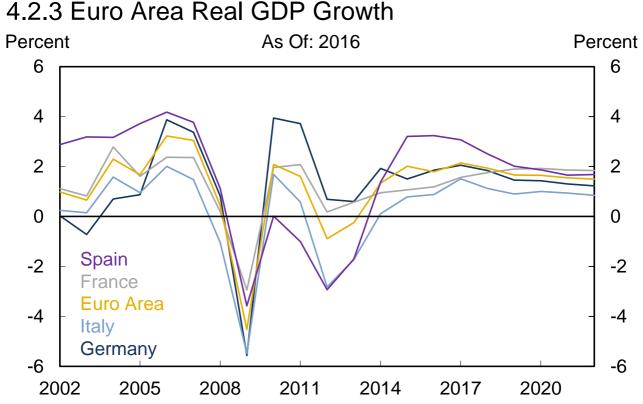
Note: Implied volatility is calculated using a yield curve-weighted index of the normalized implied volatility on 1-month Treasury options.

4.2.1 Advanced Economies Real GDP Growth Percent As Of: 2017 Q3



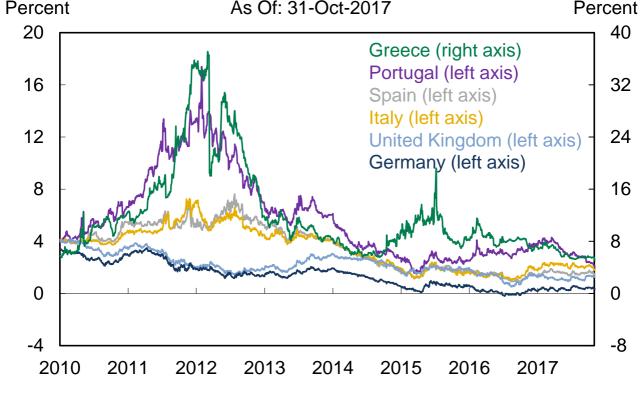


Note: Year-over-year percent change.
Source: IMF, Haver Analytics Data after 2016 are projected.



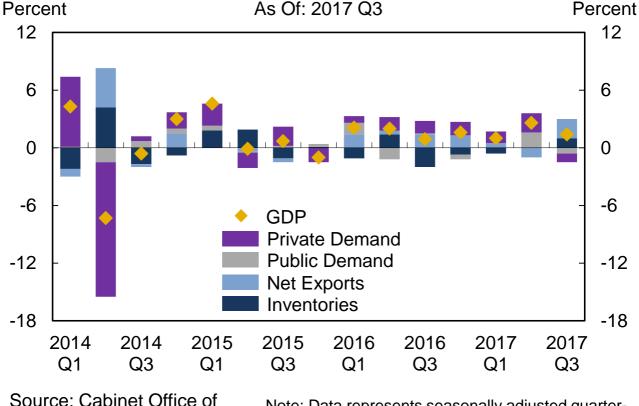
Note: Year-over-year percent change.
Source: IMF, Haver Analytics Data after 2016 are projected.

4.2.4 European 10-Year Yields
Percent As Of: 31-Oct-2017



Source: Bloomberg, L.P.

4.2.5 Contributions to Japanese GDP Growth Percent As Of: 2017 Q3

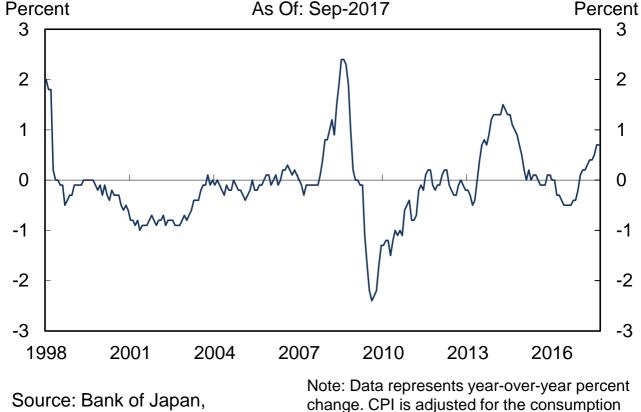


Note: Data represents seasonally adjusted quarter-Japan, Haver Analytics over-quarter annualized real GDP growth rates.

4.2.6 Japanese Consumer Price Inflation

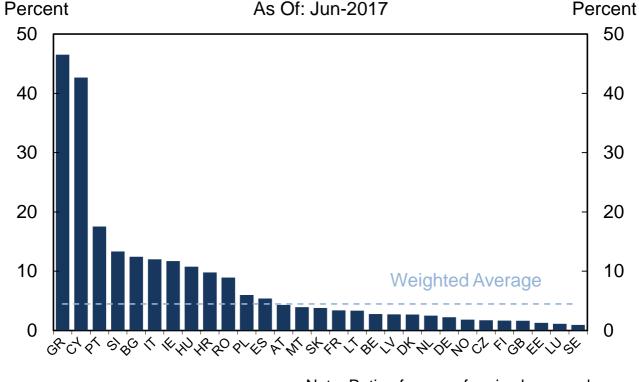
Percent As Of: Sep-2017

Haver Analytics



tax increase that took effect in April 2014.

A.1 European Non-Performing Loan Ratios Percent As Of: Jun-2017

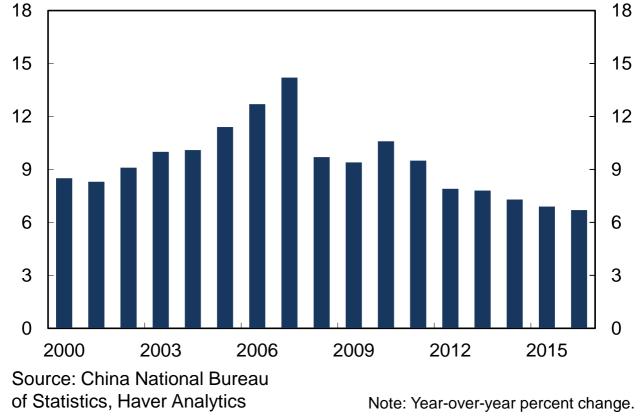


Source: European Banking

Authority

Note: Ratio of non-performing loans and advances to total gross loans and advances. Weighted averages by country.

4.2.7 Chinese Real GDP Growth
Percent As Of: 2016



Percent

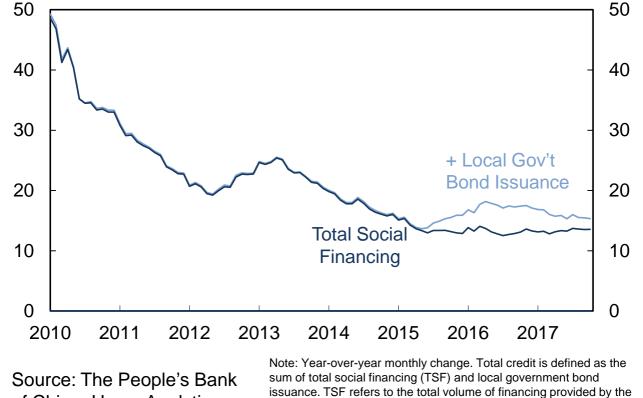
4.2.8 Chinese Manufacturing and Services Growth Percent As Of: 2016 Percent Manufacturing Services

Source: China National Bureau of Statistics, Haver Analytics Note: Year-over-year percent change.



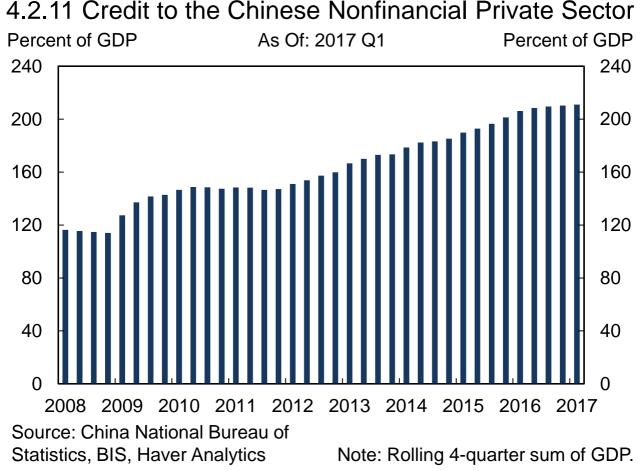
4.2.10 Chinese Credit Growth Percent As Of: Oct-2017

of China, Haver Analytics



financial system to the real economy.

Percent



4.2.12 Gross Foreign Investor Capital Inflows to EMEs Billions of US\$ As Of: 2017 Q2 Billions of US\$ 500 500 300 300 100 -100 **Bank Inflows** -100 Portfolio Inflows Foreign Direct Investment **Net Flows**

2012

2014

2016

-300

Source: IMF, Haver Analytics

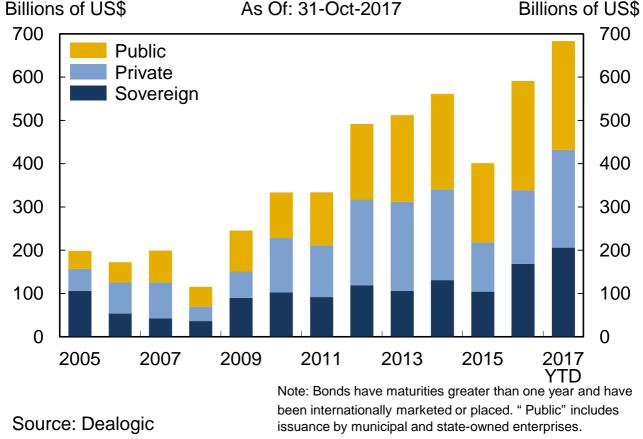
2010

2008

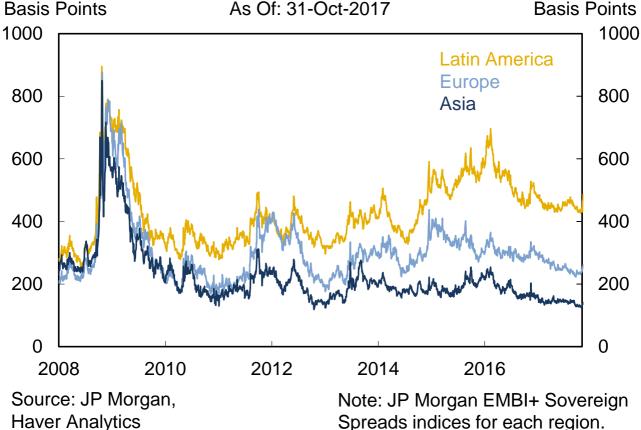
-300

2006

4.2.13 Emerging Market Gross Global Bond Issuance



4.2.14 Emerging Market Bond Spreads
Basis Points
As Of: 31-Oct-2017



4.2.15 Change in State and Local Government Tax Revenues Percent As Of: 2017 Q2 Percent -3 -6

Source: Census Bureau

Note: Data represents year-over-year change.
Revenue measures includes revenues from property, individual income, corporate income, and sales taxes. Gray bars signify NBER recessions.

4.2.16 Long-Term Mutual Fund Flows: Municipal Bonds Billions of US\$ As Of: Sep-2017 Billions of US\$ 15 15 10 10 5 5 0 -5 -10 -15 -20

2013

2015

2017

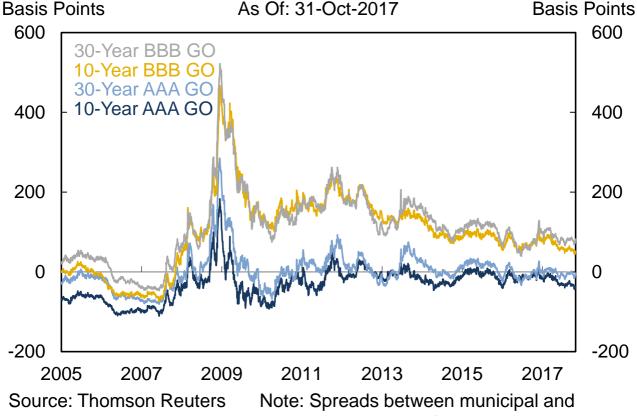
Source: ICI, Haver Analytics

2011

2009

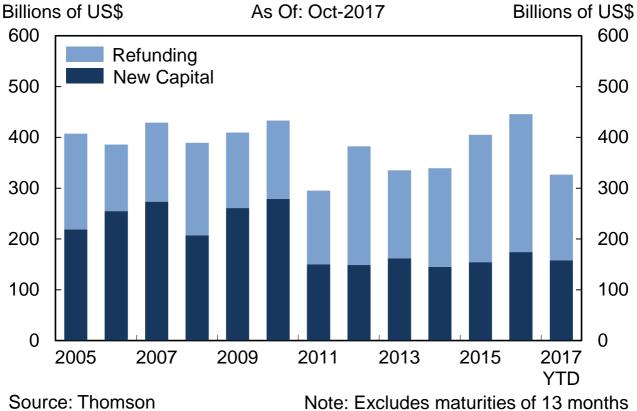
2007

4.2.17 Municipal Bond Spreads **Basis Points**

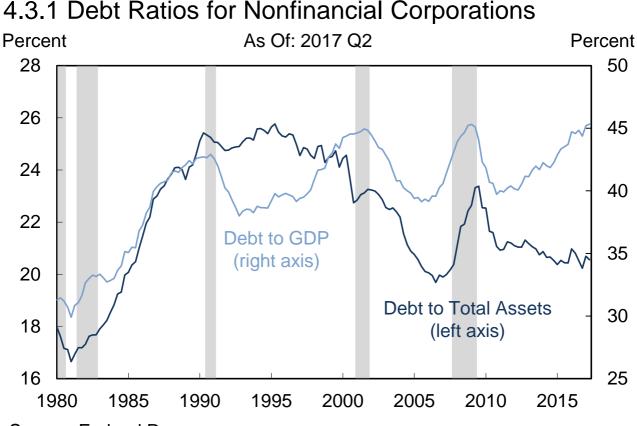


MMD, Haver Analytics Treasury securities of comparable maturities.

4.2.18 Municipal Bond Issuance



Reuters, SIFMA or less and private placements.



Source: Federal Reserve,
Haver Analytics
Note: Gray bars signify NBER recessions.

Percent As Of: 2017 Q2 Percent

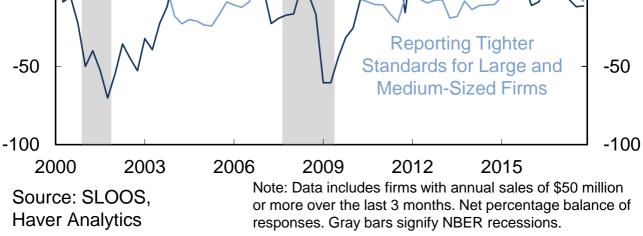
4.3.2 Liquid Assets to Assets for Nonfinancial Corporations

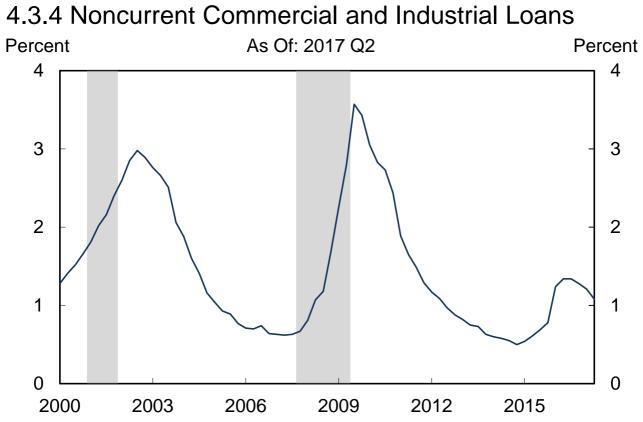
Source: Federal Reserve,
Haver Analytics

Note: Liquid assets includes foreign deposits, checkable deposits and currency, time and savings deposits, money market fund shares, security repurchase agreements, debt securities, and mutual fund shares.

4.3.3 Bank Business Lending Standards and Demand Net Percentage As Of: Oct-2017 Reporting Stronger Demand from Large and Medium-Sized Firms 50 Net Percentage 100 50

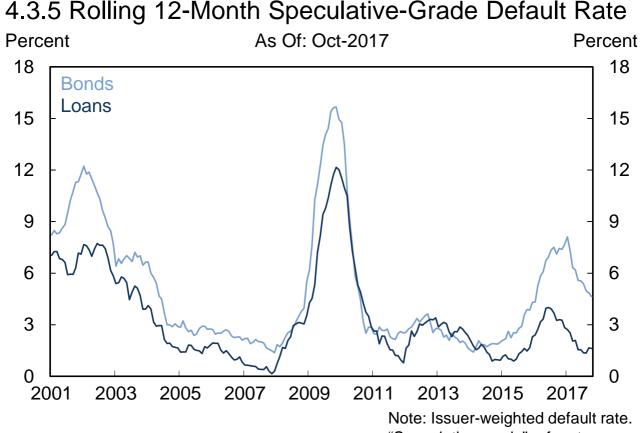
0





Note: Percent of total C&I loans.

Source: FDIC, Haver Analytics Gray bars signify NBER recessions.



"Speculative-grade" refers to non-investment grade instruments.

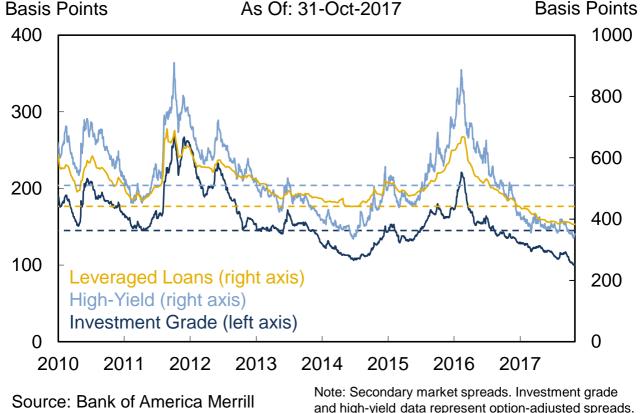
4.3.6 Corporate Bond Issuance



4.3.7 U.S. Cash Corporate Credit Spreads

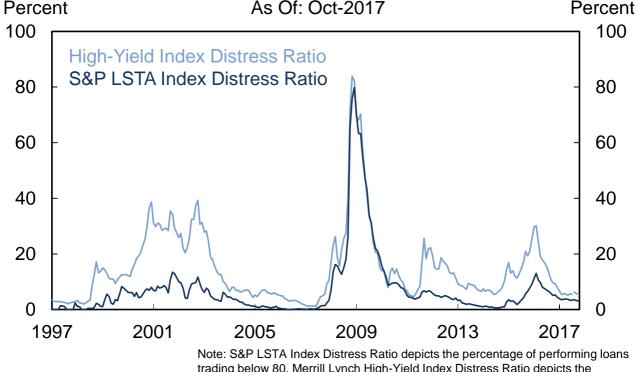
As Of: 31-Oct-2017

Lynch, Federal Reserve, S&P LCD



Dotted lines represent 1997-present median.

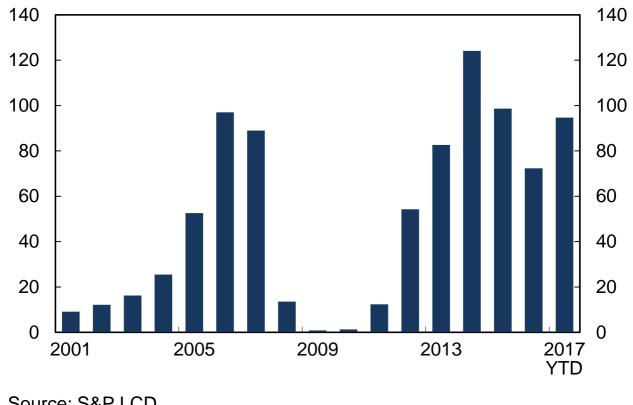
4.3.8 Distressed Ratios



trading below 80. Merrill Lynch High-Yield Index Distress Ratio depicts the percentage of performing high-yield bonds with yields over Treasuries of 1,000 or more basis points. The high-yield index uses data from the Merrill Lynch High-Source: S&P LCD, Yield Index from Jan-1997 through Jul-2017 and data from the S&P U.S. High-Merrill Lynch Yield Corporate Bond Index from Aug-2017 to present.

4.3.9 CLO Issuance

Billions of US\$



As Of: Oct-2017

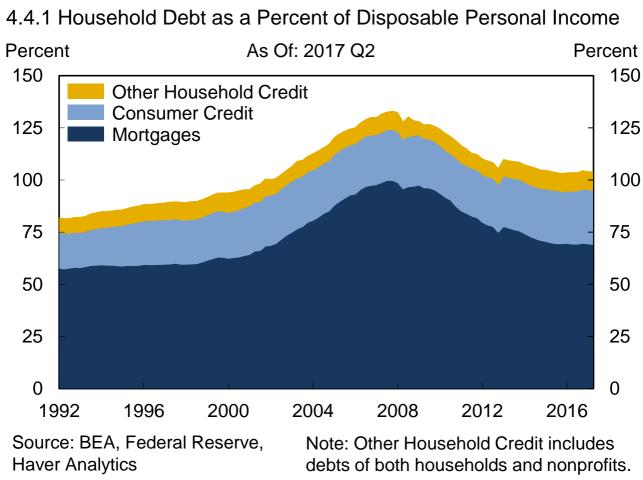
Billions of US\$

Source: S&P LCD

Percent As Of: 2017 Q3 Percent Finance & Security Companies **CLOs** oan Mutual Funds Hedge Funds **Insurance Companies** Banks

Source: S&P LCD

4.3.10 Leveraged Loan Primary Market by Investor Type



4.4.2 Components of Consumer Credit Billions of US\$ As Of: 2017 Q3 Billions of US\$ 1400 1400 1200 1200 Student Loans 1000 1000 **Auto Loans** 800 800 600 Credit Card 600 Debt Other Household 400 Debt 400 200 200 0 0 2003 2006 2009 2012 2015

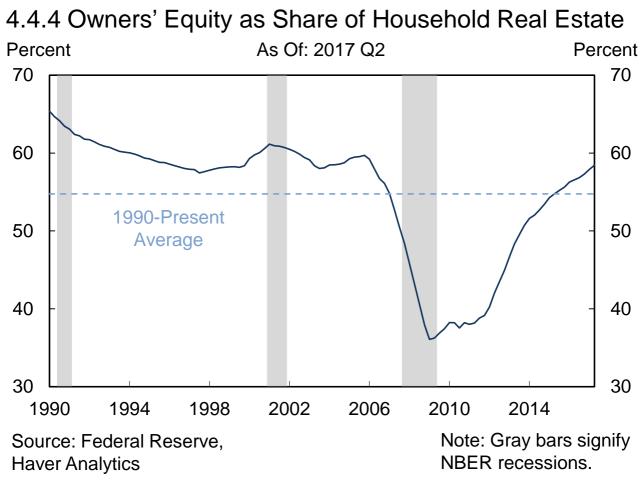
Source: FRBNY Consumer Credit Note: Gray bar signifies NBER recession. Panel/Equifax, Haver Analytics

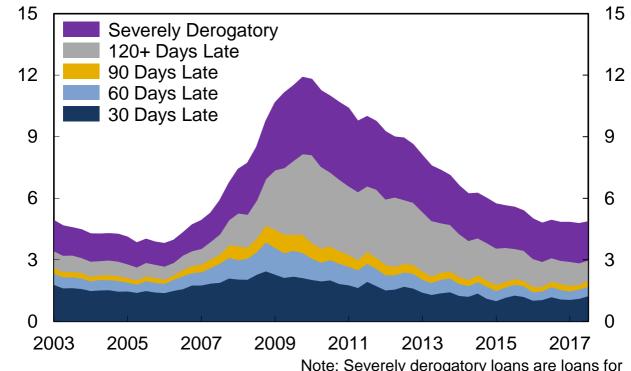
4.4.3 Household Debt Service Ratio
Percent As Of: 2017 Q2

Haver Analytics



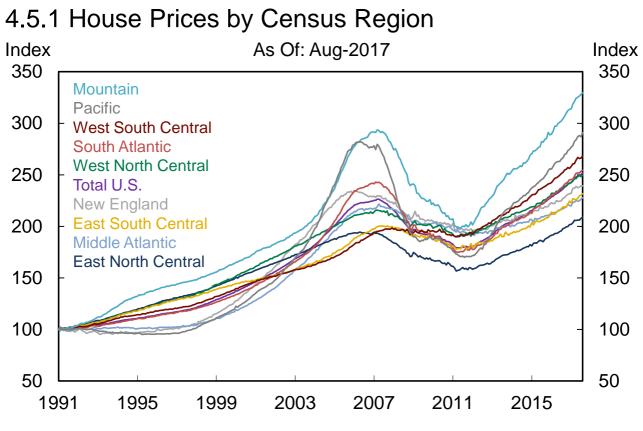
adjusted. Gray bars signify NBER recessions.





2003 2005 2007 2009 2011 2013 2015 2017

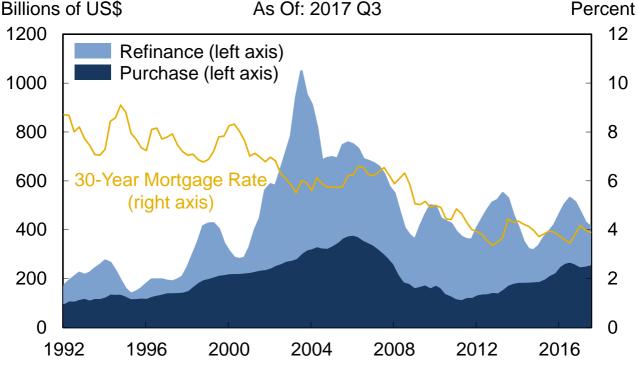
Source: FRBNY Consumer Credit Panel/Equifax, Haver Analytics Note: Severely derogatory loans are loans for which there are reports of a repossession, charge off to bad debt, or foreclosure.



Source: FHFA, Haver Analytics

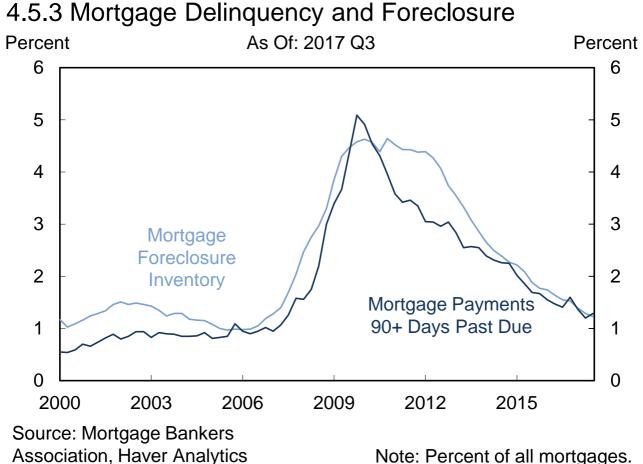
Note: Purchase-only price index. Jan-1991 = 100.

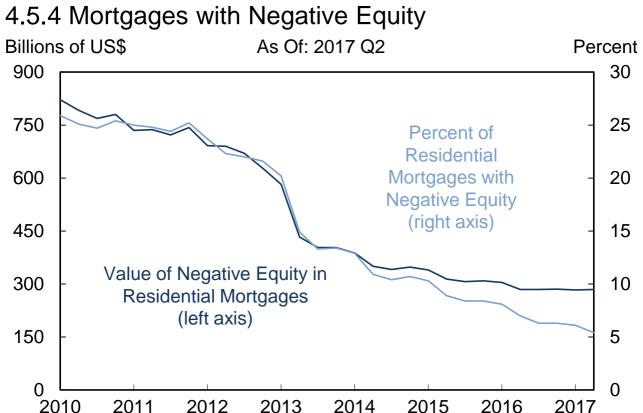
4.5.2 Mortgage Originations and Rates



Source: Mortgage Bankers Association, Freddie Mac Primary Mortgage Market Survey

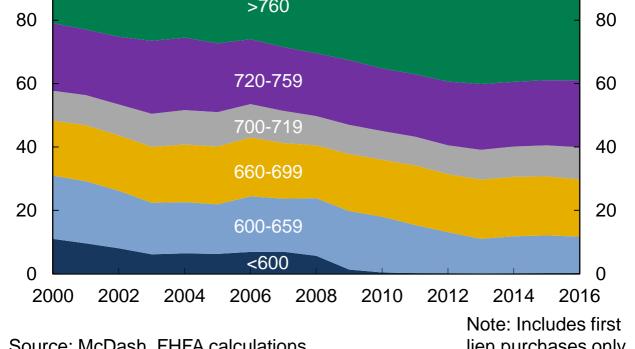
Note: Originations represent all 1-4 family homes.
Originations calculated as 4-quarter moving averages.
Mortgage rates calculated as quarterly averages.





Source: CoreLogic

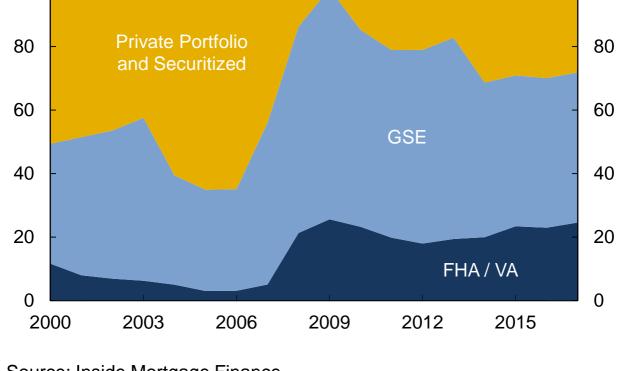
4.5.5 Purchase Origination Volume by Credit Score Percent of Originations As Of: 2016 **Percent of Originations** 100 100 >760 80 80



Source: McDash, FHFA calculations lien purchases only.

4.5.6 Mortgage Originations by Product

Percent of Originations As Of: 2017 Q3 Percent of Originations

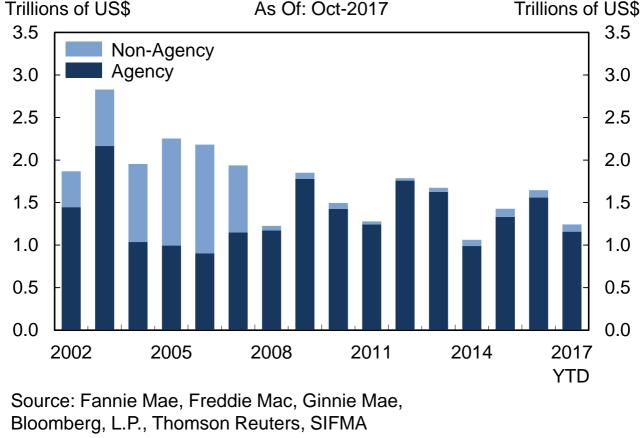


100

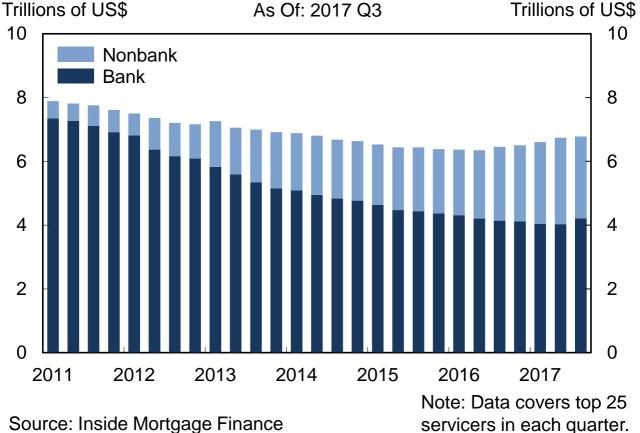
Source: Inside Mortgage Finance

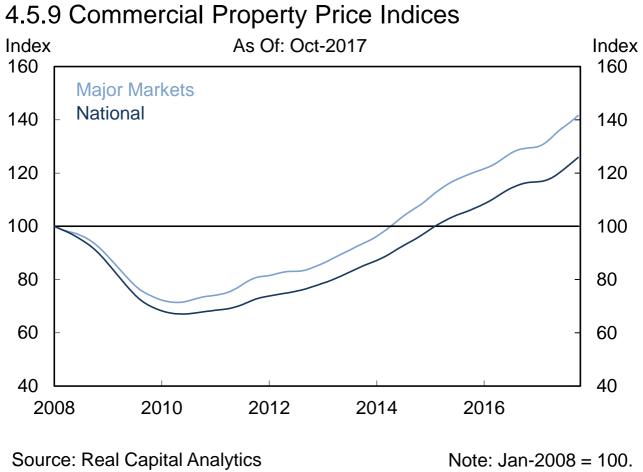
100

4.5.7 RMBS Issuance

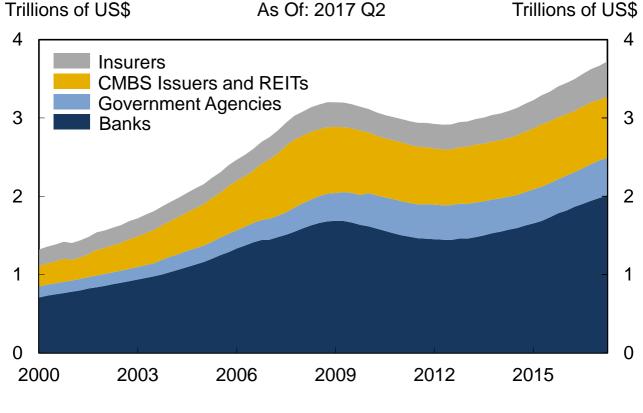


4.5.8 Mortgage Servicing Market



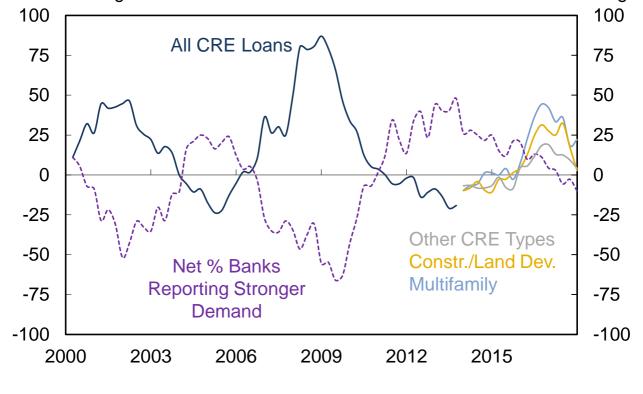


4.5.10 CRE Loans by Institution



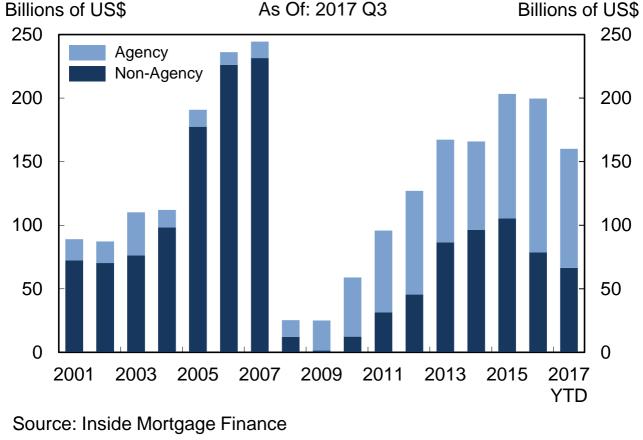
Source: Federal Reserve, Haver Analytics





Source: Federal Reserve, Haver Analytics

4.5.12 CMBS Issuance

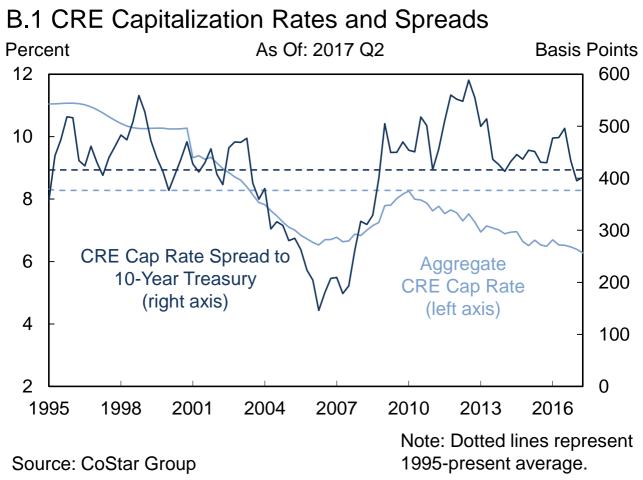


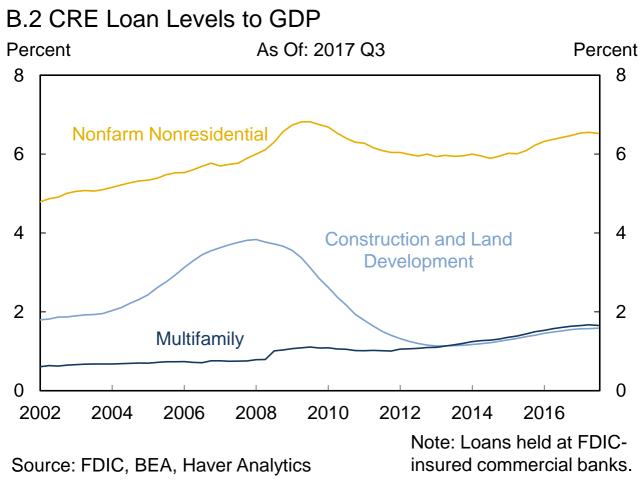
4.5.13 CMBS Senior Debt Spreads
Basis Points
As Of: 27-Oct-2017

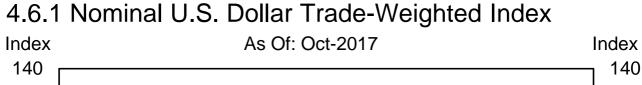
Source: J.P. Morgan



Note: Spreads are 10-year Swaps to Senior AAA CMBS.



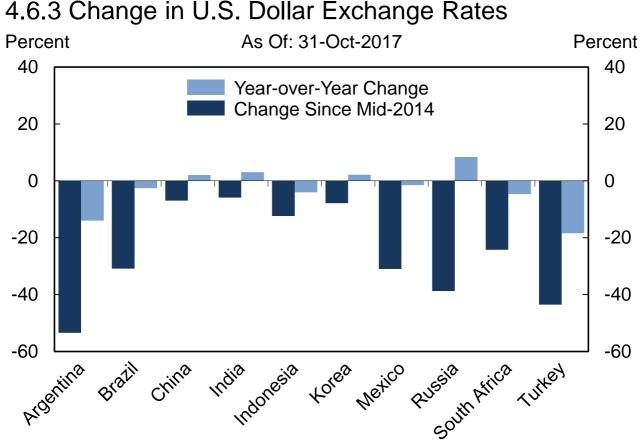






4.6.2 U.S. Dollar Performance





Source: Wall Street Journal, Haver Analytics

4.7.1 Returns in Selected Equities Indices Change from Annual growth rate

India (Sensex)

China (Shanghai SE)

South Korea (KOSPI)

Source: Capital IQ

Hong Kong (Hang Seng)

_	31-Oct-2017	31-Oct-2017
Major Economies		
U.S. (S&P)	21.1%	12.8%
Euro (Euro Stoxx)	20.9%	9.9%
Japan (Nikkei)	26.3%	19.8%
U.K. (FTSE)	7.7%	5.3%
Selected Europe		
Germany (DAX)	24.0%	12.7%
France (CAC)	22.0%	9.9%
Italy (FTSE MIB)	33.1%	8.0%
Spain (IBEX)	15.1%	6.1%
Emerging Markets		
MSCI Emerging Market Index	23.3%	2.3%
Brazil (Bovespa)	14.5%	5.4%
Russia (MICEX)	3.8%	7.7%

18.9%

9.4%

23.2%

25.7%

31-Oct-2016 to

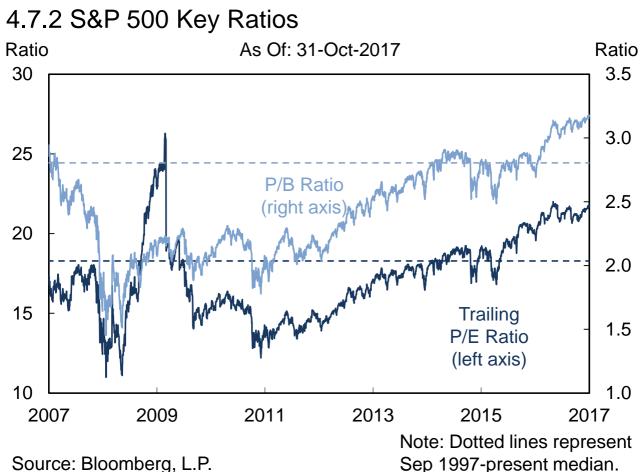
from 31-Oct-2012 to

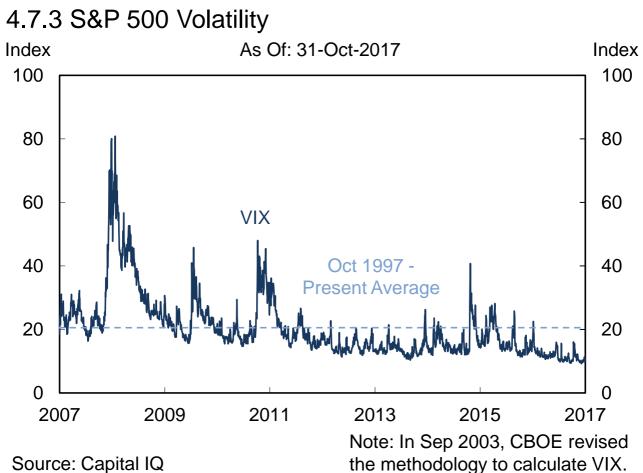
12.4%

10.4%

5.5%

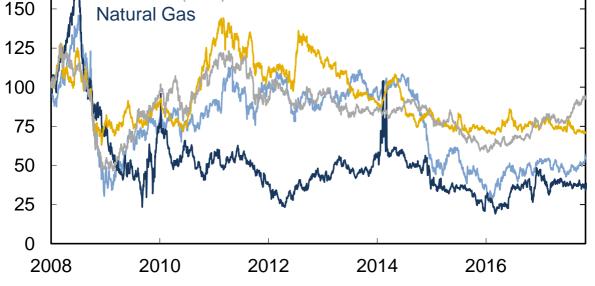
5.7%





200 Agriculture (S&P GSCI Agricultural Spot Index) 175 Industrial Metals (S&P GSCI Industrial Metals Spot Index) Crude Oil (WTI)

As Of: 31-Oct-2017



Source: Energy Information

4.8.1 Commodities

Index

Administration, S&P, Haver Analytics Note: 02-Jan-2008 = 100.

Index

200

175

150

125

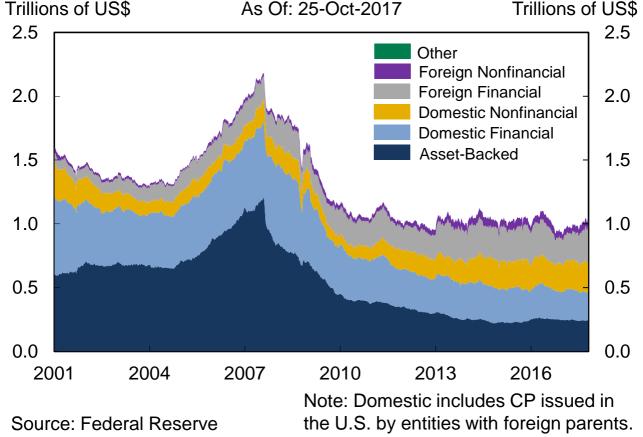
100

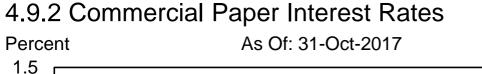
75

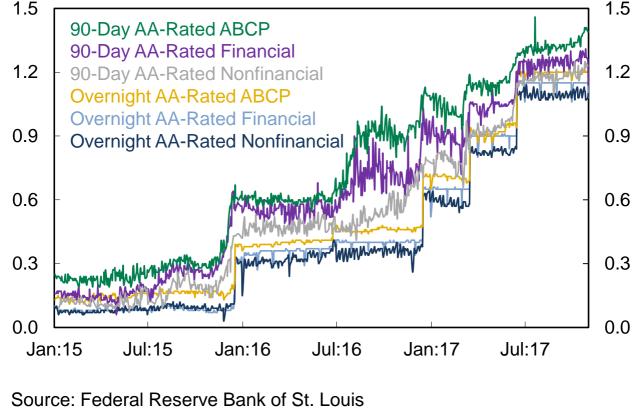
50

25

4.9.1 Commercial Paper Outstanding





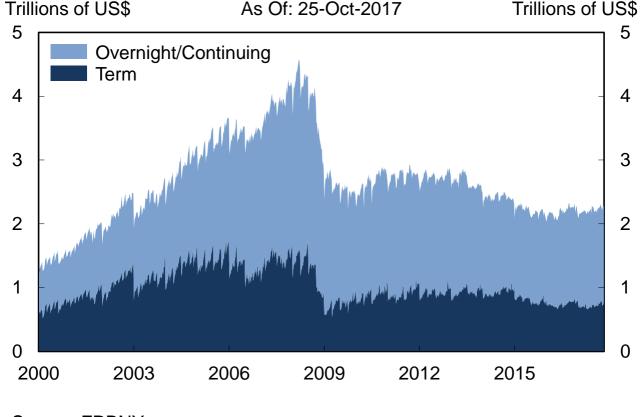


Percent

4.9.3 Primary Dealer Repo Agreements

Trillions of US\$

As Of: 25-Oct-2017



Source: FRBNY

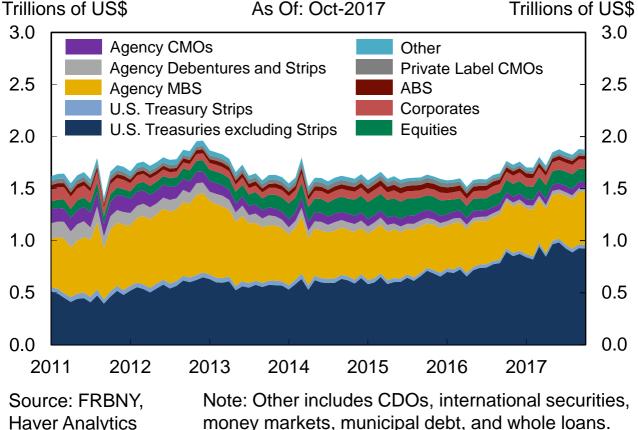


Source: FRBNY, Haver Analytics

1.0

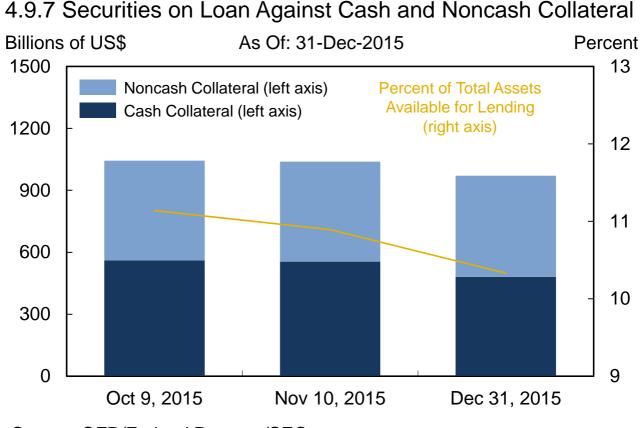
4.9.5 Collateral in the Tri-Party Repo Market

Haver Analytics



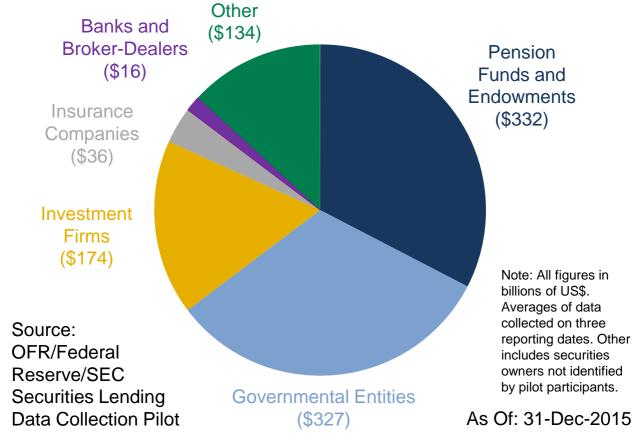
4.9.6 Value of Securities on Loan



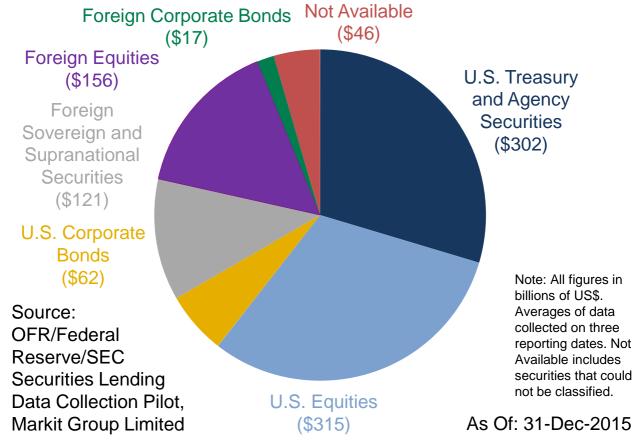


Source: OFR/Federal Reserve/SEC Securities Lending Data Collection Pilot

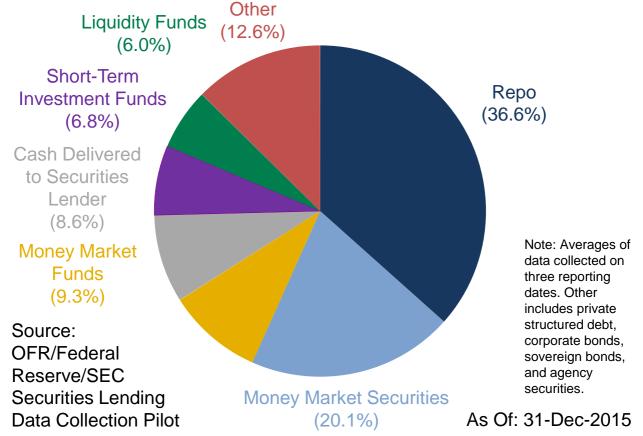
4.9.8 Securities on Loan by Owner Type

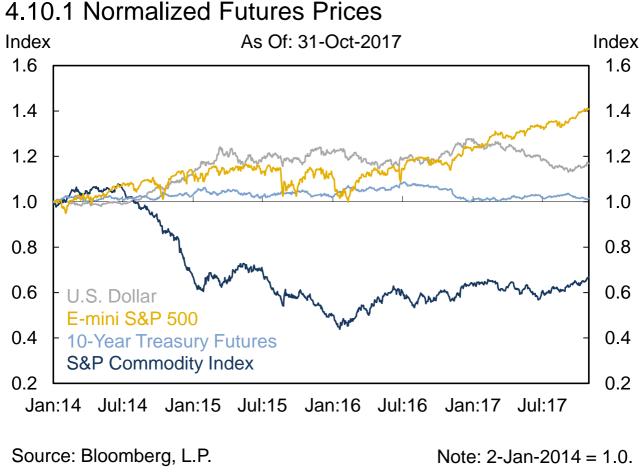


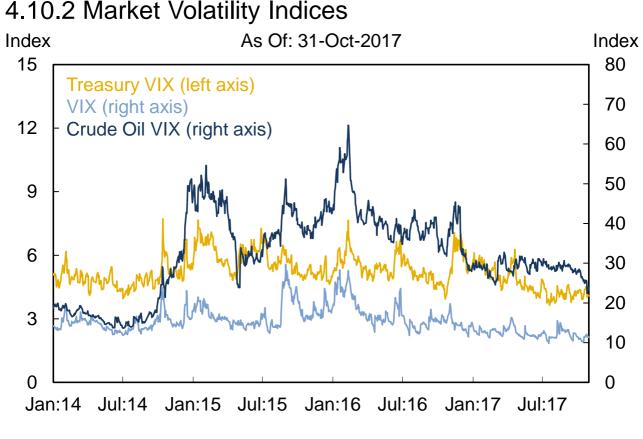
4.9.9 Securities on Loan by Asset Class



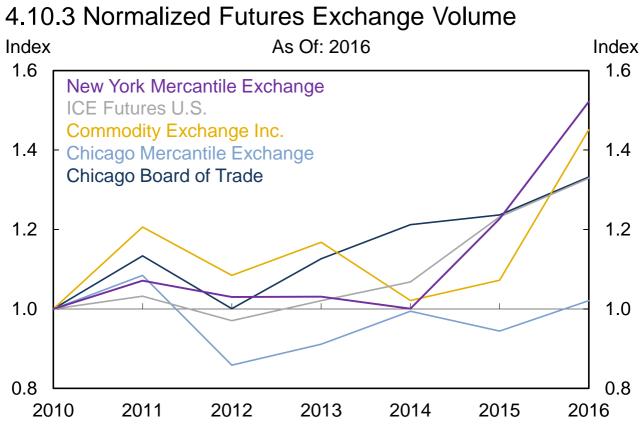
4.9.10 Securities Lending Cash Collateral Reinvestment



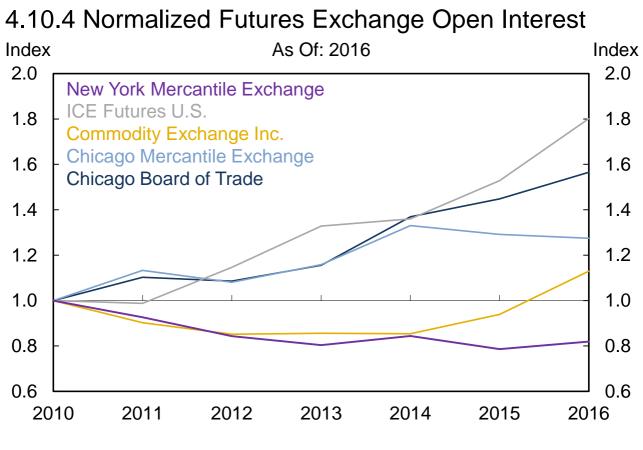




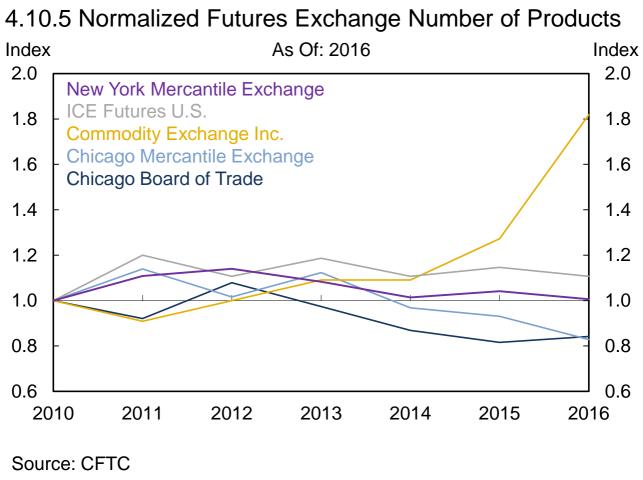
Source: Bloomberg, L.P.



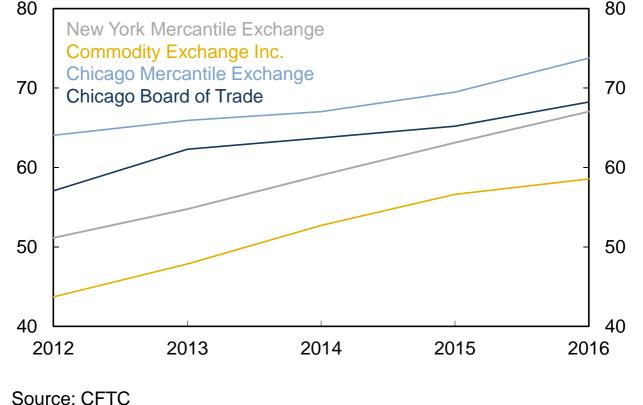
Source: CFTC



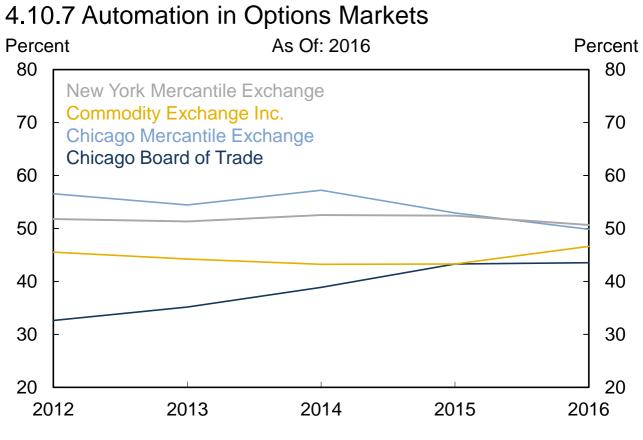
Source: CFTC



4.10.6 Automation in Futures Markets
Percent As Of: 2016

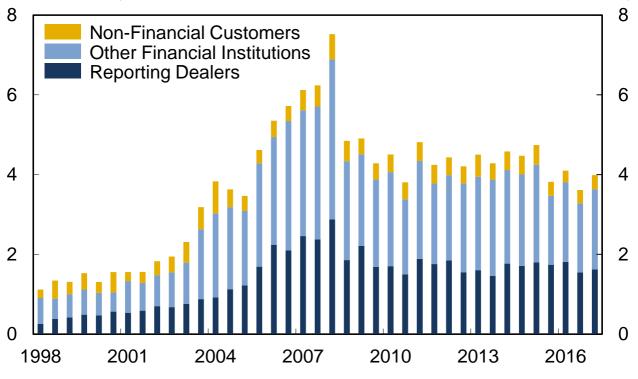


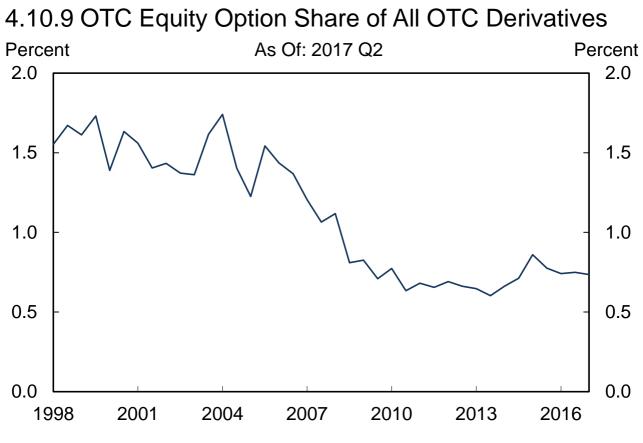
Percent



Source: CFTC

4.10.8 OTC Equity Options: Global Notional Outstanding
Trillions of US\$
As Of: 2017 Q2
Trillions of US\$



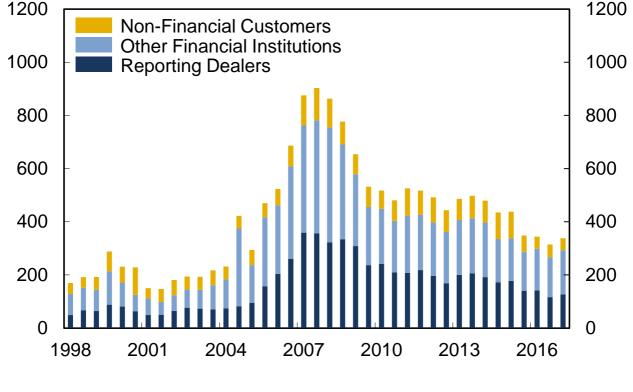


4.10.10 OTC Equity Options: Global Market Value

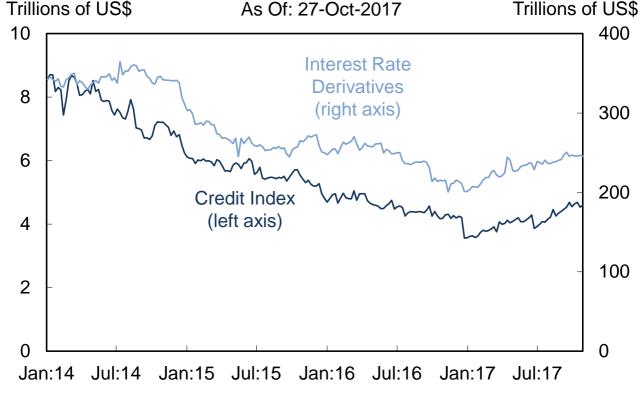
Billions of US\$

As Of: 2017 Q2

Billions of US\$



4.10.11 Derivatives Notional Amount Outstanding
Trillions of US\$ As Of: 27-Oct-2017 Trillion

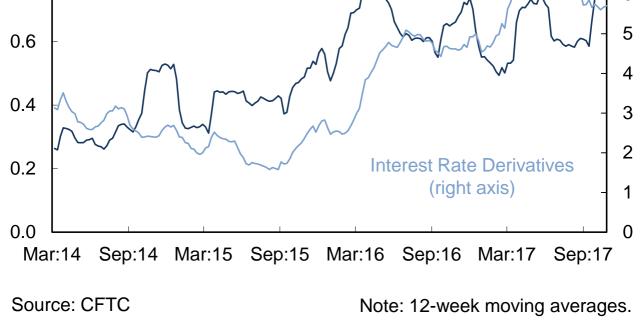


Source: CFTC

4.10.12 Derivatives Notional Volume Trillions of US\$ As Of: 27-Oct-2017

1.0

0.8



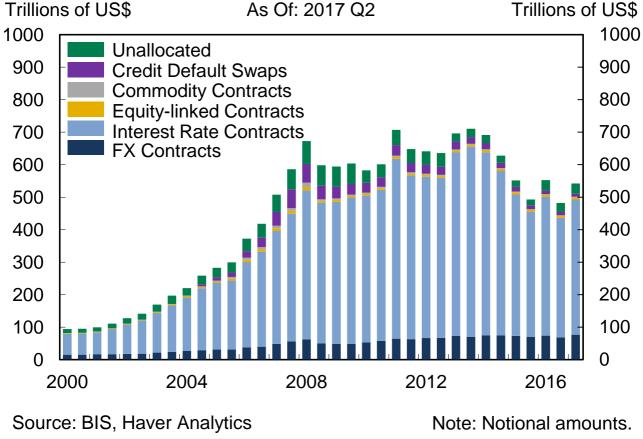
Credit Index

(left axis)

Trillions of US\$

6

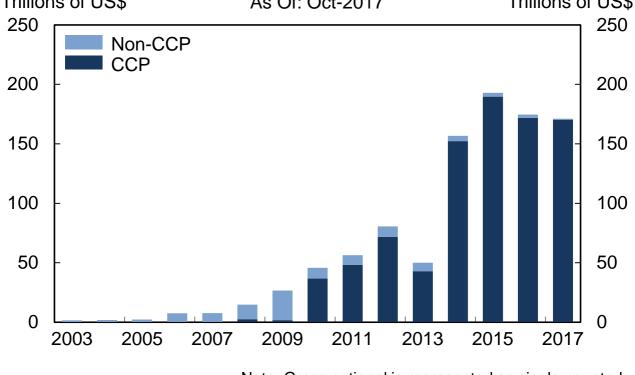
4.10.13 Global OTC Derivatives Market Trillions of US\$ As Of: 2017 Q2



Trillions of US\$ As Of: 2017 Q2 Trillions of US\$ Q4 Q4 Q4 Q4 Q4

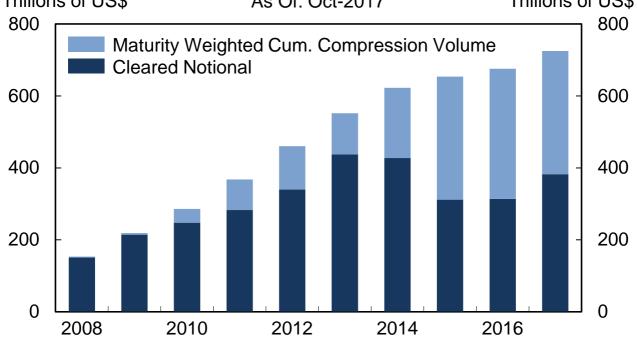
4.10.14 Interest Rate Derivatives: Global Notional Outstanding

4.10.15 Interest Rate Derivative Compression Volume
Trillions of US\$ As Of: Oct-2017 Trillions of US\$



Note: Gross notional is represented as single-counted for notional compressed outside of a CCP and double-counted counted for notional compressed inside of a CCP.

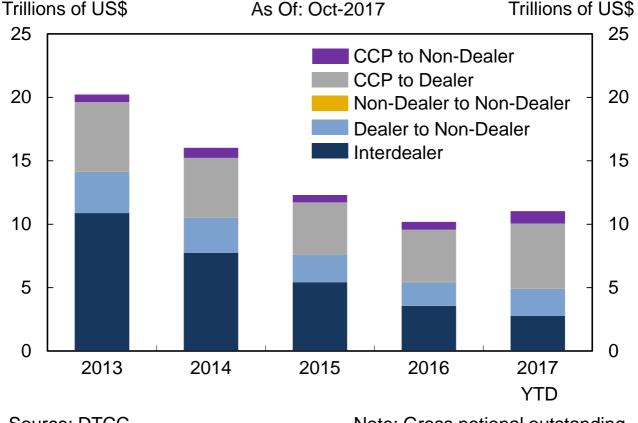
4.10.16 Global Cleared OTC Interest Rate Derivatives Trillions of US\$ As Of: Oct-2017 Trillions of US\$



Source: ClarusFT CCPView, TriOptima, LCH.SwapClear

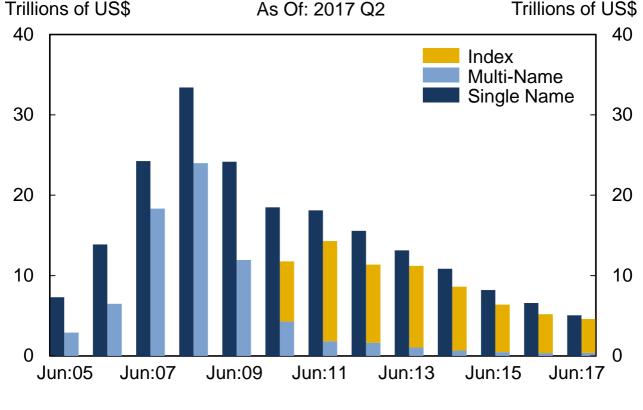
Note: Maturity weighted cumulative compression volume is calculated as the sum of the current and previous year's compression volume, estimating with two year average maturity for the compressed trades. 2017 data is year-to-date.

4.10.17 Credit Derivatives by Counterparty

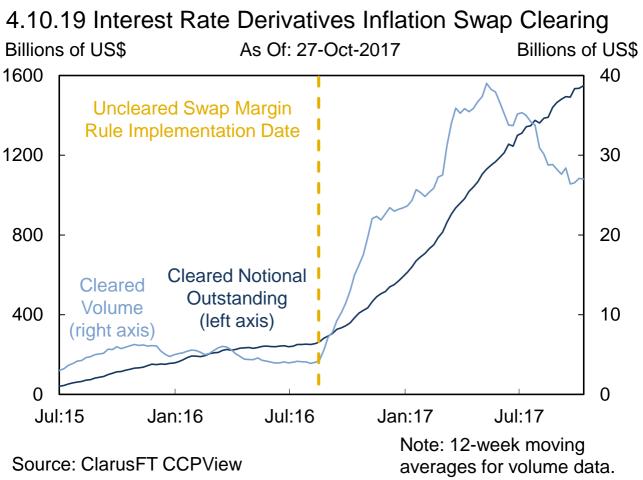


Source: DTCC Note: Gross notional outstanding.

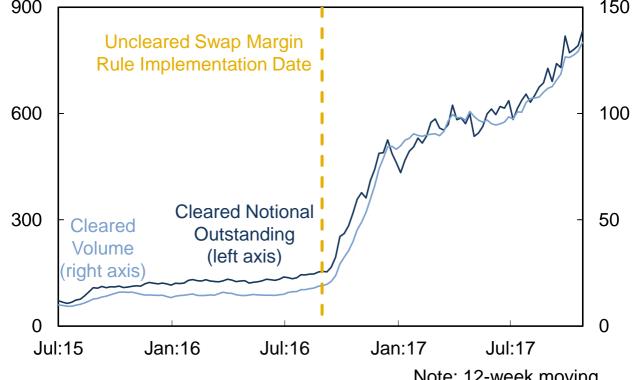
4.10.18 Global Credit Derivatives by Product



Source: BIS Note: Gross notional outstanding.

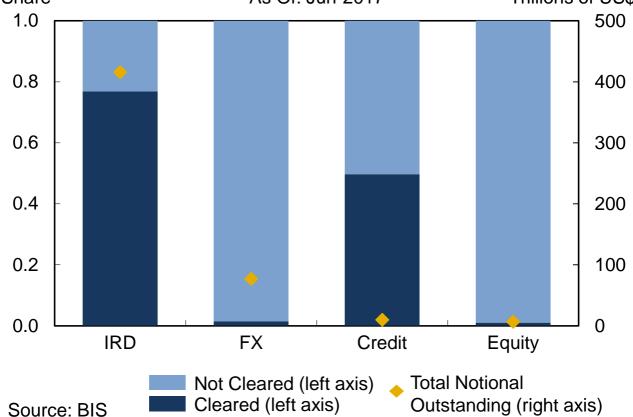


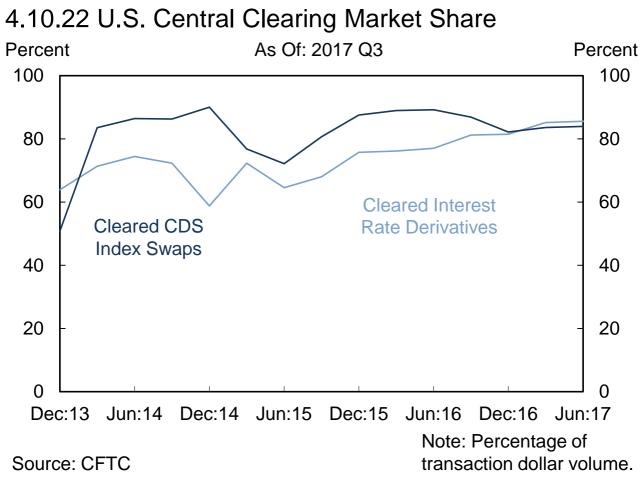




Source: ClarusFT CCPView Note: 12-week moving averages for volume data.

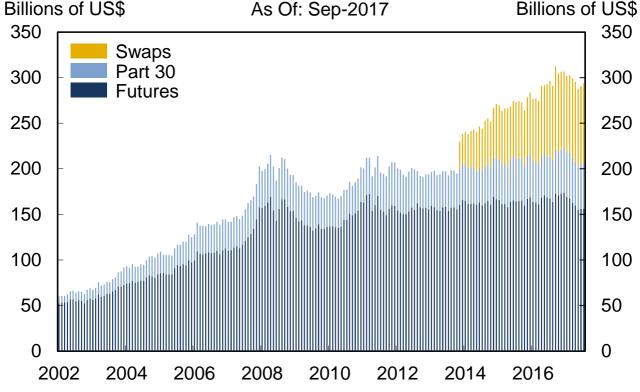
4.10.21 Global OTC Central Clearing Market Share As Of: Jun-2017 Trillions of US\$



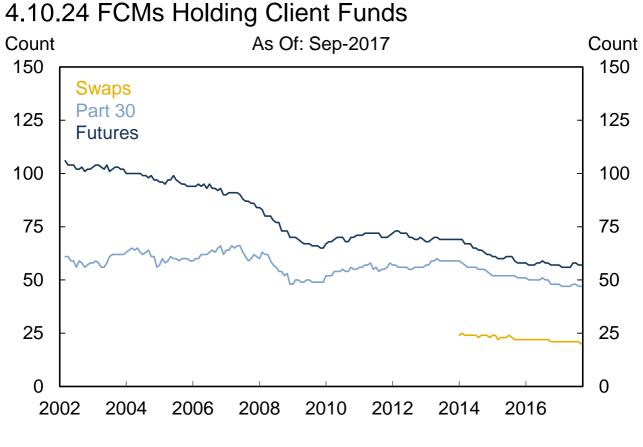


4.10.23 Margin Funds Held at FCMs
Billions of US\$

As Of: Sep-2017

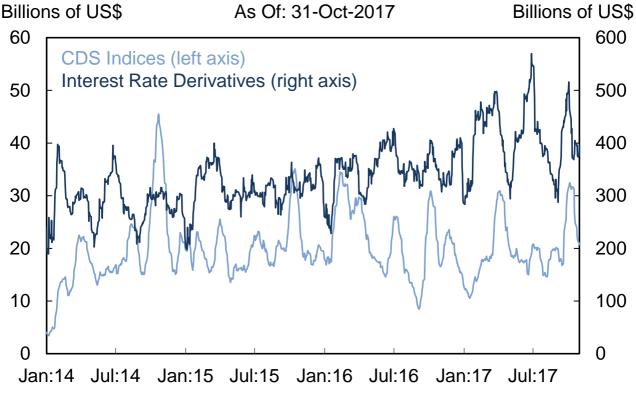


Source: CFTC, FIA

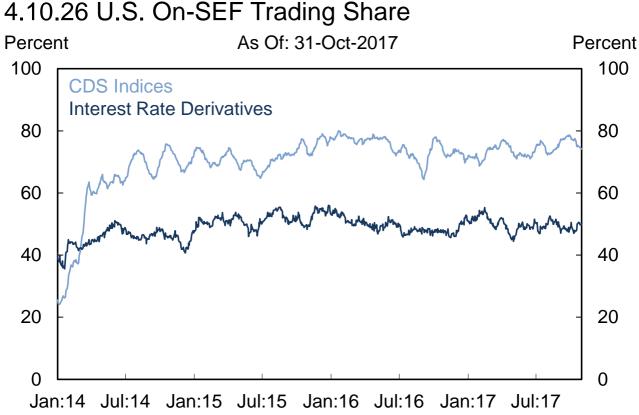


Source: CFTC, FIA

4.10.25 U.S. On-SEF Trading Volume

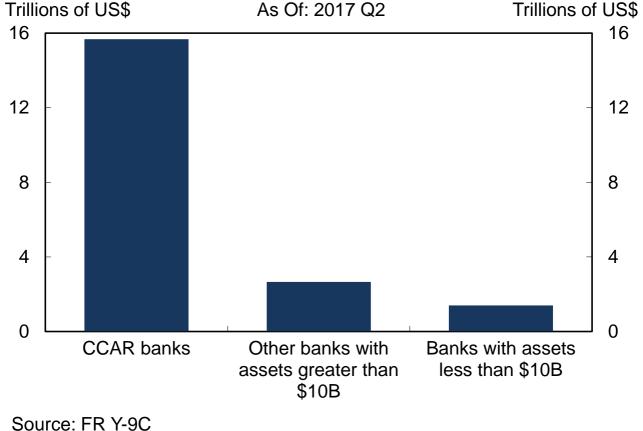


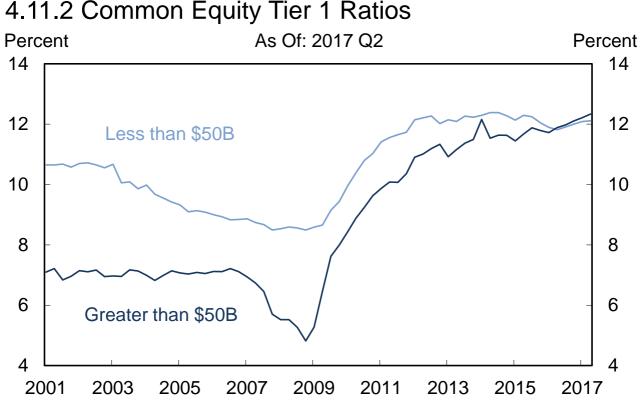
Source: ISDA SwapsInfo Note: 20-day moving averages.



Note: Share of notional volume.
Source: ISDA SwapsInfo 20-day moving averages.

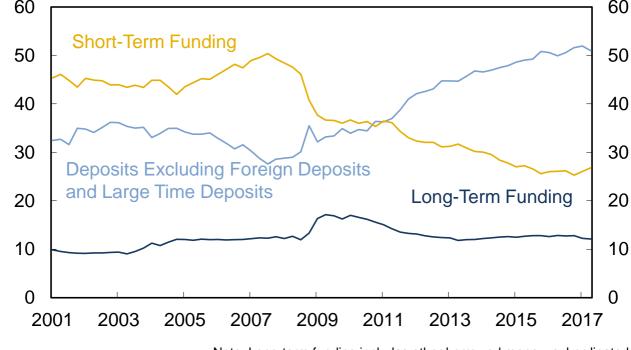
4.11.1 BHC Total Assets



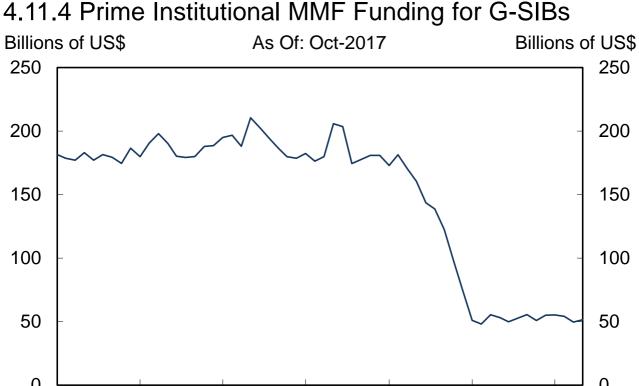


Note: Prior to 2014:Q1, the numerator of the common equity tier 1 ratio is tier 1 common capital. Beginning in 2014:Q1 for advanced approaches BHCs and in 2015:Q1 for all other BHCs, the numerator is common equity tier 1 capital.

4.11.3 Selected Sources of Funding at CCAR Banks Percent of Total Assets As Of: 2017 Q2 Percent of Total Assets 60 60



Note: Long-term funding includes other borrowed money, subordinated notes, and large time deposits with maturities >1 year. Short-term funding includes such liabilities with maturities <1 year plus trading liabilities, repos, CP, and foreign deposits.



Source: SEC, OFR

Oct:13

Jan:13

Apr:15

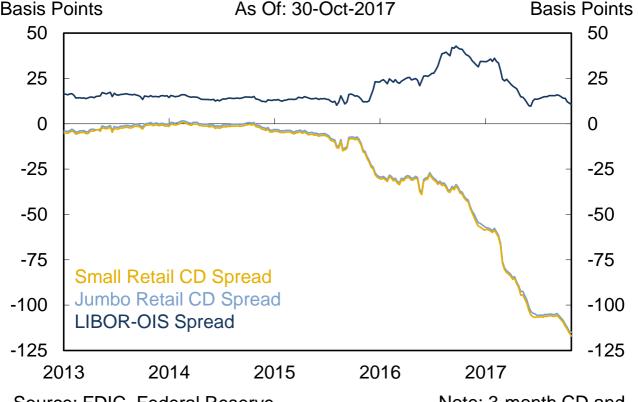
Jan:16

Oct:16

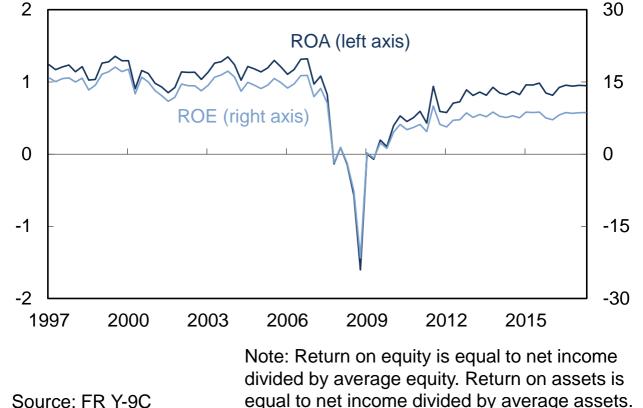
Jul:17

Jul:14

4.11.5 LIBOR and Deposit Rate Spreads to OIS **Basis Points** As Of: 30-Oct-2017



Note: 3-month CD and Source: FDIC, Federal Reserve Bank of St. Louis, Bloomberg, L.P. LIBOR spreads to OIS.

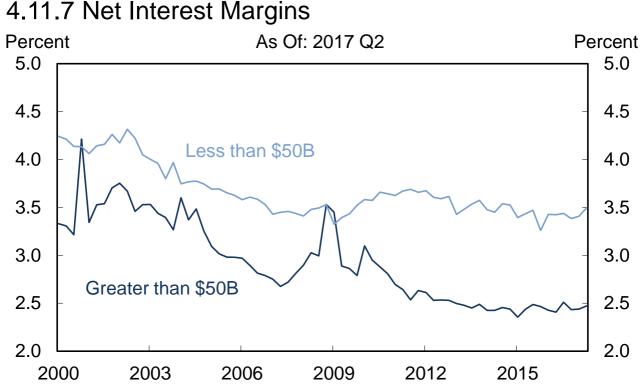


As Of: 2017 Q2

Percent

4.11.6 Return on Equity and Return on Assets

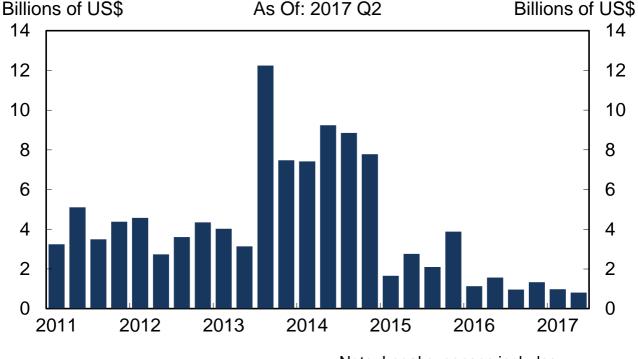
Percent



Source: FR Y-9C

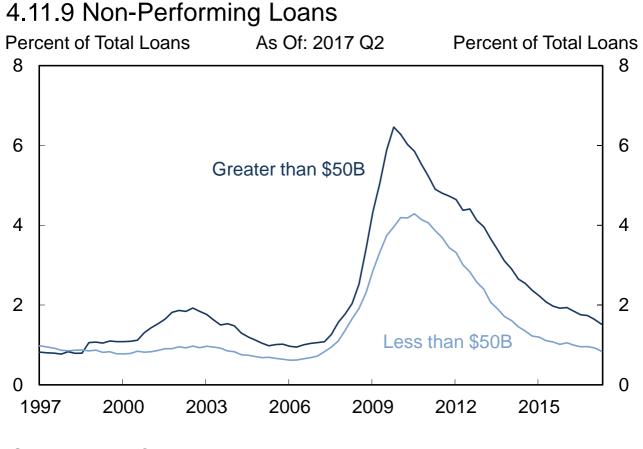
Note: Net interest margin is equal to net interest income divided by the quarterly average of interest-earning assets.

4.11.8 Legal Expenses at Largest BHCs



Note: Legal expenses includes litigation expense and legal fees and expenses. Includes legal expenses at BAC, C, GS, JPM, MS, and WFC.

Source: FR Y-9C



Source: FR Y-9C

4.11.10 Loan-Loss Reserves

Percent of NPLs

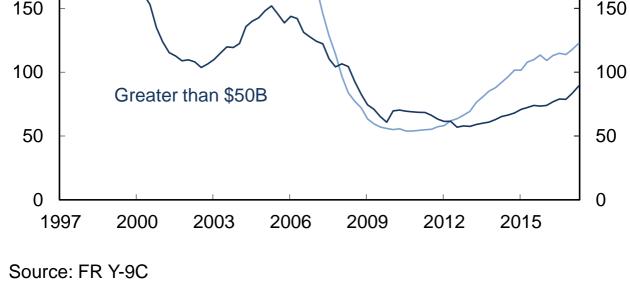
As Of: 2017 Q2

Percent of NPLs

250

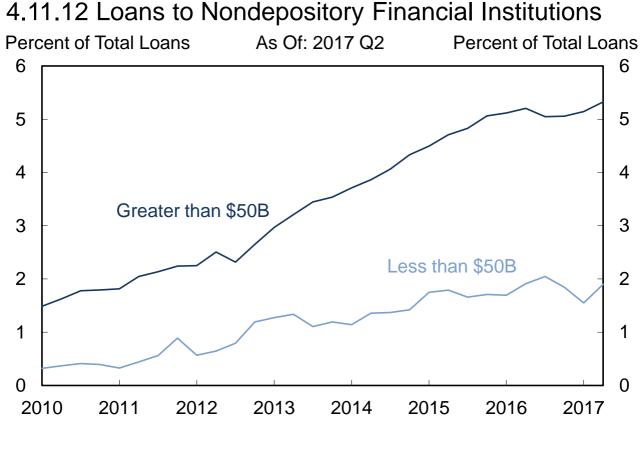
200

Less than \$50B

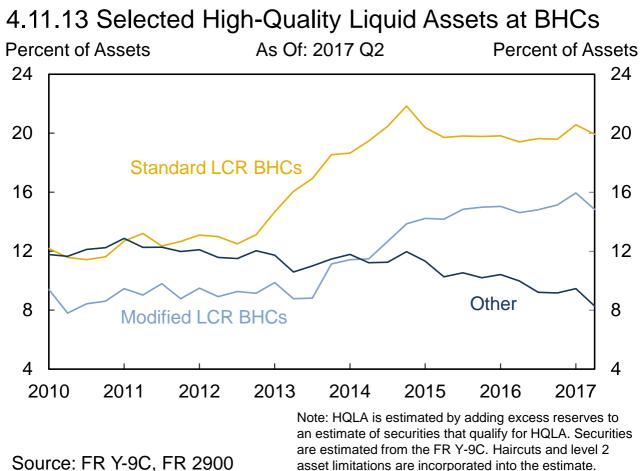


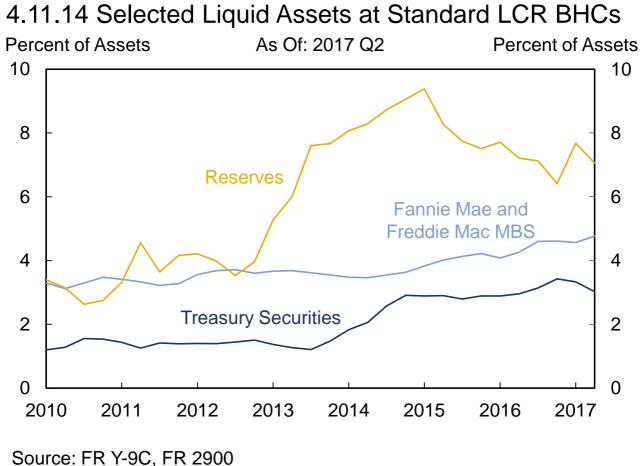
4.11.11 Higher-Risk Securities Percent of Total Securities As Of: 2017 Q2 Percent of Total Securities Greater than \$50B Less than \$50B

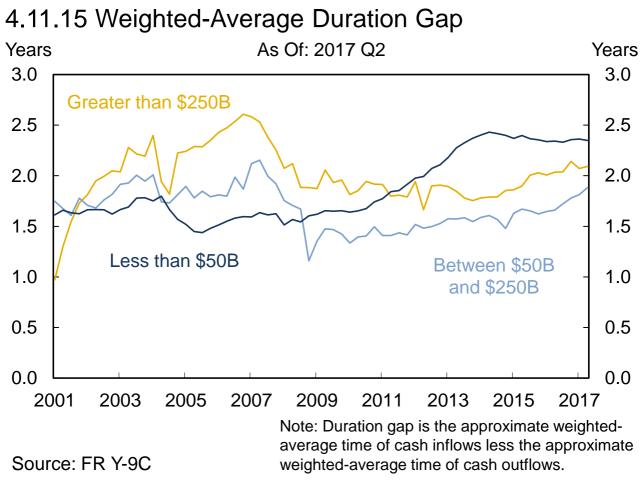
Source: FR Y-9C

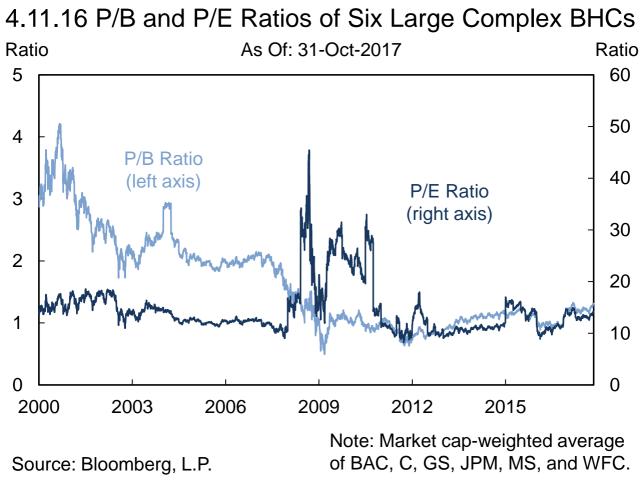


Source: FR Y-9C









Basis Points As Of: 31-Oct-2017 **Basis Points** 700 700 Maximum Value **Equal-Weighted Average** 600 600 Minimum Value 500 500 400 400 300 300 200 200 100 100 0 2010 2011 2012 2013 2014

2009

4.11.17 CDS Spreads of Six Large Complex BHCs

2015 2016 Note: CDS spreads of BAC, Source: Markit Group Limited C, GS, JPM, MS, and WFC.

4.11.18 Initial and Stressed Tier 1 Common Capital Ratios As Of: Jun-2017 Percent Percent 14 14 **Pre-Stress** Post-Stress Minimum 12 12 10 10 8 6

DFAST 2013 2014 2015 2016 2017

Note: DFAST 2013-2015 bars depict Tier 1
Common Capital Ratio. DFAST 2016-2017
Source: Federal Reserve bars depict Common Equity Tier 1 Ratio.

Non-Objection to Capital Plan				
Ally Financial	Citizens Financial	MUFG Americas		
American Express	Comerica	Northern Trust		
BancWest	Discover Financial	PNC Financial		
Bank of America	Fifth Third Bancorp	Regions Financia		
Bank of New York Mellon	Goldman Sachs	State Street		
BB&T	HSBC North America	SunTrust		
BBVA Compass	Huntington Bancshares	TD Group U.S.		
BMO Financial	JPMorgan Chase	U.S. Bancorp		
Capital One Financial	KeyCorp	Wells Fargo		
Citigroup	M&T Bank	Zions		

DMO Eigensiel	IDMarray Chase	LLC Danasus
BBVA Compass	Huntington Bancshares	TD Group U.S.
BB&T	HSBC North America	SunTrust
Bank of New York Mellon	Goldman Sachs	State Street

Capital One Financial	Reycorp	vvelis i algo
Citigroup	M&T Bank	Zions
C	Conditional Non-Objection to Capital Pla	n
	Morgan Stanley	

Objection to Capital Plan

Deutsche Bank

Santander Holdings USA

Note: Morgan Stanley's capital plan received a non-objection

Source: Federal Reserve upon resubmission.

4.11.20 Federal Reserve's Actions in CCAR 2017

	on-Objection to Capital Plan Comerica	MUFG Americas
Ally Financial		
American Express	Deutsche Bank	Northern Trust
BancWest	Discover Financial	PNC Financial
Bank of America	Fifth Third Bancorp	Regions Financial
Bank of New York Mellon	Goldman Sachs	Santander Holdings USA
BB&T	HSBC North America	State Street
BBVA Compass	Huntington Bancshares	SunTrust
BMO Financial	JPMorgan Chase	TD Group U.S.
CIT Group	KeyCorp	U.S. Bancorp
Citigroup	M&T Bank	Wells Fargo
Citizens Financial	Morgan Stanley	Zions

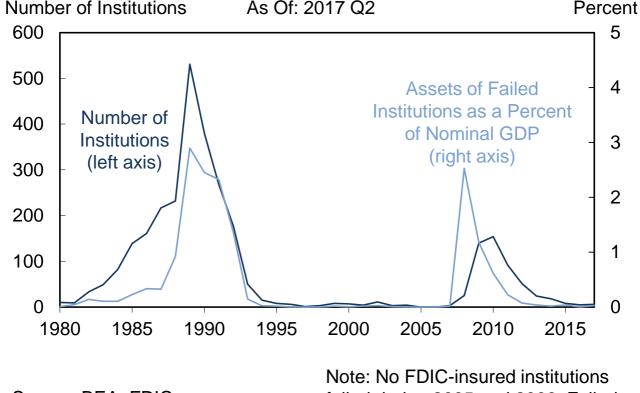
Conditional Non-Objection to Capital Plan

Capital One Financial

Source: Federal Reserve

4.11.21 FDIC-Insured Failed Institutions

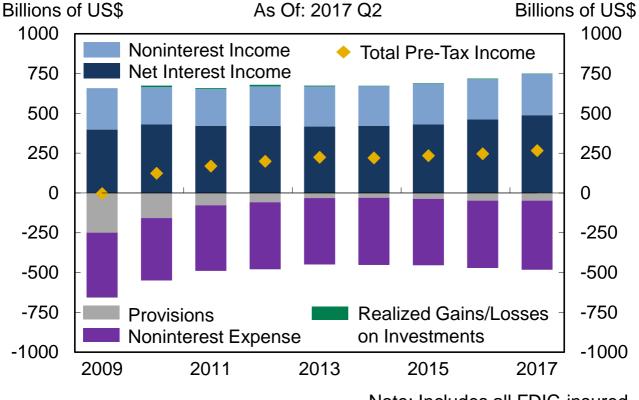
Number of Institutions As Of: 2017 Q2



Note: No FDIC-insured institutions
Source: BEA, FDIC,
Haver Analytics

Note: No FDIC-insured institutions
failed during 2005 and 2006. Failed
institutions in 2017 through June 30.

4.11.22 Commercial Bank and Thrift Pre-Tax Income



Note: Includes all FDIC-insured Source: FDIC commercial banks and thrifts.

4.11.23 U.S. Branches and Agencies of Foreign Banks: Assets

Trillions of US\$

As Of: 2017 Q2

Trillions of US\$

Reserve Balances

Depository Institutions

Cash and Balances Due from

(excluding Reserve Balances)

2014

Note: Other assets includes government securities,

asset-backed securities, and other trading assets.

2016

Securities Purchased

with Repos & Fed

Non-C&I Loans

Funds Sold

2006

Source: Federal Reserve,

2008

4.0

3.5

3.0

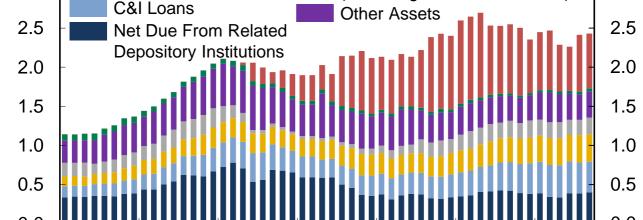
4.0

3.5

3.0

2004

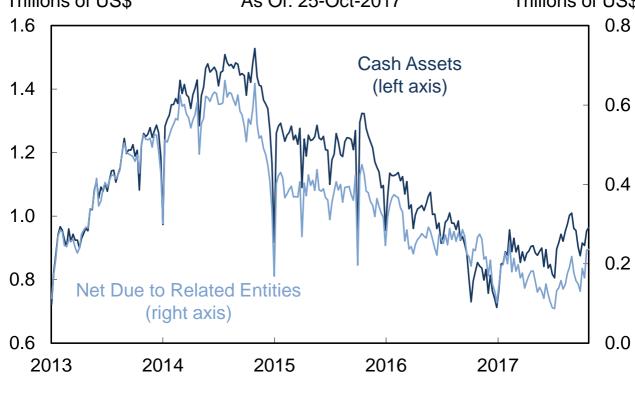
Haver Analytics



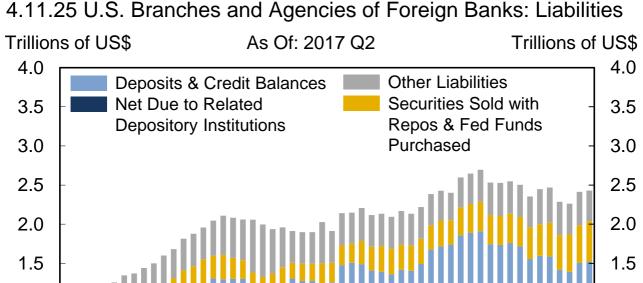
2010

2012





Source: Federal Reserve



1.0

0.5

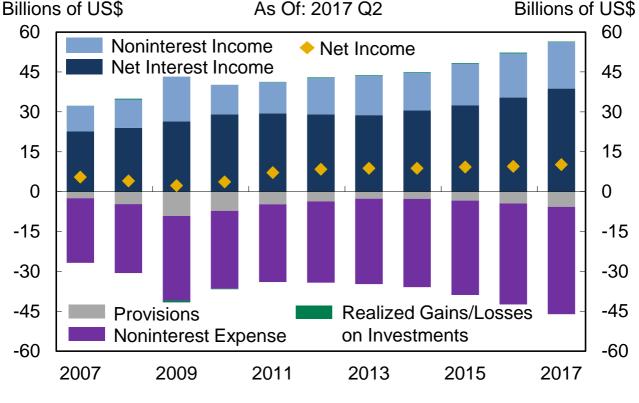
0.0 2004 2006 2008 2010 2012 2014 2016 Source: Federal Reserve,

1.0

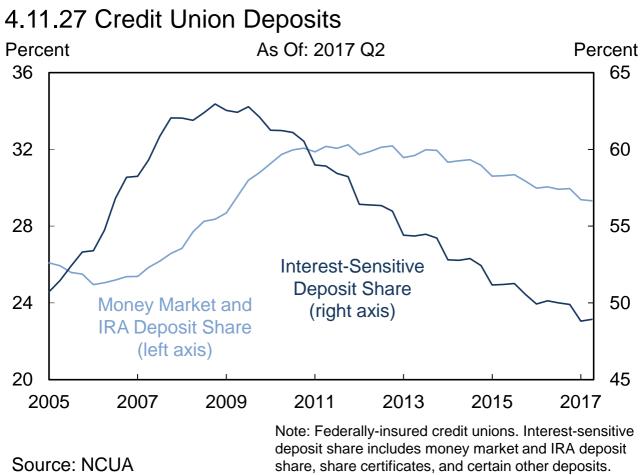
0.5

Note: Other liabilities includes transaction accounts, Haver Analytics non-transaction accounts, and other borrowed money.

4.11.26 Credit Union Income



Source: NCUA Note: Federally-insured credit unions.

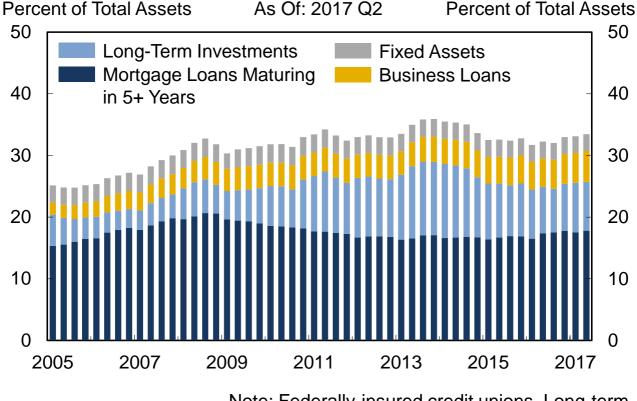


4.11.28 Credit Union Net Long-Term Assets

Percent of Total Assets

As Of: 2017 O2

Percent



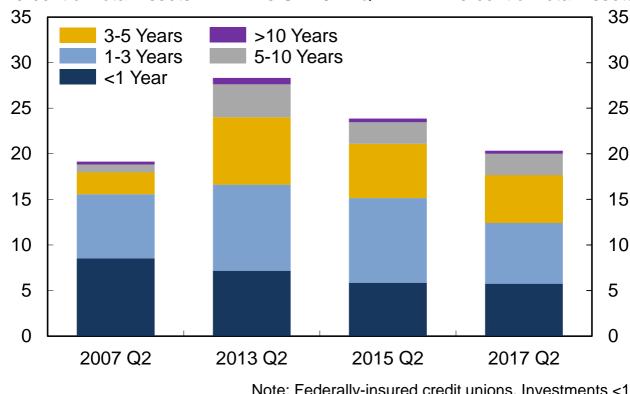
Note: Federally-insured credit unions. Long-term Source: NCUA investments mature in three or more years.

4.11.29 Credit Union Investments by Maturity

Percent of Total Assets

As Of: 2017 Q2

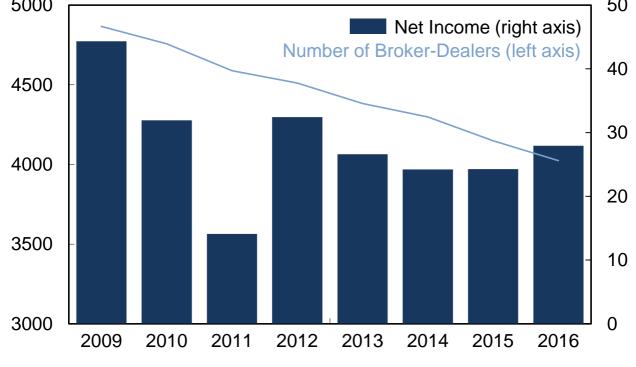
Percent of Total Assets



Note: Federally-insured credit unions. Investments <1 year exclude securities with maturities <3 months.

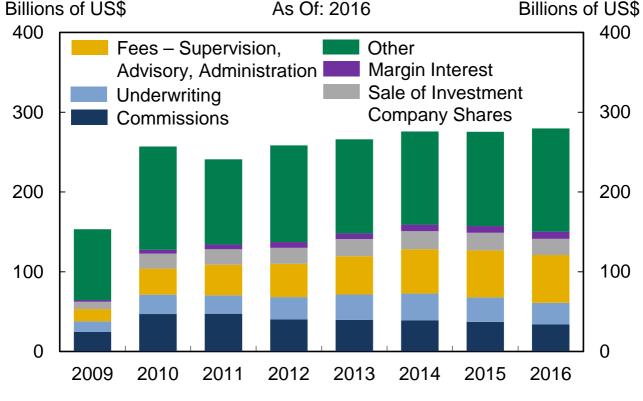
Number of Firms As Of: 2016 Billions of US\$ 5000 50 Net Income (right axis)

4.12.1 Number of Broker-Dealers and Industry Net Income



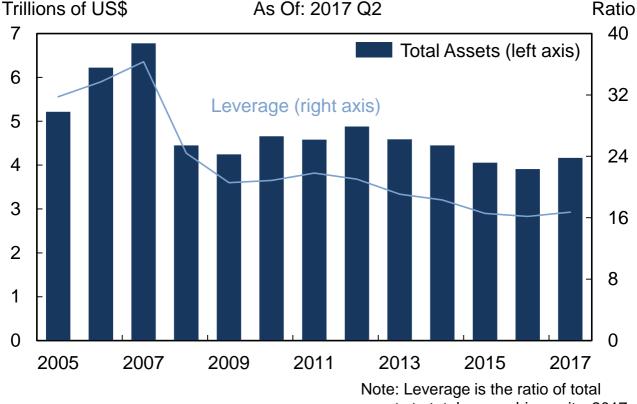
Source: FINRA

4.12.2 Broker-Dealer Revenues



Source: FINRA

4.12.3 Broker-Dealer Assets and Leverage Trillions of US\$ As Of: 2017 Q2



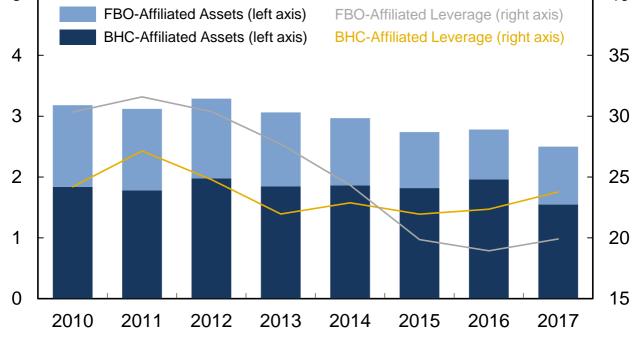
Source: FINRA

Note: Leverage is the ratio of total assets to total ownership equity. 2017 data as of second quarter 2017.

Trillions of US\$ As Of: 2017 Q2 Ratio

5 FBO-Affiliated Assets (left axis) FBO-Affiliated Leverage (right axis)

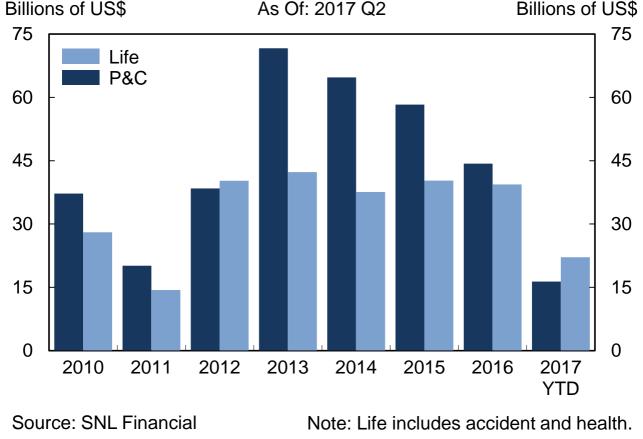
4.12.4 Large Broker-Dealer Assets and Leverage by Affiliation



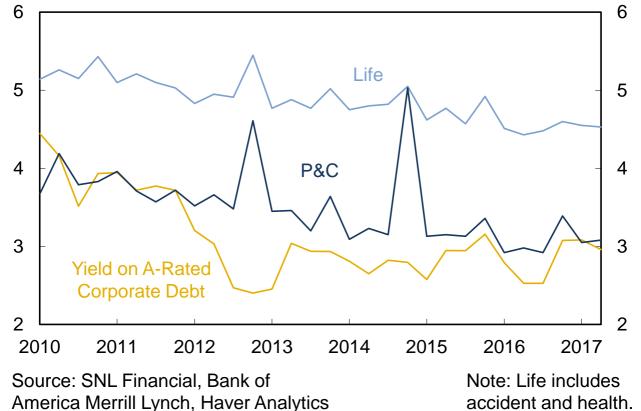
Source: FINRA

Note: Data covers BHC- and FBO-affiliated broker-dealers that are among the 25 largest broker-dealers by assets as of second quarter 2017.

4.12.5 Insurance Industry Net Income

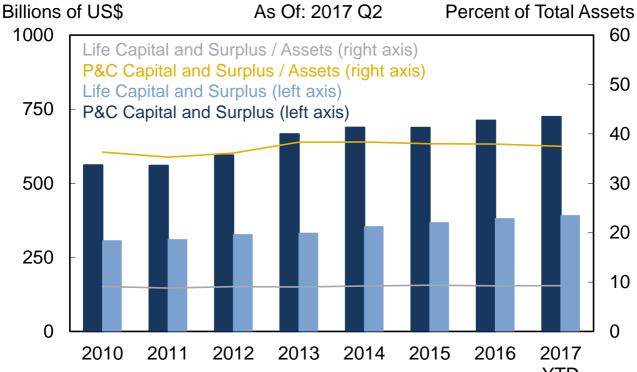


4.12.6 Net Yield on Invested Assets
Percent As Of: 2017 Q2



Percent

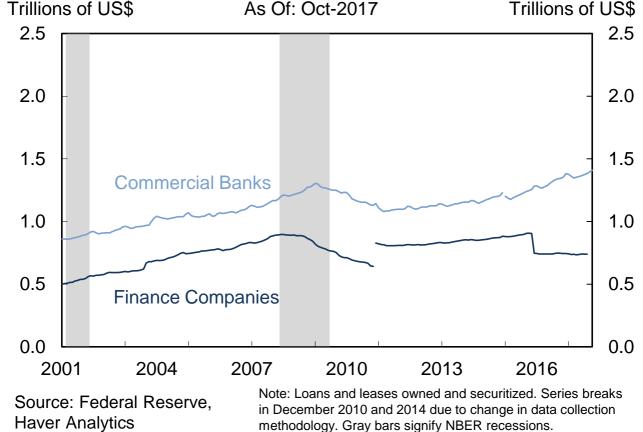
4.12.7 Insurance Industry Capital and Surplus



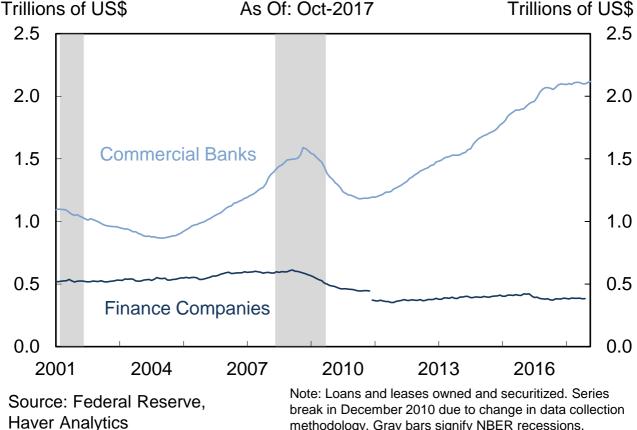
Source: SNL Financial

Note: C&S/Assets is calculated as capital and surplus as a percent of net admitted assets less net admitted separate account assets. Life includes accident and health.

4.12.8 Consumer Loans and Leases Outstanding

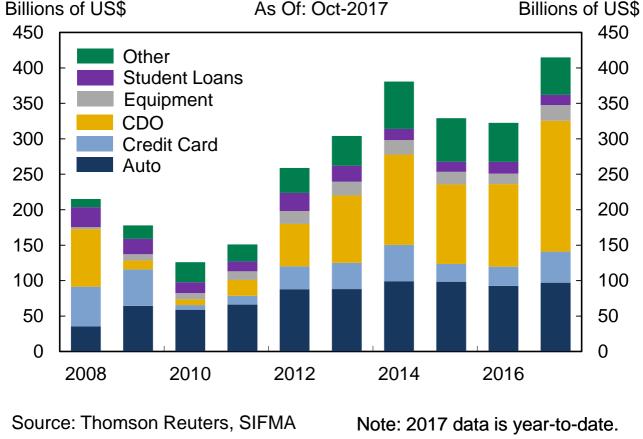


4.12.9 Business Loans and Leases Outstanding Trillions of US\$ As Of: Oct-2017

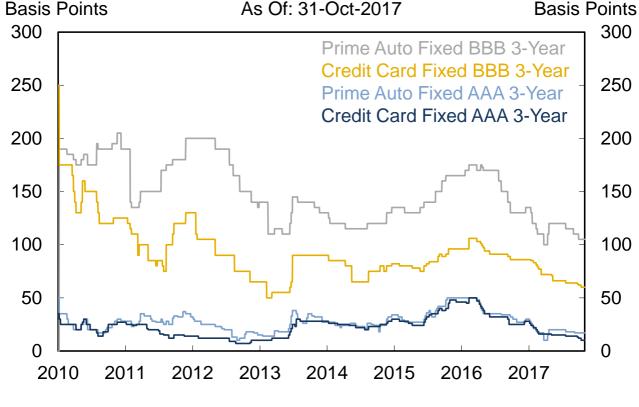


methodology. Gray bars signify NBER recessions.

4.12.10 ABS Issuance



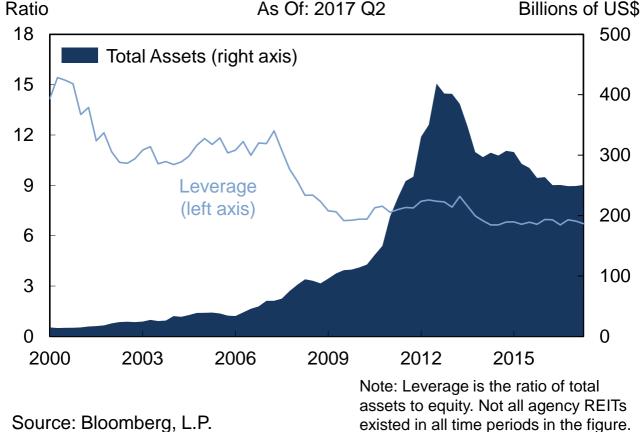
4.12.11 Selected ABS Spreads

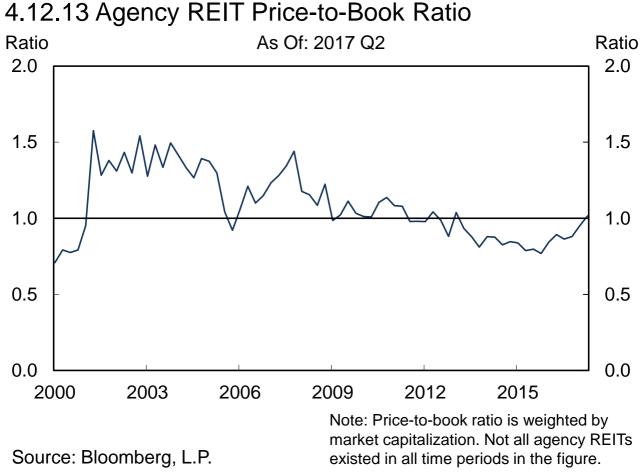


Source: J.P. Morgan

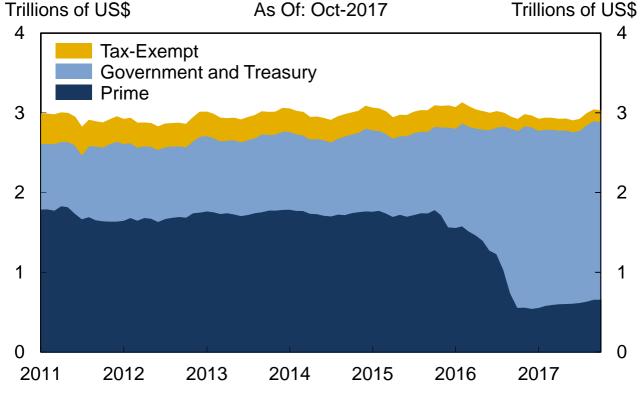
rgan Note: Spreads to swaps.

4.12.12 Agency REIT Assets and Leverage





C.1 MMF Assets by Fund Type



Source: SEC

C.2 ON RRP Take-Up by MMFs Billions of US\$ As Of: 30-Jun-2017 Billions of US\$ 500 500 400 400 300 300 200 200

Oct:16

Jan:17

Apr:17

100

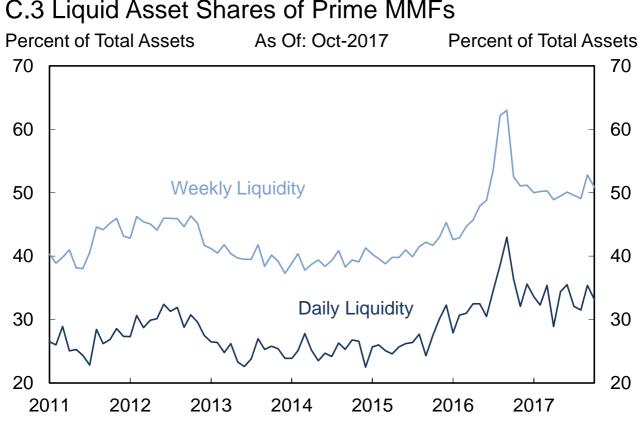
Source: FRBNY

Apr:16

Jul:16

100

Jan:16



Source: SEC Note: Weighted by fund size.

C.4 LIBOR-OIS Spread

Basis Points

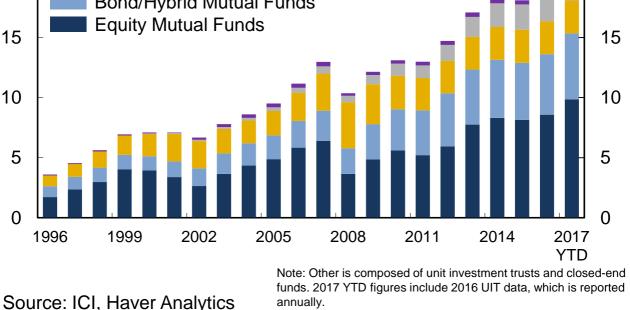
As Of: 3



Source: Bloomberg L.P.

Trillions of US\$ As Of: 2017 Q3 Trillions of US\$ 25 25 Other **ETFs** 20 20 **MMFs** Bond/Hybrid Mutual Funds

4.13.1 Net Assets of the Investment Company Industry



annually.

4.13.2 Monthly Bond Mutual Fund Flows Billions of US\$ As Of: Sep-2017 Billions of US\$ 40 40 Tax-Exempt Taxable 20 20 -20 -20 -40 -40 -60 -60

2015

2016

2017

-80

Source: ICI, Haver Analytics

2014

-80

2013

4.13.3 Monthly Equity Mutual Fund Flows Billions of US\$ As Of: Sep-2017 Billions of US\$ 40 30 20 10 0 -10

2015

2016

2017

40

30

20

10

0

-10

-20

-30

Source: ICI, Haver Analytics

2014

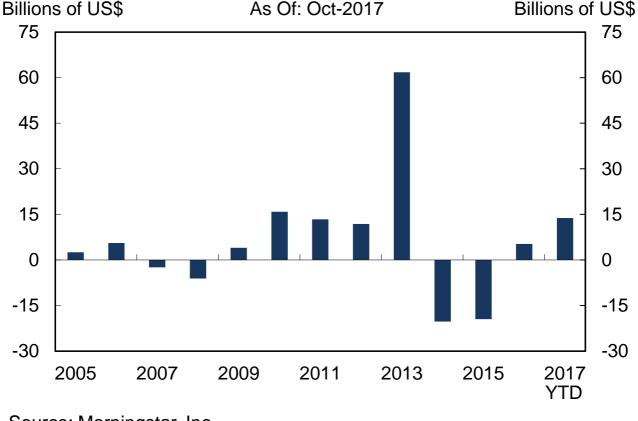
-20

-30

-40

2013

4.13.4 Bank Loan Mutual Funds: Annual Flows Billions of US\$ As Of: Oct-2017

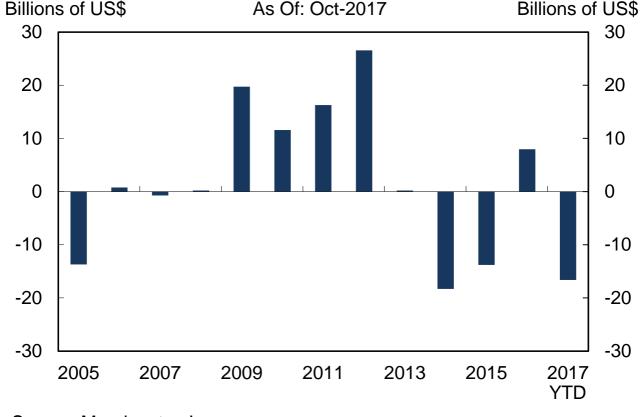


Source: Morningstar, Inc.

4.13.5 High-Yield Mutual Funds: Annual Flows
Billions of US\$

As Of: Oct-2017

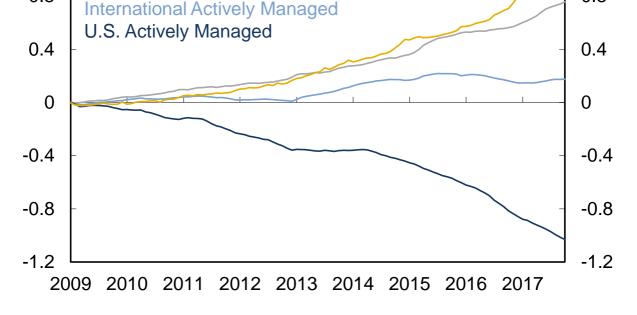
B



Source: Morningstar, Inc.

4.13.6 Alternative Mutual Funds: Annual Flows Billions of US\$ As Of: Oct-2017





As Of: Oct-2017

Trillions of US\$

1.2

8.0

4.13.7 Cumulative Equity Fund Flows

International Passively Managed

U.S. Passively Managed

Trillions of US\$

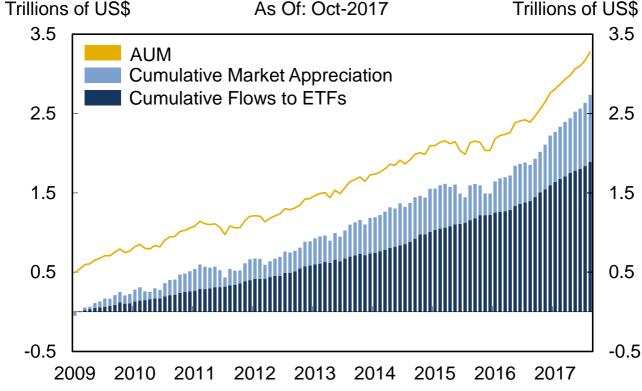
1.2

8.0

Source: Morningstar, Inc.

Note: Includes ETFs and mutual funds.

4.13.8 U.S.-Listed ETP AUM

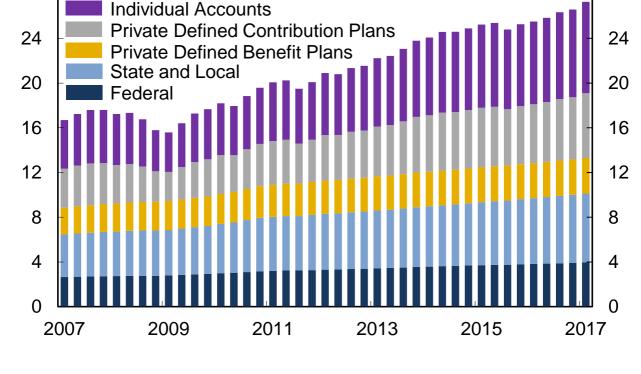


Source: Morningstar, Inc.

4.13.9 Retirement Fund Assets by Plan Type
Trillions of US\$

As Of: 2017 Q1

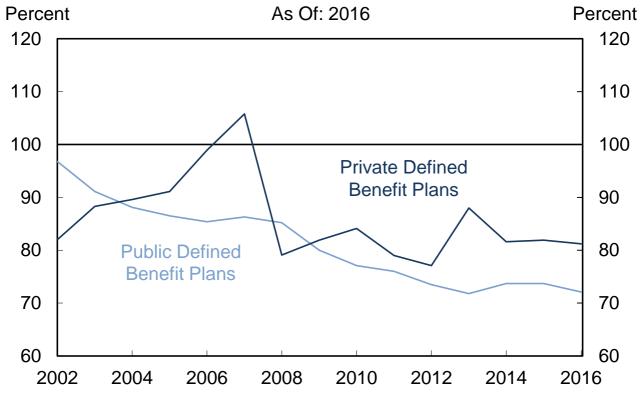
28



Trillions of US\$

28

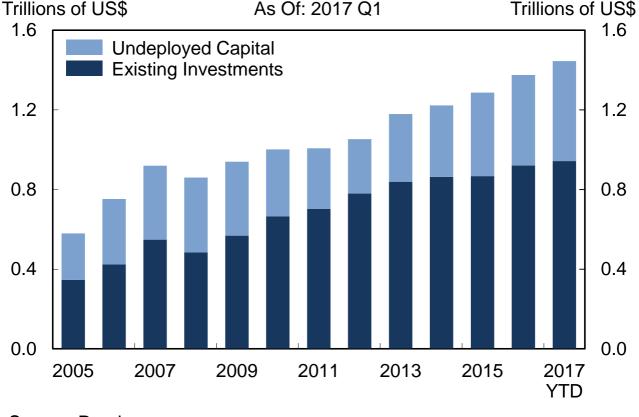
Source: Federal Reserve, Haver Analytics



4.13.10 Public and Private Pension Funding Levels

Source: Public Fund Survey, Milliman 2016 Pension Funding Study

4.13.11 North American Private Equity AUM



Source: Pregin

As Of: Oct-2017 Billions of US\$ Billions of US\$ Non-LBO LBO 2016 2017 YTD

4.13.12 M&A Loan Volume for Private Equity-Backed Issuers

Source: S&P LCD

