



The State of Credit Quality:

Where We Have Been and Where We Are Going



EQUIPMENT LEASING & FINANCE

FOUNDATION

Your Eye on the Future

The State of Credit Quality: *Where We Have Been and Where We Are Going*



The Foundation is the only research organization dedicated solely to the equipment finance industry.

The Foundation accomplishes its mission through development of future-focused studies and reports identifying critical issues that could impact the industry.

The Foundation research is independent, predictive and peer-reviewed by industry experts. The Foundation is funded solely through contributions. Contributions to the Foundation are tax deductible.

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The State of Credit Quality Today
Where Have We Been and Where Are We Going?

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Executive Summary

The Equipment Leasing & Finance Foundation (ELFF) commissioned PayNet, Inc. to investigate two key issues facing the equipment finance industry.

- Determine if there are any early signs of cyclical macro-economic weakness, and potentially, any resulting signs of declining EF portfolio health
- Determine if the changes made to underwriting standards and portfolio management after the last recession will have a quantitative impact on portfolio performance during the next downturn

The study leverages PayNet, Inc.'s (PayNet) database, the Equipment Leasing and Finance Association (ELFA) Annual Survey of Equipment Finance Activity Report (SEFA) and Monthly Leasing and Finance Index (MLFI), and a variety of other industry and general sources to examine these research topics.

The results indicate that the equipment finance industry has fully recovered from the impact of the Great Recession, with expanding origination and portfolio volumes. Portfolio default rates as measured by PayNet's Small Business Default Index (SBDFI) peaked at 6.35% during the recession.¹ During the recovery, default rates declined from 2010 through 2014 and reached a historic low of 1.49%.² Since then, default rates have increased and most recently were at 1.88%, still lower than pre-recessionary levels of 2.5% or greater.³

A review of industry indices over the period 2005 to 2016 suggests the volume of credit granted since the recession has exceeded pre-recession levels, up approximately 46% (unadjusted for inflation) over this time period.⁴ Industry approval rates have returned to pre-recession levels and have ranged between 71% and 76% since 2011, after having dropped precipitously during the downturn.⁵ Conversion rates for 2016 were at 70% and have not yet fully recovered to pre-recession levels (over 78% in 2007), indicating factors such as increased competition for high credit quality borrowers are causing a lower percentage of applicants to accept finance offers as they have more financing options.⁶ The net result is that booking rates have also not recovered to pre-recession levels, indicating little evidence of irrational exuberance in the granting of credit by this industry.⁷

Furthermore, a deep analysis of key risk data for originations, such as distribution by scoring tiers, and underlying borrower risk characteristics such as years in business and revenues which show clear correlation with default rates, consistently point towards an increased portion of EF lending to lower risk applicants in the years since 2009 until at least 2014.

Since the downturn, default rates have declined for all risk tiers, and a higher percentage of originations are lower risk than was seen prior to the downturn. However, over the last two years there have been slight shifts back towards a larger share of industry volume coming from newer and lower quality borrowers, while delinquency and default rates have increased measurably for the first time since the Great Recession.⁸

The underwriting and performance analysis shows that each of the three broad lender types, Bank-Owned, Captive, and Independent, have addressed the challenges following the recession differently, and therefore are in somewhat different positions when facing the prospect of the next recession. Bank-Owned lenders have shown the greatest improvement in terms of their credit underwriting standards. Captives have shown some improvement in underwriting standards, but have lost a significant amount of market share in lending to companies with the highest credit scores. Independents have seen decreases in their overall market share and, specifically, their share of mature borrower originations; conversely, they have increased their market share of newer borrower originations.

An evaluation of industry and equipment concentrations between 2007 and 2016 using the PayNet Dataset shows differences between the overall industry and the key lender types. There continues to be higher concentration levels in historically higher risk industries like Transportation and Construction. Additionally, the Transportation industry has shown significantly higher default rates than other industries over the last 18 months.⁹

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The study also included interviews with equipment finance industry leaders which provided anecdotal confirmation that underwriting and monitoring of large ticket transactions have seen dramatic improvements. Improvements in the depth of underwriting and scale of portfolio management provide a virtual constant state of updating risk.

An evaluation of economic trends, important for the near-term health of the equipment finance industry, shows that the risk factors are currently sanguine, and are not expected to pose a serious threat to the industry, with the outlook for the remainder of 2017 benign and nominal for 2018.

Furthermore, this analysis evaluated the expected performance for the equipment finance industry on a portfolio basis using forward-looking probability of default models incorporating economic, transaction, and obligor data, for the eight quarters starting 1/1/2017, using Federal Reserve-outlined stress testing scenarios. The projected rolling 12-month default rates for 2017 and 2018 are still lower than the 2.5%-4.0% rates seen from 2005-2007, with projected default rates for 2017 and 2018 of 2.3% and 2.1% respectively. Focusing only on the severely adverse scenario, which is the best proxy for what would happen if another major recession were to occur, the industry is forecasted to experience peak level default rates below those in the 5%-6% range as seen during the Great Recession.

One potential exception to the improved risk profile, however, is in the large corporate lending space, where most data indicate the risk profile is similar, if not slightly worse, than what was seen prior to the recession. However, improvements in monitoring accounts, structuring of transactions and residuals, and underwriting may help prevent some defaults or improve recovery rates when a default occurs.

Finally, it is worth noting again that the equipment finance industry risk orientation has increased in the last two years. The industry overall has shifted towards booking a slightly higher share of volume from lower quality borrowers and towards relying on larger volume amounts from newer borrowers. Credit performance has declined some over this time period, with delinquency rates, default rates and charge-off rates all increasing.¹⁰

Overall since the Great Recession, industry credit quality has been unusually high, and default rates unusually low, because of a unique combination of several events, a triple-witching hour and then some. Weaker borrowers were wiped away by the Great Recession, while surviving borrowers became more reluctant to incur debt unless absolutely critical. Meanwhile lenders, with losses (and regulatory pressure) fresh in their minds, were being more cautious than usual. Further, the economic environment slowed to below 3% growth which has resulted in less risk taking and generally lower defaults. Often the best time to lend is after a downturn. The Great Recession, in all likelihood the worst economic event of our lifetimes, created optimal conditions in which to extend credit for the equipment finance industry. It is doubtful that things will continue to be as good, and likely that over time there will be regression to the mean. However, that regression seems to be happening slowly based on the findings of this study.

Notes on Primary Data Sources Used

The study relies extensively on the following two data sources:

- **A PayNet Data Extract (PayNet Dataset)** for this study was compiled from PayNet's proprietary database of over 23 million contracts. The selected PayNet Dataset is comprised of 7.6 million equipment finance contracts originated from 2005 through the first quarter of 2017. In order to allow sufficient time for contracts to perform, the portions of the study that discuss default rates are restricted to contracts originated from 2005 through 2014, providing almost 6 million contracts with nearly 250,000 defaults.

Generally, lenders have been assigned to either the Bank-Owned, Captive, or Independent lender type based on their parent company as reported to PayNet. However, some lenders with a bank affiliation who were originally Independents and more closely resemble Independents in practice are categorized as Independents instead of Bank-Owned.

- **ELFA Annual Survey of Equipment Finance Activity Report (SEFA):** The SEFA report provides access to comprehensive performance metrics for a large group of equipment leasing and finance companies. For this study, SEFA results dating back to 2005 were examined to look at additional volume and decision metrics not elsewhere available. The Appendix contains additional information on the SEFA report and details regarding growth rates and development of indices based on SEFA results.

In addition, the study makes use of additional sources such as the ELFA Credit and Collections Conference: Annual Credit Manager Conference Survey (Credit Manager Conference Survey), ELFA's Monthly Leasing and Finance Index (MLFI), Thomson Reuters / PayNet Small Business Lending Index and PayNet State and Industry SBLI (SBLI), Thomson Reuters / PayNet Small Business Delinquency Index and related PayNet State and Industry SBDI (SBDI), and PayNet Small Business Default Index (SBDFI).

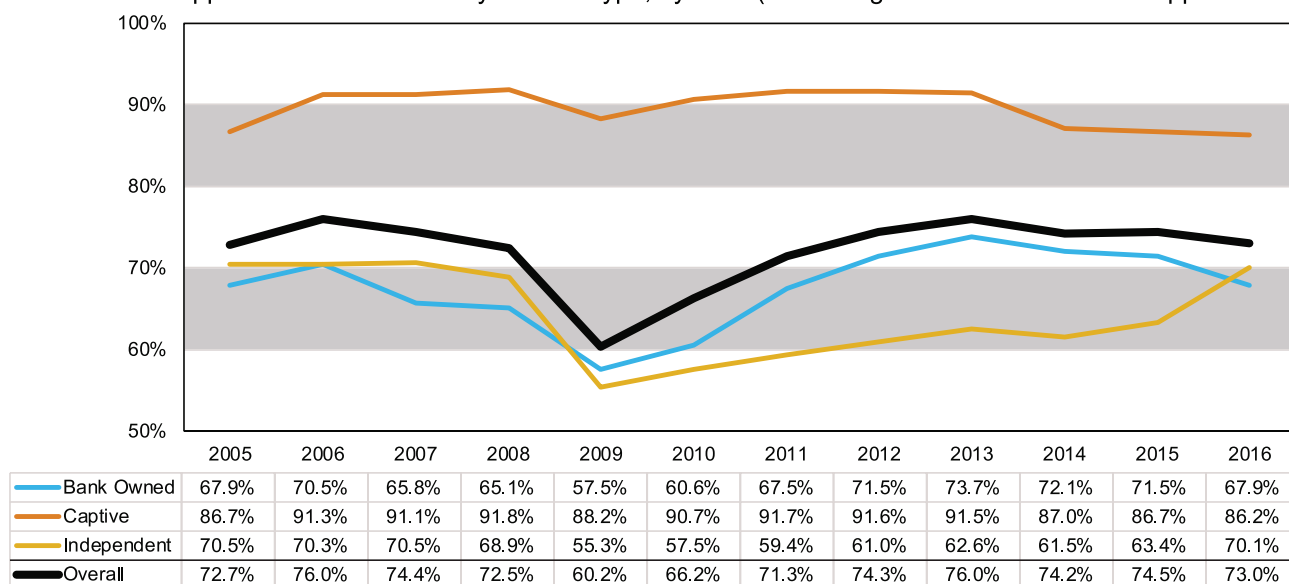
Further details on PayNet's proprietary database, the methodology to create the PayNet Dataset, the SEFA report and other data sources are included in the Appendix.

Equipment Finance Industry Approval and Booking Trends

Credit approval and booking trends gauge appetites for volume and risk, give a sense of possible dips or spikes in credit quality, and provide a feel for the supply of credit. The study incorporates SEFA results for decision data over the 2005 through 2016 period. The charts below are based on count, to avoid outsized impact from large transactions, and show percentages based on annual originations.

Overall approval rates (# of approvals/ # of applications) reached their pre-recession peak in 2006 at 76.0%, fell to a low of 60.2% in 2009, and recovered to 76.0% in 2013. Rates experienced some reduction after 2013 and reached 73.0% in 2016 (see Chart 1).¹¹ What the results do not show is overenthusiasm in approving transactions. Based on the 2017 Credit Manager Conference Survey, 85% of respondents indicated that approval rates are higher recently because of competition.¹² One equipment finance industry representative felt that the increase in competition was being driven, not by more lenders in the marketplace, but by vendors using multiple lending sources instead of one primary source, thus creating increased competition for transactions referred by those vendors.

Chart 1: Approval Rate Overall & by Lender Type, by Year (Percentage based on Number of Applications)



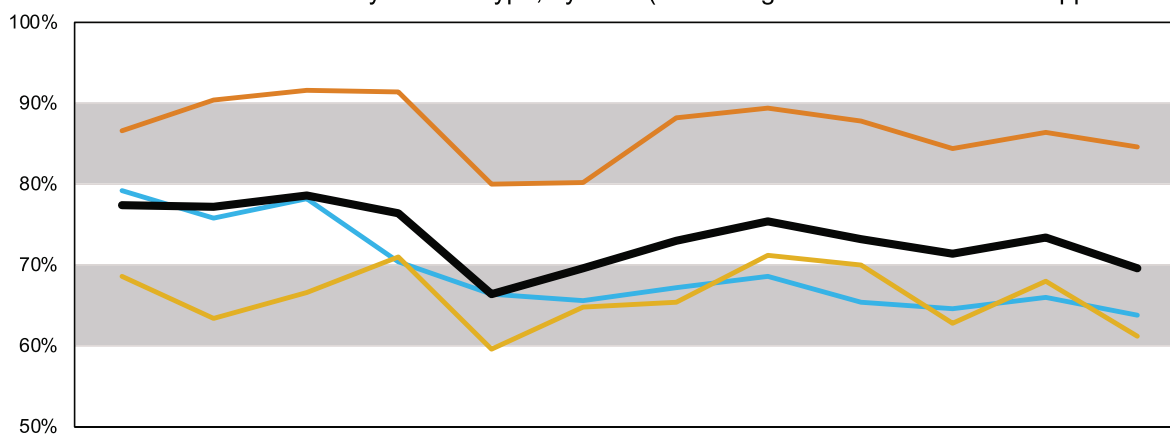
Source: ELFA Annual SEFA Reports

Bank-Owned lenders¹³, which have historically been the most conservative of the three lender types in terms of approval rates, show very much the same pattern as the industry overall. They started in 2005 and ended in 2016 at the exact same percentage, 67.9%.¹⁴ Captives show a different pattern of substantially higher approval rates, with very little reduction during the Great Recession.¹⁵ They started with an approval rate of 86.7% in 2005, reached a pre-recession high of 91.8% in 2008, fell less than 4% in 2009, and fully recovered those high rates by 2011.¹⁶ Since that time, they too have lowered their approval rates, ending at 86.2% in 2016, the lowest Captive approval rate for this period.¹⁷ Finally, Independents experienced a greater reduction in approval rates in 2009 than the other two lender types, falling from 70.5% in 2005 to only 55.3% in 2009; but with a major jump in 2016, they have nearly returned to their pre-recession approval rates at 70.1%.¹⁸

Chart 2 shows that overall conversion rates (# of bookings/ # of approvals) dropped significantly from a high of 78.6% in 2007 to a low of 66.3% in 2009 due to the onset of the Great Recession, then recovered to 75.3% in 2012 before settling around 72% the next 3 years and finally decreasing to near 70% in 2016.¹⁹

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Chart 2: Conversion Rate Overall & by Lender Type, by Year (Percentage based on Number of Applications)



Source: ELFA Annual SEFA Reports

Bank-Owned lenders show a clear trend of lower (less successful) conversion rates, dropping precipitously from 79.2% in 2005 to 66.3% in 2009, and moving lower to 63.8% in 2016.²⁰ It is possible that this trend is due to tighter approval conditions that would normally lead to lower applicant acceptance. The increased competition in recent years noted above would also impact conversion rates. Captives, on the other hand, show a more stabilized trend, ranging from a trough of around 80% in 2009/2010 to between 84% and 87% the last three years, somewhat lower than 2005.²¹ Finally, Independents have shown a fairly volatile conversion rate trend reaching a high of 70.9% in 2008, dropping to 59.6% in 2009, then recovering to 71.3% in 2012, but showing some reduction since that time to 61.2% in 2016.²² For all lender types, the peak post-recession conversion rates occurred in 2012.²³

Overall booking rates (# of bookings/ # of applications), shown in Chart 28 in the Appendix, demonstrate similar trends to conversion rates, though Captive booking rates exceed the other lender types' by even more than the Captive conversion rates. With declining conversion and booking rates recently, the economic cost for processing all applications is borne by fewer contracts booked, impacting profitability, especially for smaller transactions.

In evaluating the changes in origination volume²⁴ during this same period, the study indexed SEFA data with the SBLI (average annual values) in Chart 3, where 2005 volume is set to 100.

While the Bank-Owned lenders had modest conversion rates, their volumes were impacted less during the downturn due to the increase in average ticket size (discussed below), and grew considerably after 2009.²⁵ The recovery of the Captives was not as dramatic, especially compared to the Independents, which showed the greatest reduction in originations, but also the greatest percentage recovery since that time.²⁶

Based on SEFA data, overall Industry volume was 48% higher in 2016 than in 2005.²⁷ However, if adjusted for inflation, volume would only be 20% higher, and Captive aggregate growth over the same timeframe would actually be slightly negative (-2%).²⁸

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Chart 3: New Business Volume Overall & by Lender Type, by Year

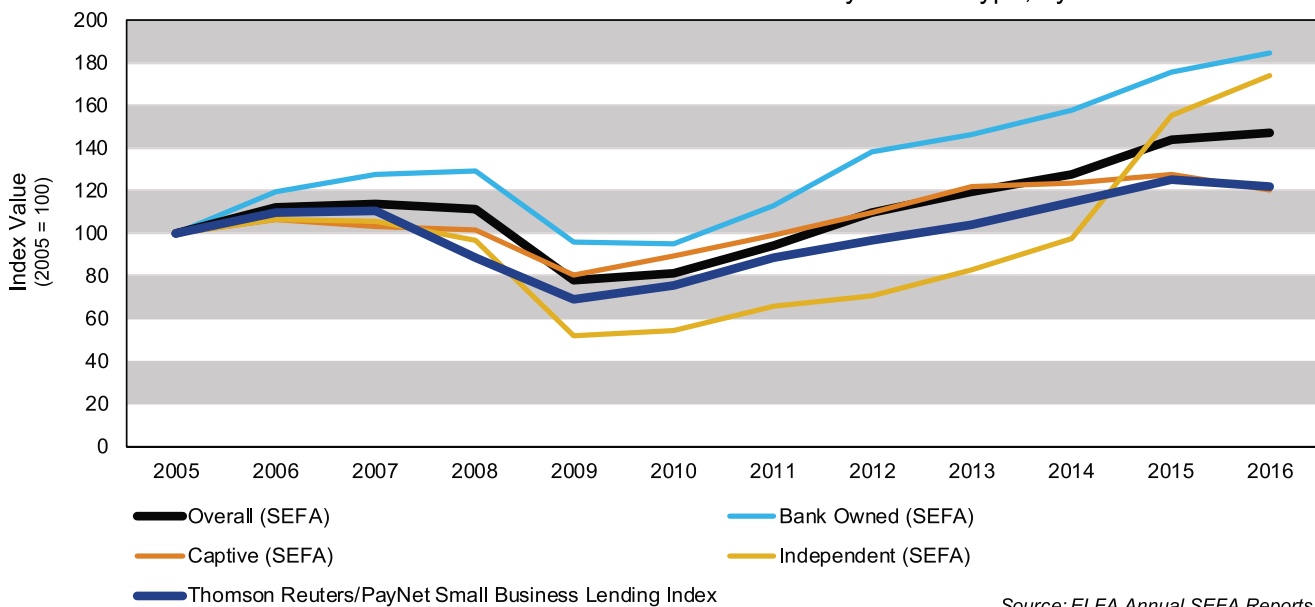
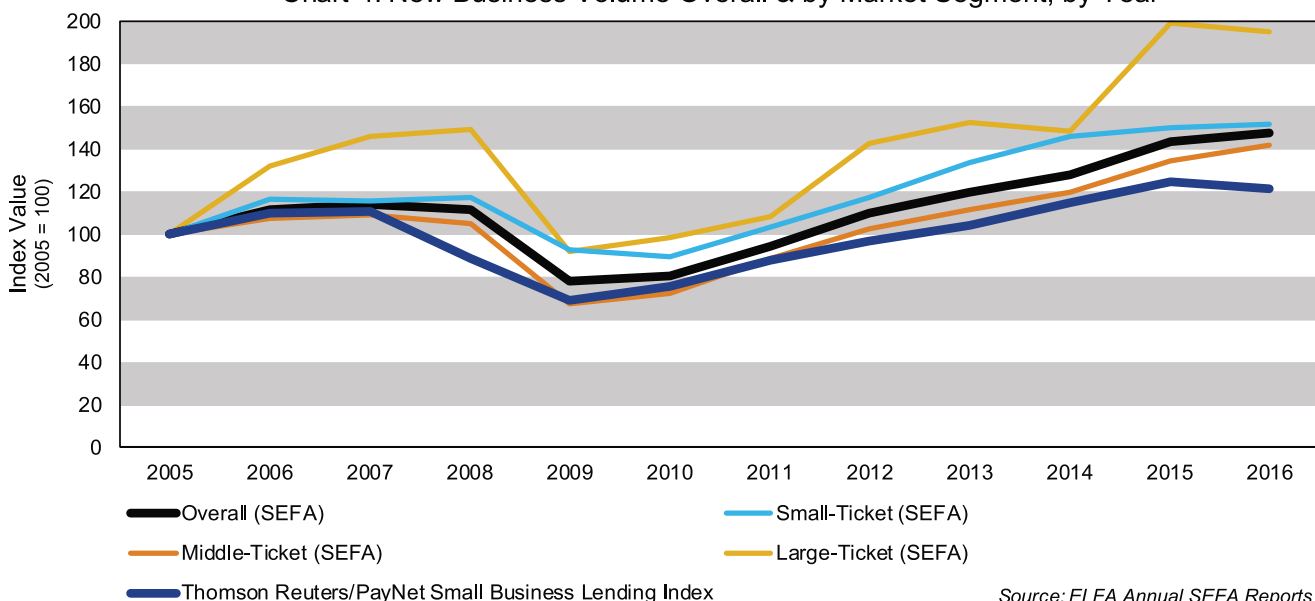


Chart 4 shows the same indexing of the SEFA data by small, middle, and large ticket sized transactions.²⁹ The SBLI shows the least growth, closely aligned with the Middle-Ticket index.³⁰ The Large-Ticket index shows the greatest drop in 2009 and the greatest recovery since that time.³¹ Revisiting pertinent yearly results from the Credit Manager Conference Survey going back to 2012, respondents, regardless of their lender type, have answered 75%-100% of the time that they have faced increased pricing pressure.³² This pricing and margin pressure, combined with increased regulatory costs, has likely contributed to the focus on larger transactions, particularly by Bank-Owned lenders. It is also possible that this increase in larger ticket lending represents financing that historically would have been done by banks' main commercial lending units, but that are perhaps better secured by their equipment finance subsidiaries.

Chart 4: New Business Volume Overall & by Market Segment, by Year



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Conclusion

Overall equipment finance approval rates have recovered from the Great Recession reaching a peak of 76% in 2013, but have since moderated to 73% in 2016.³³ The overall conversion rates show a similar pattern, with a peak recovery of 75.3% in 2012, and dropping to 69.6% in 2016. In this case, they have not recovered to pre-recession levels.³⁴ This is likely due to more restrictive structuring on the part of lenders causing applicants to avoid these financing offers, as well as increased competition. The overall booking rates follow suit, registering a peak recovery rate of 56% in 2012, and dropping to 50.8% in 2016.³⁵ These rates are lower than those reported for the years leading up to the Great Recession.³⁶

The results for the three lender types, while differing from each other, show that the approval rates in 2016 are comparable to those in 2005, with the conversion rates lower for each group. Captives show the least amount of reduction in rates, ahead of Independents, and followed by the Bank-Owned lenders, who show a major reduction in rates. There are no signs of irrational approval and lending practices, as has occurred in prior sharp recoveries.

Underwriting and Credit Quality Trends

This study will next provide and interpret data to determine whether the changes made to underwriting standards after the last recession will have a quantitative impact on portfolio performance during the next downturn. In order to accomplish that objective, this study broadly defines the changes made to equipment financing underwriting standards after the Great Recession by examining the characteristics of EF obligations booked before, during and after the recession to delineate underwriting standards at different points in the economic cycle. This analysis was conducted using the PayNet Dataset. For much of this section, the focus is on the years 2005 through 2016 to avoid potential seasonality issues that might arise if the first quarter of 2017 were included. Default rates require 24 months to properly assess good versus bad accounts; therefore only default rates through 2014 originations are presented.

Default rates used throughout this section are on a count basis, thus making the default-based analysis more reflective of small and middle ticket performance where transaction counts are highest.

The analysis of each characteristic is presented for the industry as a whole, showing default rates based on count, followed by the industry distribution of dollar volume of originations by lender type. The Total column shown in some of the charts and tables represents the average across the period 2005 through the first quarter of 2017 and is included selectively.

The data examined were divided into two categories, borrower characteristics and contract characteristics. Borrower characteristics included Score Tiers as measured by PayNet MasterScore® v2 at time of origination, NAICS industry code, Years in Business, Revenue, and Employee Size. Contract characteristics included Equipment Type, Length of Term, Transaction Size, Presence of Guarantees, and Lease versus Loan. As one might expect, the borrower characteristics showed greater correlation with default rates than many of the contract characteristics. The most illuminating characteristics were Credit Score Tiers, Years in Business, and Revenue.

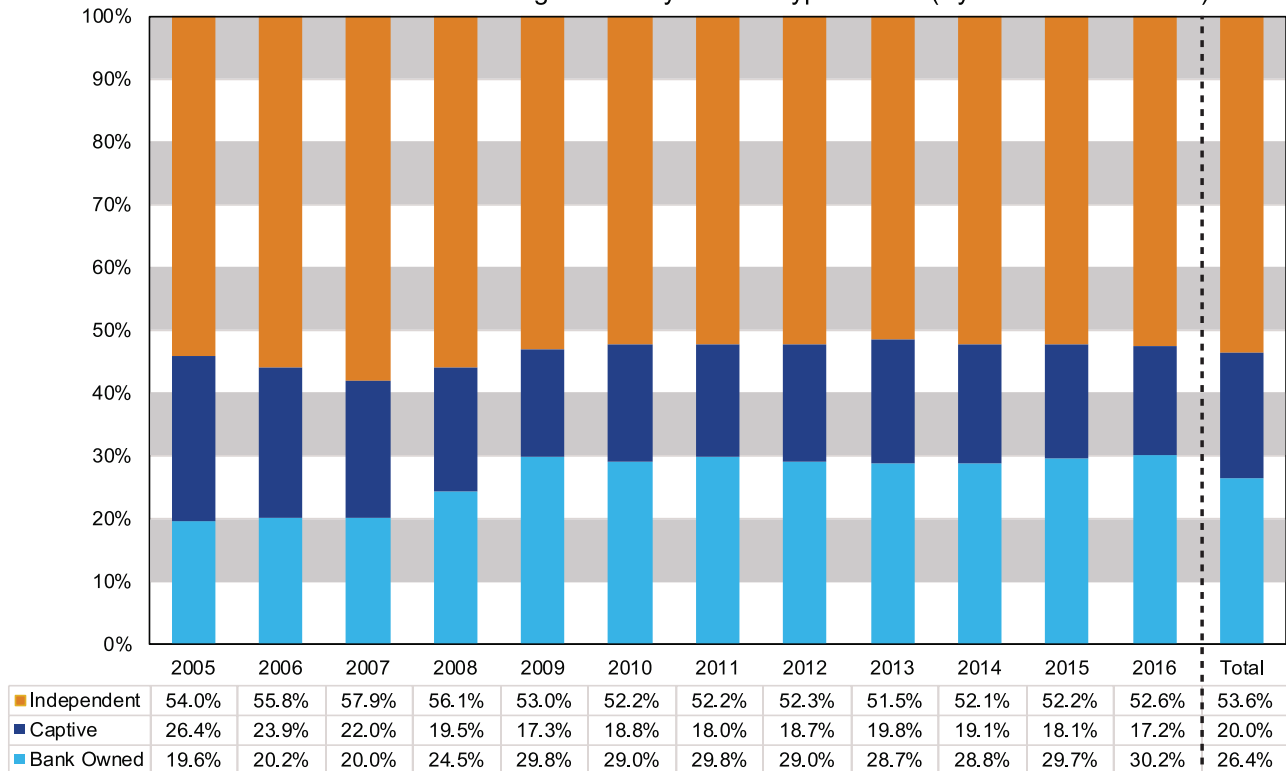
This section also relies on alternative data sources and qualitative assessments for analyzing trends in the large ticket space.

Originations

This analysis was done on both a count and dollar basis which showed generally similar trends. Looking at the distribution of originations by lender type shown in Chart 5, prior to the recession in 2005, Bank-Owned lenders had the smallest share of originations by count at about 20% of the market. That changed by 2009 as the Bank-Owned share grew to about 30% and has remained there through 2016. The Captive share declined from about 26% in 2005 to 17.2% in 2016, making Captives the lender type with the smallest market share in terms of count. Independents' share of originations in terms of count also dropped, but, at nearly 54%, they maintained the largest share.

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Chart 5: Distribution of Originations by Lender Type & Year (By Count of Contracts)

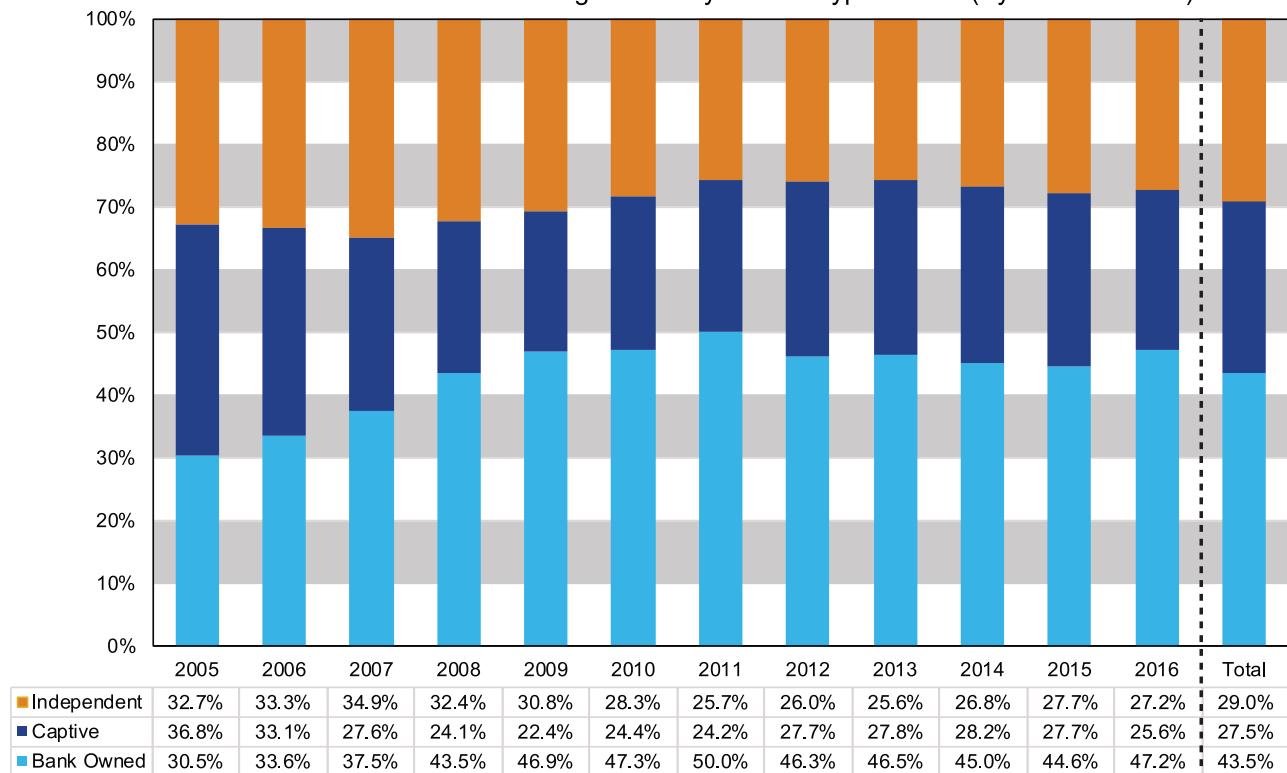


Source: PayNet Dataset

More importantly, Chart 6 shows the Bank-Owned lenders' share of the dollar volume of new originations experienced a marked increase from 2005 to 2016, taking share from the other lender types. As will be shown later, the Bank-Owned lenders dramatically increased their business with larger borrowers and the average transaction sizes of their loans. The Captives' volume share dropped significantly from 36.8% down to 25.6%. The Independents experienced a smaller percentage drop in market share, dropping from 32.7% in 2005 to 27.2% in 2016.

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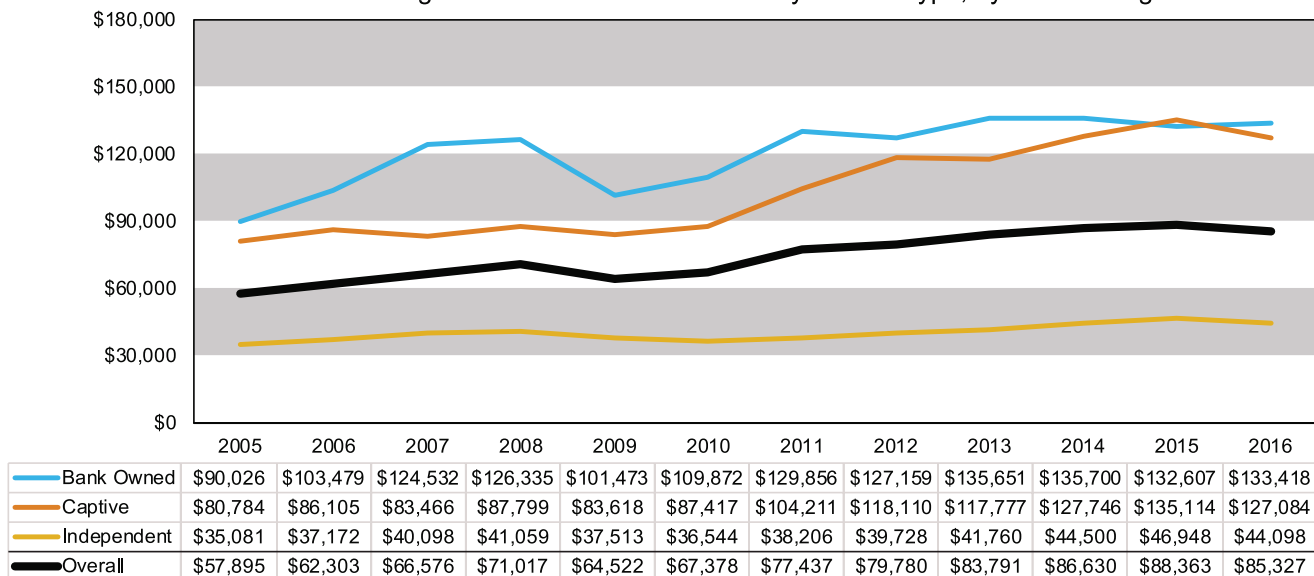
Chart 6: Distribution of Originations by Lender Type & Year (By Dollar Volume)



Source: PayNet Dataset

Average transaction size data in Chart 7 helps explain the different trends seen in the analysis by count in Chart 5 and analysis by dollar volume in Chart 6. Note that the average transaction sizes have not been adjusted for inflation.

Chart 7: Average Transaction Size Overall & by Lender Type, by Year of Origination



Source: PayNet Dataset

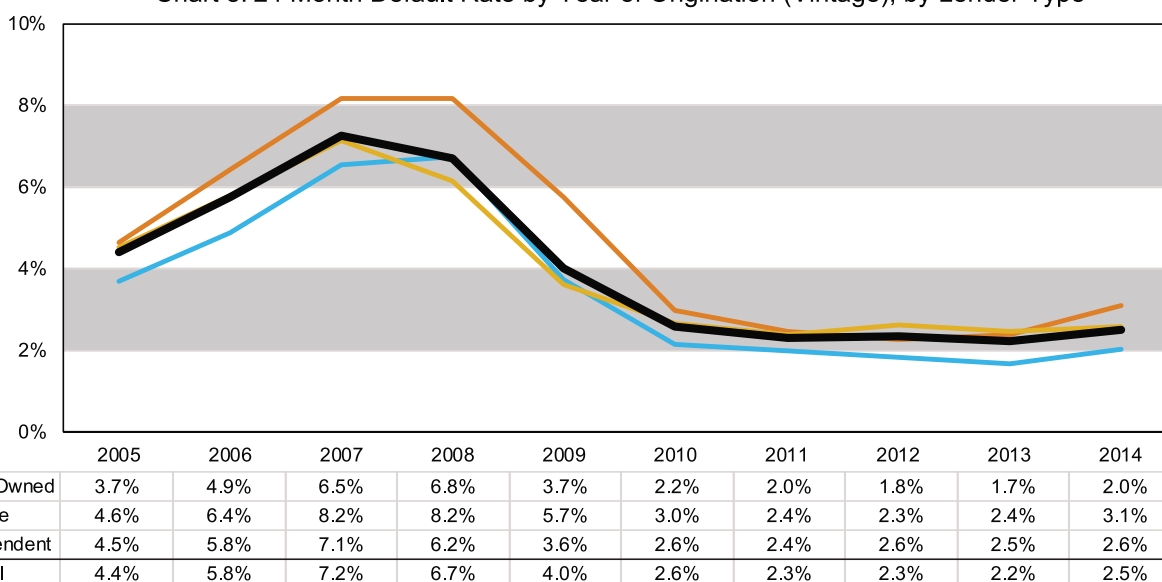
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The overall average ticket size increased from almost \$58K in 2005 to over \$85K in 2016. Bank-Owned lenders increased their average transaction size significantly from \$90K in 2005 to \$126K three years later in 2008; following the Great Recession, average ticket size fell to \$110K in 2010, but then recovered to around \$133K by 2016. Captives saw a substantial increase in average ticket size, growing 57% from \$81K in 2005 to \$127K in 2016. This helped mitigate the amount that their market share dropped in terms of count. Independents showed very little variation, maintaining an average ticket size around \$40K.

Default Rates

Defaults are defined as any default indicator, 90-day delinquency, equipment repossession, bankruptcy or related public record indicator reported in the PayNet database occurring within 24 months from booking date. All default rates in this study are determined using counts. See PayNet Dataset methodology in the Appendix for a detailed default definition.

Chart 8: 24 Month Default Rate by Year of Origination (Vintage), by Lender Type



Source: PayNet Dataset

The overall default rate shows dramatic improvement from 2007 to 2010 as seen in Chart 8, and that improvement continued through 2013 when the 24-month default rate bottomed out at 2.2%. There was an increase to 2.5% in 2014, the last year for which there is a full 24 months of performance. Bank-Owned lenders exhibited the lowest default rates in all years except 2008/2009. Independents showed the lowest default rates in 2008 and 2009. Captives showed significant improvement to the point where they experienced similar default levels as Independents for 2011-2013, after suffering the highest default rates for the 2005-2009 origination vintages. However, Captives did show a meaningful increase in default rates to 3.1% in 2014. All three lender types showed increasing default rates in 2014.

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Scoring Tier Trends

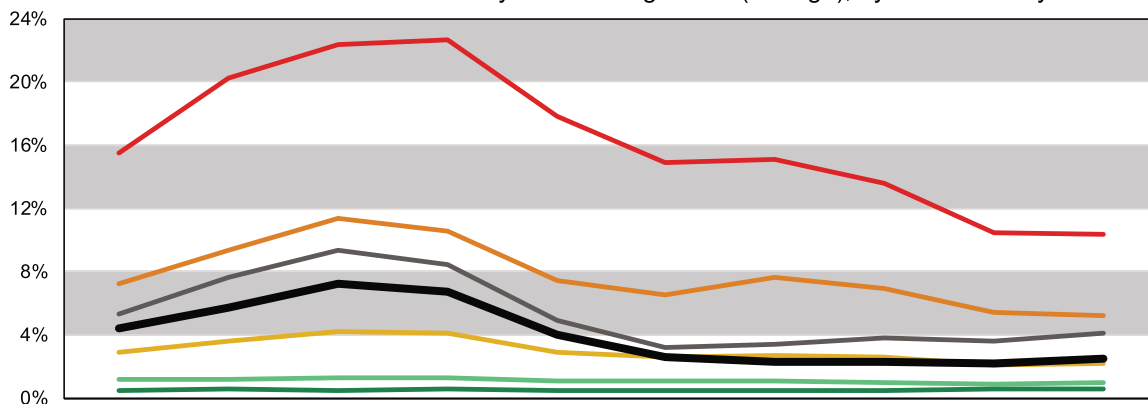
These overall default rates have been further segmented into five quality tiers based on scoring intervals using PayNet MasterScore v2 (MSv2), using the mapping in Table 1.

Table 1: Credit Quality Tier Definitions

Tier	MSv2 Score
Low	450-639
Below Average	640-659
Average	660-699
Above Average	700-719
High	720-800

Chart 9 shows the default rates per tier for the industry, and Chart 10 shows the actual distribution of origination volume using those tier definitions.

Chart 9: 24 Month Default Rate by Year of Origination (Vintage), by Credit Quality Tier



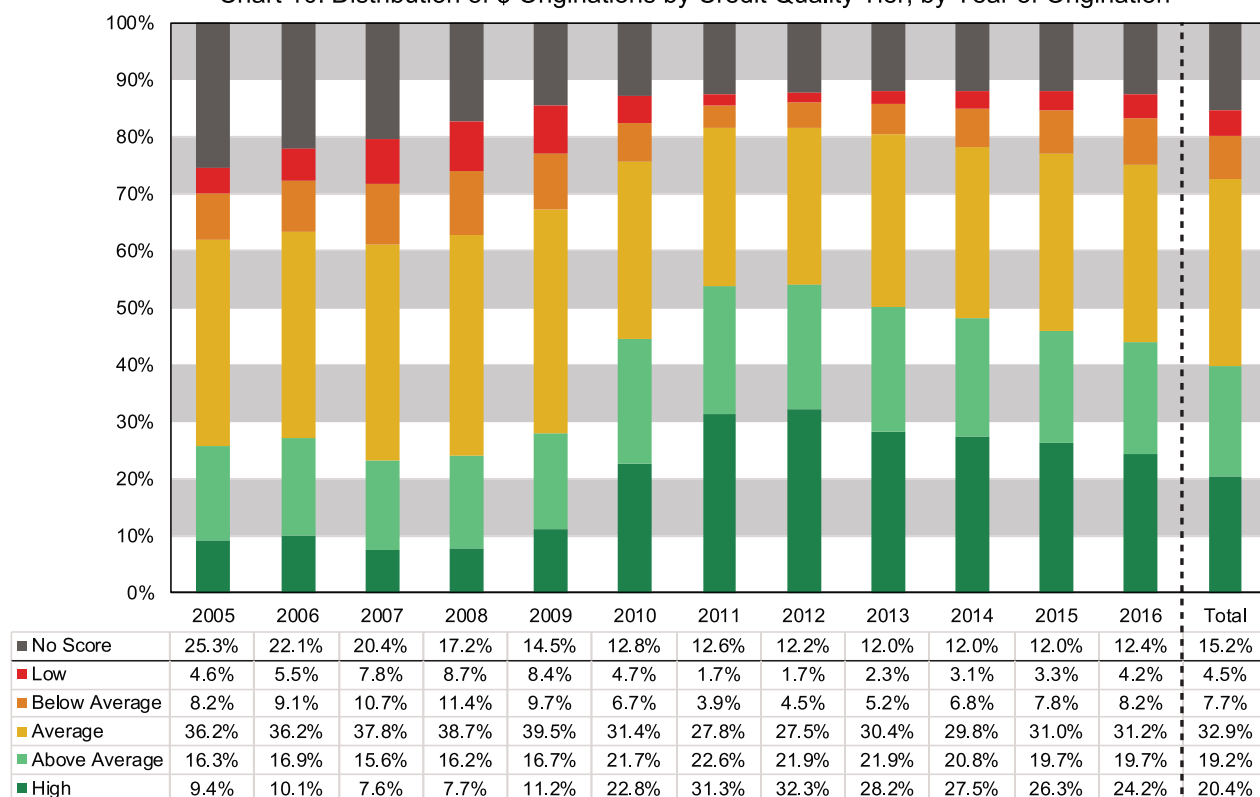
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No Score	5.4%	7.6%	9.4%	8.4%	4.9%	3.2%	3.4%	3.8%	3.6%	4.1%
Low	15.5%	20.3%	22.3%	22.7%	17.9%	14.9%	15.1%	13.6%	10.5%	10.3%
Below Average	7.2%	9.3%	11.3%	10.6%	7.5%	6.6%	7.6%	6.9%	5.4%	5.3%
Average	2.9%	3.6%	4.2%	4.1%	2.9%	2.6%	2.7%	2.5%	2.1%	2.2%
Above Average	1.1%	1.1%	1.2%	1.3%	1.1%	1.0%	1.1%	1.0%	0.9%	1.0%
High	0.5%	0.6%	0.5%	0.6%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%
Overall	4.4%	5.8%	7.2%	6.7%	4.0%	2.6%	2.3%	2.3%	2.2%	2.5%

Source: PayNet Dataset

Nearly all tiers showed improvement, but the lower the quality of the origination, the greater the improvement, as these tiers suffered the greatest degradation during the recession and also have the greatest range of outcomes. Thus, the variability in performance is exacerbated when the quality of the bookings is poor. The percentage of originations in the low and below average score tiers, based on volume, increased from 12.8% in 2005 to 20.1% in 2008 and then back to 12.4% in 2016, while the percentage in the high and above average score tiers improved dramatically from 25.7% to 43.9% from 2005 to 2016. This is a remarkable improvement in the quality of originations from 2005 to 2016.

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Chart 10: Distribution of \$ Originations by Credit Quality Tier, by Year of Origination



Source: PayNet Dataset

Two key observations shown in Charts 9 and 10 are the performance and distribution of transactions that were not scored. These are generally borrowers with limited industry information or performance history, and more likely to be relatively newer companies. In 2005, 25.3% of borrowers were not scored, while in 2013 only 12.0% did not receive a score, the lowest share in the time series. Default rates for these borrowers tended to range between below average and average score borrowers. Some of the decrease in unscored deals can be attributed to the growth of the PayNet database and the lenders contributing to that database. But as seen further on, concentrations of volume coming from newer and smaller companies has similarly decreased since the recession.

The distribution of originations by lender type was also evaluated. As noted earlier, Bank-Owned lenders saw their overall market share increase dramatically from 37.5% in 2007 to 47.3% in 2010 and maintained a similar position through 2016. Most of that share was taken from the Captives. In addition, Bank-Owned lenders took the opportunity to increase their market share in the higher quality originations with 53.1% of the high quality tier as of 2016. Captives lost considerable market share volume of new originations in the high scoring accounts, dropping from 48.4% to 28.7% since 2005. Independents also lost market share in the higher quality scoring originations while picking up market share in the No Score and other higher risk populations (see Table 5 in the Appendix).

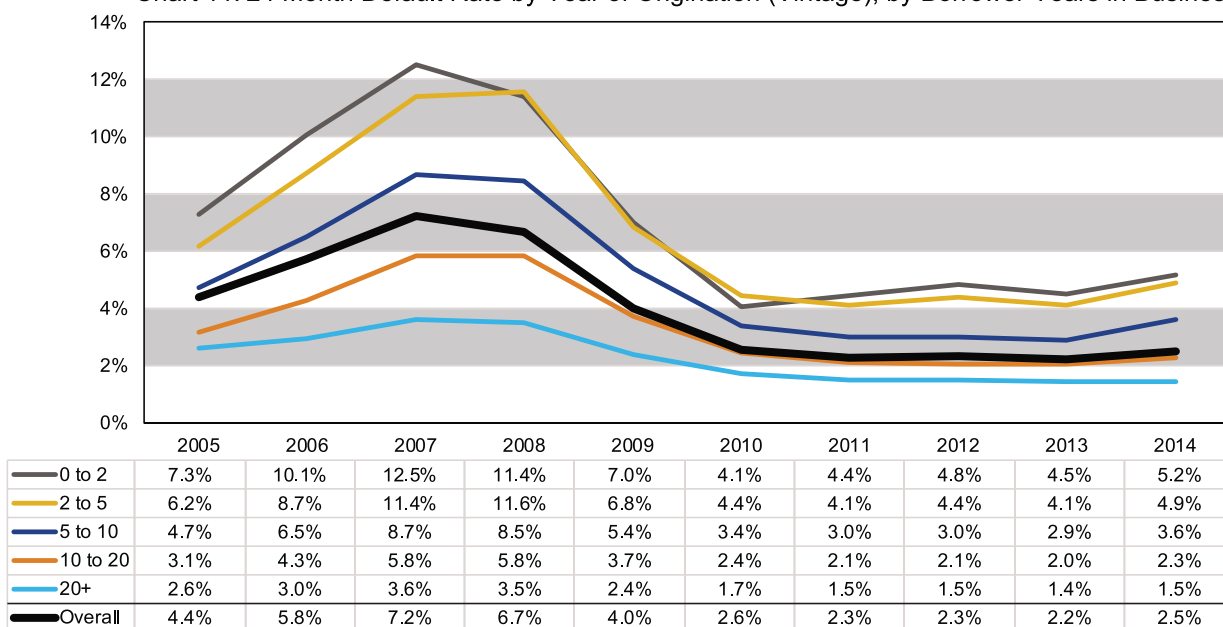
The Independents' share increase with higher risk borrowers is likely the result of aggressive volume demands and the difficulty in competing with Bank-Owned lenders on price when targeting lower risk borrowers. Per the 2017 Credit Manager Conference Survey, 43% of Independent respondents to the survey expected volume to grow more than 10%. Bank respondents also were optimistic about volume increasing, but to a lesser extent as only around 30% expected this high-level growth.³⁷ These responses indicate more aggressive volume demands pressuring Independent credit personnel to approve higher risk credits. Additionally, 2017 SEFA results show that the average Independent dollar-weighted cost of funds is 2.86%, compared to 1.46% for Bank-Owned, a 96% higher cost.³⁸ Spread and Yield differences are similar magnitudes, and all evidence points to the ability of Bank-Owned entities to be more likely to win on pricing when competing for the oldest businesses or highest credit quality borrowers.³⁹

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Years in Business Trends

The next characteristic that helps clarify trends in underwriting standards is Years in Business. This factor, as expected, was inversely correlated with overall default rates, with earlier stage businesses showing much higher default rates. On average, applicants with fewer than two years in business had overall default rates more than three times higher than those of businesses 20 years or older (Chart 11).

Chart 11: 24 Month Default Rate by Year of Origination (Vintage), by Borrower Years in Business



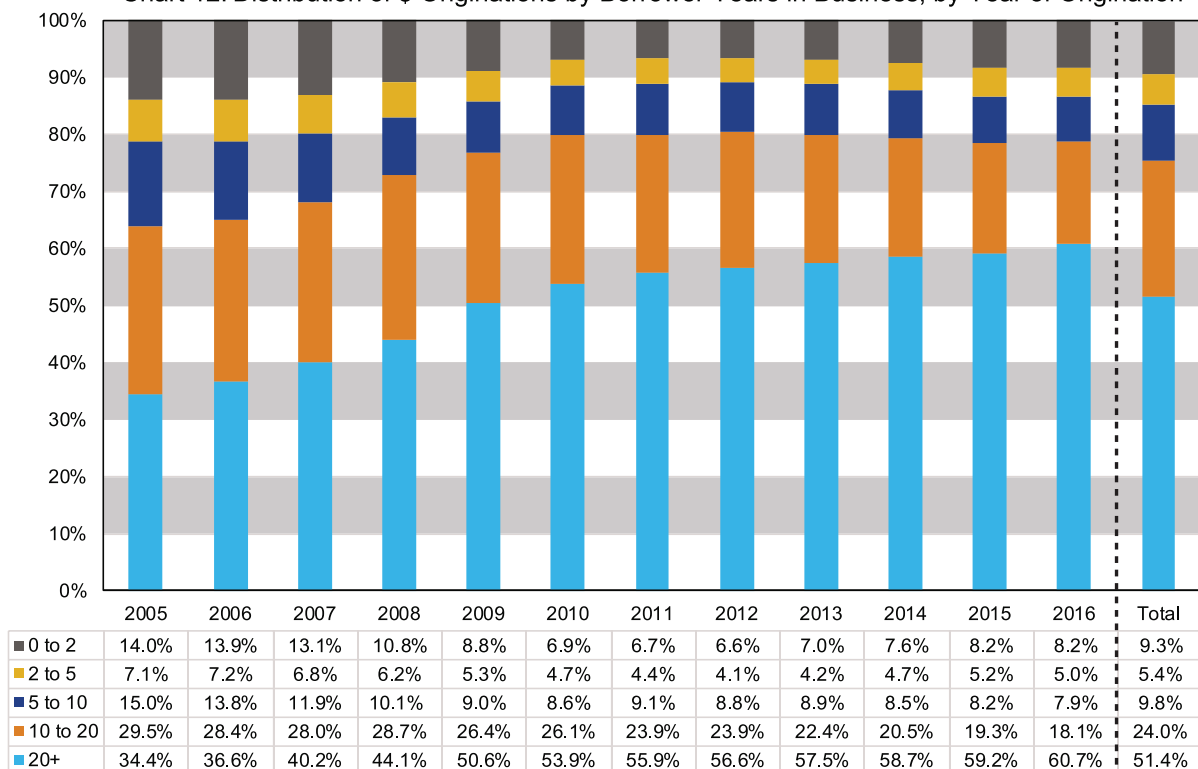
Note: Lower bound is inclusive, upper is exclusive (i.e. 0 to 2 does not include 2 years, 2 to 5 does)

Source: PayNet Dataset

Therefore, lenders who manage to contain their percentage exposure to earlier stage borrowers will tend to have lower default rates, other factors being equal. As is demonstrated in Chart 12, the equipment finance industry as a whole reduced its percentage originations to early stage businesses (0 to 5 years in business) from 21.1% in 2005 to 13.2% in 2016. Conversely, the percentage of originations to later stage businesses (20 or more years in business), increased from 34.4% in 2005 to 60.7% in 2016. The results are consistent with more conservative underwriting standards at least in terms of bookings.

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Chart 12: Distribution of \$ Originations by Borrower Years in Business, by Year of Origination



Note: Lower bound is inclusive, upper is exclusive (i.e. 0 to 2 does not include 2 years, 2 to 5 does)

Source: PayNet Dataset

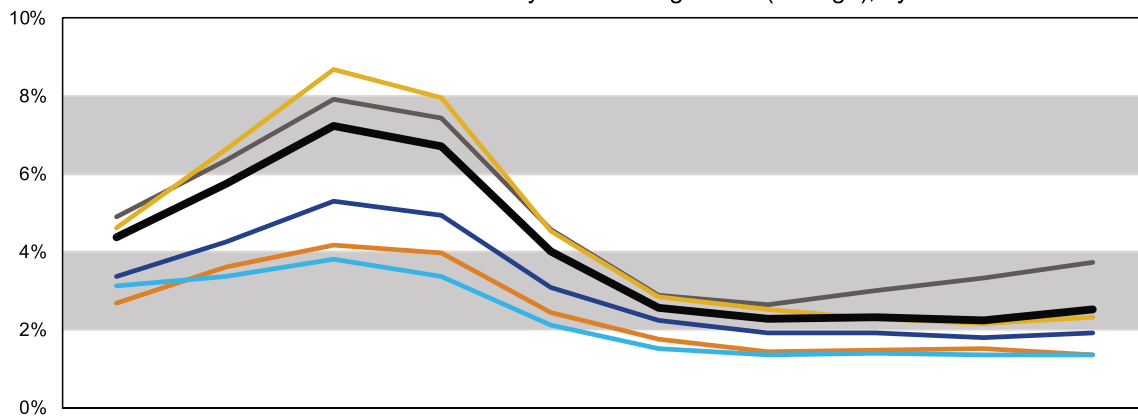
However, an examination of the same data by lender type shows that this overall favorable trend differs between the three types and fits a pattern previously noted (see Table 6 in the Appendix). Bank-Owned lenders expanded their percentage of later stage, lower risk entities, especially among those older than 20 years in business. Independents have lost share in the segment of 10 years and older, while increasing their percentage in the highest risk segments (up to 5 years). Captives showed a more moderate shift toward increasing percentage share of earlier stage lower quality borrowers. Independents exhibited a greater shift to higher risk borrowers, showing a lower percentage of later stage borrowers, and accounting for most of the rise in borrowers classified 0 to 2 years in business.

Revenue Trends

The final borrower characteristic to examine is annual revenue. This factor also shows a clear inverse correlation, with the highest default rates associated with borrowers where no revenue data is available, and lower default rates as the revenue categories increase. Default rates consistently increased from the 2005 to 2007 vintages across all intervals before generally improving after the recession through the 2013 vintage as is shown in Chart 13.

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Chart 13: 24 Month Default Rate by Year of Origination (Vintage), by Revenue



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No Rev. Data	4.9%	6.4%	7.9%	7.4%	4.6%	2.9%	2.7%	3.0%	3.3%	3.7%
0 to 1mm	4.6%	6.6%	8.7%	7.9%	4.5%	2.8%	2.5%	2.3%	2.1%	2.3%
1 to 5mm	3.4%	4.3%	5.3%	4.9%	3.1%	2.2%	1.9%	1.9%	1.8%	1.9%
5 to 10mm	2.7%	3.6%	4.2%	4.0%	2.4%	1.8%	1.4%	1.5%	1.5%	1.4%
Over 10mm	3.1%	3.3%	3.8%	3.4%	2.1%	1.5%	1.4%	1.4%	1.4%	1.3%
Overall	4.4%	5.8%	7.2%	6.7%	4.0%	2.6%	2.3%	2.3%	2.2%	2.5%

Note: Lower bound is inclusive, upper is exclusive (i.e. 0 to 1mm does not include 1mm, 1mm to 5mm does)

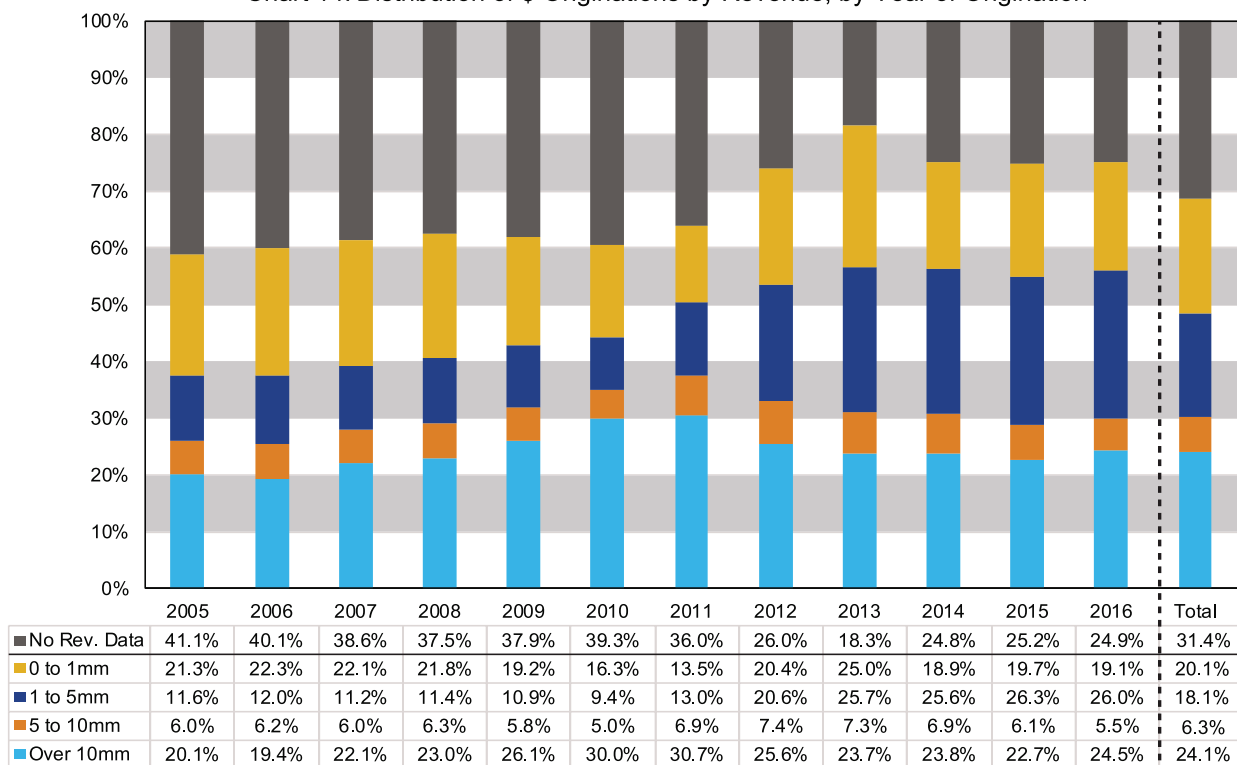
Source: PayNet Dataset

Lack of reported revenue is associated with higher default rates. Because this effective lack of information is significant in and of itself, entities that do not have reported sales data available to PayNet have been included in these charts⁴⁰.

The overall distributions (in dollars) for the origination periods identified in Chart 14 show clearly the industry moving from higher risk to lower risk revenue intervals. The two highest risk intervals (No Revenue Data and up to \$1 million) went from 62.4% of total originations in 2005 down to 44.0% in 2016. Note that in the last 4 years shown, the percentage share of volume for borrowers without revenue data hit a low of 18.3% in 2013, but has moved higher to 24.9% by 2016. This shows that the industry as a whole is again allowing more originations to this higher risk segment, but still lower in percentage terms than seen prior to the Great Recession.

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Chart 14: Distribution of \$ Originations by Revenue, by Year of Origination



Note: Lower bound is inclusive, upper is exclusive (i.e. 0 to 1mm does not include 1mm, 1 to 5mm does)

Source: PayNet Dataset

Much like the information shown in the score section, lenders were much more reliant prior to the recession on extending credit to borrowers with shorter borrowing history or with less information available at the time of origination. Lenders have since curtailed their reliance on lending to entities where less information is available.

Regarding the three lender types, Bank-Owned lenders dramatically increased their share of the lower risk categories, especially those segments greater than \$5 Million, where they now dominate the industry. Captives continued to show proportionately higher share in the higher risk categories (lower revenue borrowers). Independents significantly lost share with higher revenue borrowers, while in turn increasing overall risk in the most recent years. Conversely, Independents accounted for most of the rise in originations to borrowers without reported revenue data since 2013 (see Table 7 in the Appendix).

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Concentrations of Originations by Industry

As part of the examination of underwriting standards and quality of originations, concentrations by industry (NAICS) were evaluated using volume of originations based on the PayNet Dataset.⁴¹ Table 2 shows the top five industry classifications, which turn out to be the same for the equipment leasing industry as a whole as well as for each of the lender types. For the sake of brevity, only the beginning and ending of the period 2007 (pre-recession) to 2016 are shown and only the top five segments are shown, which is why totals will not equal 100%.

Table 2: Concentrations of Originations by Top 5 User Industry

Showing Percentage of Originations for EF Industry, Overall & by Lender Type

	2007	2016	Change	
Total Industry	Transportation	15.5%	19.7%	4.2%
	Construction	14.3%	14.8%	0.5%
	Manufacturing	11.2%	10.1%	-1.1%
	Health Care	11.2%	8.1%	-3.1%
	Agriculture	6.3%	6.0%	-0.3%
	Top 5 Total	58.5%	58.7%	0.2%
Bank Owned	Transportation	14.0%	15.9%	1.9%
	Construction	8.4%	10.0%	1.6%
	Manufacturing	15.4%	14.1%	-1.3%
	Health Care	12.7%	9.1%	-3.6%
	Agriculture	3.7%	3.4%	-0.3%
	Top 5 Total	54.2%	52.5%	-1.7%
Captives	Transportation	21.3%	29.0%	7.7%
	Construction	36.2%	30.4%	-5.8%
	Manufacturing	2.6%	3.3%	0.7%
	Health Care	3.3%	0.3%	-3.0%
	Agriculture	15.1%	13.4%	-1.7%
	Top 5 Total	78.5%	76.4%	-2.1%
Independents	Transportation	13.0%	18.7%	5.7%
	Construction	6.4%	9.8%	3.4%
	Manufacturing	12.7%	8.3%	-4.4%
	Health Care	15.3%	13.1%	-2.2%
	Agriculture	2.8%	4.4%	1.6%
	Top 5 Total	50.2%	54.3%	4.1%

Legend

Concentration
(Change)

< -5%

> 5%

Reduction

Increase

Individual Concentrations
(2007 & 2016)

< 5%

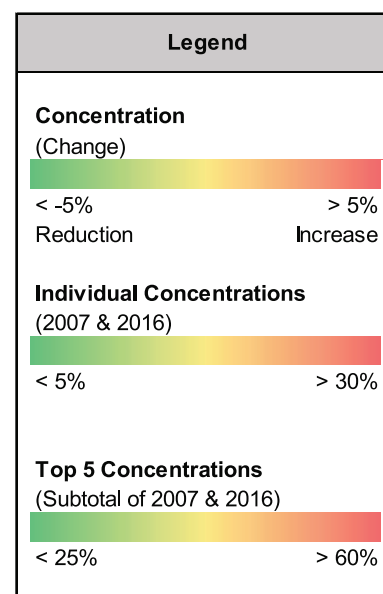
> 30%

Top 5 Concentrations
(Subtotal of 2007 & 2016)

< 25%

> 60%

Source: PayNet Dataset



The equipment finance industry shows considerable stability in terms of user industry concentrations, with about 59% of originations represented by the top five industries in both 2007 and 2016. The largest concentration, Transportation (including Warehousing), increased from 15.5% to 19.7%, whereas Health Care fell 3.1 percentage points to 8.1%. Construction was steady at 14.8%. Transportation remains a significant concentration in all three lender types, with it being the largest concentration for two of the three.

The Bank-Owned lenders have reduced their overall concentration percentage slightly to 52.5%, the lowest of the three lender types. The highest concentration shifted slightly from Manufacturing (-1.3%) to Transportation (+1.9%). Overall, this lender type showed remarkable stability across their user industry concentrations. The Captives have the highest level of concentration, showing a slight reduction to 76.4% in their top five user industries. While the percentage of their originations identified with Construction dropped to 30.4%, it still remains the largest concentration of any lender type, and Transportation, the second highest, increased significantly to 29%. The Independents have also seen a shift in their concentrations with an overall increase in top five industries to 54.3%, with drops in Health Care and Manufacturing offset by increases in Construction and Transportation.

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Concentrations of Originations by Equipment Type

As part of the examination of underwriting standards and quality of originations, the study evaluated the type of equipment financed using the volume of originations. Table 3⁴² shows the top five equipment types for the equipment leasing industry as a whole represented in the PayNet Dataset, and the same equipment type originations for each of the lender types, in dollar terms.

Table 3: Concentrations of Originations by Top 5 Equipment Types

Showing Percentage of Originations for EF Industry, Overall and by Lender Type

	2007	2016	Change	
Total Industry	Trucking	17.4%	25.4%	8.0%
	Construction	18.6%	18.5%	-0.1%
	IT	8.9%	8.9%	0.0%
	Office Imaging	11.3%	7.4%	-3.9%
	Agriculture	8.2%	7.2%	-1.0%
	Top 5 Total	64.4%	67.4%	3.0%
Bank Owned	Trucking	11.7%	16.9%	5.2%
	Construction	8.7%	11.8%	3.1%
	IT	6.2%	12.6%	6.4%
	Office Imaging	7.2%	5.6%	-1.6%
	Agriculture	3.7%	3.8%	0.1%
	Top 5 Total	37.5%	50.7%	13.2%
Captives	Trucking	28.8%	41.2%	12.4%
	Construction	48.6%	38.7%	-9.9%
	IT	0.4%	0.1%	-0.3%
	Office Imaging	0.0%	0.0%	0.0%
	Agriculture	16.7%	12.8%	-3.9%
	Top 5 Total	94.5%	92.8%	-1.7%
Independents	Trucking	14.5%	25.4%	10.9%
	Construction	5.4%	11.4%	6.0%
	IT	18.6%	10.7%	-7.9%
	Office Imaging	24.7%	17.5%	-7.2%
	Agriculture	6.3%	7.7%	1.4%
	Top 5 Total	69.5%	72.7%	3.2%

Legend

Concentration
(Change)

< -5%

> 5%

Reduction

Increase

Individual Concentrations
(2007 & 2016)

< 5%

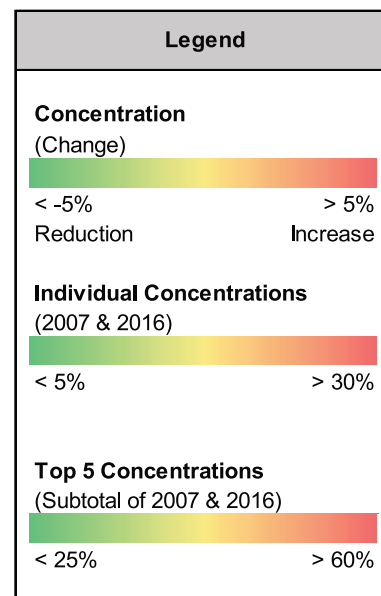
> 30%

Top 5 Concentrations
(Subtotal of 2007 & 2016)

< 25%

> 60%

Source: PayNet Dataset



The equipment finance industry shows some stability in terms of equipment type concentrations, with 67.4% of originations represented by the top five equipment types in 2016, an increase in concentration risk versus 2007 when the percentage was 64.4%. Furthermore, the largest equipment type concentration increased from 18.6% for Construction to 25.4% for Trucking. IT equipment was the third highest concentration, remaining at 8.9%, followed by Office Imaging and Agriculture concentrations at 7.4% and 7.2% respectively.

The Bank-Owned lenders have increased their overall concentration in these five equipment types from 37.5% to 50.7%, perhaps seeking greater real or perceived safety in “classic” mainstream equipment types. However, they still remained the lowest top 5 concentration of the three lender types. Their highest concentration remained Trucking which increased to 16.9%. IT and Construction also increased to double-digit figures by 2016. The Captives still have the highest levels of concentration, showing a slight reduction to 92.8% in these five equipment types. Trucking became the top equipment type concentration among Captives; however, Construction is still quite high. The Independents have also seen a shift in their concentrations, with a decrease in Office Imaging to 17.5% offset by a larger increase in Trucking to 25.4%. This lender group continues to exhibit the second highest level of concentration at 72.7%.

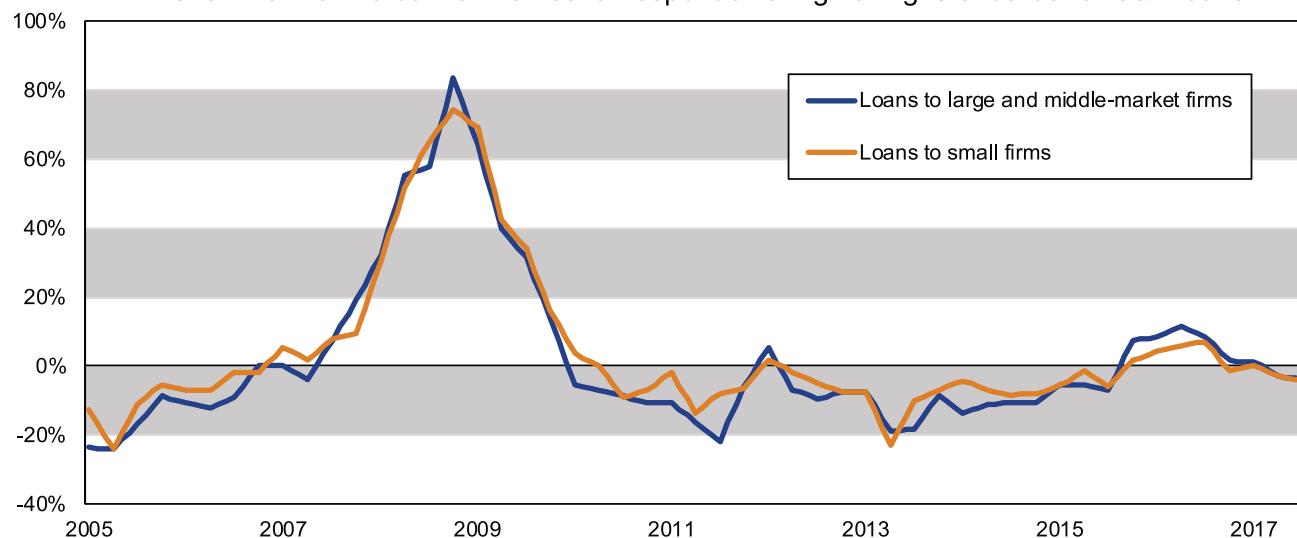
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Large Ticket Commercial Lending

While much of the data available from PayNet and the ELFA to quantitatively study changes in underwriting and credit quality focuses on the levers that are used to manage small and middle-market lending, large ticket lenders utilize different levers when looking to either loosen or tighten lending or to manage credit outstanding to large corporate borrowers.

One resource available to gauge credit standard changes for large ticket lenders since the recession is the Federal Reserve's Senior Loan Officer Opinion Survey on Bank Lending Practices.⁴³ Amongst the questions asked in this survey is whether or not credit standards are tightening for commercial and industrial loans (see Chart 15 for historical results).

Chart 15: Net Percent of Domestic Respondents Tightening Standards for C&I Loans



Source: Federal Reserve Senior Loan Officer Opinion Survey on Bank Lending Practices

Based on the Federal Reserve's results, the net percent of lenders tightening standards (those tightening minus those not tightening) was positive from the second half of 2007 through 2009 regardless of borrower size. From 2Q08 to 1Q09, net percentage tightening standards for large and middle-market firms ranged from 55% to 84%, indicating more than half of the lenders tightened standards each quarter.⁴⁴ From 2010 through 3Q15, credit standards were generally not being tightened and results for 2016 showed renewed net tightening of credit.⁴⁵ The most recent results show a reduction in the number of lenders tightening standards.⁴⁶ Furthermore, after a sustained period of loosening, or at least not tightening, one can infer that current Commercial and Industrial lending portfolios have lower credit quality than those outstanding in the years immediately after the recession.

Other metrics also seem to indicate lower credit quality since the years immediately following the recession. S&P's global downgrade/upgrade ratio for 2016 was 1.54, very similar to the historical average of 1.57 but slightly higher than the historical median of 1.41.⁴⁷ However, the 2016 ratio is almost double the ratio from 2013 (0.82) and more than double the ratios from 2006-2007 (0.71 both years).⁴⁸ This ratio peaked at 3.98 in 2009.⁴⁹

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Conclusions

Taking into account the three major risk criteria that exhibited the highest correlation with default rates (Score Tiers, Years in Business, and Revenue), this section has summarized the overall risk assessment relating to changes in underwriting standards for the equipment leasing industry as a whole, and for the three key lender types as defined in the PayNet Dataset. In addition to the significant improvement in default rates since the periods before and during the Great Recession, the equipment finance industry has shown significant and consistent improvement across all three criteria based on shifting more volume into the lower risk categories.

This level of improvement has been largely driven by one lender type, the Bank-Owned lenders, which have substantially increased market share by focusing expansion in the lower risk segments. Interviews with key Bank-Owned industry leaders confirmed the significant impacts of more conservative bank parent risk orientation together with more intrusive regulation, which have combined to cause underwriting to be much deeper, more structured and more disciplined.

The second lender type, Captives, showed some reduction in market share and experienced some degradation in several criteria due to a greater percentage of originations in higher risk intervals. A key Captive representative remarked that since the Great Recession they had adjusted their process “around the edges”, evolutionary rather than revolutionary, updating models, tightening up rule sets, improving their transaction structuring, and sharpening their asset management process.

The third lender type, Independents, showed a greater reduction in market share, and increased risk exposure in higher risk intervals. Despite this higher risk, Independents have experienced lower default rates in recent vintage years in comparison to the 2005-2008 vintages.

When looking at the larger commercial lending segment, recent credit quality does not seem markedly different from pre-recession quality. Based on interviews with industry members primarily engaged with large commercial lending, portfolio management has become more intensive with rigorous periodic reviews, updating ratings with the focus on levels of quality assurance and adherence to their risk appetite framework. Policy and process changes driven by regulatory and internal pressures have allowed lenders to more actively monitor these large borrowers and better understand not only default risk, but also loss risk, thus providing potentially improved recovery rates relative to prior periods where defaults in this sector increased.

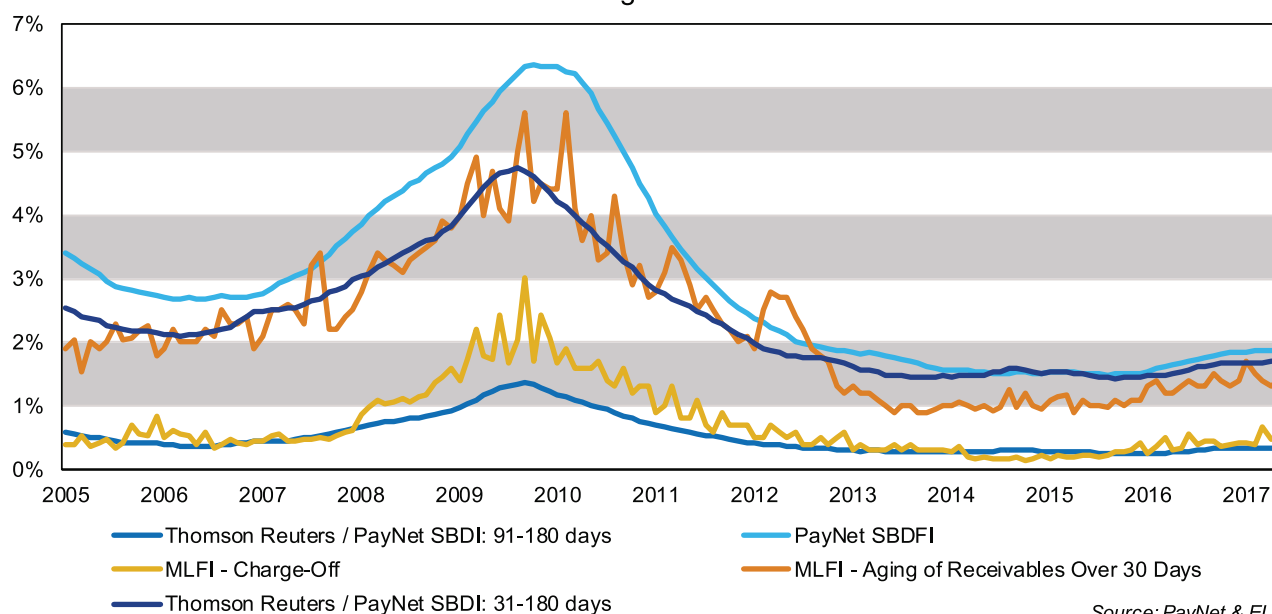
Portfolio Performance Trends

This section examines how commercial lending performance has changed through the last economic cycle, focusing both on portfolio- (on-book) based performance metrics like delinquency, default, and charge-off rates, and portfolio credit risk metrics to show portfolio quality through different points of the cycle.

National Portfolio Performance

A number of national performance metrics show similar trends through the economic downturn and the ongoing recovery and are reflected in Chart 16. The indices examined are the Thomson Reuters / PayNet SBDI (91-180 and 31-180 delinquency metrics are shown here), the PayNet SBDFI measuring rolling 12-month default rates, and ELFA's Monthly Leasing and Finance Index (MLFI) for charge-off rates and receivables aged over 30 days.

Chart 16: Indices Tracking Historical Portfolio Performance



Source: PayNet & ELFA

The general trends in portfolio performance are the same for all metrics examined.⁵⁰ Performance was mostly stable in 2005-2006.⁵¹ This was followed by a sustained period of worsening performance in all metrics from 2007 until late 2009 and early 2010, when each index set record highs.⁵²

All metrics improved dramatically from 2010 to 2014, and the more severe performance indicators such as default, 91-180 day delinquency, and charge-offs, continued improving into 2015.⁵³ Over the last two years, performance has slipped moderately, and delinquency, default, and charge-off rates are all up from their historic lows set in 2014-2015 (SBDI 31-180 low was 1.44%, MLFI 30+ 0.89%, SBDFI 1.49%, and MLFI Charge-Off 0.15%).⁵⁴ And the MLFI Charge-Off rate, on a three month rolling average basis, has increased from 0.17% in mid-2014 to 0.41% today, a 131% increase. However, all metrics but the MLFI Charge-Off rate remain lower than pre-recession levels.⁵⁵

With lenders, particularly Bank-Owned, shifting focus to higher credit quality and larger borrowers than those funded prior to 2010, it is not a surprise that portfolio performance improved.

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Industry Portfolio Performance

Not all segments within the equipment finance industry have performed at the national average level. As seen in Table 4, national 12-month rolling default rates (from SBDFl) spiked for the calendar year 2009 at 6.3%, while default rates have been under 2% since 2012.⁵⁶ However, industries like Transportation and Construction saw default rates peak over 12% and 10% respectively in 2009 while the Agriculture industry has not experienced calendar year default rates higher than 2.8% at any time from 2006 to present.⁵⁷ While national small business default rates increased in recent years, most industries still showed small increases coming off historic low default rates.⁵⁸

Table 4: PayNet Small Business Default Rates & Projected Default Rates by Industry Segments

Industry Segment	Actual Historical Default Rates											Forecast Default Rates	
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Mining	1.3%	2.8%	3.6%	7.5%	5.1%	2.0%	2.1%	1.1%	1.3%	2.3%	4.9%	2.7%	2.3%
Transportation	4.3%	6.5%	10.3%	12.8%	7.8%	4.2%	2.7%	2.7%	2.4%	2.6%	4.2%	4.7%	4.0%
Information	3.9%	4.8%	5.4%	7.7%	3.9%	3.5%	3.0%	2.9%	2.6%	2.5%	2.2%	3.4%	3.0%
Professional Services	2.7%	3.6%	4.3%	5.3%	3.5%	2.4%	2.0%	1.7%	1.6%	1.7%	2.1%	1.9%	1.8%
Agriculture	2.1%	1.9%	1.9%	2.8%	2.3%	1.4%	0.9%	0.8%	0.9%	1.4%	2.1%	1.9%	1.7%
Construction	3.0%	4.4%	7.0%	10.4%	7.5%	3.8%	2.2%	1.6%	1.7%	1.8%	2.1%	2.4%	2.4%
Accommodation and Food	4.0%	5.2%	6.7%	7.4%	5.4%	3.1%	1.7%	2.1%	1.6%	1.6%	1.9%	2.6%	3.0%
Retail	2.6%	3.3%	4.6%	6.4%	4.4%	2.5%	2.0%	1.7%	1.7%	1.8%	1.9%	2.2%	2.4%
Administrative Services	2.7%	3.3%	4.6%	6.5%	4.6%	2.8%	2.2%	1.8%	1.9%	1.6%	1.8%	2.3%	2.2%
Manufacturing	2.2%	2.5%	3.5%	6.0%	4.1%	2.3%	1.7%	1.3%	1.5%	1.5%	1.8%	2.0%	1.9%
Health Care	2.8%	3.2%	3.8%	4.3%	3.5%	2.2%	2.1%	1.9%	1.8%	1.7%	1.8%	2.1%	2.2%
Other Services	2.5%	2.9%	3.9%	4.7%	3.0%	2.1%	1.6%	1.3%	1.2%	1.2%	1.5%	1.7%	1.8%
Real Estate	2.3%	3.6%	5.2%	6.9%	4.3%	2.3%	1.5%	1.4%	1.4%	1.0%	1.5%	1.8%	2.1%
Finance	3.4%	6.9%	6.8%	5.7%	3.4%	1.9%	2.0%	1.3%	1.2%	1.2%	1.3%	1.7%	1.7%
Wholesale	2.1%	2.1%	3.1%	4.2%	3.0%	1.8%	1.2%	1.1%	1.3%	1.3%	1.3%	1.6%	1.7%
Entertainment	3.2%	3.9%	4.4%	4.3%	2.6%	2.3%	1.6%	1.2%	1.0%	0.9%	1.1%	1.3%	1.6%
Education	2.6%	2.7%	2.9%	3.1%	2.1%	1.5%	1.4%	0.9%	1.1%	0.8%	0.9%	1.6%	1.8%
Public Administration	2.3%	2.9%	2.4%	2.7%	1.4%	1.6%	2.2%	1.0%	0.5%	0.6%	0.9%	1.6%	2.3%
All Industries	2.7%	3.7%	4.9%	6.3%	4.3%	2.5%	1.9%	1.6%	1.5%	1.5%	1.8%	2.1%	2.1%

Forecast defaults based on existing portfolio as of 1Q 2017

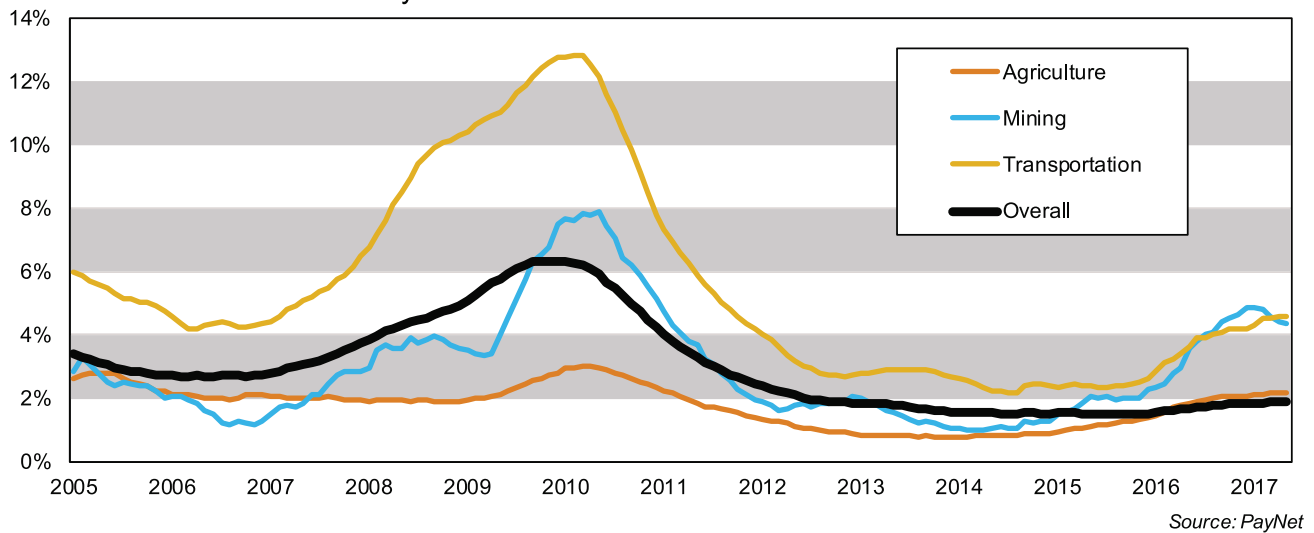
Source: PayNet

Conversely, Mining (encompassing oil, gas, and metals, as well as mining support services) shows default rates more than doubling to 4.9% in 2016 from 2.3% in 2015.⁵⁹ Similarly, Transportation default rates increased 60% to 4.2% in 2016 from 2.6% in 2015.⁶⁰ While the increases in Mining default rates can primarily be attributed to energy price shocks, Mining is now showing a moderation in default rates (May 2017 12-month rolling default rates are down to 4.4%), and Transportation performance appears to be in the midst of a return to historic performance levels.⁶¹ Prior to 2008, Transportation default rates were over 4% each year, and recently, the Transportation Small Business Default Rate has continued to increase to 4.6% as of May 2017, similar to 2006 levels (Chart 17).⁶²

Agriculture default rates have also increased significantly in recent years. After recording a low default rate of 0.8% in 2013, Agriculture has seen the default rate increase to 2.1% in 2016 and surprisingly now has one of the higher industry level default rates.⁶³ Transportation's recent increase, however, is a return to normal industry performance levels.⁶⁴ Other industry default rates are moving toward average historical default rates as well, but still remain below pre-recession levels.⁶⁵

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Chart 17: PayNet Small Business Default Index for Select Industries

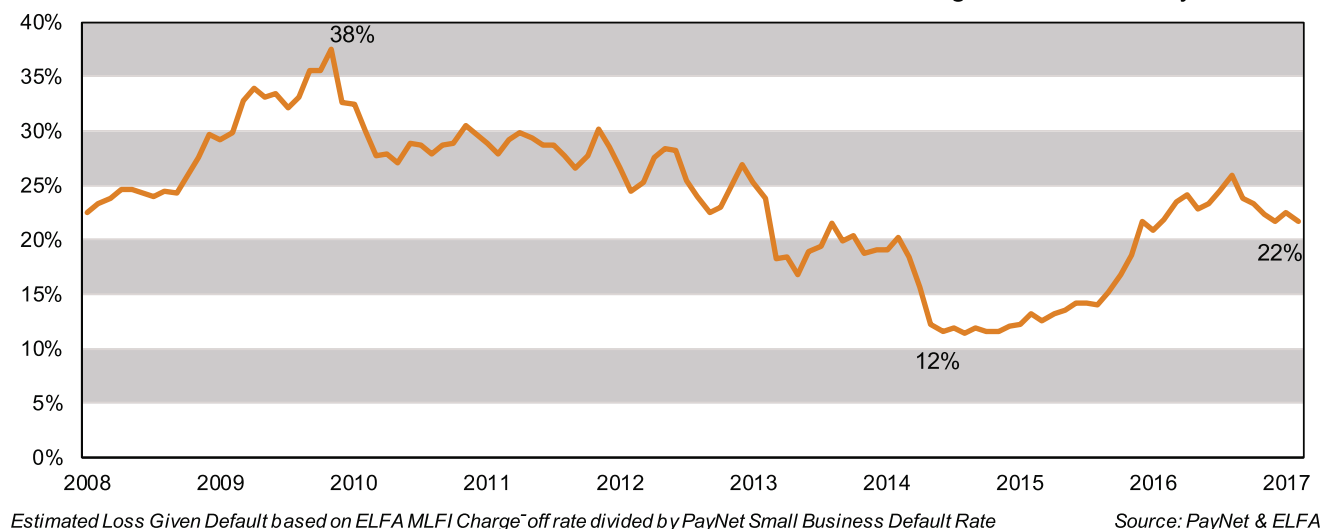


Loss Given Default (LGD)

This study primarily focuses on default rates to analyze performance differences and probability of default to analyze credit quality and forecasted performance. However, collateral risk, and specifically, loss given default, is also a component of bottom line performance. Together with default rate, the loss given default (percentage loss when a default occurs) determines the actual loss rate.

Studying Chart 18, which estimates historical equipment finance industry loss given default rates by dividing the ELFA's charge-off rates, in the monthly MLFI indices, by PayNet's monthly small business default rates from SBDFI, one immediate point to note concerning LGDs is that they spike as defaults also spike.⁶⁶ The highest LGDs on record occurred in 2009-2010, and peaked at 38% in this analysis. LGDs trend higher in recessionary times, and lower in boom times. This is likely due to a combination of factors, including having less collateral flooding secondary markets as well as the borrowers being more likely to have available cash to better maintain their asset obligations.

Chart 18: Estimated Historical Loss Given Default Based on MLFI Charge-Off Index & PayNet SBDFI



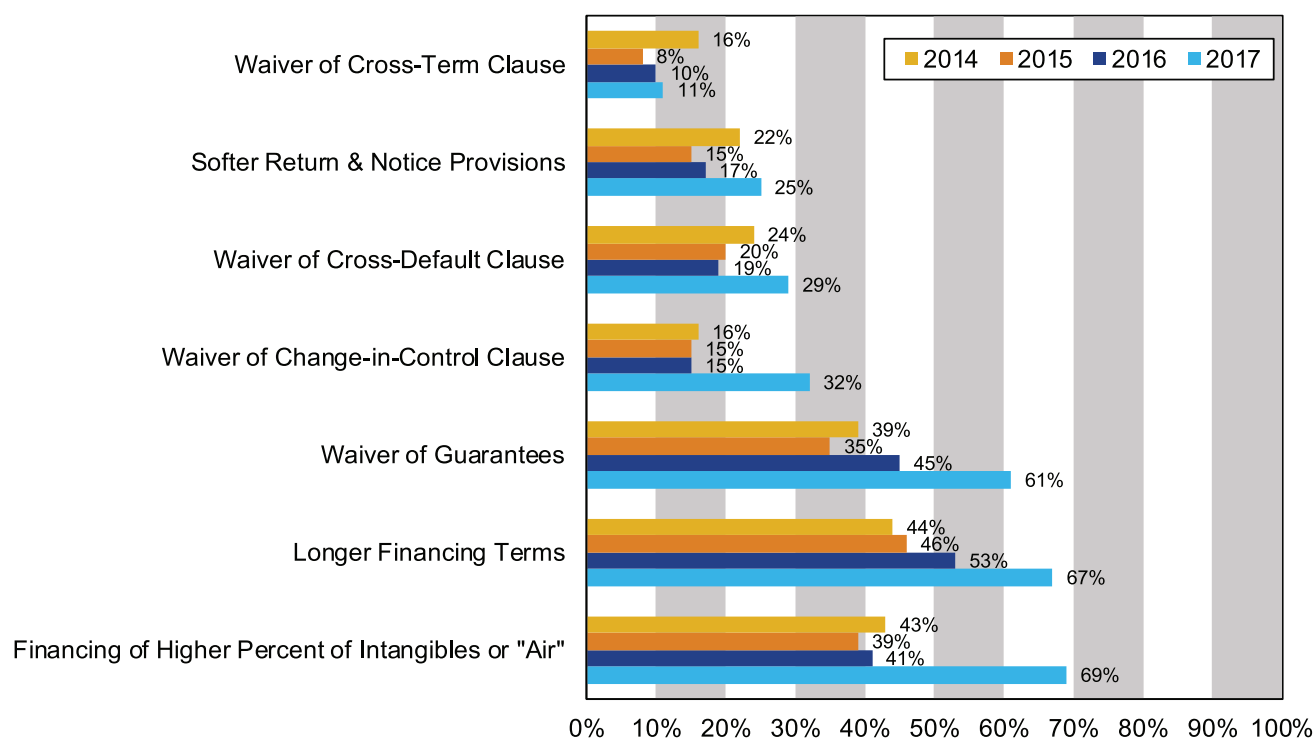
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In analyzing historical losses and researching and building LGD models, PayNet has identified 10 distinct factors that drive loss given default. The timing of the default is clearly critical, both in terms of the point in the economic cycle, and in terms of how long the transaction performed before defaulting. The nature of the deal is also a major driver, in terms of collateral, transaction size, transaction term, and guarantees. Finally the parties involved make a real difference: the credit quality of the borrower, the lender's expertise in the asset class, the length of the borrower-lender relationship, and the geographic location of the borrower.

Credit Manager Survey

In the annual ELFA Credit Manager Conference Survey, one topic examined was the types of requests customers are making for structure or documentation accommodations. As seen in Chart 19, responses in 2017 indicate customers more than ever are requesting a higher percentage of intangible assets, longer terms, and waiver of guarantees.⁶⁷ Additionally, 85% of respondents indicated in the survey that approval rates are higher because of competition.⁶⁸ Assuming more accommodations will be made due to competitive pressures, this could lead to increasing LGDs in the future. Since late 2014, estimated LGDs have been rising as default performance has started to return to historical average levels, as more accommodations are likely being made.

Chart 19: Requests That Lenders are Seeing from Customers for Policy & Documentation Exceptions



Source: ELFA Credit & Collections Conference, Credit Manager Survey

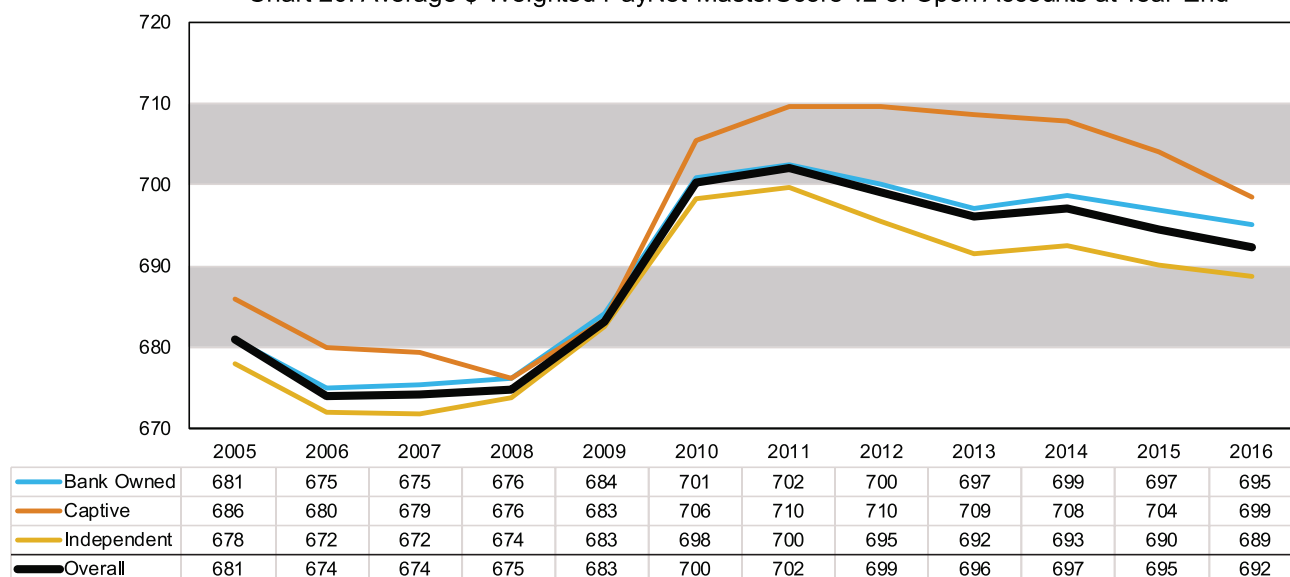
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Portfolio Risk Profiles

This section bridges the gap between portfolio performance and portfolio quality as the current portfolio at any given time contains contracts originated over multiple years, though skewed towards the most recent vintages in terms of distribution. Additionally, portfolio risk is impacted by external changes, whether macro-environmental, borrower specific, or industry specific, that can occur over the lifetime of the obligation and may not be anticipated at the time of origination.

Chart 20 tracks open contracts from the PayNet Dataset (EF portfolio) as of year-end 2005 through year-end 2016 by lender type and by borrowers' PayNet MasterScore v2 as of each year-end date.

Chart 20: Average \$ Weighted PayNet MasterScore v2 of Open Accounts at Year-End



Source: PayNet Dataset

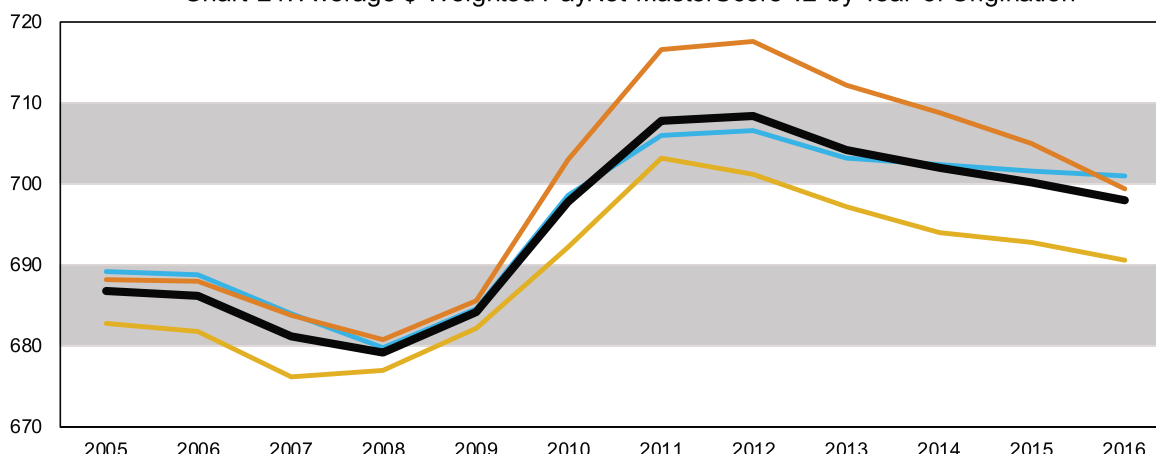
This table shows that the EF portfolio prior to the recession was much riskier than in recent years. PayNet MasterScore v2 is calibrated so that a 20 point score difference doubles the odds of default. Given that the average score of 674 for the EF portfolio at 12/31/2007 is 18 points lower than the average score as of 12/31/2016, the 2016 portfolio represents nearly half the default risk as the 2007 portfolio.

The portfolio risk remained relatively stable until the end of 2014, but the average score has declined in each of the last two year-ends, and is down to 692 as of 12/31/2016. This trend indicates that increased risk associated with new originations is starting to be reflected in the EF portfolio.

Looking at lender type, Bank-Owned entities have seen their portfolios closely resemble the overall risk profile. Captives⁶⁹ saw upticks in average score from 2009 to 2012, moving from the industry average score of 683 to 710. Much of this can be attributed to Transportation and Construction borrowers defaulting at higher rates than other segments in 2008-2010 and thus washing out of the portfolio, but also to the positive impacts of the Agriculture “super-cycle” that created favorable conditions following the recession in that industry. Lastly, Independents have been below the industry average score every year-end except for 2009; however, the spread between the Bank-Owned average score and the Independent average score has never been more than 7 points.

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Chart 21: Average \$ Weighted PayNet MasterScore v2 by Year of Origination



Source: PayNet Dataset

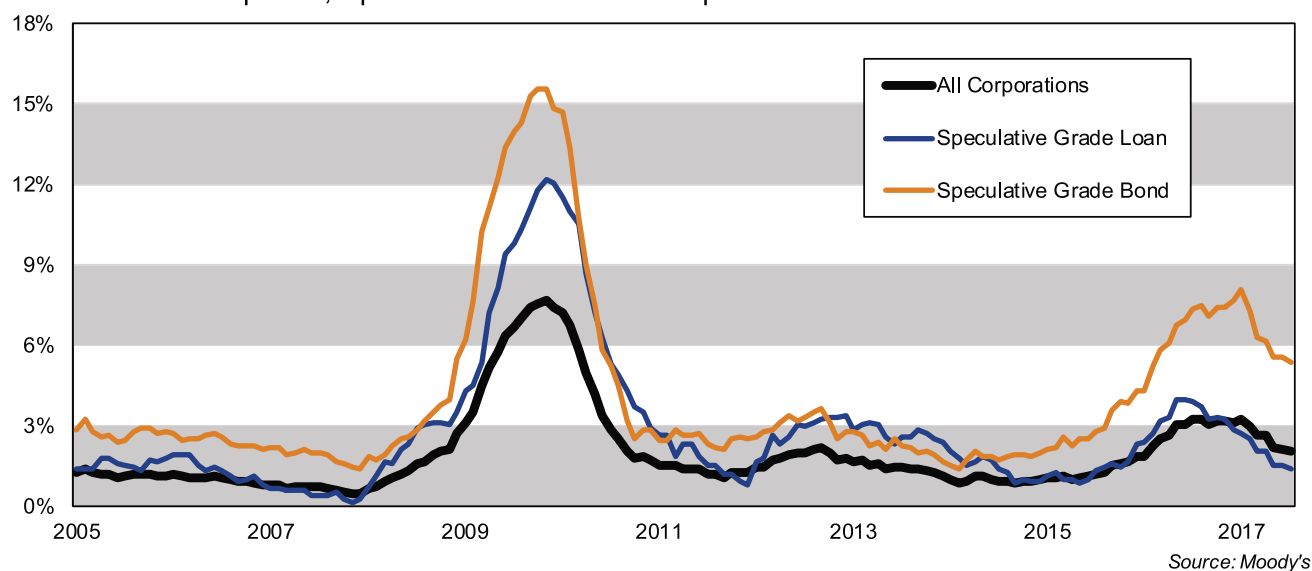
A final aspect of credit quality to examine is risk by year of origination, measured by average PayNet MasterScore v2. As seen in Chart 21, although credit quality did improve from 2009 to 2010, increasing 14 score points to 698, originations credit quality did not peak until 2011-2012 at 708. This coincides with the risk profile improving for the portfolio; however, the portfolio risk profile improved even more from 2009 to 2010 than the origination quality did. This indicates that much of the improvement in the portfolio risk profile in 2010 can be attributed to defaulted borrowers in 2008-2010 having been written off by lenders during the recession.

Large Commercial Lending Performance

Turning to large commercial lending, the performance trends are somewhat similar. Default rates for speculative grade lending, both bonds and loans, along with default rates for all corporate debt as measured by Moody's (Chart 22), follow the general through-the-cycle trends observed in the equipment finance industry data.⁷⁰ However, speculative grade default rates during 2009 and early 2010 actually exceeded small business default rates.⁷¹ Additionally, speculative grade default rates increased much more than small business default rates in 2016,⁷² largely due to larger impacts from the energy and mining sectors.

Focusing just on speculative grade loans, 12-month default rates peaked over 12% in late 2009 while the default rates for All Corporations, which would include investment grade, peaked near 8%.⁷³ For All Corporations, 2016 saw marked increases in default rates before registering stronger performance thus far in 2017.⁷⁴ Recent performance has been on par with performance in 2005, but actually worse than the performance in 2006-2007.⁷⁵ This suggests that credit quality of the largest corporate borrowers may actually be lower than prior to the recession.

Chart 22: Corporate, Speculative Grade Loan & Speculative Grade Bond Historical Default Rates



Conclusions

Performance trends since 2005 are similar amongst several major industry metrics that primarily focus on small and middle ticket lending. While some segments have seen larger performance declines in the last two years than others, and while all national performance metrics have recently seen some degradation, recent portfolio performance remains significantly stronger than what was seen before and during the last downturn. Subsequently, with performance continuing to exceed historical averages and originations generally reflecting higher quality since the recession, portfolio risk remains lower than prior to the recession, particularly the risk related to existing small and middle ticket obligations. As the next section will discuss, this lower portfolio risk stemming from higher quality originations places the industry in a relatively strong position in the event that another downturn were to occur in the near future.

One area where performance has not shown marked improvement however has been the large corporate lending space. Default rates for both All Corporations debt and for Speculative Grade debt spiked in 2016 to the highest levels since 2010, and even with a return to near historical average levels, default rates in 2017 are still higher than pre-recession levels.⁷⁶ It does appear that major changes in underwriting and credit standards for small and middle ticket lending have had a larger impact on improving default rate performance since the recession, as opposed to changes made in the large corporate lending space.

Summary Economic Outlook

This section addresses the economic environment in which the equipment finance industry operates in the U.S. Four key sectors of the economy (Consumer Spending, Employment Growth, Business Investment, and Trade and Government Expenditures) are briefly reviewed, together with some additional considerations, followed by a summary/conclusion.

Consumer Spending

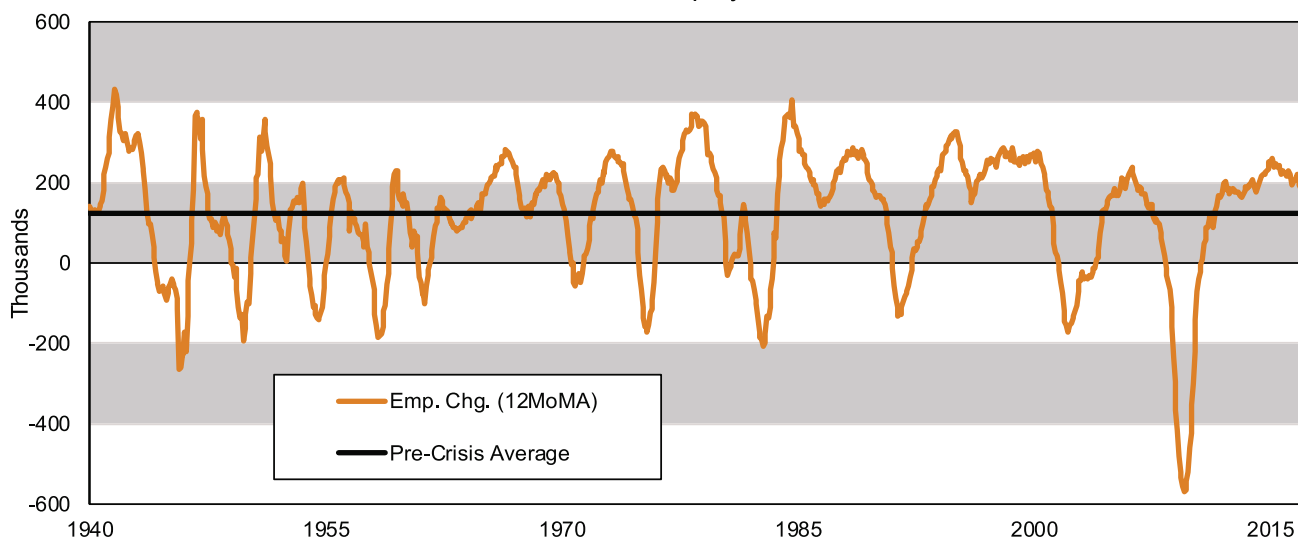
Just as U.S. economic growth as a whole has been weaker than normal during this recovery, so too has consumer spending. Between mid-2009 and late 2016, real consumption growth in the U.S. averaged 2.3% compared to a six decade pre-crisis average growth rate of 3.6%.⁷⁷ Despite the recovery having just passed its eighth year, however, U.S. consumers are in far better shape than they were this time one decade ago.

The balance sheet of U.S. households is in a much better place than ten years ago. Household debt as a share of GDP is down 19% compared to right before the crisis, with the declines centered in mortgage debt in particular following the busting of the housing bubble during the crisis.⁷⁸ The household savings rate over the last two years has been close to double the 3.1% average rate during the two years leading up to the last recession.⁷⁹

Employment Growth

Furthermore, employment growth continues to run at levels nearly 50% above pre-crisis averages, with the latest 12-month rolling average of monthly employment growth of 187,000 as of June 2017 (Chart 23).⁸⁰

Chart 23: US Employment Growth



Source: All Employees: Total Nonfarm Payrolls, FRED Federal Reserve Bank of St. Louis, retrieved July 2017

Although nominal wage growth for most employees has been incredibly weak during much of this recovery, and is currently running at only around half of pre-crisis average growth rates, real wage growth has been above average since early 2013 due to the subdued inflation environment that has persisted for much of this recovery.⁸¹

Additionally, the outlook for employment, and in turn consumption and wage growth, is generally benign. While the current unemployment rate of 4.4% is relatively low by historical standards, there are four elements that point to some slack still existing in the labor market:⁸²

- The relative meekness of nominal wages indicates that workers still lack the bargaining power that they typically enjoy towards the end of expansions when the economy runs hot.

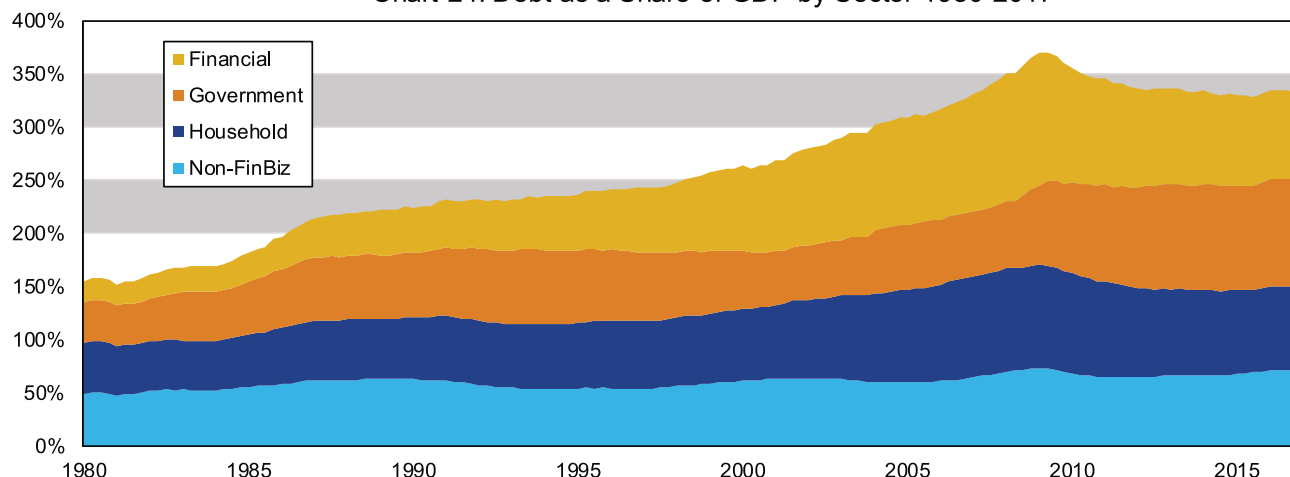
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- While the unemployment rate today is below the short term natural rate of unemployment, the unemployment rate would have to move to between 3.5% and 4.0% before the difference between the prevailing and natural rates of unemployment was around the level that preceded earlier recessions on average.⁸³
- There is still a fairly large share of workers who are either marginally attached to the workforce or employed part-time for economic reasons relative to pre-crisis levels.⁸⁴
- The labor force participation rate for people between twenty-five and fifty-four years old is still around 1.6%-points below the 2000-2007 average, and has generally been moving up since mid-2015.⁸⁵

Business Investment

Additionally, while the outlook for private investment is somewhat subdued for the next two years relative to the post-crisis average growth rate, the fundamental conditions for private investment are still in a productive space. Unlike consumption, real private investment growth since the end of the Global Financial Crisis has actually been faster than the pre-crisis average growth rate. Real annualized private investment growth between mid-2009 and the end of 2016 averaged 6.2% compared to an average of 4.3% in the six decades before the Global Financial Crisis.⁸⁶ Despite this uptick in investment, nonfinancial business debt as a share of GDP has increased just 5% since 2007.⁸⁷ This sector's increase in debt was also far more subdued in the run-up to the Global Financial Crisis compared to the household and financial sectors of the U.S. economy, as can be seen in Chart 24.

Chart 24: Debt as a Share of GDP by Sector 1980-2017



Source: Domestic industries: Nonfinancial, FRED Federal Reserve Bank of St. Louis, retrieved July 2017

While corporate profits by a variety of measures are down from their 2014 cyclical peaks, they are still close to or above multi-decade averages, indicating no imminent collapse on the horizon.⁸⁸ Investment expectations for 2017 are subdued, but still positive, with expected capital formation rates of 4.3% in 2017 and 3.4% in 2018.⁸⁹

Trade and Government Expenditures

The other two major elements of the U.S. economy, trade and government expenditures, are unlikely to contribute positively in a material fashion to GDP growth in the near term, but neither element is likely to tip the economy into a recession. Since the middle of 2009, real government spending has declined at a nearly 1% annualized rate (with most of the declines centered in state and local government and defense spending) compared to annual growth of 3% between 1947 and 2007.⁹⁰ However, government spending has mostly stabilized in recent quarters.⁹¹ Additionally, while trade has recently been a net negative to real GDP growth, this facet is typically a negative to GDP growth, and recent trends are not appreciably different from historical ones.⁹² The real, trade-weighted depreciation of the U.S. dollar in early 2017 and continued uptick in U.S. oil production, which may be negatively affected by the recent downturn in oil prices, should be net positives for the trade account in the near term.⁹³

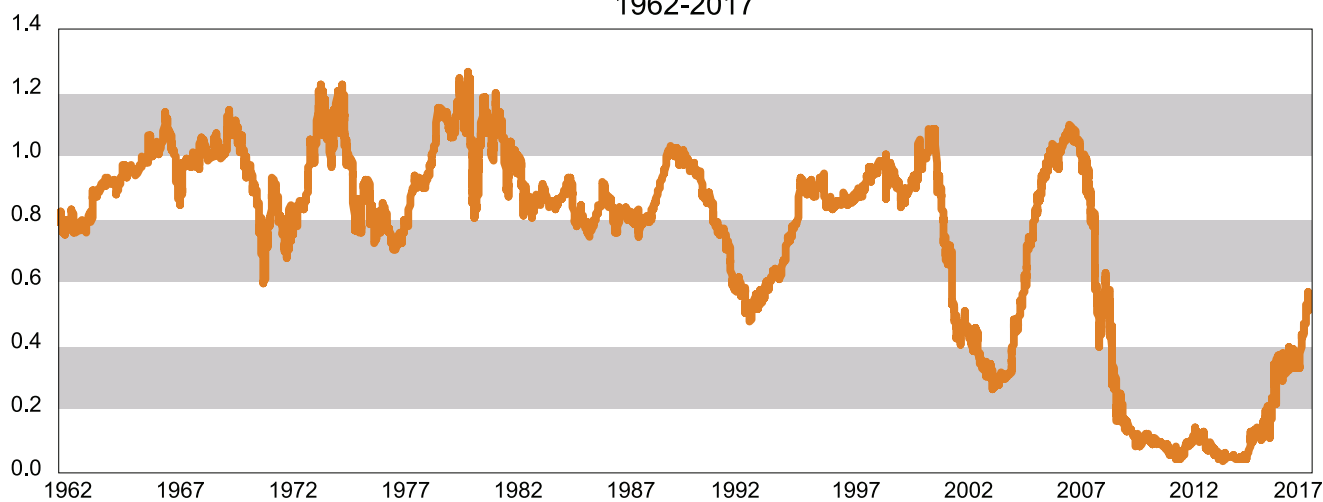
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Other Considerations

There are a number of other leading predictors of recession-like conditions. These indicators mostly paint a picture that while risk is increasing for the U.S. economy, it is not on the verge of dipping into a recession at this time.

- In addition to a rising unemployment rate, an inverted yield curve has historically been one of the best and most reliable predictors of a forthcoming recession. An inverted yield curve occurs when short-term rates are above long-term rates, which typically happens in periods when the Federal Reserve is attempting to restrain inflation in the U.S. economy by raising rates. Inflation typically runs fastest right before a recession. The yield curve has inverted before every one of the last nine recessions, and it is definitely not inverted today.
- Consensus forecasts indicate that short-term policy rates will still be below ten-year Treasury yields at the end of 2018, and the recent moderation of inflation increases the chance that the Fed will moderate its rate rise plans in the next year and a half.⁹⁴
- Other metrics also point to still moderate financial risks in the U.S. economy. The Thomson Reuters/PayNet Small Business Delinquency Index on a 31-90 day past due basis is still almost 25% below the 2005-06 averages.⁹⁵ The national PayNet Small Business Default Index is still around one-third below the pre-crisis average.⁹⁶ Additionally, loan delinquency rates at commercial banks are still around 30% below the decade-and-a-half plus average between the early 1990s and 2007, with business loans and commercial real estate loans in especially good positions relative to historical trends.⁹⁷ Furthermore, financial market spreads such as the TED Spread and medium to higher risk corporate spreads, are generally subdued, and have been declining in recent months after a modest run-up in 2016.⁹⁸
- While there are different ways of measuring the yield curve, the ratio of the one-year Treasury yield to the ten-year Treasury yield is still about 30% below the five-and-a-half decade average (Chart 25).

Chart 25: One Year Treasury Yields Compared to Ten Year Treasury Yields:
1962-2017



Source: 10-Year Treasury Constant Maturity Rate & 1-Year Treasury Constant Maturity Rate, FRED Federal Reserve Bank of St. Louis, retrieved July 2017

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Summary Outlook

The growth outlook for the U.S. economy through 2018 is quite similar to the growth rate the U.S. economy has experienced for most of the post-recession period. Between the second quarter of 2009 and the end of 2016 annualized growth averaged 2.1%.⁹⁹ This is about 1.3%-points below the growth rate the U.S. economy experienced on average between 1947 and 2007.¹⁰⁰ While the post-Great Recession growth rate has undeniably been disappointing from a historical perspective, it likely has increased the duration of this recovery, which is already one of the longest on record since the mid-19th century.

In general, while there are few indications that growth is set to break out to the 3% range in the next year, the signs are also few and far between that the U.S. economy is facing an imminent slowdown or recession. Although an external shock such as disruption to global oil supplies, a natural disaster, or a regional war could derail growth, these types of risks can best be classified as low probability at this time. Growth in 2017 and 2018 is likely to continue to trudge along in the 2.0%-2.5% range that it has for much of the recovery period.

Consensus forecasts for 2017 and 2018 indicate that private consumption is expected to increase 2.5% this year and next while unemployment rate is expected to tick down to 4.3% in 2018.¹⁰¹

Forecasting Future Performance for the Equipment Finance Industry

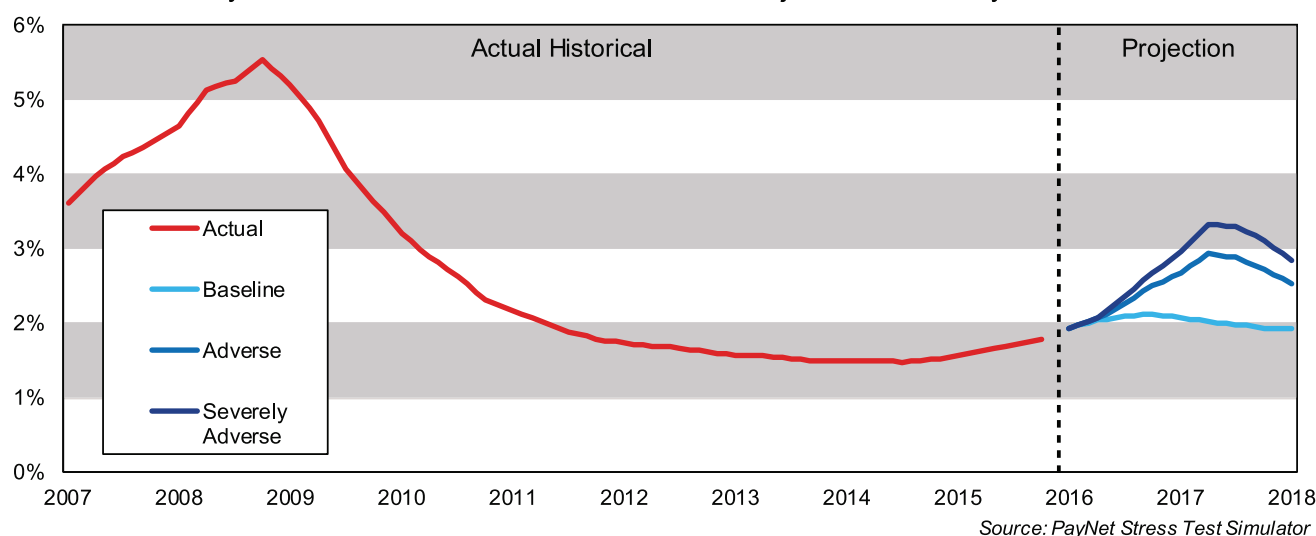
The recent underwriting, credit quality, portfolio performance trends, and overall economic environment all hint at what can be expected in the very near future. However, in order to more fully understand how the current equipment finance portfolio can be expected to perform in the future, forecasting models have been run to provide a quantitative assessment of what can be expected.

This study utilizes two separate models developed by PayNet for forecasting future performance expectations: PayNet's AbsolutePD Stress Test Simulator and PayNet's AbsolutePD model. The Stress Test Simulator is used to examine the Federal Reserve Bank's three economic scenarios for stress testing built on a slightly broader data pool, and the AbsolutePD model is used to examine these scenarios for the EF dataset more thoroughly. Details on both models are included in the Appendix.

Forecast Results

Projections from the Stress Test Simulator show the rolling 12-month projected default rates based on the Federal Reserve Bank's three scenarios (Chart 26). The adverse scenario assumes a meaningful pullback on the rate of growth, with recessionary economic conditions present, resembling the 1990-91 recession. The severely adverse scenario incorporates recessionary economic conditions, but along the lines of the Great Recession.

Chart 26: Industry Historical Default Rate with Scenario Projections from PayNet Stress Test Simulator

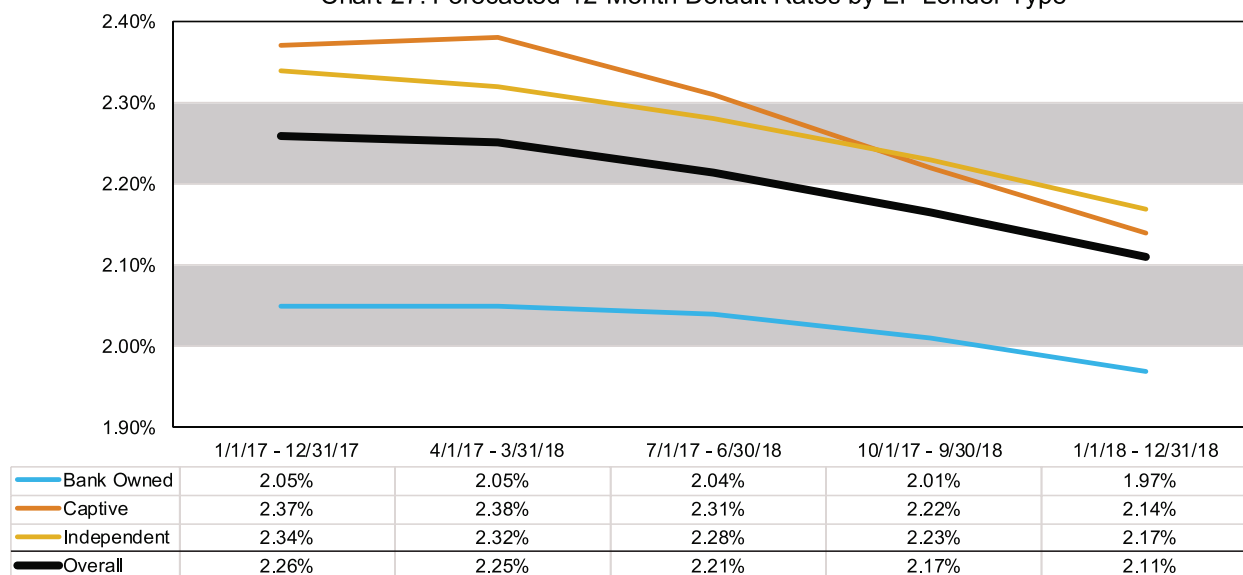


The Stress Test Simulator projects peak default rates for the baseline scenario of 2.12% and for the severely adverse scenario of 3.33%.¹⁰² These scenario default rate results are substantially below the actual industry default rates during the Great Recession, which had a peak level rolling 12-month default rate of 5.5% in 4Q09. Results from additional analyses suggest similar forecasts hold for the EF dataset.¹⁰³

The AbsolutePD model is used to look deeper into the EF Industry, both overall and by lender type, where differences between the baseline scenario-adjusted projections for equipment finance industry default rates are seen (Chart 27).¹⁰⁴ Notably, Captive PD's are the highest for the four quarters ending 12/31/2017 (2.37%) and 3/31/2018 (2.38%), but they drop the most in the later periods and actually have lower projected default rates than Independents for the year ending 2018 at 2.14%. The Bank-Owned PDs are significantly lower than the other lender type PDs, likely due to higher quality booking in recent years, moving from 2.05% for the 2017 calendar year to 1.97% for the 2018 calendar year.

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Chart 27: Forecasted 12-Month Default Rates by EF Lender Type



Source: PayNet

Conclusions

Focusing only on the severely adverse scenario, which is the best proxy for what would happen if another major recession were to occur, the industry is forecasted to experience peak level default rates well below those in the 5%-6% range seen during the Great Recession. Much of this reduced current downside risk is due to the changes made on the front-end along with an economic environment supporting steady growth, leading to less risky lending than what typically occurs during rapid expansionary periods.

Conceivably, this lower recessionary default rate level would also likely lead to lower loss given default as less equipment would be on the resale market, but lower loss given default would also be more likely due to the higher credit quality borrower that generally holds the loans (and equipment) today; generally lower loss given default is observed when there is a higher credit quality borrower involved.

Forecasts for small and middle ticket lending indicate an EF portfolio better positioned to weather another recession. Today's outlook points towards continued better-than-historic average performance due to the economic outlook, improved underwriting and portfolio management, and better credit quality originations booked since 2010. Even if a recession were to occur, the equipment finance industry could be expected to experience lower default and loss rates than those seen in the Great Recession.

Other Future Considerations

Regulatory Impact: It is clear from the evaluation of lender types in the equipment finance industry in this study that underwriting standards have improved since the years prior to the Great Recession, with the greatest level of improvement experienced by the Bank-Owned lenders. It is reasonable to infer that they have been influenced by the substantial impact of increased U.S. banking regulations. In interviews with bank-owned equipment finance lenders, representatives cited the intensity of increased U.S. banking regulation regarding underwriting and portfolio management as having directly impacted their policies and practices in a profound manner. These representatives reported that while there is likely to be a softening of the intensity with the new U.S. administration, they believe that most of the improvements implemented in the past eight years will be maintained and in fact continue to be developed. In contrast to what Bank-Owned lenders experienced, Independent and Captive industry leaders commented that they have not faced major regulatory pressure to modify underwriting or portfolio management. As we have seen with other new technology originating from the banking

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industry such as credit scoring, risk rating systems, risk adjusted pricing, periodic portfolio reviews, quality control, behavior scoring, and stress testing, it is likely that these new post recessionary improvements will find their way to other members of the equipment finance industry.

FinTech and Online Lending: The rapid development of commercial lending FinTech companies since the Great Recession has not to date severely impacted the equipment finance industry. The former have often identified sub-prime applicants looking for short term working capital credit, a user group and credit product not the focus of most industry lenders. However, their use of technology to improve the customer experience with fast turnaround supported by high levels of automation and advanced credit scoring systems point to opportunities for the equipment finance industry to develop similar improvements in their own front and back offices. It was pointed out when speaking with some industry representatives that new entrants into this space could, by effectively utilizing current or future technologies, potentially disrupt how transactions are sourced, decisioned and even serviced in the future. This, in turn, could have major impacts on underwriting and portfolio management methods as well as the credit quality of future borrowers.

Appendix

Methodology and Background on the PayNet Dataset that was the Primary Dataset Used for Credit Quality and Vintage Default Rate Analysis

PayNet data for this study was extracted from PayNet's proprietary database of small business loans, leases, and lines of credit encompassing over 23 million contracts worth more than \$1.5 trillion reported monthly by over 300 U.S. Commercial Finance, Bank, and Fintech member-lender institutions (including virtually all of the top 50 small-ticket and middle-market equipment finance lenders). The database covers the full spectrum of borrower commercial industries, borrower types, and sizes.

The PayNet Dataset used for this study is based on 7.6 million equipment finance contracts originated from 2005 through the first quarter of 2017. In order to allow sufficient time for contracts to perform, the portions of the study that discuss default rates are restricted to contracts originated from 2005 through 2014, providing almost 6 million contracts with nearly 250,000 defaults. A contract was considered a default if any of the following occurred within 24 months of origination:

- Bankruptcy, repossession, or legal status
- Material loss
- 91+ days past due AND 1) any other open contract shows bankruptcy, repossession, or legal status, or 2) dollar-weighted days past due is >30 either with the subject lender or with all lenders in the PayNet database
- 61+ days past due and closed 6+ months early

To prevent very large borrowers from skewing the results, only the largest contract per borrower per lender in a given month of origination is included when analyzing defaults. Only lenders that remain active throughout the time period of the study are included. Additionally, only data from lenders active in the Equipment Finance and Leasing space are included in this study. Default-related portions of the study exclude contracts with no reported payment history prior to 24 months after origination.

PayNet's historical borrower attribute data is archived quarterly. Borrower attributes at origination are based on the information available at the beginning of the quarter of origination, except for revenue and employee data which are based on data as of 1/1/2010 for originations prior to 2010, due to limited historical availability.

Generally lenders are assigned to either Bank-Owned, Captive, or Independent based on their parent company. However, some lenders with a bank affiliation but that were initially Independents and that more closely resemble Independents in practice are categorized as Independents instead of Bank-Owned.

Background on PayNet MasterScore v2, AbsolutePD, and AbsolutePD Stress Test Simulators (Used to Measure Credit Quality and Provide Forward Looking Default Rates in this Study)

PayNet MasterScore v2 (MSv2) is developed from the largest pool of term debt leases and loans ever compiled to predict 90+ days past due on a 3-digit scale. It focuses on the factors in a borrower's profile that are most predictive of repayment and offers the most comprehensive solution to managing risk. MSv2 contains a total of 587 variables and 135 unique variables. It was built using an extraordinarily large development sample, over 3 million transactions and 135,000 defaults, which made it possible to build 29 specialized scorecards based on borrower industry, size, age, or combinations thereof.

PayNet AbsolutePD (APD) produces statistical estimates of Probabilities of Default (PDs) up to eight quarters ahead by combining current macroeconomic information with payment histories from PayNet's database.

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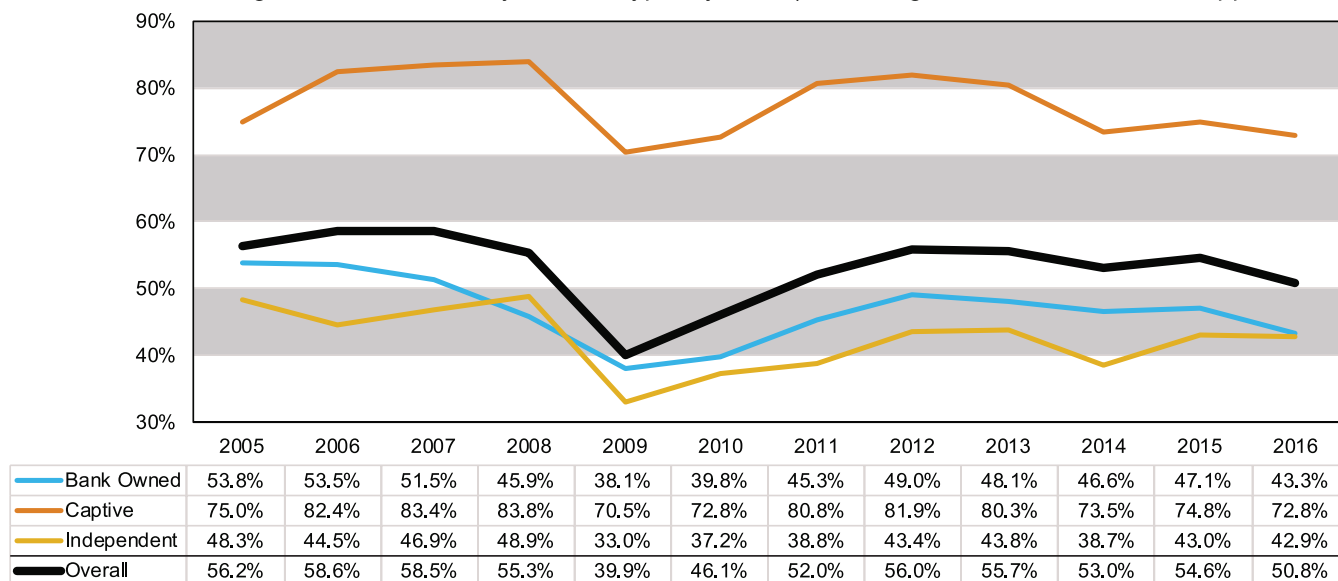
The AbsolutePD model was developed to create PD estimates that are consistent with actual default rates. Every quarter, the model is refreshed with the latest borrower performance information and calibrated to current macroeconomic conditions. The model also self-corrects on a quarterly basis to adjust for past variances. The model produces individual PD forecasts for each of eight future quarters for every borrower in a lender's portfolio or, in this case, every borrower in a dataset.

PayNet AbsolutePD Stress Test Simulator generates scenario-based probability of default predictions based on the set of Federal Reserve System macroeconomic variables and on the results of APD. Functioning as an add-on module to the APD modeling infrastructure, the APD Stress Test Simulator module generates scenarios based on different sets of macroeconomic variables; the scenarios include three sets of FRS scenarios - baseline, adverse and severely adverse.

Additional information on PayNet's models, including white papers and further details on methodologies, can be found at <http://paynet.com/>

Additional Tables and Charts

Chart 28: Booking Rate Overall and by Lender Type, by Year (Percentage based on Number of Applications)



Source: ELFA Annual SEFA Reports

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Table 5: Market Share of \$ Originations by Lender Type by Credit Quality Tier

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total	
Bank	Low	21.1%	20.1%	24.6%	30.3%	35.8%	29.0%	39.5%	41.7%	39.7%	34.2%	25.7%	27.7%	28.9%
	Below Average	23.8%	27.9%	32.7%	37.8%	44.4%	46.6%	46.8%	45.5%	42.4%	45.1%	45.1%	48.2%	39.7%
	Average	32.5%	35.0%	39.0%	47.0%	51.8%	48.1%	52.8%	47.2%	47.4%	46.9%	46.3%	46.3%	44.8%
	Above Average	31.8%	35.7%	43.9%	48.2%	49.2%	52.3%	52.3%	49.7%	51.7%	47.5%	48.2%	53.0%	47.9%
	High	30.2%	32.4%	32.1%	36.2%	38.1%	44.4%	46.3%	44.1%	44.5%	46.2%	46.8%	53.1%	44.7%
	No Score	30.7%	36.1%	39.3%	44.9%	45.4%	48.8%	51.4%	44.7%	42.6%	36.2%	34.3%	35.0%	39.5%
	Overall	30.5%	33.6%	37.5%	43.5%	46.9%	47.3%	50.0%	46.3%	46.5%	45.0%	44.6%	47.2%	43.5%
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total	
Captive	Low	40.9%	40.9%	32.9%	34.2%	32.5%	27.3%	26.3%	25.1%	27.1%	28.8%	33.2%	33.1%	33.2%
	Below Average	38.4%	33.4%	25.9%	24.2%	22.1%	28.4%	21.8%	23.6%	25.9%	22.8%	23.4%	23.0%	26.1%
	Average	32.0%	28.6%	24.0%	20.4%	17.3%	20.3%	19.2%	22.1%	23.3%	23.0%	24.6%	24.7%	23.5%
	Above Average	36.6%	34.0%	27.3%	21.7%	18.2%	19.3%	20.5%	23.5%	22.4%	27.7%	25.9%	22.9%	24.9%
	High	48.4%	44.9%	44.4%	39.8%	37.6%	32.5%	32.4%	36.9%	37.7%	35.8%	33.9%	28.7%	35.5%
	No Score	38.2%	32.1%	27.1%	22.3%	23.4%	25.8%	22.5%	25.3%	26.9%	27.4%	26.1%	25.1%	27.6%
Overall	36.8%	33.1%	27.6%	24.1%	22.4%	24.4%	24.2%	27.7%	27.8%	28.2%	27.7%	25.6%	27.5%	
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total	
Independent	Low	38.0%	38.9%	42.5%	35.5%	31.7%	43.7%	34.2%	33.2%	33.1%	37.0%	41.1%	39.2%	37.9%
	Below Average	37.8%	38.7%	41.4%	38.1%	33.5%	25.0%	31.5%	30.9%	31.7%	32.1%	31.5%	28.8%	34.2%
	Average	35.5%	36.5%	37.0%	32.6%	30.9%	31.6%	28.0%	30.7%	29.3%	30.1%	29.2%	29.0%	31.6%
	Above Average	31.6%	30.2%	28.8%	30.1%	32.6%	28.4%	27.2%	26.8%	25.8%	24.8%	25.8%	24.1%	27.3%
	High	21.5%	22.6%	23.5%	24.0%	24.3%	23.1%	21.3%	19.0%	17.8%	18.0%	19.2%	18.3%	19.8%
	No Score	31.1%	31.8%	33.5%	32.8%	31.2%	25.5%	26.1%	30.0%	30.5%	36.4%	39.6%	39.9%	32.9%
Overall	32.7%	33.3%	34.9%	32.4%	30.8%	28.3%	25.7%	26.0%	25.6%	26.8%	27.7%	27.2%	29.0%	

Source: PayNet Dataset

Table 6: Distribution of \$ Originations by Lender Type by Years in Business

Bank Owned		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
	0 to 2	27.9%	35.3%	38.1%	45.5%	46.0%	43.7%	46.7%	39.2%	39.0%	32.7%	30.8%	31.4%	36.9%
	2 to 5	23.1%	27.6%	30.8%	39.9%	43.2%	41.9%	45.5%	37.6%	36.4%	35.2%	34.1%	32.5%	34.5%
	5 to 10	24.5%	27.8%	29.4%	38.6%	37.4%	38.4%	43.4%	39.9%	40.8%	37.2%	34.4%	37.4%	34.8%
	10 to 20	28.8%	31.5%	34.9%	41.6%	41.5%	40.1%	41.0%	39.5%	38.4%	36.1%	35.6%	37.7%	37.1%
	20+	37.0%	38.1%	42.7%	45.9%	51.8%	53.0%	55.7%	51.6%	52.2%	51.7%	51.8%	54.7%	50.2%
	Overall	30.5%	33.6%	37.5%	43.5%	46.9%	47.3%	50.0%	46.3%	46.5%	45.0%	44.6%	47.2%	43.5%
Captive		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
	0 to 2	42.9%	36.7%	30.5%	26.2%	26.9%	30.5%	25.5%	28.8%	31.0%	31.6%	29.4%	30.0%	31.5%
	2 to 5	46.9%	41.6%	37.3%	31.9%	29.4%	29.8%	29.0%	32.5%	32.6%	30.7%	29.3%	31.3%	34.1%
	5 to 10	45.2%	41.7%	37.7%	32.5%	33.5%	35.1%	30.0%	32.0%	31.2%	32.0%	31.5%	29.1%	34.8%
	10 to 20	39.1%	36.2%	32.1%	28.3%	29.0%	33.1%	32.4%	34.5%	35.8%	35.3%	34.2%	31.8%	33.5%
	20+	26.6%	24.3%	18.9%	17.8%	15.4%	17.3%	19.3%	23.7%	23.5%	24.5%	24.6%	22.2%	21.9%
	Overall	36.8%	33.1%	27.6%	24.1%	22.4%	24.4%	24.2%	27.7%	27.8%	28.2%	27.7%	25.6%	27.5%
Independent		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
	0 to 2	29.2%	28.0%	31.4%	28.3%	27.1%	25.8%	27.8%	31.9%	30.0%	35.7%	39.8%	38.6%	31.6%
	2 to 5	30.0%	30.8%	31.9%	28.2%	27.4%	28.2%	25.5%	29.9%	31.0%	34.1%	36.6%	36.2%	31.4%
	5 to 10	30.4%	30.5%	32.9%	28.9%	29.1%	26.5%	26.6%	28.1%	28.0%	30.8%	34.1%	33.5%	30.3%
	10 to 20	32.1%	32.3%	33.0%	30.1%	29.5%	26.8%	26.6%	26.0%	25.8%	28.5%	30.2%	30.5%	29.4%
	20+	36.4%	37.7%	38.5%	36.3%	32.8%	29.6%	25.0%	24.7%	24.3%	23.9%	23.6%	23.1%	27.9%
	Overall	32.7%	33.3%	34.9%	32.4%	30.8%	28.3%	25.7%	26.0%	25.6%	26.8%	27.7%	27.2%	29.0%

Note: Lower bound is inclusive, upper is exclusive (i.e. 0 to 2 does not include 2 years, 2 to 5 does)

Source: PayNet Dataset

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Table 7: Distribution of \$ Originations by Lender Type by Revenue

Bank Owned		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
	No Rev. Data	24.4%	28.0%	30.7%	38.2%	39.4%	37.2%	39.5%	36.6%	38.9%	31.8%	31.0%	31.4%	33.5%
	0 to 1mm	29.8%	33.4%	36.4%	44.8%	45.3%	45.4%	48.9%	41.4%	37.7%	41.1%	40.8%	41.8%	40.0%
	1 to 5mm	33.3%	35.9%	38.7%	48.0%	51.1%	52.0%	49.5%	47.2%	45.2%	44.9%	44.9%	48.2%	45.3%
	5 to 10mm	31.4%	37.7%	43.4%	46.1%	50.9%	48.0%	49.1%	48.6%	50.2%	49.7%	49.0%	51.0%	46.7%
	Over 10mm	41.7%	42.9%	48.3%	47.9%	56.1%	59.8%	63.3%	58.6%	62.1%	60.7%	61.5%	65.8%	57.1%
	Overall	30.5%	33.6%	37.5%	43.5%	46.9%	47.3%	50.0%	46.3%	46.5%	45.0%	44.6%	47.2%	43.5%
Captive		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
	No Rev. Data	46.3%	43.0%	38.3%	33.6%	32.5%	34.4%	33.4%	33.8%	32.4%	36.8%	34.7%	34.2%	36.5%
	0 to 1mm	39.4%	34.3%	29.2%	24.7%	23.5%	26.4%	23.4%	32.5%	35.3%	29.4%	28.6%	27.1%	30.0%
	1 to 5mm	32.2%	27.4%	22.7%	19.5%	16.5%	17.2%	22.6%	26.6%	27.8%	28.7%	28.3%	25.9%	26.1%
	5 to 10mm	28.4%	25.5%	20.6%	18.2%	16.1%	21.3%	24.7%	26.7%	25.0%	25.8%	26.7%	23.8%	24.0%
	Over 10mm	19.7%	17.1%	11.8%	11.8%	10.7%	13.2%	14.4%	18.8%	17.4%	18.4%	18.5%	15.6%	15.7%
	Overall	36.8%	33.1%	27.6%	24.1%	22.4%	24.4%	24.2%	27.7%	27.8%	28.2%	27.7%	25.6%	27.5%
Independent		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
	No Rev. Data	29.3%	29.0%	31.0%	28.2%	28.1%	28.4%	27.0%	29.5%	28.8%	31.4%	34.2%	34.4%	30.0%
	0 to 1mm	30.9%	32.3%	34.4%	30.4%	31.2%	28.3%	27.7%	26.1%	27.0%	29.5%	30.6%	31.1%	30.1%
	1 to 5mm	34.5%	36.7%	38.6%	32.4%	32.4%	30.7%	28.0%	26.2%	27.0%	26.4%	26.7%	25.9%	28.7%
	5 to 10mm	40.2%	36.8%	36.0%	35.6%	33.0%	30.8%	26.2%	24.8%	24.7%	24.6%	24.3%	25.1%	29.3%
	Over 10mm	38.5%	40.0%	40.0%	40.3%	33.2%	27.0%	22.3%	22.6%	20.6%	20.9%	20.1%	18.6%	27.1%
	Overall	32.7%	33.3%	34.9%	32.4%	30.8%	28.3%	25.7%	26.0%	25.6%	26.8%	27.7%	27.2%	29.0%

Note: Lower bound is inclusive, upper is exclusive (i.e. 0 to 1mm does not include 1mm, 1mm to 5mm does)

Source: PayNet Dataset

Additional Information on Other Data Sources Used

ELFA Annual Survey of Equipment Finance Activity Report (SEFA): The SEFA report provides access to comprehensive performance metrics for a large group of equipment leasing and finance companies -- by volume size, organization type, market segment and business model. It covers productivity measures, residual experience, balance sheet data, financial ratios, profitability data and more. For this study, SEFA results dating back to 2005 were examined to look at additional volume and decision metrics not available elsewhere.

For concentration or decision statistics, values were pulled directly from the report that had the most updated data for that calendar year (i.e. the 2017 SEFA report was used for 2016 data, 2016 report for 2015 data, etc.).

For the volume indices presented using the SEFA volume data, the annual rate of change in volume for each segment and overall was recorded for each report, since each report includes two years of comparable data. These growth rates were then used to create the indices seen in this study. The 2007 report was used to get the 2005 to 2006 growth rates, the 2008 report was used to get the 2006 to 2007 growth rate, and so on.

ELFA's Monthly Leasing and Finance Index (MLFI): The MLFI reports economic activity from 25 companies representing a cross section of the equipment finance sector on a monthly basis. Data include New Business Volume, Aging of Receivables, Average Losses, Credit Approval Ratios, and Total Number of Employees.

For this study, aging of receivable rates and charge-off rates were pulled from the MLFI historical archives. It should be noted that since only graphical versions of the report are available, 12-24 months of data were captured at a time. Because of this, there are likely some data points that were restated in mid-year or other versions of the report that did not get captured. Nevertheless, results will be directionally accurate as most restatements missed would likely be minimal.

Additional information on the annual SEFA survey and the MLFI monthly report can be found at: <https://www.elfaonline.org/data/data-home>

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ELFA Credit and Collections Conference: Credit Manager Conference Survey: Each year, the ELFA in tandem with representatives from ELFA members conducts a survey to collect industry-wide thoughts on credit and risk policies and procedures, industry trends, and member perceptions about credit and the equipment finance industry as a whole. The results are compiled and presented annually at the ELFA Credit and Collections Conference.

Moody's Investors Service Default Reports: Monthly report that tracks trailing 12-month default rates globally and in specific geographic areas (Europe, U.S., etc.) while tracking default rates on corporate debt, including speculative grade borrowers and both loan and bond default rates.

Additional information can be found at: <https://www.moodys.com/researchandratings/research-type/default-recovery-and-rating-transitions/003009/003009/-/-1/0/-/0/-/-/en/global/rr>

S&P's Default, Transition, and Recovery: 2016 Annual Global Corporate Default Study And Rating Transitions: Report from S&P on global corporate debt default rates and related information such as S&P ratings. Full report can be found at: http://media.spglobal.com/documents/SPGlobal_Ratings_Article_13+April+2017_Annual+Corporate+Default+Study+and+Rating+Transitions.pdf

Thomson Reuters / PayNet Small Business Lending Index and PayNet State and Industry SBLI (SBLI): The Small Business Lending Index (SBLI) measures the volume of small business loans issued over the past 30 days and is based on the most recent data from the largest commercial and industrial lenders in PayNet's U.S. database, including both loans and leases. In addition to the Thomson Reuters / PayNet National Index, PayNet produces State and Industry level indices.

Thomson Reuters / PayNet Small Business Delinquency Index and related PayNet State and Industry SBDI (SBDI): The Small Business Delinquency Index (SBDI) measures the percentage of loans that are 31-90, 91-180, and 31-180 days delinquent based on the largest commercial and industrial lenders in PayNet's U.S. database, including both loans and leases.

PayNet Small Business Default Index (SBDFI): The Small Business Default Index (SBDFI) measures the percentage of loans and leases to small businesses that have defaulted based on the largest commercial and industrial lenders in PayNet's U.S. database.

Additional information on the various PayNet indices, including white papers and further details on methodologies, can be found at <http://paynet.com>

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About PayNet & the Authors:



PayNet, Inc.

PayNet is the leading provider of credit ratings on small businesses enabling lenders to achieve optimal risk management, growth, and operational efficiencies. PayNet maintains the largest proprietary database of small business loans, leases, and lines of credit encompassing over 23 Million contracts worth more than \$1.5 trillion. Using state-of-the-art analytics, PayNet converts raw data into real-time market intelligence and predictive information that subscribing lenders use to make informed small business financial decisions and improve their business strategy. PayNet's risk management solutions range from credit history reporting and automated credit scoring to detailed strategic business reviews that include portfolio risk measurement, default forecasting, peer benchmarking and critical industry trend analysis. PayNet was founded in 1999 and now has more than 100 full-time employees and over 300 member-lender financial institutions reporting detailed account level performance data on a monthly basis.

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⁴⁰ As noted in the Appendix, for data prior to 2010, consistent revenue data is not available, so the revenue figures reported 1/1/2010 have been used for prior years.

⁴¹ The study used as its measure of concentration the top 5 as a percentage of the total.

⁴² Table based on PayNet Dataset; there are meaningful differences in two of the concentrations when comparing to SEFA data, especially in Construction, where SEFA shows a concentration of only 8.7%, and IT, where SEFA shows 22.9% for 2016.

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⁶⁹ Captives generally had the highest average score both on a portfolio and originations basis. This is a dollar weighted average score. Prior to 2011, Captives also show the highest default rate by count as seen in Chart 8. Accounting for this illogical variance are the two different methodologies used in calculating these metrics, average dollar-weighted versus simple count based.

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