

May 2018 Highlights	
<b>Loan Growth</b> <ul style="list-style-type: none"> <li>Bilateral loans up +0.4% month over month</li> <li>Participations up +0.1% month over month</li> </ul>	↑
<b>New/Renewed Volume</b> <ul style="list-style-type: none"> <li>Aggregate new/renewed bilateral volume up from prior month</li> <li>Aggregate new/renewed participation volume up from prior month</li> </ul>	↑
<b>Spread Pricing</b> <ul style="list-style-type: none"> <li>Spread pricing down this month for new bilateral loans and flat for bilateral renewals</li> <li>Spread pricing down this month for both new and renewed participations</li> </ul>	↓
<b>Fee Performance</b> <ul style="list-style-type: none"> <li>Upfront fee incidence rates for new and renewed bilateral loans down month over month and up year over year</li> <li>Upfront fee levels up month over month and year over year for both new and renewed bilateral loans</li> </ul>	↔

## Total Balances Continue to Grow in May, Spreads Down

For the second consecutive month, balances for both bilateral loans and participations increased, although the majority of May's balance growth was concentrated within a small number of industry and regional segments. Aggregate new/renewed volume increased in May, the heart of the second quarter renewal season. Spread pricing for new loans was down in May when compared to the same month a year earlier, a trend seen for both bilateral loans and participations.

- Loan Growth:** Balances for both bilateral loans and participations continued to grow in May, with a larger overall increase than seen in May of the prior year. For participations, a rebound in Energy lending offset declines across most other industry sectors, **p. 1-3, & 6.**
- New/Renewed Volume:** Volume for both new and renewed bilateral loans increased in May from the prior month, mirroring a similar trend observed last May. Aggregate new/renewed participation volume increased in May, reaching the highest level seen over the last year. New CRE volume was up in May from the same month a year earlier, with the increase focused predominantly in the 06 (low pass) risk rating segment, **p. 4-6.**
- Spread Pricing:** Spread pricing for new bilateral loans trended downwards in May, falling beneath the level seen a year ago. The average spread for bilateral renewals varied little in May from last month and was comparable to the prior May's average. For new and renewed participations, spread pricing was down in May when compared to both last month and the same month a year earlier, **p. 4-6, & 8.**
- Fee Performance:** Average Upfront fee incidence rates for new and renewed bilateral loans were down in May from the prior month but up when compared to last May. Upfront fee levels for new and renewed bilateral loans increased in May when compared to both last month and the same month a year earlier, **p. 7.**

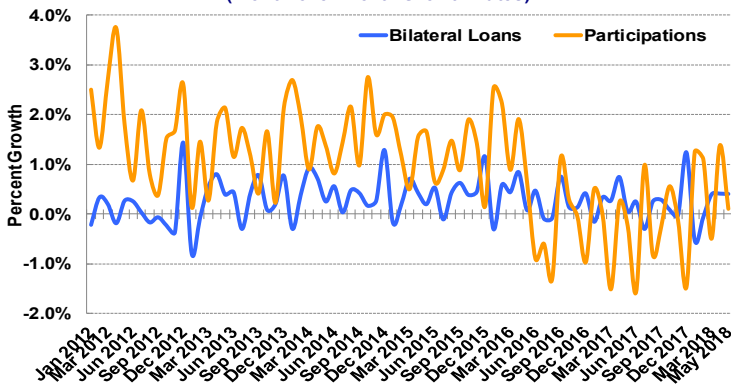
**John H. Shain**  
President

Automated Financial Systems, Inc.

This newsletter presents monthly reporting on Commercial loan characteristics. The information is derived from the AFS Pricing Dashboard, which contains approximately \$1 trillion in Commercial banking commitments. Note: The charts below reflect total loan outstandings for participating banks.

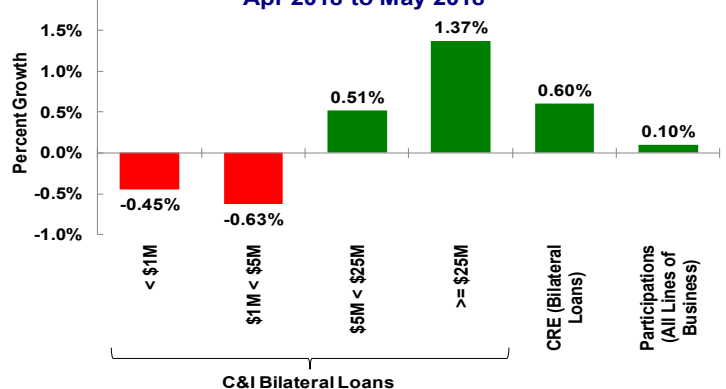
### Loan Growth

**Growth in Outstandings - Monthly Trend**  
(Month-over-Month Growth Rates)



- M/M Growth:** +0.4% Bilateral, +0.1% Participations
- Historical Perspective:** For the second consecutive month, total balances for both bilateral loans and participations increased.

**Growth in Outstandings - By Loan Size/Type**  
Apr 2018 to May 2018



- M/M Growth:** From April to May, balance increases for C&I bilateral loans >\$5M in loan size offset declines across the smaller-end ranges. CRE bilateral loans also contributed positively to the total balance increase seen in May.

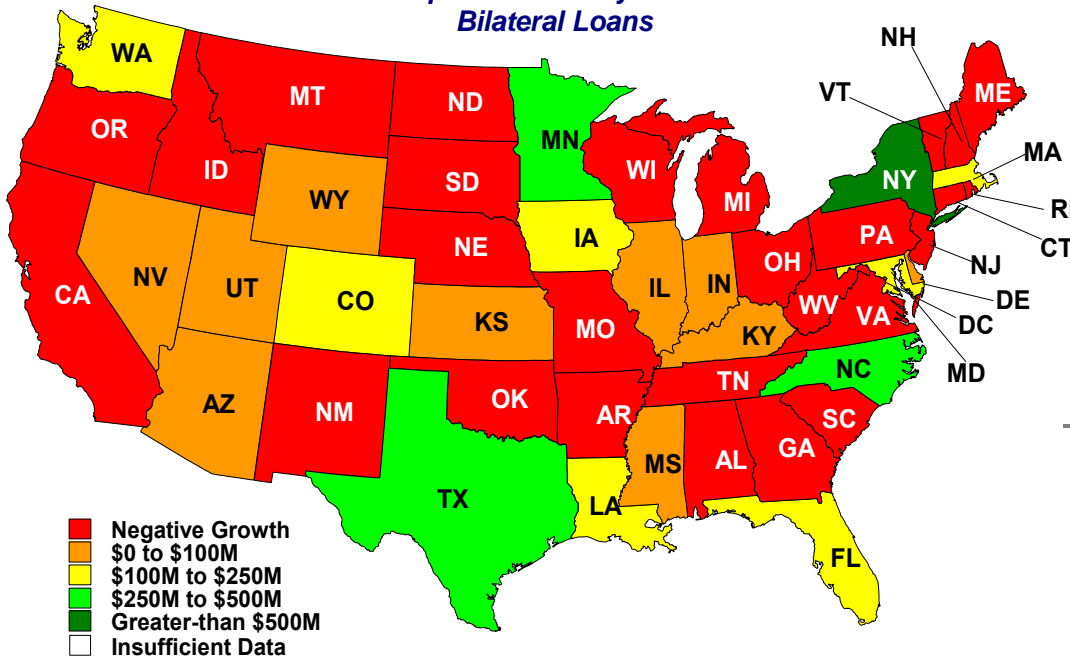
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## Loan Growth Dynamics – Apr 2018 vs. May 2018 – Bilateral Loans

### Growth in Outstandings Apr 2018 vs. May 2018 Bilateral Loans



While bilateral balances were up this month in aggregate, the majority of states reported balance declines for bilateral loans.

- In May, **New York** (+1.9%) displayed the largest increase across the states for bilateral loans.
- California** (-0.5%), last month's top state for bilateral loan growth, reported the deepest decline seen across the states in May.

### \$ Change in Outstandings

#### Top 5 States

1. New York
2. Texas
3. North Carolina
4. Minnesota
5. Florida

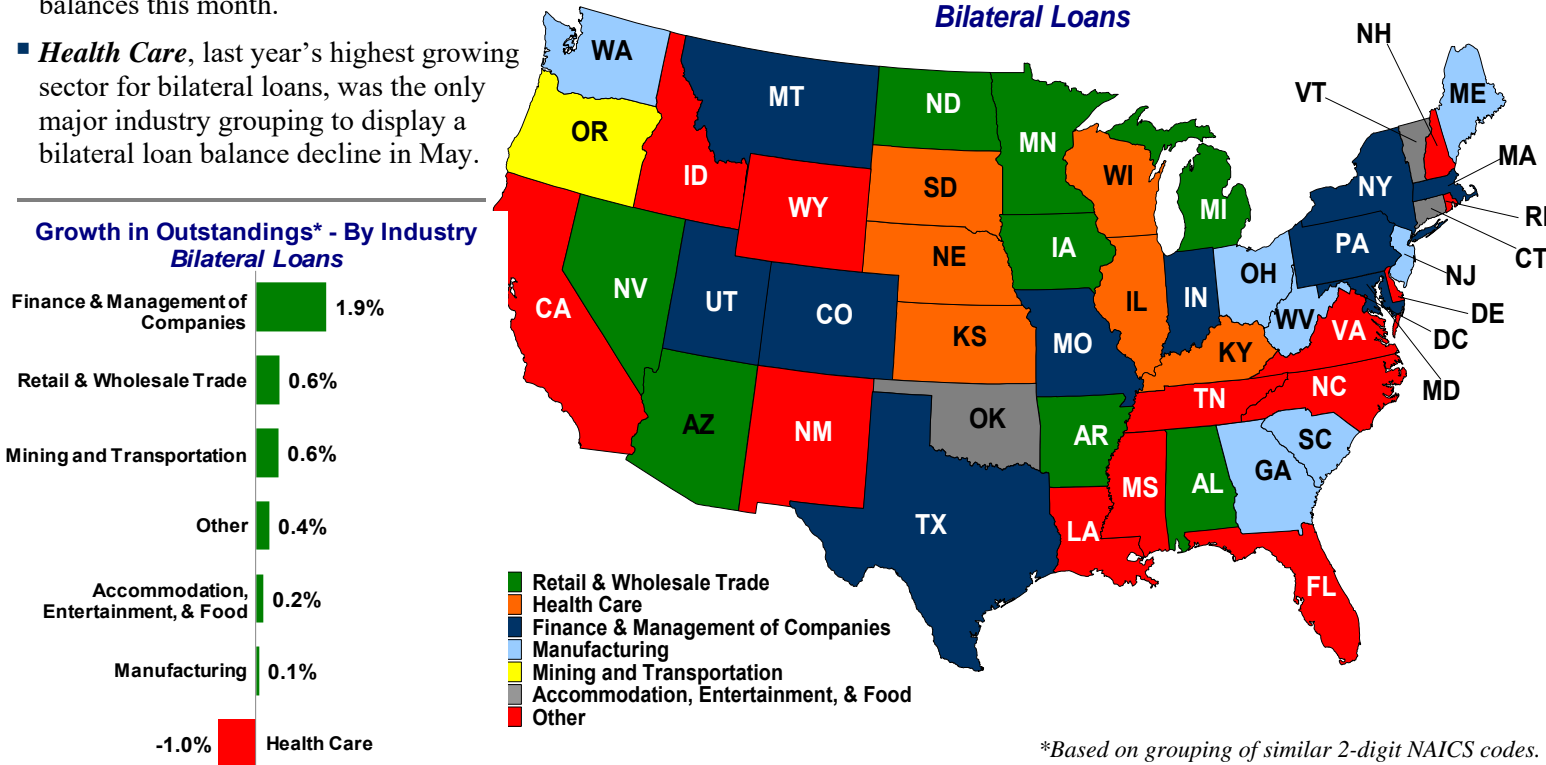
#### Bottom 5 States

1. California
2. Missouri
3. Georgia
4. Alabama
5. Pennsylvania

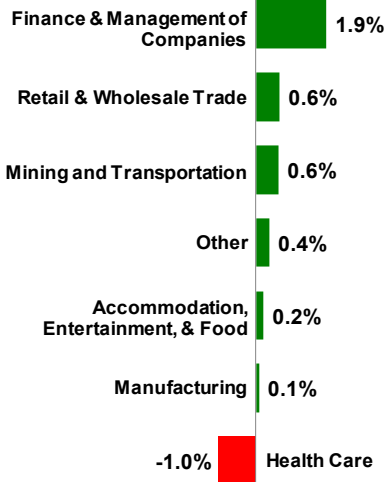
From an industry perspective, **Finance & Management** led the increase in bilateral balances this month.

**Health Care**, last year's highest growing sector for bilateral loans, was the only major industry grouping to display a bilateral loan balance decline in May.

### Growth in Outstandings - Predominant C&I Industries\* Apr 2018 vs. May 2018 Bilateral Loans



### Growth in Outstandings\* - By Industry Bilateral Loans



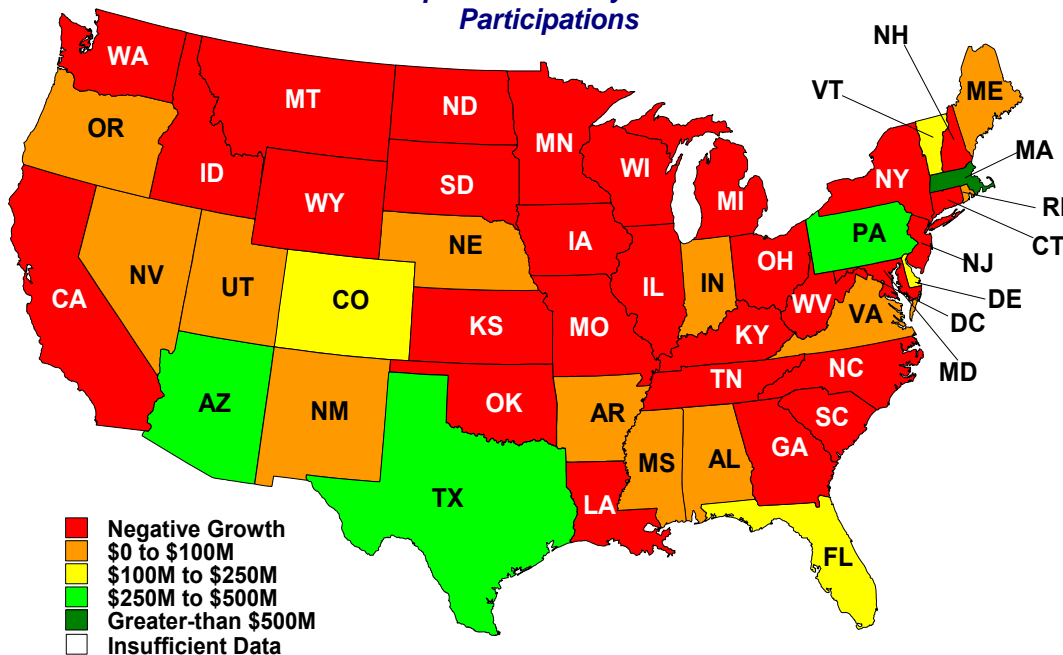
\* Growth in outstandings in May 2018 from Apr 2018  
Excludes CRE Loans

\*Based on grouping of similar 2-digit NAICS codes.

"Other" includes Agriculture, Utilities, Information, Professional Services, Educational Services, Admin & Waste Mgmt, Public Administration, and Other Services.

## Loan Growth Dynamics – Apr 2018 vs. May 2018 – Participations

### Growth in Outstandings Apr 2018 vs. May 2018 Participations



May's increase in participation balances was concentrated within a small number of states.

- **Massachusetts** (+8.3%), followed by **Texas** (+2.2%), led the growth in participation balances this month.
- Participations were down sharply this month in **New Jersey** (-7.2%), with the decline driven primarily by the Accommodation (Hotels and Motels) subsector.

### \$ Change in Outstandings

#### Top 5 States

1. Massachusetts
2. Texas
3. Arizona
4. Pennsylvania
5. Florida

#### Bottom 5 States

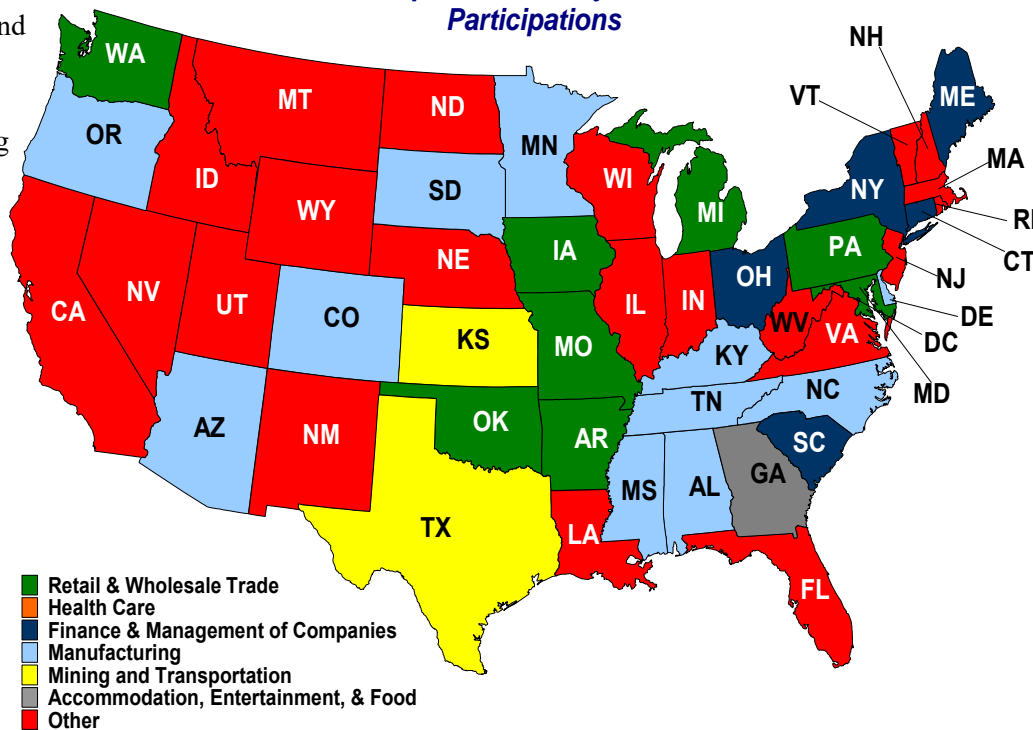
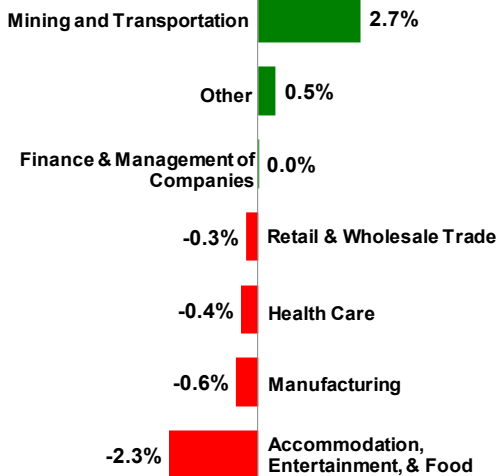
1. New Jersey
2. Georgia
3. Missouri
4. North Carolina
5. Tennessee

- Participation balance growth in May was heavily driven by Energy lending in Texas, with large increases observed in this state for the **Oil & Gas Extraction** and **Pipeline Transportation** subsectors.

- A decline for the **Accommodation, Entertainment & Food** sector was a drag on participation balance growth in May.

### Growth in Outstandings - Predominant C&I Industries\* Apr 2018 vs. May 2018 Participations

#### Growth in Outstandings\* - By Industry Participations



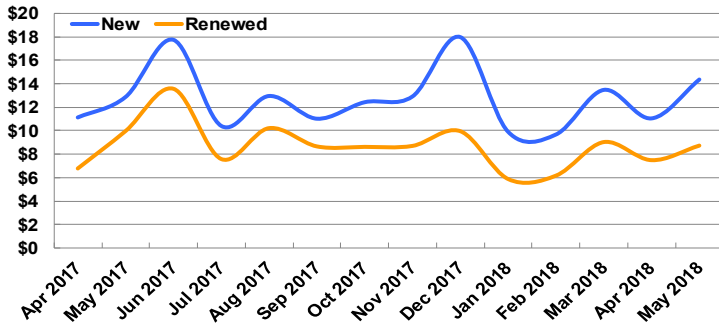
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\* Growth in outstandings in May 2018 from Apr 2018  
Excludes CRE Loans

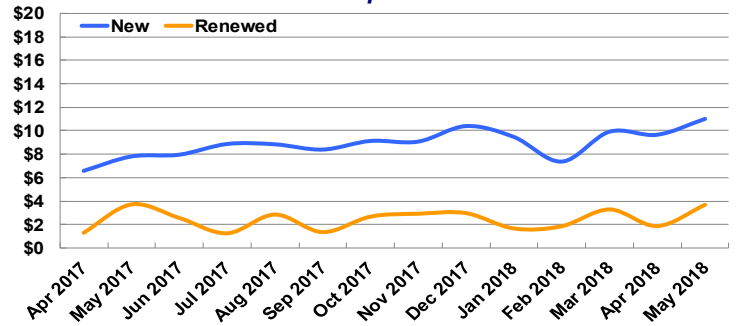
## Portfolio Mix – New and Renewed Loans

**New and Renewed Loans Trend (\$ Billions)**  
*Bilateral Loans*



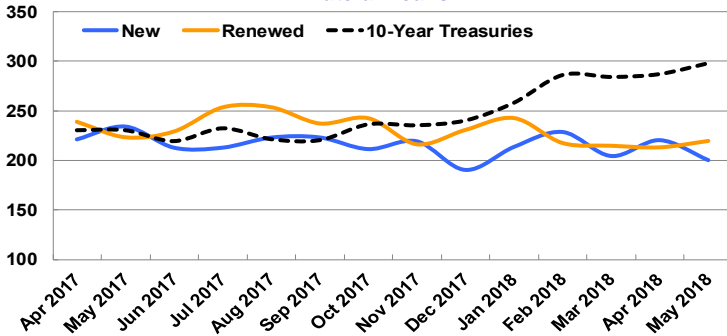
- New bilateral volume increased in May, reaching a higher level than seen in the same month a year earlier.
- Renewed bilateral volume increased in May from last month but was down when compared to May of the prior year.

**New and Renewed Loans Trend (\$ Billions)**  
*Participations*



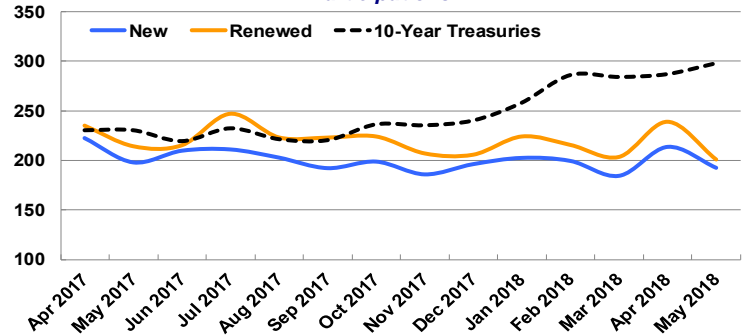
- New participation volume increased in May, rising to the highest level seen over the last year.
- Volume for renewed participations increased in May from April, reaching a level nearly identical to that seen last May.

**LIBOR-Equivalent Spread (in BPS) Trend**  
*Bilateral Loans*



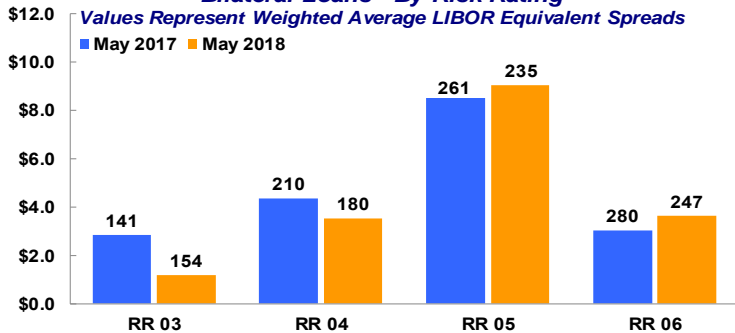
- Spread pricing for new bilateral loans was down sharply in May on both a month-over-month and a year-over-year basis.
- The average spread for bilateral renewals varied little in May when compared to both last month and May of the prior year.

**LIBOR-Equivalent Spread (in BPS) Trend**  
*Participations*



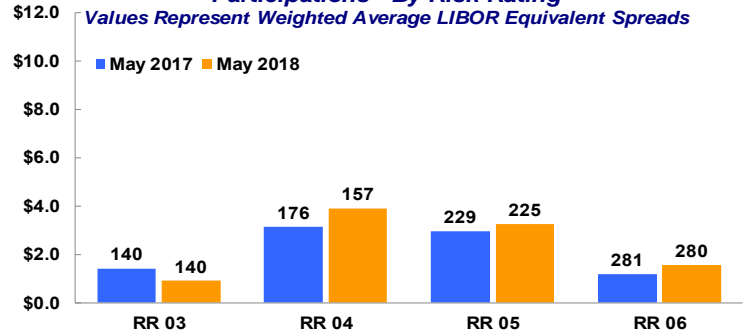
- Mirroring the trend seen a year ago, spreads for new and renewed participations declined in May from April.
- On a year-over-year basis, spread pricing was down in May for both new and renewed participations.

**Year-over-Year New & Renewed Volume (\$ Billions)**  
*Bilateral Loans - By Risk Rating*



- New/renewed bilateral volume was up year over year for loans risk rated 05 and 06 and down across the lower-risk categories.
- Spread pricing for new/renewed bilateral loans declined over the last year across every risk rating except the 03 segment.

**Year-over-Year New & Renewed Volume (\$ Billions)**  
*Participations - By Risk Rating*



- New/renewed participation volume was up year over year in May across every risk rating except the 03 category.
- Across the risk spectrum, spread pricing for new/renewed participations was flat to down year over year in May.

Risk ratings based on the RMA 10-point obligor risk rating scale.

## Industries to Watch – Weighted Average LIBOR-Equivalent Spread (in BPS)

- The C&I industry subsectors shown below displayed favorable (top 10) or unfavorable (bottom 10) changes in weighted average LIBOR-equivalent spreads. (Figures based on new and renewed loans, all loan types.)

Industry	N/R Vol \$ Mil Mar'18 to May'18	Spread Avg Mar'18 to May'18	Change from Same Period a Year Ago	Spread Avg Mar'17 to May'17	Spread 12-M Avg
Truck Transportation	\$385	226	45	181	234
Gasoline Stations	\$405	204	44	160	167
Beverage & Tobacco Manufacturing	\$307	177	33	144	171
Paper Manufacturing	\$322	184	20	164	190
Motion Picture & Sound Recording	\$375	255	18	237	270
Executive, Legislative & General Gov Support	\$390	61	17	45	45
Plastics & Rubber Products Manufacturing	\$336	240	11	229	228
Social Assistance	\$345	255	10	246	257
Nursing & Residential Care Facilities	\$549	231	8	223	209
Accommodation	\$479	227	8	220	234
<b>All Industries Average</b>	<b>\$79,792</b>	<b>205</b>	<b>-12</b>	<b>217</b>	<b>211</b>
Specialty Trade Contractors	\$741	269	-30	299	288
Religious, Civic & Professional Organizations	\$586	161	-32	193	174
Waste Mgmt & Remediation	\$620	213	-32	245	206
Insurance Carriers	\$697	208	-33	241	199
Computer & Electronics Manufacturing	\$2,142	135	-37	173	172
Miscellaneous Manufacturing	\$1,054	172	-43	216	183
Telecommunications	\$1,607	146	-44	190	163
Professional, Scientific, & Tech	\$3,934	195	-53	249	244
Data Processing & Hosting	\$359	152	-57	209	195
Utilities	\$2,487	125	-83	208	134

## Industries to Watch – Weighted Average Risk Rating (WARR)

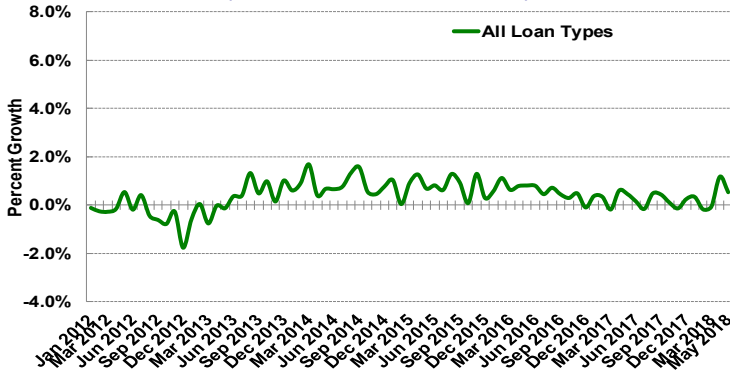
- The table below highlights the C&I industry subsectors with favorable (top 10) or unfavorable (bottom 10) changes in weighted average risk ratings. (Figures based on new and renewed loans, all loan types.)

Industry	N/R Vol \$ Mil Mar'18 to May'18	WARR Mar'18 to May'18	Change from Same Period a Year Ago	WARR Mar'17 to May'17	WARR 12-M Avg
Performing Arts & Spectator Sports	\$516	4.38	-0.61	4.99	4.59
Chemical Manufacturing	\$1,254	4.23	-0.35	4.57	4.65
Insurance Carriers	\$697	4.17	-0.34	4.51	4.75
Computer & Electronics Manufacturing	\$2,142	4.21	-0.26	4.47	4.34
Oil & Gas Extraction	\$5,294	5.22	-0.24	5.45	5.23
Rental & Leasing Services	\$1,675	4.22	-0.22	4.44	4.60
Real Estate	\$1,646	4.10	-0.22	4.32	4.03
Accommodation	\$479	4.45	-0.21	4.66	4.36
Food Services & Drinking Places	\$1,899	5.08	-0.19	5.26	5.21
Paper Manufacturing	\$322	4.64	-0.18	4.82	4.64
<b>All Industries Average</b>	<b>\$79,792</b>	<b>4.61</b>	<b>0.10</b>	<b>4.51</b>	<b>4.55</b>
Hospitals	\$1,217	3.95	0.40	3.55	3.34
Motion Picture & Sound Recording	\$375	4.78	0.45	4.33	5.18
Social Assistance	\$345	5.51	0.50	5.01	5.26
Food Manufacturing	\$1,207	5.16	0.56	4.60	4.82
Specialty Trade Contractors	\$741	5.11	0.59	4.52	4.96
Ambulatory Health Care Services	\$1,218	4.86	0.62	4.24	4.66
Beverage & Tobacco Manufacturing	\$307	5.04	0.66	4.37	4.76
Truck Transportation	\$385	5.21	0.76	4.46	5.13
Machinery Manufacturing	\$913	4.68	0.77	3.91	4.01
Gasoline Stations	\$405	4.84	0.92	3.93	4.09

Note: Industries listed on this page displayed at least \$300M in new/renewed volume in the most recent 3-month period. Weighted Average Risk Rating (WARR) based on the RMA 10-point obligor risk rating scale.

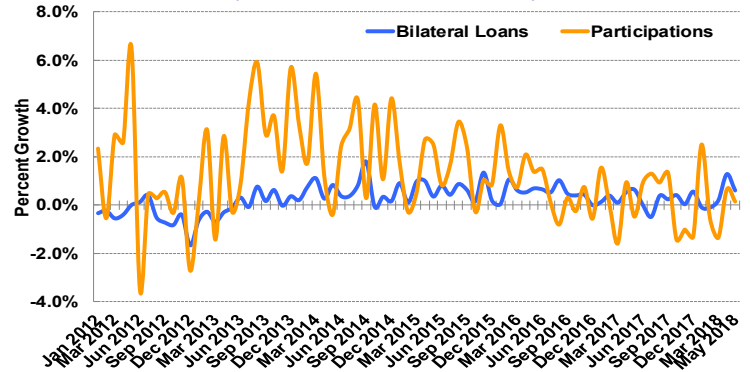
## Commercial Real Estate (CRE) – Growth and Pricing Dynamics

**Growth in Outstandings - Monthly Trend - CRE**  
(Month-over-Month Growth Rates)



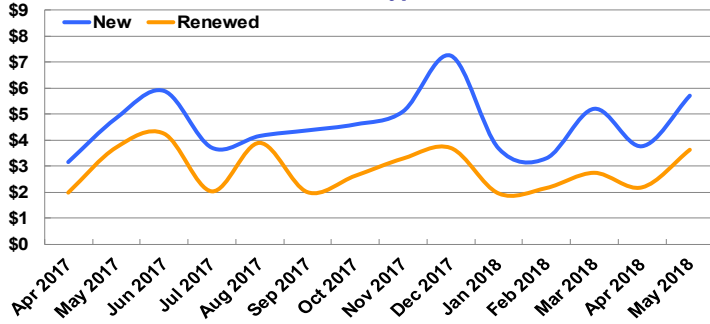
- Growth in total CRE balances slowed in May but remained positive, with CRE balances rising +0.5% from April.
- May's increase in total CRE balances was comparable in rate to that seen in the same month a year earlier (+0.4%).

**Growth in Outstandings - Monthly Trend - CRE**  
(Month-over-Month Growth Rates)



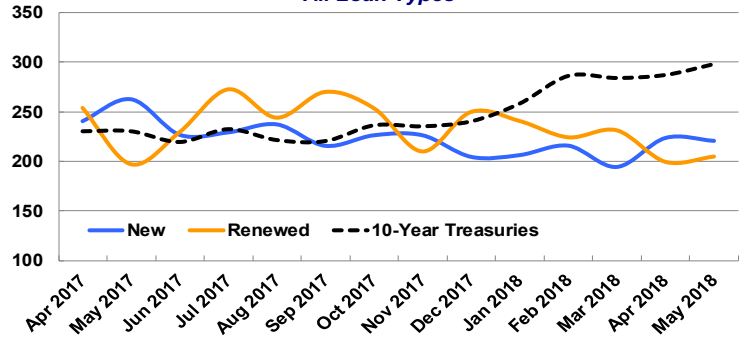
- CRE bilateral balances increased +0.6% month over month in May, a comparable rate to that seen last May.
- Growth in CRE participations was sluggish in May, with CRE participations increasing +0.1% from April's levels.

**New and Renewed CRE Loans Trend (\$ Billions)**  
All Loan Types



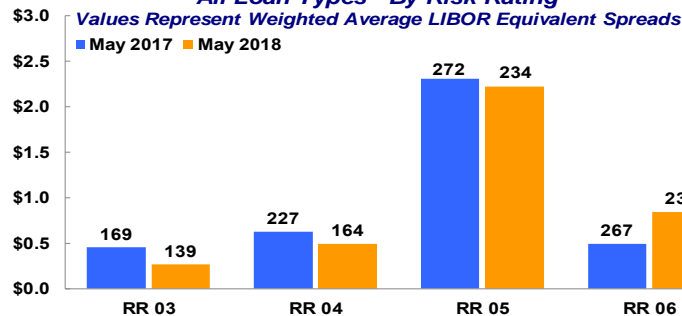
- For CRE loans, volume for both new loans and renewals increased in May from the prior month.
- Aggregate new/renewed CRE volume was up in May from a year ago, led by higher levels of new CRE loans.

**LIBOR-Equivalent Spread (in BPS) Trend - CRE**  
All Loan Types



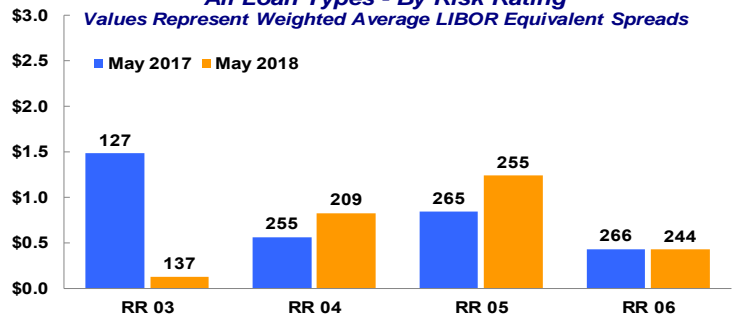
- Spread pricing for new CRE loans varied little in May from last month, trending beneath the level seen a year ago.
- The average spread for CRE renewals edged higher in May, rising slightly above the average seen last May.

**Year-over-Year New Volume (\$ Billions) - CRE**  
All Loan Types - By Risk Rating



- May's year-over-year increase in new CRE volume was focused in the 06 (low pass) risk rating segment.
- Across every risk rating, spread pricing for new CRE loans declined in May when compared to the same month a year earlier.

**Year-over-Year Renewed Volume (\$ Billions) - CRE**  
All Loan Types - By Risk Rating

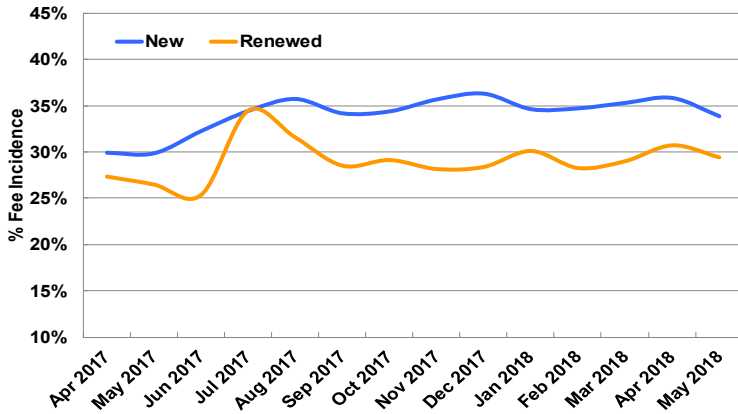


- Volume for CRE renewals risk rated 03 declined over the last year, offsetting increases across the 04 and 05 segments.
- Average spreads for CRE renewals were down year over year in May across every risk rating except the 03 segment.

Risk ratings based on the RMA 10-point obligor risk rating scale.

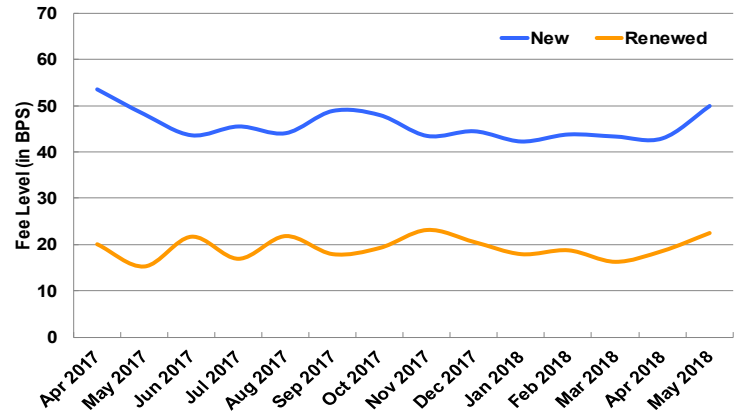
## Upfront Fee Performance – Bilateral Loans

**Upfront Fee Incidence Trend**  
New and Renewed Bilateral Loans



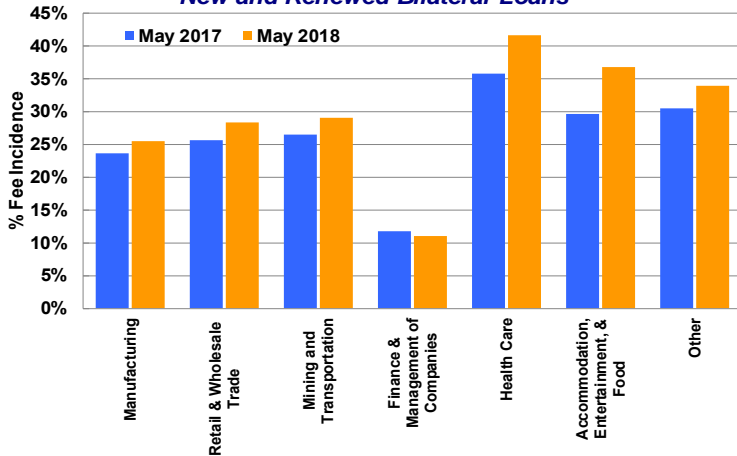
- For both new and renewed bilateral loans, Upfront fee incidence rates decreased in May from the prior month.
- When compared to the same month a year earlier, Upfront fee incidence rates were up in May for both new bilateral loans and bilateral renewals.

**Upfront Fee Level (in BPS) Trend**  
New and Renewed Bilateral Loans



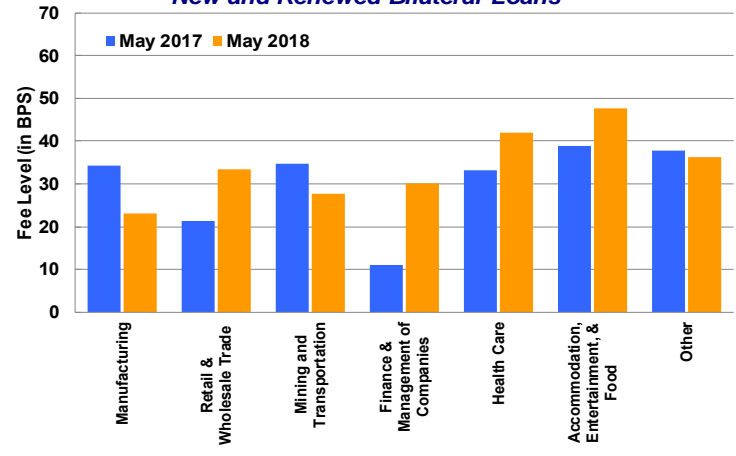
- Upfront fee levels for both new and renewed bilateral loans trended upwards in May from the prior month.
- On a year-over-year basis, Upfront fee levels were up in May for both new and renewed bilateral loans, with bilateral renewals displaying the larger increase.

**Upfront Fee Incidence by Industry\***  
New and Renewed Bilateral Loans



- Upfront fee incidence rates were up in May from a year ago for every industry grouping except **Finance & Management**.
- In May, **Health Care** displayed the highest Upfront fee incidence rate seen across the industries.

**Upfront Fee Level (in BPS) by Industry\***  
New and Renewed Bilateral Loans



- In May, the **Finance & Management** sector displayed the largest year-over-year increase in Upfront fee level.
- The Upfront fee level for **Accommodation, Entertainment, & Food** was the highest among the industries in May.

\*Based on grouping of similar 2-digit NAICS codes. "Other" includes Agriculture, Utilities, Information, Professional Services, Educational Services, Admin & Waste Mgmt, Public Administration, and Other Services.

## Footnotes

1. The LIBOR-equivalent spread for Prime- and LIBOR-based loans is calculated by subtracting the one-month LIBOR rate (as of the last business day of the month) from the actual interest rate.
2. The LIBOR-equivalent spread for fixed-rate loans is calculated by subtracting the Federal Reserve swap rate in effect on the day that the loan was originated or renewed from the actual interest rate.
3. A bilateral loan is a one bank, one borrower lending relationship. A participation is a borrower lending relationship involving more than one bank.
4. Geographic data refers to the location of the borrower, not necessarily the bank booking the loan.
5. CRE loans are investor real estate loans for the purpose of construction, land development, and other land loans; multifamily residential properties; and loans secured by other nonfarm nonresidential properties. Owner occupied is not included.
6. Risk Ratings based on the RMA 10-point obligor risk rating scale. This scale contains 6 "Pass" gradations, and the standard regulatory classification gradations of Special Mention, Substandard, Doubtful, and Loss (grades 7-10, respectively).
7. Upfront Fee Incidence represents the number of obligations with Upfront fees as a percentage of all obligations.
8. Upfront Fee Level (in BPS) represents the amount of Upfront fees assessed as a percentage of the original/last renewed amount for only those deals with Upfront fees.

## Rates by Loan Size: New – Bilateral Loans

	Loan Size < \$1M			Loan Size \$1M < \$5M			Loan Size \$5M < \$25M			Loan Size >= \$25M		
	May 2017	Apr 2018	May 2018	May 2017	Apr 2018	May 2018	May 2017	Apr 2018	May 2018	May 2017	Apr 2018	May 2018
<b>FIXED-RATE LOANS</b>												
Interest Rate	4.35	4.93	4.90	4.20	4.62	4.47	3.53	4.23	4.53	N/A	N/A	N/A
LIBOR-Equivalent Spread	2.41	2.11	1.99	2.19	1.78	1.57	1.54	1.41	1.65	N/A	N/A	N/A
WARR	4.9	5.0	5.0	4.9	5.0	4.8	4.5	4.4	4.8	N/A	N/A	N/A
<b>LIBOR-RATE LOANS</b>												
Interest Rate	3.31	4.25	4.34	3.20	4.09	4.20	3.18	4.15	4.19	3.11	3.83	3.62
LIBOR-Equivalent Spread	2.25	2.34	2.34	2.14	2.18	2.20	2.12	2.24	2.19	2.05	1.92	1.62
WARR	4.4	4.9	4.7	4.5	4.9	4.9	4.7	4.9	4.8	4.1	4.7	4.5
<b>PRIME-RATE LOANS</b>												
Interest Rate	4.76	5.50	5.39	4.68	4.95	5.05	4.35	4.67	4.71	4.27	4.39	4.47
LIBOR-Equivalent Spread	3.70	3.59	3.39	3.62	3.04	3.05	3.29	2.76	2.71	3.21	2.48	2.47
WARR	5.1	5.1	5.2	5.0	5.1	5.1	4.9	5.0	4.8	5.6	4.9	5.1

## Rates by Loan Size: Renewed – Bilateral Loans

	Loan Size < \$1M			Loan Size \$1M < \$5M			Loan Size \$5M < \$25M			Loan Size >= \$25M		
	May 2017	Apr 2018	May 2018	May 2017	Apr 2018	May 2018	May 2017	Apr 2018	May 2018	May 2017	Apr 2018	May 2018
<b>FIXED-RATE LOANS</b>												
Interest Rate	4.68	5.04	5.12	4.03	4.98	4.72	3.83	4.23	4.38	N/A	N/A	N/A
LIBOR-Equivalent Spread	2.90	2.31	2.27	2.31	2.25	1.93	2.16	1.53	1.74	N/A	N/A	N/A
WARR	5.4	5.3	5.2	5.5	5.1	5.2	5.5	5.2	4.8	N/A	N/A	N/A
<b>LIBOR-RATE LOANS</b>												
Interest Rate	3.81	4.43	4.52	3.47	4.35	4.36	3.32	4.08	4.22	2.59	3.45	3.63
LIBOR-Equivalent Spread	2.74	2.52	2.51	2.41	2.45	2.36	2.26	2.17	2.22	1.53	1.54	1.63
WARR	5.0	5.0	5.0	4.9	5.0	5.1	5.0	5.1	5.1	3.9	3.6	4.7
<b>PRIME-RATE LOANS</b>												
Interest Rate	4.91	5.64	5.55	4.42	5.03	5.13	4.32	4.90	5.07	3.99	N/A	N/A
LIBOR-Equivalent Spread	3.85	3.73	3.55	3.36	3.12	3.12	3.26	2.99	3.07	2.93	N/A	N/A
WARR	5.1	5.1	5.1	5.1	5.3	5.3	5.1	5.2	5.9	3.1	N/A	N/A

Weighted Average Risk Rating (WARR) based on the RMA 10-point obligor risk rating scale.



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Don Dougherty  
 Director  
 ddougherty@afsvision.com  
 +1 484-875-1334

Doug Skinner  
 Director  
 dskinner@afsvision.com  
 +1 484-875-1562

[www.afsvision.com](http://www.afsvision.com)

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