Q4 Update — October

2018
Equipment Leasing & Finance U.S. Economic Outlook

EQUIPMENT LEASING & FINANCE
FOUNDATION
Your Eye on the Future

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SUMMARY

Equipment & Software Investment Outlook: Equipment and software investment growth slowed in the second quarter after surging at its fastest pace since 2015 in Q1, but investment levels remain healthy. The equipment finance industry appears to be on sound footing with solid growth prospects in the months ahead, though certain headwinds could disrupt the industry's expansion, including rising interest rates and trade policy developments. Overall, investment in the majority of equipment verticals should remain solid through the remainder of 2018. Over the next three to six months:

- Agricultural Machinery investment growth is likely to slow;
- Construction Machinery investment growth should hold steady;
- Materials Handling Equipment investment growth should remain modest;
- All Other Industrial Equipment investment growth is likely to continue to decelerate;
- Medical Equipment investment growth will likely remain stable;
- Mining & Oilfield Machinery investment growth may strengthen;
- Aircraft investment growth should remain solid;
- Ships & Boats investment growth is expected to accelerate;
- Railroad Equipment investment growth should improve;
- Trucks investment growth should remain solid;
- Computers investment growth should remain solid; and
- Software investment growth may soften.

U.S. Capital Investment & Credit Markets: Capital spending has been a major driver of growth in the U.S. economy over the first half of the year, and elevated business confidence levels suggest that investment growth will continue at a solid pace through the rest of 2018. Credit market conditions remain healthy, with little change in both supply and demand from the previous quarter. Meanwhile, financial stress declined in the second quarter and remains historically low, indicating that the economy has more room to expand.

Overview of the U.S. Economy: The U.S. economy continues to expand at a healthy pace, as consumer spending, business investment, government spending, and net exports are all contributing positively to growth. Although weak residential investment appears likely to keep GDP growth just short of the 3% annual growth target in 2018, most signs point to a continued moderate to strong economic expansion for the remainder of 2018 and early 2019. The major threats to U.S. economic growth over the next several months are international and political. Several key developing economies are showing signs of distress, and this weakness could spill over to the United States if current trends continue. In addition, major shifts in trade policy (particularly uncertainty surrounding the ongoing trade war with China) and the potential for increased political dysfunction threaten to take the air out of the U.S. economy.

Bottom Line for the Equipment Finance Sector: Equipment and software investment should remain strong for the remainder of the year after posting healthy gains over the last 18 months, and new business volume growth should follow suit. Business and consumer confidence remain elevated and the labor market is strong and getting stronger. Despite downside risks to growth, the near-term outlook for the U.S. economy remains bright. Overall, we expect the economy to grow 2.9% in 2018 (up from 2.8% in our previous outlook), while we project that equipment and software investment will expand 7.9% (up from 7.0%).

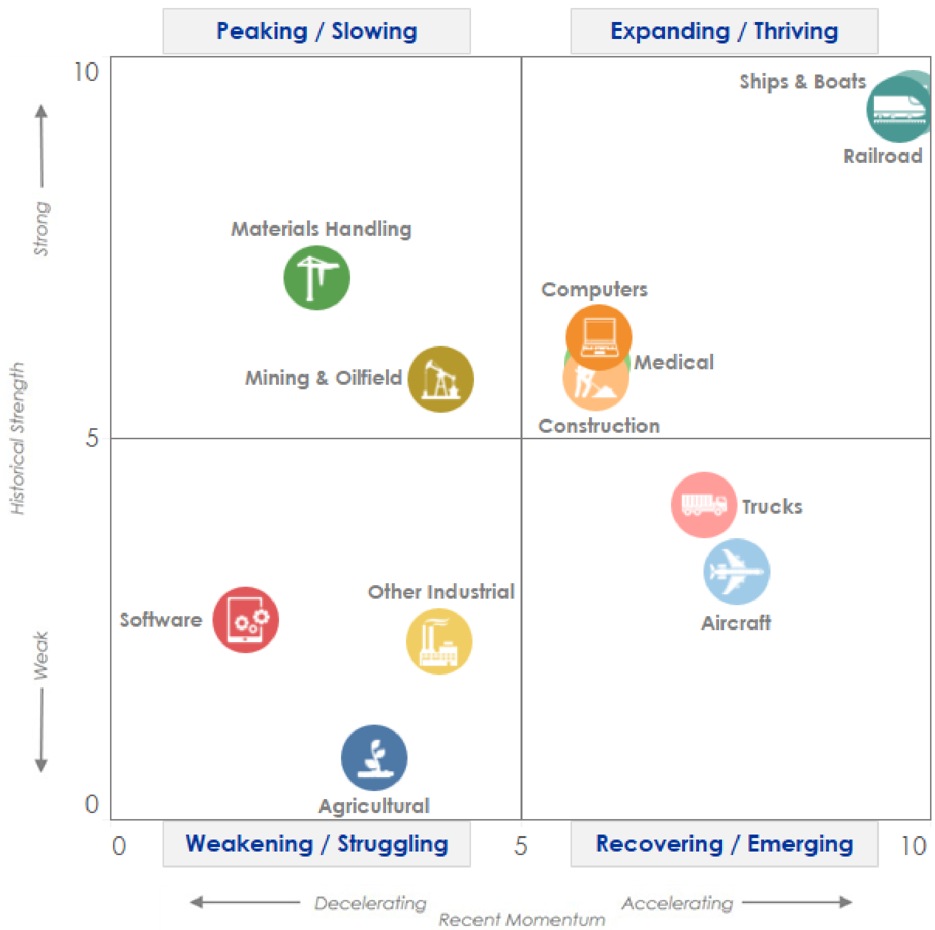
EQUIPMENT & SOFTWARE INVESTMENT OUTLOOK

We expect equipment and software investment to expand by 7.9% in 2018, which would mark the strongest annual growth since 2012. Strong economic momentum should drive investment activity through the rest of the year, though certain industries appear to be peaking and may begin to see growth weaken in the months ahead. As illustrated in the Momentum Monitor Sector Matrix below, momentum readings are at or above the long-term historical average (y-axis) in 7 of 12 verticals, and recent momentum (x-axis) accelerated in 7 of 12 verticals.

Foundation-Keybridge U.S. Equipment & Software Investment Momentum Monitor

*For more information on how to interpret the Momentum Monitor, please refer to the Appendices on pages 18–19.

Momentum Monitor Sector Matrix

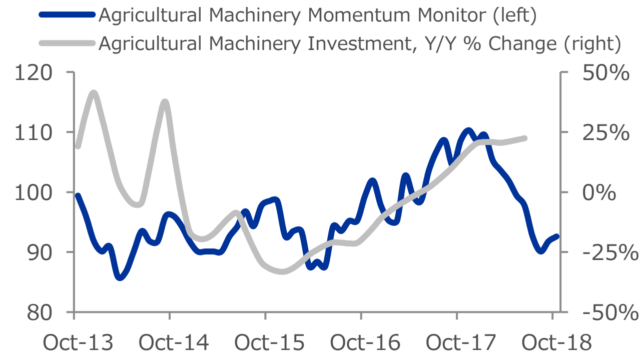


The matrix above summarizes the current values of each of the 12 Equipment & Software Investment Momentum Indices based on two factors: Recent Momentum (x-axis) and Historical Strength (y-axis):

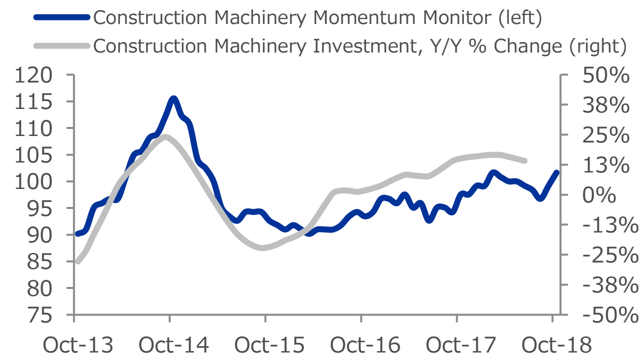
- "Recent Momentum" indicates a vertical's recent acceleration or deceleration in the past month relative to its average movement during the previous 3 months. Ratings closer to "0" indicate rapid deceleration, while ratings near "10" represent rapid acceleration.
- "Historical Strength" reflects a vertical's strength in the past month relative to its typical level since 1999. Ratings closer to "0" represent an indicator that is weaker than average, while ratings closer to "10" represent an indicator that is stronger than average.

