MORNING BRIEFING
November 9, 2017

Chips & Chile

See the collection of the individual charts linked below.

(1) No more drivers in Waymo's cars. (2) Autos will be using more chips, less gasoline. (3) Soaring semiconductor sales and stock prices. (4) Chips are still relatively cheap! (5) Lots of mergers, acquisitions, and partnerships in dynamic semiconductor industry. (6) Media industry is a fast-moving picture. (7) Chile has what self-driving electric cars need: copper and lithium. (8) Mexico may underperform until NAFTA issues with Trump administration are resolved.

Technology: Driverless Semiconductors. Waymo announced on Tuesday that its minivans soon will start picking up passengers without anyone in the driver's seat. It's a pilot program in a Phoenix suburb that marks a major leap on the road toward a world filled with autonomous cars. Passengers will hail Waymo's car with a mobile app, like those used by Uber and Lyft, and sit in the back seat. A video in this 11/7 Bloomberg article shows what the future may hold.

While it's unclear how quickly Waymo's driverless cars will be rolled out, the news is welcome to the semiconductor industry, as chips galore are needed to process the reams of data involved with safely propelling driverless cars. It's just one of the technologies—along with cloud computing and the Internet of Things—that have helped the S&P 500 Semiconductors and Semi Equipment industries remain the hottest of the industries we track.

The S&P 500 Semiconductor Equipment stock price index has posted a 73.7% ytd return, and not far behind is the S&P 500 Semiconductors industry, up 38.0% ytd (*Fig. 1* and *Fig. 2*). The semis have had a banner year thanks to strong earnings and a surge of M&A, which culminated in last week's news that Broadcom has offered to acquire Qualcomm for an eye-popping $105 billion. I asked Jackie to take us for a drive down the road of driverless chips. Here is her guided tour:

(1) *Surging sales*. It all starts with strong sales. Worldwide semiconductor sales hit a quarterly record of $107.9 billion in Q3, marking a 10.2% q/q gain, according to a 10/30 Semiconductor Industry Association press release. The three-month moving average for sales in the month of September was $36.0 billion, up 22.2% y/y. And ytd sales through September are up more than 20% compared to last year (*Fig. 3*).

The strong revenues have supported the industries' earnings. The consensus of industry analysts currently expects S&P 500 Semiconductor Equipment 2017 revenue and earnings to grow by 32.2% and 64.6%. Revenue and earnings in the S&P 500 Semiconductors industry are expected to increase by 14.7% and 38.1% this year.

The future is bright, but less so than this year. In August, World Semiconductor Trade Statistics forecast that global semiconductor sales will increase by 17.0% this year and 4.3% in 2018. Wall Street's analysts also predict results will moderate. Over the next 12 months, the Semiconductor Equipment industry's revenues are expected to grow 12.1% and earnings are expected to expand 16.8%. Results in the Semiconductors industry are also expected to moderate over the next 12 months, but revenue should still grow a healthy 6.3% and earnings should increase by 7.4% (*Fig. 4*).

Earnings have grown so rapidly that the valuations on the two indexes still don't look stretched. The forward P/E for the Semiconductor Equipment industry is 14.5, and the forward P/E on the Semiconductors industry is 16.0 (*Fig. 5* and *Fig. 6*).

(2) *Surging M&A*. Broadcom's massive offer for Qualcomm is just the latest in a record year for M&A deals in the semiconductor industry. According to an 11/6 *WSJ* article, semiconductor deals announced so far this year globally amount to $167 billion, up from $130 billion for all of 2016 and only $38 billion in 2014.

Broadcom itself is the result of Avago Technologies' 2015 acquisition of the former Broadcom for $37 billion. "The company sells a diverse line of equipment for networking and communications. Its products include chips for Wi-Fi and Bluetooth technology that connect devices that are closer together—technologies that some analysts say are likely to grow less quickly than 5G," the 11/6 *WSJ* article reports.

Separately, Qualcomm is in the midst of acquiring NXP Semiconductors for $39 billion, the second-largest deal ever announced in the semiconductor industry. Like Broadcom, Qualcomm is a leader in Wi-Fi and Bluetooth technology, but it also supplies chips in cell phones and owns patents used in cell phones.

"Should the deal be completed, Broadcom would take on Qualcomm's leadership in developing the next wave of cellular technology, known as 5G, which is expected to roll out over the coming two years. That could give Broadcom a new growth engine, as 5G is expected to dramatically accelerate the speed and responsiveness of cellular communications necessary for applications like self-driving cars," the *WSJ* explained.

Elsewhere in the semi world, Marvell Technology Group is reported to be in talks to acquire Cavium for roughly $14 billion, according to an 11/3 *WSJ* article. Marvell's chips are typically used in storage devices, printers, wireless products, and cars. Cavium's chips are used in networking, data-center, and wireless products.

Intel and Advanced Micro Devices teamed up to develop a chip that combines an Intel processor and AMD's graphics unit to be used in laptops that are thin, but powerful enough to run high-end video games, noted a 11/6 *WSJ* article. The intention is to take share from Nvidia, which sells graphics chips that go into laptops used for gaming.

Media: Not So Entertaining. Cord-cutting and Netflix continue to create drama in the entertainment industry. With subscriber and advertising numbers hurting, industry leaders are considering mergers and acquisitions as a way to move from defense to offense. Below, Jackie takes a look at this moving picture:

(1) *Subs down*. Cord-cutting seems to be accelerating. Comcast's video customers were down 125,000 in Q3 to 22.4 million. There were 100,000 subscribers lost to competition and 25,000 customers lost due to the hurricanes, said CEO Brian Roberts in a 10/26 interview on CNBC. At AT&T, Q3 losses were even worse, with 385,000 paying TV subscribers leaving the company. AT&T attributed the decline to competition, its implementation of stricter credit standards, and hurricane disruptions, according to a 10/24 Business Insider article. At Discovery Communications' US Networks, subscribers declined 5% last quarter.

Conversely, Netflix added in Q3 850,000 subscribers in the US and another 4.5 million subscribers internationally, bringing its total to 109.3 million globally.

(2) *Turning off the tube*. While we may all still be couch potatoes, we seem to be watching things beyond television channels. In the first nine months of fiscal 2017, Disney's cable and TV revenue was flat and operating income fell 11% to $6 billion. At CBS, advertising revenue dropped 4.8% in Q3. Comcast's NBCUniversal Broadcast Television division's revenue was the exception, increasing by 12.3% in Q3, excluding revenue related to last year's Olympics.

(3) *Awakening giants.* CBS was among the first to respond to the cord-cutting/Netflix threat. It created CBS All Access in 2014. Last quarter, CBS's affiliate and subscription fees jumped 52.0% thanks to the All Access platform and the Floyd Mayweather/Connor McGregor pay-per-view event on Showtime.

Disney announced in August that it will pull all its movies from Netflix starting in 2019 and jump into the streaming business itself. It plans to launch an ESPN video streaming service and a Disney direct-to-consumer streaming service in 2019. "In pulling its movies from Netflix in 2019, Disney gave up an estimated $300 million-plus a year, people with knowledge of the arrangement said. And while it currently produces Marvel superhero series like 'Daredevil' for Netflix, new Marvel shows in the future are expected to live on the company's own streaming service," an 11/8 *WSJ* article reported.

The need for content to feed that new streaming service may have been behind Disney's talks to buy 21st Century Fox. The above-mentioned *WSJ* article noted that 21st Century Fox has a 30% stake in streaming TV company Hulu, a television studio, and the rights to various Marvel characters, like X-Men. The talks reportedly have concluded with no deal resulting. But had they succeeded and had Disney decided to remove Fox's content from Netflix too, the results would have been painful for Netflix. "Fox made up 17 percent of Netflix's top-rated shows by IMDb as of June, while Disney made up 7 percent, according to MoffettNathanson and YipitData," an 11/7 Reuters article reported.

The push for more content may also be driving AT&T's $85.4 billion acquisition of Time Warner. Time Warner boasts ownership of HBO, CNN, and film studio Warner Brothers. That deal may also be hitting a wall as the US Department of Justice is asking for "structural remedies" to satisfy its antitrust concerns, reported an 11/8 Reuters article.

With the giants rustling, Netflix will continue its hefty spending to create new content. Next year, it plans to spend $7 billion to $8 billion on content, following a $7 billion budget this year.

(4) *The numbers*. It's an interesting exercise to compare the four industries in which the entertainment players reside. Comcast is in the S&P 500 Cable & Satellite industry, which has forward earnings growth of 14.0% and a forward P/E of 20.6, down from a peak of 24.4 in February. CBS is a member of the S&P 500 Broadcasting industry, which has expected forward earnings growth of 10.3% and a forward P/E of 11.4, down sharply from 19.6 in 2014. Lastly, Disney is a member of the S&P 500 Movies & Entertainment industry, with forward earnings growth of 7.7% and a forward P/E of 14.2.

Chile I: Red Hot Stocks. Chile, up 4.4%, outperformed China, up 3.9%, for the month of October in the MSCI Global Stock Indexes performance derbies (in local currency). The two are not as disparate as they may appear. Copper connects the two—China needs it, and Chile has it. As the world's biggest copper producer, the metal represents 50% of Chile's exports. The country is also high on lithium, which is another element necessary for producing electric cars. I asked Sandra to have a look. Here is her report:

(1) *Electric motors need copper.* After a prolonged slump, copper prices have been hitting three-year highs lately amid tighter supplies and bullish economic data out of China, where real GDP expanded at

a 6.8% y/y rate during Q3. Demand for battery-powered electric vehicles, which use up to four times more copper than vehicles with internal combustion engines, is also powering the run-up in prices, according to a 9/26 article in TheStreet.com. A 9/25 Reuters story quoted BHP Billiton's chief commercial officer saying 2017 is the "tipping point" for the coming revolution that will see 140 million electric cars on the roads by 2035, up from about one million today. "And copper is the metal of the future," said BHP's Arnold Balhuizen.

(2) *Batteries need lithium*. Lithium is a key resource used to power electric cars, and, again, