2020 Equipment Leasing & Finance U.S. Economic Outlook

EQUIPMENT LEASING & FINANCE
FOUNDATION
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TABLE OF CONTENTS

SUMMARY

Equipment & Software Investment Outlook: After robust growth in 2018, equipment and software investment slowed markedly over the course of 2019 and contracted in the third quarter as the effects of unresolved trade tensions and a slowing global economy took hold. The U.S. manufacturing sector continues to face recession-like conditions, which will provide a weak jump-off point for both the U.S. economy and the equipment industry in 2020. However, a strong labor market and still-confident U.S. consumer base should keep the broader economy above water for the time being, even as investment in several key equipment verticals slows or remains weak. Over the next three to six months:

- Agriculture Machinery investment growth should improve;
- Construction Machinery investment growth should increase modestly;
- Materials Handling Equipment investment growth may improve;
- All Other Industrial Equipment investment growth should remain moderate;
- Medical Equipment investment growth should strengthen;
- Mining & Oilfield Machinery investment growth could improve modestly, but is likely to remain weak overall;
- Aircraft investment growth is likely to remain in negative territory;
- Ships & Boats investment growth should remain weak;
- Railroad Equipment investment growth should soften;
- Trucks investment growth will likely weaken;
- Computers investment growth is likely to remain weak; and
- Software investment growth should remain strong.

U.S. Capital Investment & Credit Markets: Capital investment contracted for two consecutive quarters in 2019 and is expected to remain muted in early 2020, in large part due to the ongoing trade war with China and other slowing economies around the world. Despite weak or negative investment growth and faltering business confidence, credit market conditions remain broadly healthy. Financial stress, while up slightly, remains subdued by historical standards and credit supply, while slightly tighter, is still not cause for concern. However, demand for credit — especially by businesses — has weakened notably, which may portend a further slowdown in business investment in 2020.

Overview of the U.S. Economy: The U.S. economy saw uneven growth over the course of 2019 and ultimately decelerated from its 2018 pace. Consumers were the economy's driving force throughout the year, buoyed by the strongest labor market in a generation and faster wage growth. However, political uncertainty, tariffs, and reduced economic activity among several key trading partners have weighed on U.S. exports and business investment. These headwinds show few signs of abating, which should lead to slower growth in 2020.

Bottom Line for the Equipment Finance Sector: After decelerating over the course of 2019, the U.S. economy appears poised to soften further in 2020. Equipment and software investment is on track to post its weakest year of growth since 2016, weighed down by an annualized contraction in Q3 — the first negative reading in over three years. Several headwinds highlighted in last year's annual outlook began to stunt growth in the second half of 2019 and are expected to continue dragging on business confidence and investment in early 2020.

Overall, we expect the economy to grow 1.7% in 2020 (down from an estimated 2.3% in 2019), while we project that equipment and software investment will expand 1.1% (down from an estimated 3.6% in 2019).

EQUIPMENT & SOFTWARE INVESTMENT OUTLOOK

Equipment and software investment is expected to expand by 3.6% in 2019, less than half of 2018's 7.7% pace. Looking ahead to 2020, we anticipate that equipment & software investment growth will continue to soften as trade tensions and a slowing domestic and international manufacturing sector increasingly weigh on business confidence. As illustrated in the Momentum Monitor Sector Matrix below, momentum readings are below the long-term historical average (y-axis) in 8 of 12 verticals, though recent momentum (x-axis) improved in 7 of 12 verticals.

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

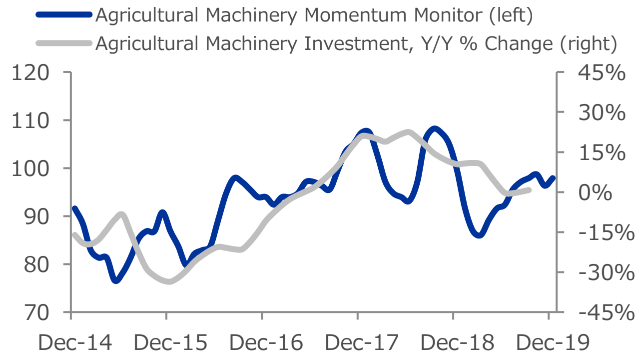
*For more information on how to interpret the Momentum Monitor, please refer to the Appendices on pages 20-21.

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):

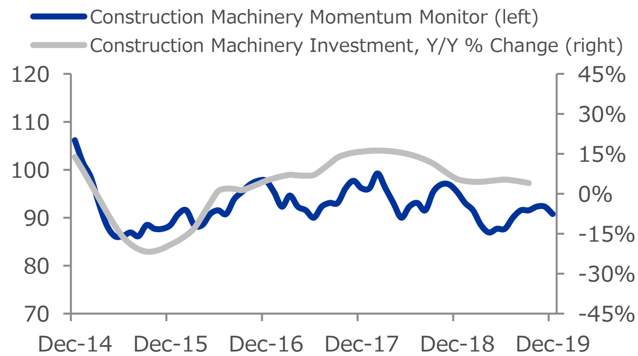
- "Recent Momentum" indicates a vertical's recent acceleration or deceleration in the past month relative to its average movement during the previous 3 months. Ratings closer to "0" indicate rapid deceleration, while ratings near "10" represent rapid acceleration.
- "Historical Strength" reflects a vertical's 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.

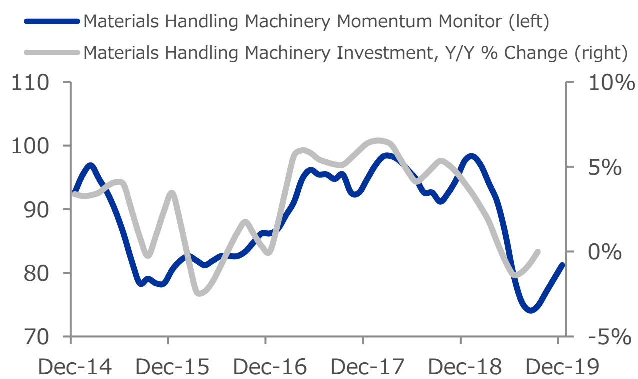
Agricultural Machinery: Investment in Agricultural Machinery increased at an annualized rate of 2.0% in Q3 2019 and is up 0.7% year-over-year. The Agricultural Machinery Momentum Index improved from 96.3 (revised) in November to 97.9 in December. Unmanufactured Tobacco Exports surged 115% in September, while the MSCI Commodity Producers Sector Index improved 2.2% in November. Overall, the Index suggests that growth in agricultural machinery investment will improve over the next three to six months.



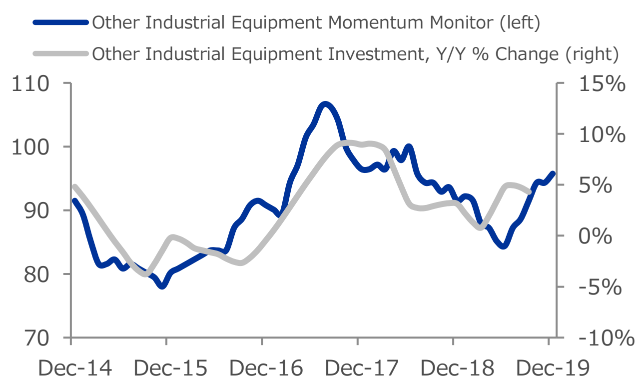
Construction Machinery: Investment in Construction Machinery pulled back 6.7% (annualized) in Q3 2019 but rose 4.0% from a year ago. The Construction Machinery Momentum Index decreased from 92.3 (revised) in November to 90.8 in December. New Privately-Owned Houses surged 15% in October, the fastest growth since late 2017, while the Consumer Sentiment Index improved 1.3 points in November. Overall, the Index points to modest growth in construction machinery investment growth over the next two quarters.



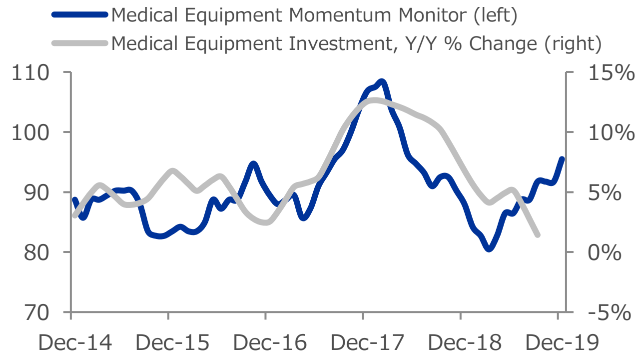
Materials Handling Equipment: Investment in Materials Handling Equipment grew at an 11% annualized rate in Q3 2019 and is essentially flat year-over-year. The Materials Handling Equipment Momentum Index improved from 79.1 (revised) in November to 81.2 in December, though it remains weak by historical standards. In October, Materials Handling Equipment Imports pulled back 2.6%, the seventh decline this year, while Industrial Production fell 0.8%. Overall, the Index's recent movement points to a potential improvement in materials handling equipment investment growth over the next two quarters.



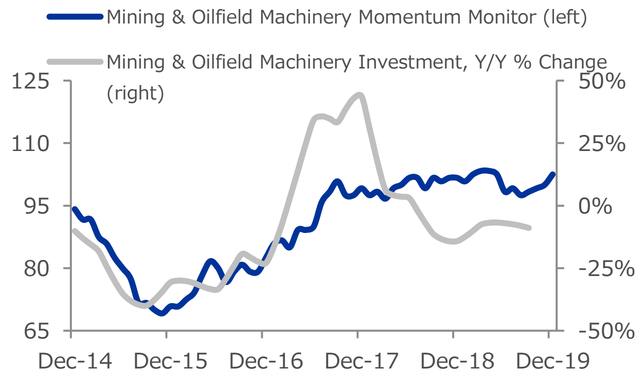
Other Industrial Equipment: Investment in All Other Industrial Equipment increased at a 4.5% annualized rate in Q3 2019 and is up 4.3% from one year ago. The Other Industrial Equipment Momentum Index increased from 94.3 (revised) in November to 95.7 in December, the strongest reading since mid-2018. In October, the M1 Money Supply increased 0.8%, while Manufacturing Employment increased 0.4% in November, the strongest growth in over two decades. Overall, the Index signals continued moderate growth in other industrial equipment investment over the next two quarters.



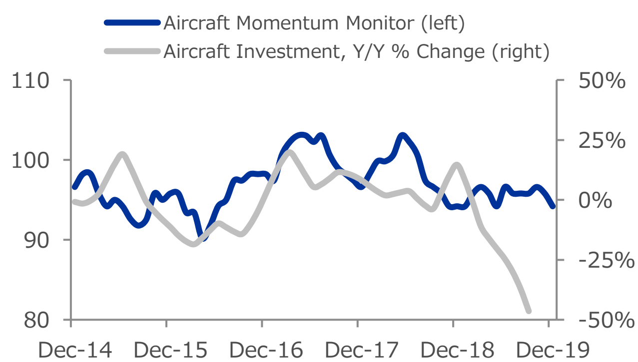
Medical Equipment: Investment in Medical Equipment fell 5.1% (annualized) in Q3 2019 but improved 1.4% year-over-year. The Medical Equipment Momentum Index jumped from 91.7 (revised) in November to 95.5 in December, the strongest reading since May 2018. The Consumer Price Index for Inpatient Hospital Services rose 1.3% in October, the fastest growth since late 2015, while the S&P 500 Health Care Index increased 3.8% in November. Overall, the Index signals stronger growth in medical equipment investment over the next three to six months.



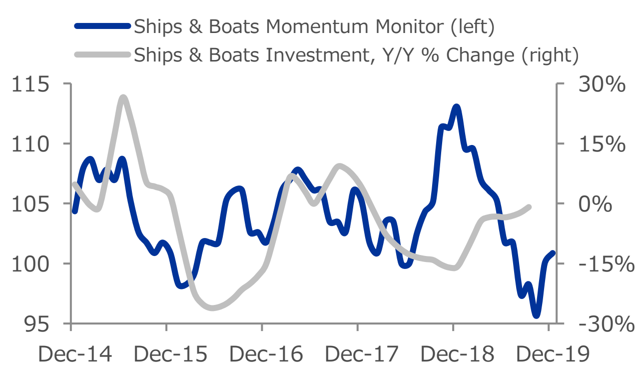
Mining & Oilfield Machinery: Investment in Mining & Oilfield Machinery fell at a 28% annualized rate in Q3 2019 and is down 8.9% year-over-year. The Mining & Oilfield Machinery Momentum Index improved from 100.0 (revised) in November to 102.5 in December. New Orders for Mining, Oil, & Gas Machinery rose 10%, the third month of double-digit growth this year, but the Bloomberg Precious Metals Sub-Index fell 3.9% in November. Overall, the index suggests that mining & oilfield machinery investment growth could improve modestly over the next three to six months but is likely to remain weak overall.



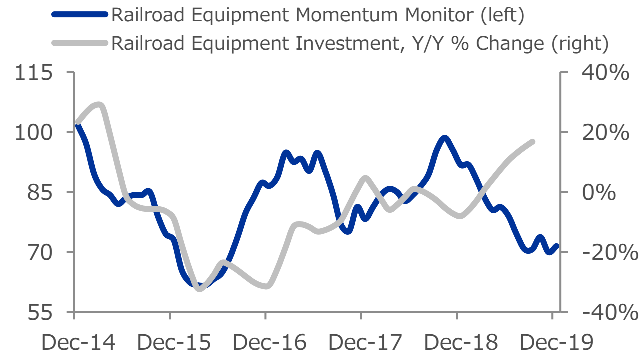
Aircraft: Investment in Aircraft plunged 82% (annualized) in Q3 2019 and is down 46% on a year-over-year basis. The Aircraft Momentum Index decreased from 95.8 in November to 94.2 in December, the lowest level since May. Unfilled Orders of Defense Aircraft & Parts rose 3.6% in October, while the S&P 500 Volatility Index dropped 4.5% in November, the eighth decline this year. Overall, the Index points to continued negative growth in aircraft investment over the next two quarters.



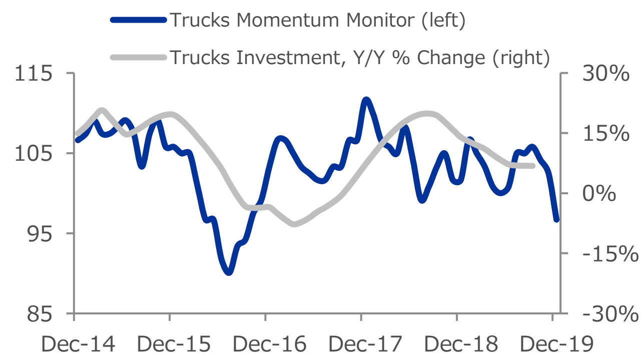
Ships & Boats: Investment in Ships & Boats surged 37% (annualized) in Q3 2019 but remains down 0.9% year-over-year. The Ships & Boats Momentum Index edged up from 100.0 (revised) in November to 100.9 in December. Industrial Production of Ships and Boats dropped 3.0% in October, and the ISM Manufacturing Employment Index fell 1.1 percentage points in November, the eighth decline in the past year. Overall, the Index suggests continued weakness in ships & boats investment over the next two quarters, though recent movement is encouraging.



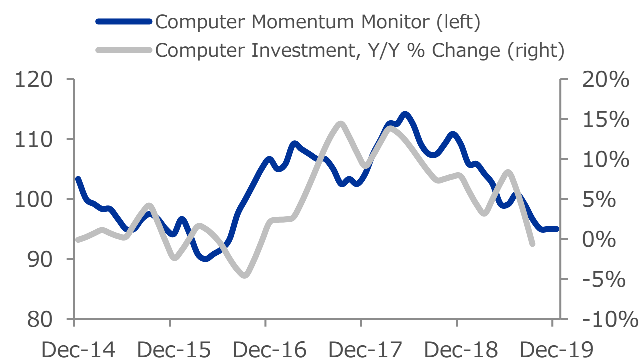
Railroad Equipment: Investment in Railroad Equipment rose at a 15% annualized rate in Q3 2019 and is up 17% year-over-year. The Railroad Equipment Momentum Index improved from 69.9 (revised) in November to 71.4 in December but remains weak by historical standards. Capacity Utilization for Transportation Equipment Manufacturing pulled back 3.1 percentage points in October, the steepest drop since January, while Oil & Gas Rig Counts decreased 2.4% in November. Overall, the Index signals that railroad equipment investment growth is likely to soften over the next two quarters.



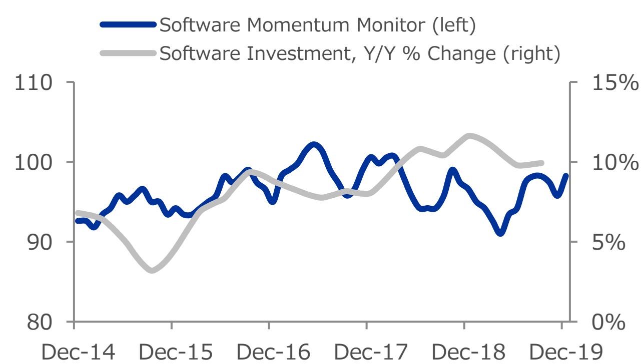
Trucks: Investment in Trucks rose 6.5% (annualized) in Q3 2019 and is up 6.8% from year-ago levels. The Trucks Momentum Index fell sharply from 102.5 (revised) in November to 96.7 in December, marking the lowest reading since September 2016. In October, Industrial Production for Light Truck Assembly dropped 13%, the steepest decline since May 2009, and Coal Production fell 1.2%. Overall, the Index's recent movement and current position suggests potential weakening in trucks investment growth over the next three to six months.



Computers: Investment in Computers declined at an annualized pace of 29% in Q3 2019 and eased 0.6% year-over-year. The Computers Momentum Index held steady at 95.0 in December, its lowest reading since mid-2016. Computer Exports dropped 2.4% in October, while the ISM Manufacturing PMI edged down 0.2 point in November. Overall, the Index continues to point to weaker growth in computers investment over the next two quarters.



Software: Investment in Software rose by an 8.8% annualized rate in Q3 2019 and is up 9.9% year-over-year. The Software Momentum Index rose from 95.8 in November to 98.2 in December. In November, Microsoft's Market Cap rose 5.6% and the Nasdaq Composite Index improved 4.5%. Overall, the Index points to continued strong growth in software investment over the next two quarters.



Equipment & Software Investment Annual Growth Forecast

Year-on-Year % Growth Rates

Sector	10-Year Average	Last 4 Quarters	Next 4 Quarters
Agricultural Machinery	3.0%	0.7%	-2 to 6%
Construction Machinery	8.8%	4.0%	-2 to 4%
Materials Handling Equipment	4.2%	0.0%	-6 to 2%
Other Industrial Equipment	4.7%	4.3%	0 to 6%
Medical Equipment	5.9%	1.4%	6 to 12%
Mining & Oilfield Equipment	1.8%	-8.9%	-5 to 2%
Aircraft	-1.3%	-46%	-15 to -5%
Ships & Boats	-2.0%	-0.9%	-5 to 3%
Railroad Equipment	6.6%	17%	-8 to 2%
Trucks	26%	6.8%	0 to 5%
Computers	4.3%	-0.6%	-2 to 4%
Software	7.9%	9.9%	6 to 12%

Source: U.S. Bureau of Economic Analysis; Keybridge LLC (forecasts)

U.S. CAPITAL INVESTMENT AND CREDIT MARKETS

Capital spending has dragged on the U.S. economy since the second quarter of 2019, as trade tensions and an industrial sector contraction weigh heavily on business confidence. Despite this decline in confidence, credit markets remain generally healthy and financial stress is muted, though banks reported that business demand for loans is weakening.

As anticipated, investment growth continued to decline in the third quarter, and we expect equipment and software investment to have expanded by 3.6% in 2019 once Q4 data is released. It is unlikely that the Fed will cut its benchmark rate in December unless economic data weakens substantially.

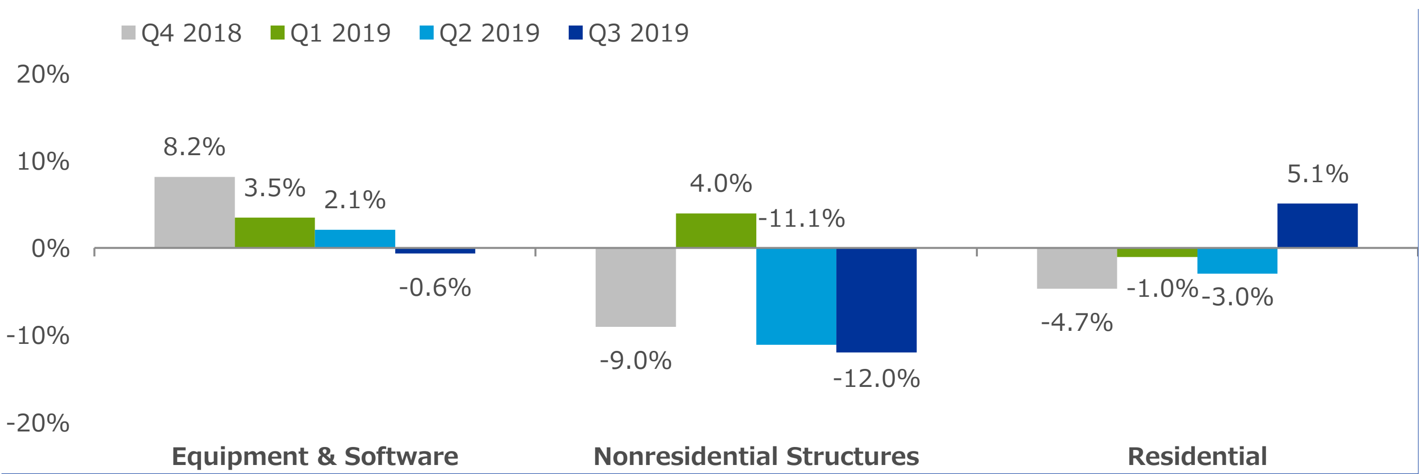
Looking ahead to 2020, we expect equipment and software investment growth to remain weak through the year, with a projected annual expansion of 1.1%. Due to persistent headwinds, we expect the Federal Reserve to cut the federal funds rate twice in 2020.

Recent Trends in U.S. Capital Investment

Equipment and software investment fell 0.6% (annualized) in the third quarter, continuing recent trends of declining growth rates and marking the first outright investment contraction since mid-2016. Likewise, nonresidential structures investment fell at a 12% annualized rate, marking the second consecutive quarter of double-digit declines. On a more positive note, residential investment grew 5.1% (annualized), the first positive reading in two years.

Investment Growth Rates

Quarter-on-Quarter, Seasonally Adjusted Annualized Growth Rate



Source: U.S. Bureau of Economic Analysis

- **Equipment Leasing and Financing:** After a lackluster start to 2019, new business volume growth has improved and remains well above year-ago levels, despite slowing equipment and software investment overall. According to the ELFA Monthly Leasing and Finance Index ("MLFI-25"), new business volume has grown 5.9% thus far in 2019 and is 14% above year-ago levels. 30-day delinquencies were at 2.00%, up 30 basis points from both last month and October 2018 levels. Charge-offs in October were at 0.46%, an increase of 6 basis points from September and up 9 basis points from a year ago.

The Foundation's Monthly Confidence Index for the Equipment Finance Industry ("MCI-EFI") improved 3.5 points to 54.9 in November but is 3.6 points below its level from a year ago. Nearly three-quarters of surveyed industry executives expect business conditions to remain the same over the next four months (up from 71% in October), while 13% expect business conditions to worsen (down from 20% in October). However, nearly twice as many respondents believed that demand for leases and loans to fund capital expenditures will fall over the next four months (23%) compared to October (13%).

The share of industry executives surveyed in the MCI-EFI who rate current U.S. economic conditions as "excellent" slipped from 20% to 17% in November, while 83% believe that economic conditions are "fair" (none rated economic conditions as "poor"). Looking ahead, while most surveyed industry executives believe that economic conditions will stay the same over the next six months (77%, up from 58% in October), there has been a notable positive shift in their near-term expectations: the share who believe economic conditions will worsen fell from 39% in October to 13% in November.

- **Equipment Verticals:** Equipment and software investment contracted 0.6% in the third quarter, the first quarterly contraction since Q2 2016. Of the 12 verticals tracked by the Foundation, seven experienced positive annualized investment growth and three posted double-digit gains in the third quarter, including Ships & Boats (+37%), Railroad Equipment (+15%), and Materials Handling Equipment (+11%). Five verticals experienced declines in investment growth in the third quarter, three of which posted double-digit drops: Aircraft (-82%), Computers (-29%), and Mining & Oil Machinery (-28%). The near-term outlook is mixed, with several verticals in the transportation and manufacturing sectors set to weaken. However, certain verticals that are less exposed to trade tensions and the global manufacturing slowdown (such as Medical Equipment and Software) appear poised to improve.

- **Other Factors:** The industrial sector weakened across the board throughout 2019. The ISM Purchasing Manager's Index has been below 50 for four consecutive months through November, signaling contraction. Other typically reliable indicators underscore the gloomy outlook for the industrial economy:

  - Industrial production (-1.1% Y/Y) declined in October at the fastest rate since September 2016.
  - Capacity utilization (-2.6 pp Y/Y) fell in October to the lowest reading since September 2017.
  - The U.S. trade deficit in goods narrowed $4.0 billion to $66.5 billion in October, driven by sharp declines in imports of industrial goods and automobiles, a sign of weakening domestic demand.
  - New orders of core capital goods (a leading indicator of next-quarter business activity) rose 1.1% in October but has declined on an annual basis for four consecutive months.

Recent Trends in Credit Markets

Business and consumer credit market conditions are healthy, despite the maturing business cycle. The supply of credit tightened slightly for both business and consumers, while business demand for loans pulled back in Q3. Financial stress rose by some measures but remains subdued.

- **Credit Supply & Pricing:** Overall, credit supply conditions for businesses tightened in the third quarter. According to the October Fed Senior Loan Officer Survey, a moderate net share of banks reported tightening lending standards for commercial real estate ("CRE") loans, particularly among loans for commercial & land development and multifamily residential properties. Meanwhile, a modest net share of banks reported tightening standards for commercial and industrial loans ("C&I") to firms of all sizes.

  The October Fed Senior Loan Officer Survey also reports that a moderate net share (10%) of banks tightened standards on credit cards, with a net share of 9% of banks reportedly tightening terms and conditions on new or existing credit card accounts. Meanwhile, banks left standards for auto and consumer installment loans unchanged. Banks reportedly held standards unchanged for most categories of residential real estate ("RRE") loans, but a moderate net share of banks tightened standards on loans to subprime borrowers. In a special question, banks reported they were less willing to extend credit card and auto loans to individuals with a FICO credit score of 620 compared to the beginning of the year, citing greater uncertainty in new borrowers' ability to consistently make payments.

- **Credit Demand:** Business demand for credit softened over the past three months. According to the October Fed Senior Loan Officer Survey, a significant net share of banks (22%) reported weaker demand among large- and middle-market firms for C&I loans, while a moderate net share of banks (17%) reported weaker demand from small firms. Among the reasons cited by banks for this softer demand were decreased financing needs among borrowers, reduced investment in plant and equipment, and weak M&A activity. Likewise, a modest net share of banks reported weaker demand for construction and land development loans. Confidence in the construction industry is mixed: private construction spending has declined for 11 consecutive months and the Associated Builders and Contractors' Construction Confidence Index points to a dim outlook, but the NAHB-Wells Fargo Housing Market Index is up 10 points from a year ago.

  Though business confidence has waned in general, the degree to which businesses feel the strain appears to be largely dependent on a company's perceived vulnerability to trade shocks. Confidence among large businesses is lagging: The Business Roundtable CEO Economic Outlook Index fell for the sixth consecutive quarter in Q3 while the Duke University CFO Global Business Outlook declined in Q3 to the lowest reading since late 2016. On the other hand, small businesses — which are typically less directly exposed to international trade matters — remain confident, as indicated by the NFIB Small Business Optimism Index and the PayNet Small Business Lending Index ("SBLI") which are both elevated by historical standards. Still, even among Main Street businesses, pessimism appears to be increasing, as both the NFIB and SBLI indices are down 6–10% from 2018 peaks.

  Among consumers, banks reported stronger demand for most categories of lending over the last three months. Rising consumer demand is not surprising given that consumer optimism remains

Summary of Credit Conditions

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

elevated by multiple metrics. Though they have slipped somewhat in recent months, both the Conference Board's Consumer Confidence Index and the University of Michigan's Consumer Sentiment Index are hovering near their highest levels in nearly two decades years.

- **Financial Stress:** Financial stress ticked up slightly by some measures but remains muted relative to historical levels. For example, loan delinquencies increased to 1.13% in Q3 and charge offs rose to 0.43%, the fourth consecutive quarterly increase. Likewise, lease delinquencies inched up to 1.15% in the third quarter after easing in Q2. The PayNet Small Business Delinquency Index ("SBDI") 31–90 Days Past Due ticked up to 1.60% in September, its highest level since December 2011 and is up 18 basis points above year-ago levels. However, while these movements represent slightly higher financial stress, they remain low by historical standards. Other measures of financial stress are also relatively low, including the Kansas City Fed Financial Stress Index, which decreased from -0.35 September to -0.51 in October, and the St. Louis Fed Financial Stress Index, which eased from -1.2 to -1.3 in November.

- **Other Factors:** Longer-term treasury yields have continued to recover from troughs experienced in Q3. 10-year treasury yields have risen to the 1.70-1.90% range as of mid-November, up from 1.50–1.65% in early October. Over the same period, yields on 30-year treasuries increased from sub-2% to 2.2–2.3% range. Meanwhile, short-term yields eased from 1.75% in October to 1.57% in November. The decline in short-term yields and rise in long-term yields has caused the yield curve (as measured by the 10yr–2yr spread) to revert back to its typical upward-sloping trajectory. However, when the yield curve has previously inverted, it has typically "un-inverted" a few months before a recession's onset — suggesting that the economy is not out of the woods yet based on this traditionally reliable leading indicator.

Update on Fed Policy

After adopting a wait-and-see approach to monetary policy in the first half of 2019, the Federal Reserve cut its benchmark policy rate three times in the second half of the year in an effort to insulate the U.S. economy from the effects of trade headwinds, industrial sector weakness, and a global economic slowdown. Fed Chairman Jay Powell has said that the FOMC is unlikely to make changes to monetary policy if the economy continues along its current path. However, Chairman Powell has also indicated an openness to cutting the Fed's benchmark rate if U.S. economic data worsens. Given the Fed's demonstrated willingness to cut rates proactively in the face of economic weakness and the expectation of weaker macroeconomic fundamentals, we expect the Fed to cut the federal funds rate twice in 2020.

OVERVIEW OF THE U.S. ECONOMY

The U.S. economy appears set to slow substantially in 2020, largely due to a slowdown in manufacturing activity that has been exacerbated by trade tensions. The combination of these two factors has dampened business investment and shows few signs of abating. However, consumer spending remains generally healthy and, at present, appears likely to remain one of the few bright spots next year — which should keep the broader economy out of recession for at least the first half of the year. Meanwhile, ongoing trade fights and waning global demand will continue to put downward pressure on U.S. exports.

GDP growth expanded at a 2.1% rate (annualized) in Q3, and we anticipate that growth will further soften in Q4 and remain subdued throughout 2020 as the effects of unresolved trade tensions, declining business confidence, and the ongoing manufacturing recession drag on the U.S. economy. Though the U.S. labor market and consumer spending remain healthy, the overall picture for the next 12 months is one of elevated uncertainty, and we expect 2020 to be among the weakest years of growth of the current expansion.

Overall, we project the U.S. economy to grow 1.7% in 2020 — at the lower end of the consensus estimate range of 1.7 – 2.1%.

Recent Trends in the U.S. Economy

The U.S. economy in 2019 was a true "tale of two halves." First quarter growth exceeded 3% despite slowing consumer spending and a government shutdown, and while the economy slowed to a 2% growth rate in Q2 due to sluggish business investment activity, consumers bounced back in a big way, posting the second-strongest growth rate in personal consumption in 15 years. However, over the last six months, the U.S. economy has experienced slowing momentum and rising economic uncertainty. During Q3, business investment contracted for the second consecutive quarter, domestic manufacturing output declined further, and growth in key economies around the world slowed. A strong labor market and healthy consumer helped the U.S. economy expand at a 2.1% clip despite these headwinds, but prospects for Q4 appear dimmer, with consensus estimates hovering around 1.0–1.5% annualized growth.

Indicator	Recent Activity
Consumption	Consumer spending rose at an annualized rate of 2.9% in Q3, a healthy reading.
Equipment & Software Investment	Equipment & software investment fell -0.6% in the third quarter, the weakest in over three years.
Residential Investment	Residential investment rose 5.1% (annualized), its first increase since 2017.
Government Expenditures	Government spending rose 1.6% due to increases in both federal and state & local spending.
Net Exports	Net exports fell, as exports inched up 0.9% (annualized) in Q3 while imports rose 1.5% (annualized).

Looking ahead to 2020, there are several lingering questions that will ultimately determine the economy's path, including whether the U.S. and China will be able to resolve a trade war that is rapidly expanding into areas beyond trade, whether political uncertainty will continue to drag on business investment, and whether the housing market can sustain its modest recovery. Overall, the balance of risks remains weighted to the downside and an economic growth pause remains a distinct possibility — though based on current indicators we do not believe a recession is imminent.

- **Q3 GDP:** The U.S. economy grew at an annualized rate of 2.1% in the third quarter, in line with Q2's 2.0% rate. Consumer spending rose at a healthy 2.9%, while residential investment expanded for the first time since late 2017, increasing 5.1% (annualized). Government spending also contributed to growth for the seventh time in eight quarters, expanding at an annualized 1.6%. However, business fixed investment contracted for the second straight quarter, dragged down by a sharp decline in nonresidential structures investment (-12.0% annualized) and equipment & software investment (-0.6% annualized). Private inventories and net exports also declined modestly in Q3.

- **Inflation:** Inflationary pressures have been muted throughout 2019. In the first quarter of this year, the consumer price index moderated, with headline inflation falling to 1.5% Y/Y in March while core inflation (which excludes volatile food and energy prices) eased to 2.0% Y/Y in the same month. Since then, however, core inflation has risen, touching 2.4% Y/Y in August and September, while headline inflation has risen to 1.8% Y/Y.

  Although the unemployment rate has held at multi-decade lows for several months and wages have posted a solid streak of 3%+ annual growth, inflation is unlikely to accelerate in the next six months due to a slowing U.S. economy.

- **Growth Forecasts:** The *Economist* forecasts a growth rate of 1.6% for 2020, while the *Wall Street Journal* consensus forecasts 1.7% growth. Both estimates are at the lower end of the Federal Reserve's September "central tendency" forecast of 1.8-2.1% growth for 2020.

Economic Tailwinds

Consumers, buoyed by the strongest labor market in a generation, were the main driver of economy growth in 2019 and appear to be well-positioned to continue insulating the broader economy from the recession-like conditions felt in the manufacturing sector.

- **Robust Labor Market:** More than a decade of continuous payroll growth and twenty-one consecutive months of a sub-4% unemployment rate are clear signs that the labor market remains healthy. Further, there are few, if any, signs that weakness in the U.S. manufacturing sector is spilling over into the service sector. Although average monthly payroll growth has slowed somewhat compared to 2018 — a predictable outcome given that the U.S. economy is currently in the 10th year of expansion, the longest in recorded history — the economy has averaged an impressive 180,000 jobs created per month this year.

  Job creation in the industrial sector has clearly weakened: for example, job growth in durable goods manufacturing has risen by 5,100 jobs/month in 2019 after rising by 22,000 jobs/month last year, while job growth in mining & logging slowed from +5,000 jobs/month to -800 jobs/month over the same period. However, there are few signs that weakness in the goods-producing sectors has spread to the rest of the labor market, as employment growth in several key service-providing industries such as leisure & hospitality, financial services, and education & health services held steady or improved in 2019.

  Looking ahead, the services component of the economy appears poised to continue growing at a modest rate, as the ISM Non-Manufacturing Employment Index remains in expansionary territory. Additionally, both large and small businesses expect to continue expanding their labor forces: the Business Roundtable CEO Economic Outlook Employment Sub-Index remains expansionary as of Q3, while the NFIB Small Business Optimism Index suggests the share of small businesses planning to hire is near historic highs. If broad labor market health continues into 2020 as is expected, it should insulate most consumers from the headwinds facing the industrial sector.

- **Solid Consumer Base:** The current strength of the labor market has left U.S. consumers in a positive position heading into 2020. Consumer spending has been by far the biggest driver of economic growth over the past two quarters, expanding at 4.6% and 2.9% (annualized) in Q2 and Q3, respectively, even while other components of the economy have faltered. Additionally, retail sales grew 0.3% month-over-month in October, roughly in line with the ten-year average. Meanwhile, spending on durable goods — usually the first component of consumer spending to soften when incomes are stretched — grew 8.3% (annualized) in the third quarter after expanding 13% in Q2, a sign that consumers are still confident in their near-term prospects. Indeed, the University of Michigan's Consumer Sentiment Index improved markedly to 99.2 in December (up from 96.8 in November), while the Conference Board's Consumer Confidence Index fell slightly in November but remains historically elevated.

  A key factor driving solid consumer spending numbers is the relatively low level of financial stress faced by U.S. consumers. Most Americans consider their current financial situation to be better than it was a year ago according to the University of Michigan Survey of Consumers, with higher income cited as the primary reason. Consumers do not appear overleveraged, as the household debt-service ratio (the ratio of debt-service payments to disposable income) declined to its lowest level in more than three decades in the second quarter, while the American Bankers Association's Credit Card Market Monitor indicates that credit card debt as a share of disposable income is essentially unchanged over the past six years. Although auto and student loan delinquencies have risen in recent years and warrant attention, overall U.S. consumers remain resilient in the face of uncertainty stemming from a weak manufacturing sector and global trade relations.

Economic Headwinds

The manufacturing hubs of the world are caught in the middle of the ongoing U.S.-China trade war, which has led to slower growth in several key economies. In response, U.S. firms have pulled back sharply on capital investments.

- **Global Manufacturing Slowdown:** Buffeted by trade wars and waning demand, global manufacturing activity slowed dramatically during the second half of 2019. Many advanced economies saw their manufacturing sectors slip into outright contraction, including the United States: domestic manufacturing output has declined for three consecutive quarters, and the ISM Manufacturing PMI remains in contractionary territory after falling again in November, suggesting that the downturn has not yet have bottomed out. Given two consecutive quarters of negative investment growth and three months of annual declines in new orders (excluding aircraft), the U.S. manufacturing sector does not appear to be on the verge of recovery and may contract further in 2020.

  Abroad, Germany and the rest of the European Union narrowly avoided a full-blown recession in Q3 despite the country's worst manufacturing contraction in a decade. Though German exports surprised to the upside in September, the export-heavy German economy is still struggling with waning international demand and regulatory changes in the auto sector, and as a result Germany is no longer driving European economic growth as it has in recent years. Meanwhile, industrial production in China has been soft and year-to-date growth in fixed-asset investment is at a two-decade low, suggesting further industrial weakness lies ahead. Efforts undertaken by Chinese policymakers to kickstart growth have thus far proven ineffective, in part due to U.S. tariffs but also (and perhaps more importantly) a long-run structural downshift fueled by an aging population and overinflated asset prices.

  Heading into 2020, our outlook for global manufacturing remains pessimistic. While it can be difficult to ascertain how close U.S. and Chinese negotiators are to reaching a preliminary deal that would at least avoid further escalation of the trade conflict, the countries remain at odds over fundamental issues that lie at the heart of the dispute (e.g., protection of intellectual property rights, free access to markets, and anti-competitive government policies). Moreover, China's broad-based slowdown means that growth in Chinese demand for manufactured goods is unlikely to return to the rapid rates seen over the last decade. Finally, slowing shale-drilling output and investment growth are expected to put further downward pressure on U.S. manufacturers serving the domestic energy sector. Together, these factors suggest that until trade policy stabilizes and the synchronized global downswing reverses course, manufacturing activity will struggle in 2020.

- **Further Deterioration in the Global Economy:** Though China has received the lion's share of the blame for the global economic downturn, several other key economies are also slowing:
  - **India** appears to be hitting a wall. Industrial production is collapsing at the fastest rate in eight years, imports are suffering double-digit annual declines, and tax revenue is plunging. A previously unreleased government report shows that per-capita consumption actually *declined* from 2012–2018 — the first such decline in more than 40 years — even as annual GDP growth was reportedly in the 5.5–8% range for each of those years. Making matters worse, there are indications that India may be overstating official growth rates, including a recent study authored by the Prime Minister's former chief economic advisor.
  - **Japan** saw its economy grind to a near-standstill in the third quarter as growth slowed to a 0.2% annualized pace. The world's third largest economy is grappling with falling goods exports, slowing consumption due to a sales tax hike, and a decline in tourism revenue. The Japanese economy is expected to grow just 0.5% next year according to the IMF, the slowest rate of any G-7 nation.
  - **South Korea** has enacted record levels of fiscal stimulus in an effort to pull its economy out of its current funk, but these efforts have had little effect on growth thus far. Exports have fallen for 11 straight months while both business investment and consumer spending have been soft. Together, these factors mean that the nation's economy will expand at the slowest pace in a decade this year.

  The synchronized slowdown gripping these major economies shows few signs of abating, as the factors putting downward pressure on these economies — increased trade constraints and geopolitical uncertainty, among others — are unlikely to be resolved in the near term.

- **Declining Business Investment:** The combination of trade uncertainty and a slowing global economy took a bite out of business investment in 2019. Nonresidential fixed investment (annualized) fell 1.0% in Q2 and 2.7% in Q3, the first consecutive quarterly declines since the oil price collapse of 2015-16. On the trade front, the U.S.–China trade war grinds along while USMCA is still being negotiated in Congress. Business leaders have been acutely aware of the lack of progress on trade: one-fourth of respondents in the Business Roundtable's Q3 CEO Economic Outlook Survey said that trade uncertainty had a negative effect on capital expenditures in 2019, while almost no CEOs reported a positive impact on capex. (On the bright side, there have been positive indications that the USMCA could be finalized in the near future, which would be a positive development for U.S. businesses — though its ultimate effect on capex remains to be seen.)

  Another headwind to the investment outlook is lagging corporate earnings. As the global economy has slowed, annual profit growth in the U.S. has declined precipitously. After surging 10% year-over-year in 2018 on the back of the Tax Cuts and Jobs Act — the fastest annual growth since 2010 — after-tax corporate profits (after incorporating adjustments for inventory valuation and capital consumption) fell -3.4% Y/Y in Q1, -1.5% Y/Y in Q2, and -1.9% Y/Y in Q3. Similarly, as of

November, U.S. firms had accounted for 70 of the 100 global corporate defaults. Together, slower (and, in some cases, negative) profit growth and a rising corporate default rate have dampened confidence, particularly among large businesses.

Looking ahead, these factors suggest that business investment growth will remain sluggish in 2020, and both small and large businesses expect capital expenditure growth to ease in 2020. For example, the Business Roundtable's CEO Economic Outlook Survey Capex Sub-index has declined for six straight quarters and is at its lowest point in three years. Similarly, while the NFIB Optimism Index remains elevated, the NFIB Capital Expenditure Plans Sub-index has declined on an annual basis for five straight months. Ultimately, trade concerns and global growth prospects likely won't be resolved in the near term, suggesting that business confidence is unlikely to improve in 2020 and may well decline further. Combined with the reality that 2020 is an election year with potentially major implications on U.S. economic policy, many businesses are likely to be in wait-and-see mode with respect to investing in new capital.

Additional Factors to Watch

Unresolved trade disputes and a volatile domestic political atmosphere present downside risks to the 2020 outlook. However, the economy could receive a boost from the housing sector, which appears to be emerging from its nearly two-year funk.

- **Unresolved Tensions with China:** The business community and equity markets have been whipsawed by U.S. trade policy throughout 2019, as characterized by U.S.–China trade negotiations. Over the last year there have been repeated leaks of market-moving information and rumors of progress, but at present the two sides appear no closer to a comprehensive agreement today than they were when the United States began imposing tariffs on Chinese imports in 2018. Though the two sides reached a temporary cease-fire in October that delayed the enactment of new tariffs, this agreement is set expire in mid-December, at which point the United States will impose tariffs on another $150+ billion in Chinese imports. Another cease-fire is certainly possible, but many U.S. businesses are understandably skeptical and may remain so until a formal agreement is inked.

  Worsening the U.S.–China friction are the increasingly violent protests in Hong Kong, which have quickly morphed into anti-Beijing demonstrations and have elicited a sharp crackdown from Hong Kong police forces supported by Beijing. In response, both the U.S. Senate and House of Representatives overwhelmingly passed a bill that is widely accepted as supportive of the Hong Kong protestors. The bill directs the U.S. secretary of state to certify annually that Hong Kong is sufficiently independent from mainland China to warrant favorable trading status — a designation critical to the health of Hong Kong's economy. It also sanctions any parties committing human rights abuses in Hong Kong. The bill, which President Trump recently signed into law, has drawn fierce criticism from Chinese authorities. In response, Beijing has disallowed future U.S. Navy port calls in Hong Kong, promised sanctions on U.S. human-rights groups, and threatened to publish an "unreliable entities" list of U.S. firms that would further exacerbate trade tensions. These events demonstrate how the U.S.–China conflict is much more than "just" a trade war, and we believe it is highly unlikely that a comprehensive deal can be reached that resolves the economic, social, and geopolitical frictions between the two countries. That said, a narrower deal that pauses or, potentially, lowers tariffs remains a possibility and would provide a much-needed boost to global trade flows.

- **Political Uncertainty:** The U.S. political atmosphere grew ever more fraught over the course of 2019. Internationally, the White House remains engaged in trade negotiations on multiple fronts that have introduced substantial uncertainty into North American supply chains. As these negotiations progress, the Trump administration has taken steps to confront the World Trade Organization's ("WTO") appellate court, the body that hands down rulings on the legitimacy of tariffs such as those imposed by the United States in 2018 on steel and aluminum imports. Due to U.S. blocks on appointments of new judges to the appellate court, the number of active adjudicators has fallen to three, the minimum number required for the system to function. Two of these members are serving terms that end in December 2019, meaning that unless the Trump administration relents, the appellate body will cease to function in 2020. The United States has also voiced interest in blocking the approval of the WTO's budget for 2020, which would also mean that the WTO would cease to function (even if fully staffed) in April 2020 when its surplus funding is exhausted. To resolve the budget crisis, the United States has offered a solution that would severely curtail the salaries paid to appellate body members, but it is unclear if other WTO members will accept these terms.

Domestically, the political climate has grown quite sour. House Democrats have initiated an impeachment investigation of President Trump which, while highly unlikely to result in a Senate conviction and his removal from office, further lessens any chance for bipartisan collaboration on policies that could improve the economic climate (though USMCA passage could be an important exception). Moreover, as the Democratic primary process heats up and the country nears another general election, the questions of who will win the Democratic nomination and how friendly that candidate will be toward U.S. businesses if he or she were to become president is likely to factor into business investment decisions throughout the year.

The international and domestic factors outlined above together present significant political and policy uncertainty, particularly as they relate to factors influencing capital investment by U.S. firms. As a result, we expect that many firms — especially those with a direct stake in the U.S–China trade war — will adopt a wait-and-see approach to investment decisions in 2020 until these narratives are resolved.

- **Sustained Homebuilding Rebound?** Highlighted in the Q4 2019 Outlook as a factor to watch, residential investment rebounded in the third quarter, expanding 5.1%. This marked the first expansion in residential investment in almost two years, a welcome development that some market watchers believe could mark the beginning of a housing resurgence. Indeed, though the Q3 residential investment expansion was relatively modest, there is reason to be optimistic about the housing sector's prospects in 2020. For example, the average 30-year fixed rate mortgage is around 3.75% and has held below 4% since June — near an all-time low. Improved mortgage affordability has spurred activity in the residential real estate market, as new home sales have held above 700,000 (annualized) for the last three months, just below the post-recession peak reached in June of this year. Existing home sales, after plunging in early 2019, have continued to recover and even surprise to the upside, posting four consecutive months of year-over-year growth. On the supply side, the NAHB-Wells Fargo Housing Market Index, a measure of builder sentiment, has risen sharply after a collapse in early 2019 and is up on an annual basis in each of the last three months.

  However, there are still several looming headwinds that could derail the housing sector's modest recovery. Home prices remain elevated by historical standards, raising affordability concerns despite low mortgage rates — especially at the lower end of the market. Similarly, builders continue to face labor and buildable lot shortages. Given these crosscurrents, the potential for a significant housing sector rebound remains will be a key factor to watch in 2020.

Projections for Key Economic Indicators

Indicator	2018	2019e	2020 Quarterly Estimates				2020e
			Q1e	Q2e	Q3e	Q4e	
Real GDP (SAAR %)	2.9%	2.3%	1.8%	1.7%	1.6%	1.5%	1.7%
Real Investment in Equipment & Software (SAAR %)	7.7%	3.6%	1.2%	0.9%	0.7%	0.6%	1.1%
Inflation (year-on-year %)	2.4%	1.8%	2.0%	1.8%	1.8%	1.7%	1.8%
Federal Funds Target Rate (upper bound, end of period)	2.5%	1.75%	1.5%	1.5%	1.25%	1.25%	1.25%
10-year Treasury Rate (end of period)	2.70%	1.80%	1.75%	1.70%	1.65%	1.60%	1.60%
Total Payroll Growth (thousands)*	2679	2105	375	545*	25*	280	+1,230

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.

* Estimates adjusted to account for federal hiring related to 2020 U.S. Census.

QUARTERLY DATA

Indicator	2017		2018				2019		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Real Gross Domestic Product (SAAR %)									
GDP	3.2%	3.5%	2.6%	3.5%	2.9%	1.1%	3.1%	2.0%	2.1%
Consumer Spending	2.4%	4.6%	1.7%	4.0%	3.5%	1.4%	1.1%	4.6%	2.9%
Gross Private Fixed Investment	7.4%	4.7%	6.2%	-1.8%	13.7%	3.0%	6.2%	-6.3%	-0.1%
Inv: Equipment & Software	7.0%	11.2%	9.2%	5.0%	4.2%	8.2%	3.5%	2.1%	-0.6%
Inv: Agricultural Machinery	26.8%	36.2%	-2.3%	33.2%	-2.2%	16.8%	-2.5%	-11.3%	2.0%
Inv: Construction Machinery	10.7%	22.4%	15.6%	10.7%	-1.9%	-1.3%	11.2%	14.2%	-6.7%
Inv: Materials Handling Equipment	0.2%	7.1%	8.2%	1.2%	5.0%	1.9%	-1.0%	-10.7%	10.9%
Inv: All Other Industrial Equipment	7.4%	8.2%	4.5%	-6.9%	6.5%	9.1%	-4.6%	8.9%	4.5%
Inv: Medical Equipment	14.6%	14.8%	10.4%	6.3%	9.6%	1.1%	-0.2%	10.5%	-5.1%
Inv: Mining & Oilfield Machinery	42.1%	-6.7%	-34.1%	28.8%	-21.7%	-18.4%	-11.4%	32.0%	-27.9%
Inv: Aircraft	-5.7%	-4.1%	16.1%	9.8%	-29.7%	92.6%	-58.1%	-43.2%	-82.0%
Inv: Ships & Boats	31.3%	-0.8%	-30.5%	-36.0%	23.2%	-8.5%	15.7%	-33.5%	36.8%
Inv: Railroad Equipment	7.3%	22.2%	-15.6%	-6.5%	-7.8%	-2.0%	22.6%	34.6%	14.7%
Inv: Trucks	6.6%	34.7%	20.6%	15.9%	8.0%	11.9%	8.6%	0.6%	6.5%
Inv: Computers	15.2%	-8.4%	30.3%	10.8%	0.4%	-6.7%	9.2%	34.7%	-28.9%
Inv: Software	9.8%	5.9%	17.5%	10.3%	8.3%	10.6%	14.7%	5.8%	8.8%
Credit Conditions									
Nonfinancial Sector Debt (% of SAAR GDP)	71.1%	71.4%	70.9%	72.3%	72.5%	72.6%	73.0%	73.1%	-
Loan Delinquency Rate	1.3%	1.2%	1.1%	1.1%	1.0%	1.0%	1.1%	1.1%	1.1%
Lease Delinquency Rate	1.0%	1.0%	0.9%	1.0%	1.0%	1.0%	1.2%	1.1%	1.2%
Net Tightening of C&I Loan Standards	-3.9%	-8.5%	-10.0%	-11.3%	-15.9%	-15.9%	2.8%	-4.2%	-2.8%

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		2019										
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Employment													
Change in Total Payrolls (thousands)	196	227	312	56	153	216	62	178	166	219	193	156	266
Change in Private Payrolls (thousands)	200	224	297	46	153	195	81	161	122	163	183	163	254
Unemployment Rate	3.7%	3.9%	4.0%	3.8%	3.8%	3.6%	3.6%	3.7%	3.7%	3.7%	3.5%	3.6%	3.5%
Business Activity													
Industrial Production	110.5	110.6	110.1	109.6	109.7	109.0	109.2	109.3	109.1	109.9	109.6	108.7	-
Capacity Utilization	79.6%	79.5%	79.0%	78.5%	78.4%	77.8%	77.8%	77.7%	77.4%	77.9%	77.5%	76.7%	-
PMI Composite Index	58.8	54.3	56.6	54.2	55.3	52.8	52.1	51.7	51.2	49.1	47.8	48.3	48.1
NFIB Small Business Optimism Index	104.8	104.4	101.2	101.7	101.8	103.5	105.0	103.3	104.7	103.1	101.8	102.4	-
Consumer Activity													
Consumer Confidence	136.4	126.6	121.7	131.4	124.2	129.2	131.3	124.3	135.8	134.2	126.3	126.1	125.5
Personal Consumption (M/M % Chg)	0.3%	-0.9%	0.6%	-0.2%	0.8%	0.4%	0.3%	0.2%	0.3%	0.2%	0.2%	0.1%	-
Retail Sales (M/M % Chg)	-0.1%	-2.0%	1.5%	-0.5%	1.8%	0.4%	0.5%	0.4%	0.7%	0.6%	-0.3%	0.3%	-
Lending Activity													
C&I Loans (M/M % Chg)	1.2%	1.5%	0.8%	0.4%	0.6%	0.1%	0.1%	0.2%	0.1%	0.5%	-0.4%	-0.4%	-
MLFI-25 New Business Volume (Bil.$)	8.00	12.70	7.20	5.90	8.20	8.80	9.10	9.90	9.40	9.20	10.00	10.10	-
MLFI-25 Avg Losses as a % of Net Rec.	0.37%	0.55%	0.35%	0.35%	0.37%	0.32%	0.46%	0.33%	0.37%	0.42%	0.40%	0.46%	-
MLFI-25 Credit Approval Ratio	77.2%	77.9%	76.1%	76.0%	75.3%	76.8%	75.9%	77.0%	75.7%	76.6%	76.3%	76.3%	-
Interest Rates (% avg of period)													
Fed Funds Target Rate (Lower Bound)	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.00%	1.75%	1.50%	1.50%
1-Year Treasury Rate	2.70%	2.66%	2.58%	2.55%	2.49%	2.42%	2.34%	2.00%	1.96%	1.77%	1.80%	1.61%	1.57%
3-Year Treasury Rate	2.91%	2.67%	2.52%	2.48%	2.37%	2.31%	2.16%	1.78%	1.80%	1.51%	1.59%	1.53%	1.61%
10-Year Treasury Rate	3.12%	2.83%	2.71%	2.68%	2.57%	2.53%	2.40%	2.07%	2.06%	1.63%	1.70%	1.71%	1.81%
30-Year Treasury Rate	3.36%	3.10%	3.04%	3.02%	2.98%	2.94%	2.82%	2.57%	2.57%	2.12%	2.16%	2.19%	2.28%
AAA Corporate Bond Yield	4.22%	4.02%	3.93%	3.79%	3.77%	3.70%	3.67%	3.42%	3.29%	2.98%	3.03%	3.01%	3.06%
BAA Corporate Bond Yield	5.22%	5.13%	5.12%	4.95%	4.84%	4.70%	4.63%	4.46%	4.28%	3.87%	3.91%	3.93%	3.94%
Prices													
Headline Inflation (Y/Y % Chg)	2.2%	1.9%	1.6%	1.5%	1.9%	2.0%	1.8%	1.6%	1.8%	1.7%	1.7%	1.8%	-
Core Inflation (Y/Y % Chg)	2.2%	2.2%	2.2%	2.1%	2.0%	2.1%	2.0%	2.1%	2.2%	2.4%	2.4%	2.3%	-
Oil Price (West Texas Int., $/barrel)	50.78	45.15	53.84	57.21	60.19	63.83	53.49	58.2	58.53	55.07	54.09	54.02	58.12

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 report is the full 2020 Annual Outlook, and quarterly updates will follow in April, July, and October. 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 three-to-six month lead time.

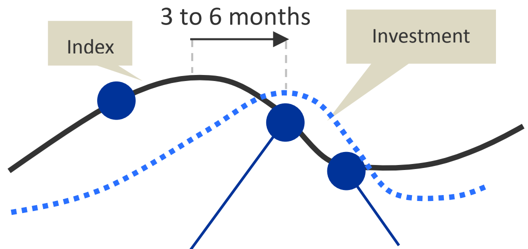
The Momentum Monitor is based on Keybridge's extensive research which shows that not all movements in economic data are reliable signals of future economic trends. Keybridge has operationalized its research by constructing indices, each comprised of between 10 to 20 high-frequency indicators. These indicators 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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