The matrix consists of four quadrants based on readings for each vertical's recent momentum and historical strength. If a vertical falls in the top-left quadrant, its momentum reading is higher than average, but positive movement has slowed (and perhaps reversed) in recent months — suggesting that investment levels may fall over the next 1-2 quarters. Verticals in the bottom-right quadrant, however, have momentum readings that are below average, but recent movement shows promise — suggesting that investment levels may rise over the next 1-2 quarters.

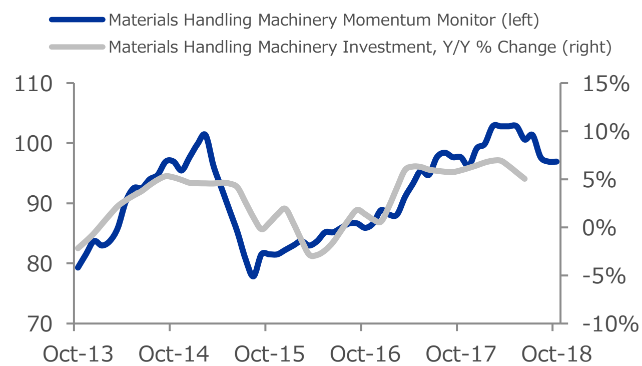
Agricultural Machinery: Investment in Agricultural Machinery increased 33% (annualized) in Q2 2018 and is up 22% from one year ago. The Agriculture Momentum Index edged up from 91.8 in September to 92.6 in October. Exports of Other Agricultural Materials fell 5.9% in July, its sharpest decline in six months, while Capacity Utilization for Beverage & Tobacco decreased 0.2% in August. Overall, despite the uptick this month, the Index continues to point to a softening of agricultural machinery investment growth over the next three to six months.



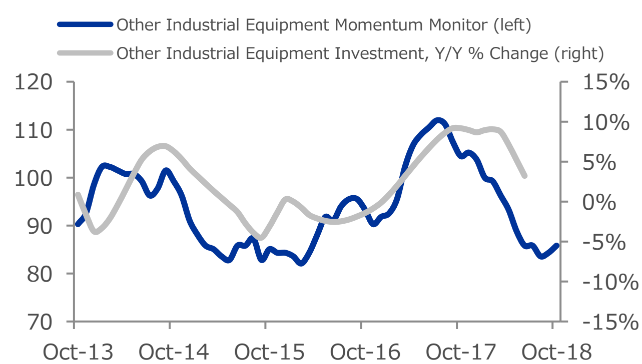
Construction Machinery: Investment in Construction Machinery expanded at a 7.3% annual rate in Q2 2018 and is up 14% year-over-year. The Construction Momentum Index rose from 99.2 in September to 101.6 in October. Shipments of Construction Machinery increased 0.8% in August, while Construction Employment rose 0.3% in September, the 14th consecutive gain. Overall, the Index points to steady growth in construction machinery investment over the next three to six months.



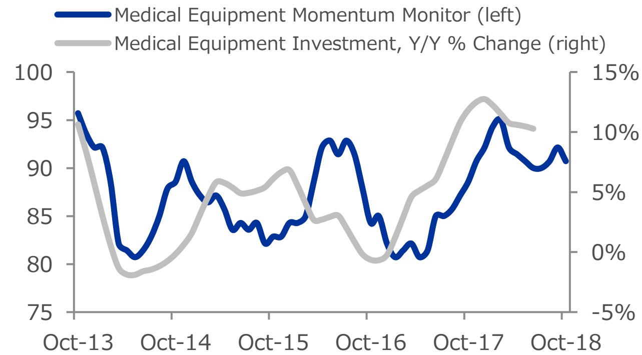
Materials Handling Equipment: Investment in Materials Handling Equipment edged up at a 1.0% annual rate in Q2 2018 and is up 5.1% year-over-year. Materials Handling Momentum Index held steady at 96.9 from September (revised) to October. Imports of Materials Handling Equipment decreased 1.0% in July, but the Chicago Business Barometer fell 5.1% in September. Overall, the Index points to continued slow growth in materials handling equipment investment over the next two quarters.



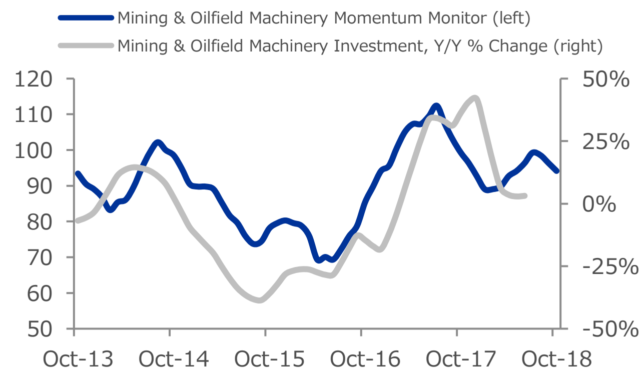
Other Industrial Equipment: Investment in All Other Industrial Equipment declined at a 5.4% annual rate in Q2 2018 but is up 3.2% from a year ago. The Other Industrial Equipment Momentum Index inched up from 84.3 (revised) in September to 85.8 in October. Export Prices for Industrial Supplies & Materials dropped 22% in August, while Industrial Production for Manufacturing fell 0.9%, its fifth straight decline. Overall, the Index continues to indicate weaker growth in other industrial equipment investment over the next three to six months.



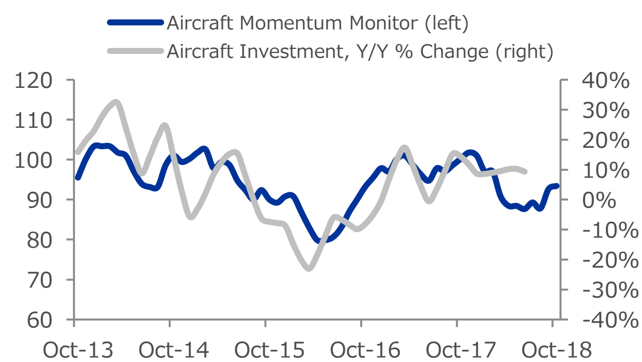
Medical Equipment: Investment in Medical Equipment expanded at a 6.2% annual rate in Q2 2018 and is up 10% year-over-year. The Medical Equipment Momentum Index decreased from 92.1 (revised) in September to 90.7 in October. In August, Spending on Hospital Construction rose 1.3%, but the Consumer Price Index for Dental Services declined 0.8%. Overall, the Index points to generally stable growth in medical equipment investment over the next two quarters.



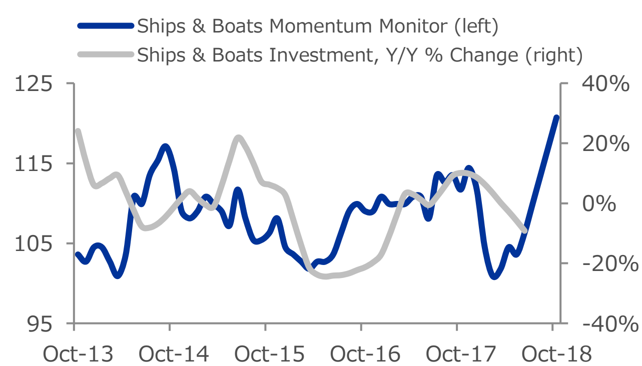
Mining & Oilfield Machinery: Investment in Mining & Oilfield Machinery increased at a 24% annual rate in Q2 2018 and is up 3.1% year-over-year. The Mining & Oilfield Machinery Momentum Index fell from 96.4 (revised) in September to 94.2 in October. Mining & Logging Employment expanded 1.7% in September, but the Bloomberg Precious Metals Sub-Index decreased 0.4%, its sixth consecutive decline. Overall, despite the downtick this month, the Index signals a likelihood for improved mining & oilfield machinery investment over the next three to six months.



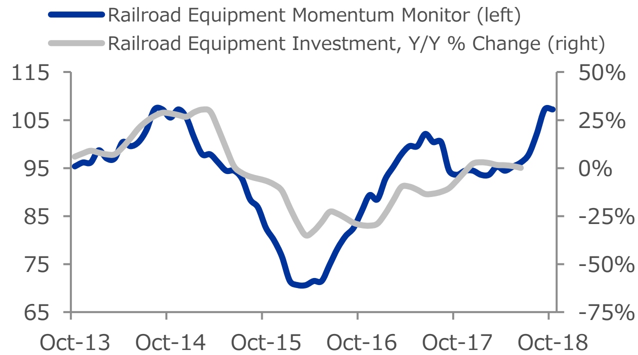
Aircraft: Investment in Aircraft fell 8.8% (annualized) in Q2 2018 but is up 9.3% on a year-over-year basis. Aircraft Momentum Index rose from 92.6 (revised) in September to 93.4 in October. Real Consumer Spending increased 0.2% in August, while Shipments of Non-Defense Aircraft & Parts jumped 18%. Overall, the Index points to continued solid growth in aircraft investment over the next two quarters.



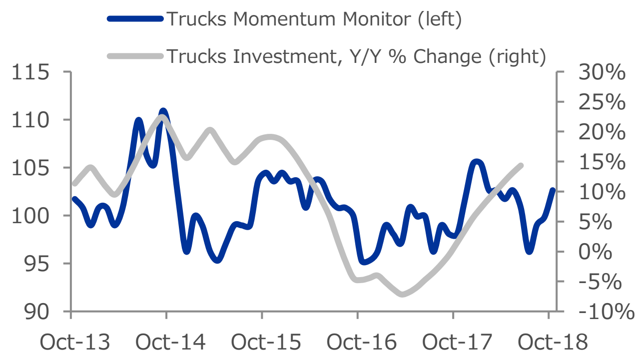
Ships & Boats: Investment in Ships & Boats declined at an annual rate of 34% in Q2 2018 and is down 9.2% year-over-year. The Ships & Boats Momentum Index jumped from 117.1 (revised) in September to 120.7 in October, its highest level since August 2012. Exports of Other Feed Grains surged 89% in July, the strongest gain since November 2017, while Employment in Boat Building rose 0.7% in August. Overall, the Index continues to indicate a rebound in ships and boats investment growth in the next three to six months.



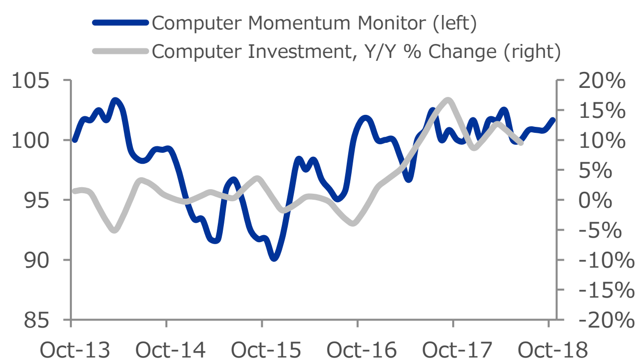
Railroad Equipment: Investment in Railroad Equipment declined at a 23% annual rate in Q2 2018 and is essentially flat over the last 12 months. The Railroad Equipment Momentum Index held steady at 107.2 from September (revised) to October. Industrial Production for Railroad Rolling Stock rose 3.6% in August, while Crude Oil & Petroleum Product Imports increased 4.4% in September. Overall, the Index suggests that railroad equipment investment growth should improve over the next two quarters.



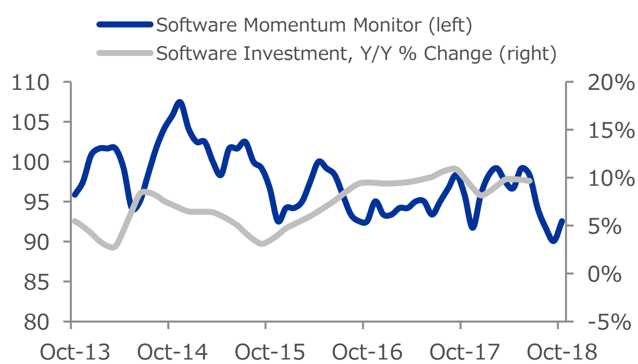
Trucks: Investment in Trucks rose at a 14% annual rate in Q2 2018 and is up 14% from year-ago levels. The Trucks Momentum Index increased from 99.9 (revised) in September to 102.6 in October. Gas & Diesel Oil Production declined 2.0% in July, but Capacity Utilization for Automobiles & Light Duty Motor Vehicles rose 5.0 points 81.8% in August. Overall, the Index suggests continued solid growth in trucks investment over the next three to six months.



Computers: Investment in Computers increased at an annual rate of 16% in Q2 2018 and is up 10% year-over-year. The Computers Momentum Index ticked up from 100.8 (revised) in September to 101.7 in October. Inventories of Computers & Electronic Products fell 1.8% in August, but the IBM Market Cap rose 3.2% in September, its third straight increase. Overall, the Index points to stable growth in computers investment over the next two quarters.



Software: Investment in Software rose at a 13% annual rate in Q2 2018 and is up 10% year-over-year. The Software Momentum Index increased from 90.1 in September to 92.6 in October. Shipments of Computers & Related Products fell 1.8% in August, while the Consumer Price Index decreased 6.9%, its first decline in eight months. Overall, despite the uptick this month, the Index points to weaker software investment growth over the next three to six months.



Equipment & Software Investment Annual Growth Forecast

Year-on-Year % Growth Rates

Sector	10-Year Historical Average	Last 4 Quarters	Next 4 Quarters
Agricultural Machinery	3.1%	22.4%	0 to 6%
Construction Machinery	0.3%	14.1%	8 to 15%
Materials Handling Equipment	1.6%	5.1%	3 to 8%
Other Industrial Equipment	0.9%	3.2%	-4 to 4%
Medical Equipment	4.3%	10.3%	2 to 8%
Mining & Oilfield Equipment	2.3%	3.1%	6 to 15%
Aircraft	2.4%	9.3%	5 to 12%
Ships & Boats	-2.0%	-9.2%	2 to 8%
Railroad Equipment	0.0%	0.1%	6 to 15%
Trucks	9.2%	14.3%	5 to 11%
Computers	4.3%	9.5%	7 to 13%
Software	7.2%	9.7%	3 to 8%

Source: Macrobond Financial, Keybridge (forecasts)

U.S. Capital Investment and Credit Markets

Capital spending has been solid thus far in 2018, and strong fundamentals in the U.S. economy coupled with elevated business confidence levels should lead to steady expansion in equipment and software investment through the rest of the year. Credit market conditions remain healthy, with little change in supply or demand and a modest decline in financial stress relative to last quarter.

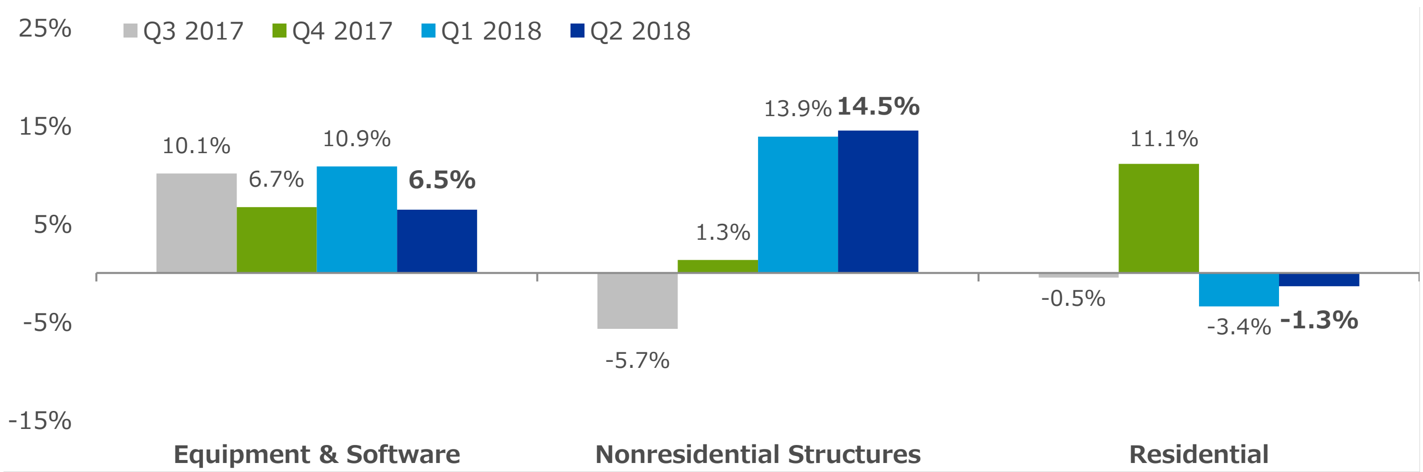
Overall, we expect equipment and software investment to expand by 7.9% in 2018, which would mark the strongest annual growth rate since 2012. We also continue to anticipate that fear of mounting inflation will push the Federal Reserve to raise its benchmark interest rate once more in 2018 for a total of four rate hikes over the year.

Recent Trends in U.S. Capital Investment

Equipment and software investment growth slowed to a 6.5% annualized rate in Q2 after surging 11% in Q1, the fastest pace in over three years. Investment in nonresidential structures expanded 15% (annualized) in Q2, marking the second straight quarter of double-digit growth. Meanwhile, residential investment fell at a 1.3% annualized pace and has declined in four of the last five quarters.

Investment Growth Rates

Quarter-on-Quarter, Seasonally Adjusted Annualized Growth Rate



Source: Macrobond Financial

- **Equipment Leasing and Financing:** New business volume growth for the equipment finance industry remains solid thus far in 2018, mirroring overall trends in the U.S. economy. According to the ELFA Monthly Leasing and Finance Index ("MLFI-25"), the industry gained $8.9 billion in new business volume in August, up 14% from year-ago levels and 5.0% year-to-date. The industry's portfolio performance remains healthy, but financial stress appears to be creeping up: 30-day delinquencies were unchanged at 1.90% in August after rising five tenths of a percent in July, and are now four tenths of a percent above year-ago levels. Looking ahead, the industry should prepare for the likelihood that the combination of heightened lender competition and the late-stage credit cycle will lead to riskier lending behavior as businesses try to capture new business volume — which could push delinquencies higher moving forward. Similarly, while charge-offs edged down to 0.29% in August, they may increase in the next 6–12 months if delinquency levels continue to rise.

The Foundation's Monthly Confidence Index for the Equipment Finance Industry ("MCI-EFI") jumped 4.8 points to 65.5 in September, its first increase in three months. Despite slipping throughout most of 2018, the index remains near its 2017 average of 66.7. More than half (52%) of industry executives rated the current U.S. economy as "excellent," up from 40% in August, and nearly all (96%) expect U.S. economic conditions to either improve or stay the same over the next six months. However, executives also noted that recent trade policy shifts — including tariffs on steel and aluminum imports and various Chinese imports, retaliatory tariffs from key trading partners, and NAFTA renegotiations — have injected uncertainty into markets and caused some customers to delay planned capital expenditures.

Overall, the equipment leasing and financing industry has remained on solid footing thus far in 2018 and appears poised to continue expanding through the rest of the year. However, the industry faces certain headwinds that could pose a threat to growth next year, including escalating trade tensions and rising interest rates.

- **Equipment Verticals:** Equipment and software investment sustained healthy growth in the second quarter of 2018. Of the 12 equipment verticals tracked by the Foundation, eight experienced positive annualized growth and five posted double-digit gains, including Agricultural Machinery (+33%), Mining & Oilfield Equipment (+24%), Computers (+16%), Software (+13%), and Trucks (+14%). Four equipment verticals experienced declines in investment growth in Q2: Ships & Boats (-34%), Railroad Equipment (-23%), Aircraft (-8.8%), and Other Industrial Equipment (-5.4%).

  We expect most equipment verticals to experience solid investment gains through the rest of the year, though growth may have peaked in certain industries and will likely begin to wane in Software, Other Industrial Equipment, and Agricultural Machinery.

- **Other Factors:** The industrial sector appears to remain generally healthy. Industrial production rose 0.4 percent in August, climbing to an all-time high of 108.2. Meanwhile, capacity utilization inched up from 77.9% to 78.1% in August, remaining near post-recession highs (though still below the 80% expansionary threshold that typically precedes a surge in capital spending). The ISM Purchasing Managers' Index (PMI) continues to indicate strong growth in the manufacturing sector, rising from 58.1 in July to 61.3 in August, its highest level since May 2004. Furthermore, shipments of durable goods (a leading indicator of same-quarter business activity) increased 0.7% in August, while new orders of durable goods (a leading indicator of next-quarter business activity) rose 4.4%. However, the U.S. trade deficit continued to widen in August, and a gradual strengthening of the dollar since April could further weaken demand for U.S. exports — which, in turn, could dampen industrial activity.

Recent Trends in Credit Markets

Credit market conditions generally remained stable in the second quarter. Supply of credit largely held steady compared to the previous quarter, and similarly demand for credit was little changed. Despite the late stage of the credit cycle and recent increases in federal interest rates, financial stress edged down in the second quarter, indicating solid health in U.S. credit markets.

Summary of Credit Conditions

Factor	Conditions Compared With Last Quarter
Supply	Little Change
Demand	Little Change
Financial Stress	Slight Decrease

- **Credit Supply & Pricing:** Credit supply conditions for businesses were little changed in the second quarter of 2018. According to the

July Fed Loan Officer Survey, standards for commercial real estate ("CRE") loans generally remained the same over the previous three months, though CRE loans secured by multifamily residential properties saw a modest tightening. Meanwhile, standards and terms eased for commercial and industrial ("C&I") loans, with a net 22% of banks reporting increases in the maximum credit line offered to large and middle-market firms.

Regarding lending to households, the July Fed Loan Officer Report indicated that credit supply conditions largely held steady. Banks reported unchanged standards for residential real estate ("RRE") loans, auto loans, and most other types of consumer loans, though terms for consumer credit card loans tightened. In a special question, banks reported that current standards for subprime consumer loans are at the tighter end of the range from 2005 to present.

- **Credit Demand:** On balance, business demand for credit was largely unchanged in the second quarter. According to the July Fed Loan Officer Survey, demand for C&I loans strengthened among small firms, but was little changed among large and middle-market firms. Meanwhile, CRE loan demand weakened slightly, reflecting a moderate decline in demand for construction and land development loans. Data on growth in business lending generally support a story of firming demand for credit: annual growth in C&I loans has risen fairly consistently over the past 10 months, climbing from 0.6% in November 2017 to 5.6% in August. Similarly, the Thomson Reuters / PayNet Small Business Lending Index ("SBLI") has sustained solid growth since October 2017, climbing to its second-highest reading ever in August. Furthermore, business confidence measures remain heightened, with the National Federation of Independent Business (NFIB) Small Business Optimism Index rising to an all-time high in August, and the Business Roundtable's CEO Economic Optimism Index remaining near series highs in Q3 despite falling for two consecutive quarters after reaching a record high in Q1.

  Consumer demand for credit also remained mostly unchanged in Q2. In the July Fed Loan Officer Survey, banks reported steady demand for auto, credit card, and other consumer loans, but weaker demand for RRE loans. Data on consumer loan growth paint a picture of healthy and potentially improving demand: growth in deposits and loans to consumers reached 5.1% in July after decelerating in late 2017 and early 2018. Similarly, after a jump in May, growth in revolving credit moderated in June and July, suggesting that consumers remain well-positioned to manage existing debt levels. Measures of consumer confidence have risen recently and sit near historic highs, suggesting an optimistic near-term outlook for the economy and healthy consumer spending growth in late 2018 and early 2019.

- **Financial Stress:** U.S. credit markets continue to exhibit low levels of financial stress. For example, the Kansas City Fed Financial Stress Index dropped from -0.47 in July to -0.73 in August (its lowest level since January), while the St. Louis Fed Financial Stress Index fell to -1.3 in September, continuing a five-month trend of steady declines. Similarly, loan delinquencies decreased to 1.07% in Q2 and have fallen consistently since October 2016. Meanwhile, lease delinquencies edged up to 1.04% in the second quarter but remain low by historical standards.

- **Other Factors:** Ten-year Treasury yields generally fluctuated between 2.8% and 3.0% throughout most of the third quarter before climbing to 3.10% in late September. Though long-term yields have risen, short-term yields have risen faster, putting downward pressure on the yield curve. Over the course of the third quarter, the yield curve has narrowed from over 30 basis points in July to roughly 23 basis points by the end of September, which could suggest rising skepticism about the economy's long-term growth potential. If the yield curve continues to tighten at the same pace, it could invert in early 2019.

Update on Fed Policy

As expected, the Federal Reserve raised its benchmark interest rate 25 basis points in September, the third rate hike this year. The majority of Fed officials anticipate one more rate hike in 2018, bringing the upper bound to 2.50% by the end of the year. Consistent with our predictions in the original 2018 annual outlook published in late 2017, strengthening economic momentum has pushed the Fed to raise rates slightly faster than some market-watchers expected to stave off inflation. However, rising interest rates do not appear to have hampered business conditions thus far, as the increases have been gradual and rates remain quite accommodative by historical standards.

OVERVIEW OF THE U.S. ECONOMY

The U.S. economy is in a strong position in the latter half of 2018. Business investment, which emerged as the leading sector of the U.S. economy in late 2017, continues to expand at a robust pace, and consumer spending — supported by an exceptionally strong labor market — is making solid contributions to economic growth after a soft first quarter. Both government spending and net exports should contribute positively to GDP growth after serving as headwinds in recent years, but the housing sector continues to struggle and auto sales are on the decline. Overall, 2018 is likely to be a solid year for the U.S. economy and should meet 2015's 2.9% expansion as the best year for growth since the recession.

While there is much to like about the state of the U.S. economy, it would be unwise to ignore the storm clouds on the horizon related to heightened international and political risk. Dramatic shifts in the United States' trade policy stance continue to threaten global supply chains and prompt retaliatory tariffs and trade actions from U.S. trading partners — which will ultimately raise costs on U.S. businesses and consumers. The midterm elections are another source of uncertainty, as many political forecasters and insiders from both sides of the political aisle anticipate that one or both houses of Congress may flip to Democratic control, increasing the risk of political gridlock, budget battles, and (potentially) government shutdowns. Finally, an extended currency rout among major emerging markets has the potential to lead to a broader slowdown in the global economy, which could reduce demand for U.S. exports.

Overall, we project the U.S. economy to grow 2.9% in 2018 — up one-tenth from our most recent forecast and well above last year's 2.2% growth rate.

Recent Trends in the U.S. Economy

The U.S. economy continues to post strong gains throughout 2018, aided by sound fundamentals and positive contributions to GDP from most major sectors of the economy. Consumer spending accelerated in the second quarter, and the combination of a strong labor market, manageable consumer debt levels, and solid retail spending growth suggests that growth will remain healthy through the rest of the year. Business investment likewise continues to grow at an above-average pace, aided by the recent tax law and a less aggressive regulatory approach that have boosted business confidence. Government spending and exports also continue to add positively to GDP. However, housing sector performance has been week in recent months and dragged significantly in the second quarter, and most signs point to continued sluggishness in residential investment. Meanwhile, international and political risk — including a downturn in emerging market confidence, the U.S. midterm elections, and continued trade policy shifts — may inhibit growth in the coming months.

Indicator	Recent Activity
Consumption	Consumer spending accelerated to a 3.8% annualized pace in Q2 2018.
Equipment & Software Investment	Equipment & software investment rose 6.5% (annualized), slowing slightly from Q1 growth.
Residential Investment	Residential investment fell 1.3% (annualized), its fourth decline in the last five quarters.
Government Expenditures	Government spending increased at a 2.5% annualized rate in Q2.
Net Exports	Net exports were a boost to growth, as exports expanded at a 9.3% (annualized) pace while imports edged down at a 0.6% (annualized) rate.

- **GDP:** The U.S. economy grew at a 4.2% annualized rate in the second quarter of 2018, the best quarterly performance since Q3 2014. Robust growth was widespread throughout the economy: consumer spending jumped 3.8% (annualized), business investment expanded 8.7% (annualized), government spending grew 2.5% (annualized) and net exports contributed 1.2 percentage points to growth. On the negative side, residential investment contracted again in the second quarter, while private inventories subtracted 1.2 percentage points from growth.

- **Inflation:** Inflationary pressures continue to build, as the combination of a strong economy, tight labor market, and elevated energy prices push consumer prices higher. Growth in headline inflation decelerated slightly to 2.7% in August but has still picked up notably from a year ago (1.9%). Meanwhile, core inflation (which excludes volatile food and energy prices) retreated to 2.2% in August but remains near its highest reading since early 2017. Although inflation moderated slightly this month, we continue to believe that the tight labor market, rising oil prices, and substantial fiscal stimulus enacted earlier this year have set the stage for an acceleration in inflation in 2019.

- **Growth Forecasts:** The *Economist* Poll of Forecasters for October estimated 2.9% GDP growth for 2018, unchanged from its September forecast, while the Wall Street Journal's consensus forecast calls for 3.1% growth for the year. The Federal Reserve's "central tendency" forecast from its September meeting ranged from 3.0–3.2%.

Economic Tailwinds

A historically healthy labor market continues to add jobs at a faster rate than 2017, even as the unemployment rate remains below 4%. Consumer spending broke out in the second quarter after a disappointing Q1, and the combination of recent tax cuts, solid job growth, and elevated consumer confidence means that spending should remain strong throughout the remainder of 2018. As the labor market continues to tighten and labor becomes more scarce, wage gains should accelerate and help sustain healthy consumer spending. Meanwhile, businesses continue to invest at a solid pace, and elevated business confidence suggests that investment levels should remain healthy for the remainder of the year and early 2019.

- **Strong Labor Market:** The unemployment rate has held at or below 4% for six straight months, the longest such streak in nearly 50 years. Despite a sustained, low unemployment rate, the economy has averaged more than 200,000 job gains per month so far in 2018, above the 2017 average of 182,000 monthly gains. Meanwhile, near-record business confidence among both small and large firms, coupled with a windfall from last year's tax cuts, suggests that businesses should continue hiring in the short- to medium-term. However, it remains to be seen whether the economy can sustain such a low unemployment rate without driving inflation sharply higher. If the labor force participation rate breaks out above its current level of about 63%, the economy could continue to add jobs even while unemployment remains historically low. On the other hand, if labor force participation stagnates, worker shortages could reduce hiring levels, drive wages higher, and cause a spike in inflation. Overall, the short-term risk of this scenario appears to be fairly low, however, and we expect the labor market to remain healthy for the next 3–6 months, at a minimum.

- **Healthy Consumer Spending:** Real consumer spending bounced back strongly in the second quarter, growing at a seasonally-adjusted annualized rate of 3.8%. Meanwhile, retail sales have averaged a strong 0.5% monthly growth over the last six months. Given that consumer spending accounts for nearly 70% of economic activity in the U.S., these statistics bode well for the overall economy. Moreover, consumer financial stress remains subdued: the household debt service ratio remains at 9.8% (compared to a 25-year average of 11.3%), indicating that households generally are not feeling pressured by higher debt loads. Looking ahead, more banks are beginning to tighten their standards for credit card applications, so some consumers may begin to feel a pinch from tightening credit availability. For the time being, however, historically-high levels of consumer confidence indicate that consumers are optimistic, which should lead to solid consumer spending data in the near term.

- **Robust Business Investment:** Nonresidential fixed investment expanded seasonally adjusted annualized rate of 8.7% in the second quarter after an 11.5% expansion in Q1. Led by structures investment, which expanded 14.5%, businesses are investing at a robust clip as the combined effects of tax cuts and deregulatory efforts ripple through the economy. Looking ahead, the outlook for business investment remains positive, although the investment boost from tax cuts may fade and rising interest rates may put downward pressure on future capital spending. Trade policy could also slow business investment in the coming months, especially as new tariffs on China take effect and China retaliates with its own tariffs. However, confidence among both large and small firms remains elevated despite these factors, and we expect businesses to remain in expansion mode for at least the next few months.

Economic Headwinds

The housing sector continues to face substantial headwinds to growth, while the U.S. auto sector likewise appears on the verge of a slowdown. Meanwhile, the global economy — a significant tailwind to U.S. growth for the past 18 months — now faces major speed bumps as key emerging markets enter crisis territory, which could weigh on U.S. growth.

- **Housing Sector Contraction:** Housing investment continues to stagnate in 2018, as residential investment contracted 1.3% (SAAR) in Q2, the fourth quarterly contraction in the last five quarters. Housing starts for single family homes improved modestly in August but remain down on the year, while housing permits (a leading indicator of residential construction activity) have fallen to their lowest level in over a year. The housing market still faces numerous supply and demand headwinds and appears unlikely to experience a surge in building activity in the short term. First, affordability remains a concern: the S&P/Case-Shiller Residential Price Index continues to climb after eclipsing its pre-recession peak earlier this year; it is now 5.9% above its year-ago level. Second, mortgage rates are on the rise: the average interest rate for a 30-year fixed-rate mortgage is now above 4.6% and will likely rise further if the Fed raises short-term rates for a fourth time later this year, as expected. Third, supply-side headwinds such as scarce labor and rising input prices have driven up homebuilding costs. Although input prices declined slightly on a monthly basis in August (led by a sharp decline in lumber prices), the producer price index for construction inputs is up 8.1% on the year. Most industry experts expect input prices to continue rising, especially if the United States continues to escalate its trade conflict with China. Taken together, these supply and demand factors point to further stagnation in the housing sector for the foreseeable future.
- **Auto Sector Slowdown:** Auto sales slowed to 16.7 million (SAAR) in August, the weakest level in a year. Auto sales have similarly slowed around the globe in 2018, with some of the sharpest decelerations coming in China and Europe. The trade conflict with China will likely cause auto sales to slow further, as prices for key inputs such as steel and aluminum continue to climb. On the demand side, Chinese tariffs on auto parts and U.S.-made vehicles will likely dampen demand in one of the world's fastest-growing markets for automobiles. Notwithstanding the ongoing trade conflict, domestic demand for automobiles appears to have peaked in 2016, and after a temporary spike last year following Hurricane Harvey, auto sales are expected to decline for the second year in a row in 2018.
- **Emerging Market Turmoil:** The past three months have seen a wide swath of emerging markets suffer from rapid currency depreciation and tumbling stock markets, as rising U.S. interest rates and trade policy risks pull investors out of high-risk markets and toward the safety of U.S. assets. Since July, the Argentine peso has plummeted 23% and the Turkish

lira has plunged 25% against the U.S. dollar, while other major currencies, including the Chinese yuan, Indonesian rupiah, the Indian rupee, and the South African rand have experienced smaller net declines of 2-6% (along with heightened volatility). Although brief periods of currency market turbulence do not necessarily translate into a broader economic downturn for these economies, history suggests that speculative attacks on a country's currency often portend a broader loss in market confidence, leading to rampant inflation, stock market declines, and economic recession. Argentina slipped into recession in the second quarter, and Turkey is likely to suffer a similar fate this year. A prolonged currency rout — or a continued economic slowdown in China and other emerging markets — would be a major headwind to global economic growth. Given that about half of U.S. exports flow to emerging markets, these developments could likewise weigh significantly on U.S. growth.

Additional Factors to Watch

The outlook for oil prices is highly uncertain, as numerous factors are weighing on supply and demand in multiple directions. This could lead to higher-than-normal near-term volatility through which U.S. businesses will need to navigate. In addition, the midterm elections could produce an outcome that changes the dynamic in Washington D.C. with difficult-to-predict consequences, and major shifts in trade policy could have wide-ranging implications for the U.S. and global economies.

- **Oil Price Volatility:** U.S. oil prices have held above $60 since mid-February of this year and crested $75/barrel in late June and again in early October, their highest point since November 2014. Globally, oil prices have been propped up by both surging global growth in early 2018 and supply shortages in countries such as Venezuela, Libya, and Iran. However, much uncertainty remains regarding the path of oil prices as 2018 ends. On the supply side, U.S. sanctions on Iran are set to take effect on November 4, and OPEC remains divided on how to cover any lost Iranian crude supply. OPEC also recently announced that its members and other key production allies intend to adhere to production quotas set in early 2017, which resulted in Brent crude prices climbing above $80/barrel. On the demand side, a slowing global economy — led by the notable weakness of several key emerging-market nations — may relieve some of the upward price pressures seen in the beginning of 2018, though it is unclear how soon these pressures may ease. Given the deep connection between oil prices and the broader U.S. industrial sector, this heightened degree of uncertainty surrounding both crude supply and demand means that oil sector developments are a major factor to watch in the short run, particularly for energy-dependent industries.

- **Midterm Elections:** With November 6th rapidly approaching, many (though not all) political handicappers expect the midterm elections to result in a return of divided government, with Democrats gaining control of the House and potentially the Senate as well (though the latter remains a longshot). If this occurs, the industry should expect increased partisan gridlock and a lack of new legislation that could support U.S. growth. The likelihood of a government shutdown would also increase, which would significantly dampen economic growth in early 2019. While it is difficult to predict the magnitude of the effect the election results will have on measures of business confidence and future hiring and investment decisions, the prospect of increased political dysfunction and policy uncertainty in 2019 could reduce business and consumer confidence.

- **Trade Policy Shifts:** Rapid shifts in trade policy continue to pose risks to U.S. economic growth. Since the last Foundation-Keybridge Economic Outlook was published, some trade policy threats with key U.S. allies have receded, while others have escalated significantly. On the positive side, a July meeting between President Trump and European Union (EU) Commission President Jean-Claude Juncker appears to have alleviated concerns that the U.S. and EU were on a collision course, and the two leaders are now negotiating a new trade deal (though the agreement is more limited in scope compared to previously proposed trade deals of the last five years). Likewise, earlier threats that the Trump administration would impose auto tariffs on the EU and other key U.S. trading partners have subsided, at least for now. Furthermore, the United States, Canada, and Mexico agreed to revisions of the North American Free Trade Agreement, ending more than a year of renegotiations. While there are additional steps necessary before the new deal — officially called the U.S.-Mexico-Canada Agreement, or USMCA — takes effect, the agreement is a positive sign that increases trade stability with two key trading partners.

At the same time, however, trade relations between the United States and China are under increased strain. The United States now finds itself in a full-fledged trade standoff with China, as the Trump administration recently imposed a 10% tariff on $250 billion of Chinese goods (with a scheduled increase to 25% for many of those goods in January 2019). China responded with retaliatory tariffs on $60 billion of U.S. goods. As with all changes to trade policy, these shifts are likely to create winners and losers: although some domestic U.S. firms will benefit from protectionist tariffs, others with a more global footprint and/or integrated supply chains may struggle to adapt. Most economists expect the overall impact on the U.S. economy to be negative, with one recent estimate by Oxford Economics projecting that the tariffs on China (and Chinese retaliation) will shave 0.7 percentage points off U.S. GDP in 2019. As such, these rapid policy shifts on many fronts are a major factor to watch for the U.S. economy in the months ahead.

Projections for Key Economic Indicators

Indicator	2016	2017	2018 Quarterly Estimates				2018e
			Q1	Q2	Q3e	Q4e	
Real GDP (SAAR %)	1.6%	2.2%	2.2%	4.2%	3.3%	2.5%	2.9%
Real Investment in Equipment & Software (SAAR %)	0.7%	6.9%	10.9%	6.5%	5.2%	3.8%	7.9%
Inflation (year-on-year %)	1.3%	2.1%	2.2%	2.6%	2.7%	2.7%	2.6%
Federal Funds Target Rate (upper bound, end of period)	0.75%	1.50%	1.75%	2.00%	2.25%	2.50%	2.50%
10-year Treasury Rate (end of period)	2.50%	2.40%	2.74%	2.85%	3.05%	3.20%	3.20%
Total Payroll Growth (in thousands)	+2,344	+2,188	+655	+651	+569	+555	+2,430

Note: SAAR% refers to the annualized rate of change in seasonally adjusted data from one quarter to the next, which is the Bureau of Economic Analysis' standard method for reporting growth in the national accounts data.

QUARTERLY DATA

Indicator	2016			2017				2018	
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Real Gross Domestic Product (SAAR %)									
GDP	2.3%	1.9%	1.8%	1.8%	3.0%	2.8%	2.3%	2.2%	4.2%
Consumer Spending	3.4%	2.7%	2.6%	1.8%	2.9%	2.2%	3.9%	0.5%	3.8%
Gross Private Fixed Investment	-1.0%	-0.4%	8.1%	4.9%	5.7%	8.8%	0.8%	9.6%	-0.5%
Inv: Equipment & Software	2.5%	2.0%	2.4%	9.7%	10.5%	10.1%	6.7%	10.9%	6.5%
Inv: Agricultural Machinery	-1.0%	-9.8%	-4.4%	0.6%	24.6%	24.5%	34.1%	1.2%	32.9%
Inv: Construction Machinery	19.2%	-12.2%	11.1%	18.3%	16.8%	10.3%	18.8%	20.5%	7.3%
Inv: Materials Handling Equipment	8.3%	4.7%	3.4%	7.5%	8.4%	3.7%	6.1%	9.5%	1.0%
Inv: All Other Industrial Equipment	1.9%	-0.8%	6.7%	5.0%	16.5%	8.9%	4.7%	5.3%	-5.4%
Inv: Medical Equipment	2.1%	-3.6%	7.7%	12.8%	8.1%	14.8%	15.4%	5.1%	6.2%
Inv: Mining & Oilfield Machinery	-44.1%	47.1%	-23.9%	104.4%	39.4%	37.1%	3.5%	-35.7%	24.1%
Inv: Aircraft	78.4%	-19.0%	-23.6%	71.6%	-8.1%	46.5%	-39.6%	76.9%	-8.8%
Inv: Ships & Boats	13.6%	-25.9%	21.5%	10.6%	-1.9%	7.9%	18.9%	-20.1%	-33.7%
Inv: Railroad Equipment	-3.4%	-9.9%	-26.3%	3.0%	-18.2%	3.4%	25.7%	0.1%	-22.9%
Inv: Trucks	-11.1%	-11.1%	-0.2%	-5.9%	-1.2%	5.3%	27.0%	11.9%	14.1%
Inv: Computers	3.5%	-5.3%	12.3%	11.5%	29.4%	14.1%	-15.3%	28.7%	15.6%
Inv: Software	10.8%	8.1%	7.5%	11.7%	13.1%	11.3%	-2.6%	18.6%	12.5%
Credit Conditions									
Nonfinancial Sector Debt (% of SAAR GDP)	69.9%	70.0%	70.4%	70.1%	70.8%	71.0%	71.2%	71.2%	70.7%
Loan Delinquency Rate	1.6%	1.6%	1.6%	1.5%	1.4%	1.3%	1.2%	1.1%	1.1%
Lease Delinquency Rate	1.0%	1.0%	1.1%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Net Tightening of C&I Loan Standards	11.6%	8.5%	1.5%	1.4%	-2.8%	-3.9%	-8.5%	-10.0%	-11.3%

Note: SAAR% refers to the annualized rate of change in seasonally adjusted data from one quarter to the next, which is the Bureau of Economic Analysis' standard method for reporting growth in the national accounts data.

MONTHLY DATA

Indicator		2018						2018					
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Employment													
Change in Total Payrolls (thousands)	14	271	216	175	176	324	155	175	268	208	165	270	134
Change in Private Payrolls (thousands)	16	277	217	174	188	321	153	174	260	192	137	254	121
Unemployment Rate	4.2%	4.1%	4.1%	4.1%	4.1%	4.1%	4.1%	3.9%	3.8%	4.0%	3.9%	3.9%	3.7%
Business Activity													
Industrial Production	103.2	104.8	105.3	105.8	105.4	105.9	106.4	107.6	106.7	107.4	107.8	108.2	-
Capacity Utilization	75.7%	76.8%	77.1%	77.3%	77.0%	77.2%	77.5%	78.2%	77.4%	77.8%	77.9%	78.1%	-
PMI Composite Index	60.2	58.5	58.2	59.3	59.1	60.8	59.3	57.3	58.7	60.2	58.1	61.3	59.8
NFIB Small Business Optimism Index	103.0	103.8	107.5	104.9	106.9	107.6	104.7	104.8	107.8	107.2	107.9	108.8	-
Consumer Activity													
Consumer Confidence	120.6	126.2	128.6	123.1	124.3	130.0	127.0	125.6	128.8	127.1	127.9	134.7	138.4
Personal Consumption (M/M % Chg)	0.5%	0.3%	0.5%	0.1%	-0.1%	-0.3%	0.6%	0.3%	0.3%	0.3%	0.3%	0.2%	-
Retail Sales (M/M % Chg)	1.8%	0.6%	0.8%	0.0%	-0.1%	0.1%	0.7%	0.3%	1.2%	0.2%	0.7%	0.1%	-
Lending Activity													
C&I Loans (M/M % Chg)	0.5%	0.1%	-0.1%	0.1%	0.3%	0.1%	0.9%	2.1%	0.1%	0.9%	0.7%	-0.1%	-
MLFI-25 New Business Volume (Bil.$)	8.70	8.40	7.50	12.80	6.90	7.70	9.10	7.90	7.70	9.10	8.20	8.90	-
MLFI-25 Avg Losses as a % of Net Rec.	0.40%	0.41%	0.42%	0.48%	0.34%	0.28%	0.51%	0.30%	0.31%	0.33%	0.31%	0.29%	-
MLFI-25 Credit Approval Ratio	74.0%	74.6%	73.6%	77.6%	76.9%	74.2%	75.2%	76.2%	76.8%	75.8%	76.2%	76.4%	-
Interest Rates (% avg of period)													
Fed Funds Target Rate (Lower Bound)	1.00%	1.00%	1.00%	1.25%	1.25%	1.25%	1.50%	1.50%	1.50%	1.75%	1.75%	1.75%	2.00%
1-Year Treasury Rate	1.28%	1.40%	1.56%	1.70%	1.80%	1.96%	2.06%	2.15%	2.27%	2.33%	2.39%	2.45%	2.56%
3-Year Treasury Rate	1.51%	1.68%	1.81%	1.96%	2.15%	2.36%	2.42%	2.52%	2.66%	2.65%	2.70%	2.71%	2.84%
10-Year Treasury Rate	2.20%	2.36%	2.35%	2.40%	2.58%	2.86%	2.84%	2.87%	2.98%	2.91%	2.89%	2.89%	3.00%
30-Year Treasury Rate	2.78%	2.88%	2.80%	2.77%	2.88%	3.13%	3.09%	3.07%	3.13%	3.05%	3.01%	3.04%	3.15%
AAA Corporate Bond Yield	3.63%	3.60%	3.57%	3.51%	3.55%	3.82%	3.87%	3.85%	4.00%	3.96%	3.87%	3.88%	3.98%
BAA Corporate Bond Yield	4.30%	4.32%	4.27%	4.22%	4.26%	4.51%	4.64%	4.67%	4.83%	4.84%	4.79%	4.77%	4.88%
Prices													
Headline Inflation (Y/Y % Chg)	2.2%	2.0%	2.2%	2.1%	2.1%	2.2%	2.4%	2.5%	2.8%	2.9%	2.9%	2.7%	-
Core Inflation (Y/Y % Chg)	1.7%	1.8%	1.7%	1.8%	1.8%	1.8%	2.1%	2.1%	2.2%	2.3%	2.4%	2.2%	-
Oil Price (West Texas Int., $/barrel)	51.67	54.36	57.4	60.46	64.82	61.43	64.87	68.56	66.98	74.13	69.88	69.84	73.16

About the Outlook

The Equipment Leasing & Finance Foundation (the Foundation) recognizes that with the wide variety and increasing complexity of economic data available to the public, the best way to utilize key equipment investment data is to have it all in one place, where business leaders can access it easily and quickly, thus assisting them in making the best business decisions.

The Foundation partnered with Keybridge LLC to produce this economic outlook, highlighting key trends in equipment investment and placing them in the context of the broader U.S. economic climate. The outlook report also includes an analysis of domestic capital spending as well as an evaluation of how capital spending is affected by various related and exogenous factors, both currently and in the foreseeable future. Additionally, the outlook includes custom leading indicators for 12 equipment and software verticals. The Foundation-Keybridge U.S. Equipment & Software Investment Momentum Monitor, described below, is published monthly.

This Q4 report is the third and final update to the 2018 Annual Outlook. This research was guided by a steering committee of dedicated industry volunteers who gave their time and expertise by providing comments and suggestions throughout the development of the report.

About the Momentum Monitor

Business leaders require actionable forward-looking intelligence to make strategic decisions. Accordingly, the Foundation commissioned Keybridge LLC to develop a series of custom leading indicators for the equipment sector. The Foundation-Keybridge Equipment & Software Investment Momentum Monitor consists of indices for 12 equipment and software investment verticals. These indices are designed to identify turning points in their respective investment cycles with a 3-6 month lead time.

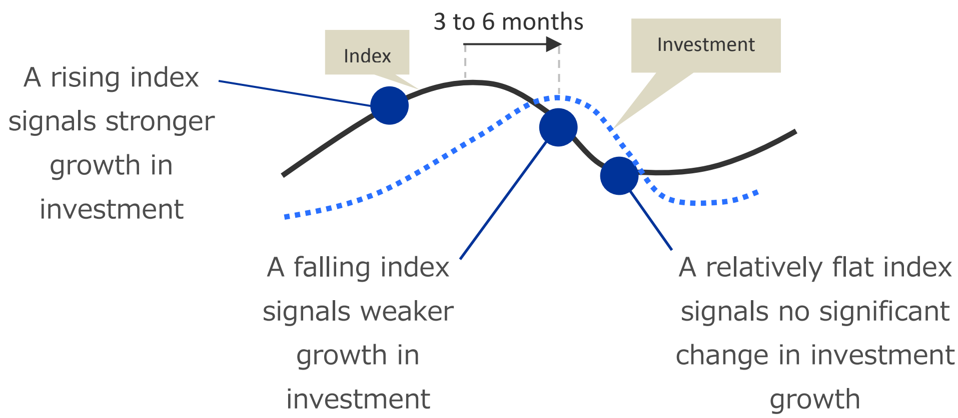
The Momentum Monitor is based on Keybridge's extensive research which shows that not all movements in economic data are reliable signals of future economic trends. Keybridge has operationalized its research by constructing indices, each comprised of 15–20 high-frequency indicators. These indicators undergo rigorous testing to determine the optimal thresholds at which their short-term fluctuations are economically meaningful. In simpler terms, the Momentum Monitor sifts out the noise in the data and identifies the dominant trends. As a result, each Momentum Monitor index is statistically optimized to signal turning points in the investment cycle without giving false readings of shifts in momentum.

How to Read the Momentum Monitor

Each Momentum Monitor index provides a signal of the direction and magnitude of growth in equipment investment over the next 3 to 6 months. It is important to note that index values do not correspond to particular growth rates. Instead, the Momentum Monitor indices should be interpreted within the context of prior index readings and investment growth rates. For example, there are several simple rules to follow when examining the latest index values:

1. A rising index signals that growth in investment will accelerate from the current rate;
2. A falling index signals that growth in investment will decelerate from the current rate; and
3. No change in the index signals no meaningful change from the current growth rate.

Momentum Monitor Signals



To help the reader interpret the latest Momentum Monitor signals, a summary report for each equipment vertical follows a specific outline:

Materials Handling Equipment:

1 Investment in Materials Handling Machinery inched up at a 0.3% annualized rate in Q4 2014 and is up 7.3% year-over-year. 2 The Materials Handling Momentum Index slipped from 93.5 in February to 92.5 in March. 3 A 23% decline in the MNI-Chicago Business Barometer and a spike in Economic Policy Uncertainty offset gains in Machinery Sales, Manufacturing Sales, and the ISM Manufacturing Suppliers Deliveries Index. 4 The Index's recent trend continues to indicate that growth may moderate over the next three to six months.

1 The first sentence reports the latest growth rate for investment in a given vertical. This provides a context for interpreting the order of magnitude of growth over the next 3 to 6 months.

2 The second sentence explains the latest movement in the index, indicating whether momentum is accelerating or decelerating.

3 The report then describes the specific indicators driving the latest index value. This allows readers to understand the key drivers of the outlook.

4 Finally, the report ends with an interpretation of where investment growth is heading over the next 3 to 6 months.

ABOUT KEYBRIDGE

Keybridge is a public policy economics consulting firm. Keybridge provides analytical support and strategic advice to a select clientele that includes Fortune 500 companies, global financial firms, G-7 governments, premier industry associations, and non-profit organizations. Keybridge's experience and expertise make it uniquely suited to assist organizations that frequently operate at the interface of business, economics, and public policy.

Founded in 2001, Keybridge's mission is to provide balanced, credible, and timely technical analysis and strategic insights that inform business decisions and drive public policy debates. Our dedication to the principles of sound analysis, clear communication, and unmatched client service guide our work and serve as the foundation of our success.

Keybridge's senior staff is comprised of experts with distinguished academic credentials and extensive experience in the areas of economics and public policy. On a day-to-day basis, Keybridge principals work closely with clients to develop strategy and conduct timely analysis. For longer-term projects and highly specialized topics, the firm leverages its network of advisers — including world-class experts in the fields of econometrics, energy, and finance — to build project teams tailored to clients' unique needs.

Keybridge provides clients with access to a full suite of analytical services, including macroeconomic risk assessments, econometric modeling studies, policy impact studies, qualitative policy evaluations, and survey design and analysis. For clients requiring regular consultations, Keybridge offers on-going strategic advisory services in the areas of macroeconomic trends and risks, international trade and finance, and energy and environmental economics. Keybridge also assembles and manages inter-disciplinary teams of experts to conduct thought leadership projects to assist clients with building competitive advantages or reforming policy debates through the development, sharing, and application of innovative ideas. Keybridge's principals are regularly asked to present research and share insights with economic, financial, and policy audiences around the world, including corporate strategic planning committees, congressional committees, and international conferences.

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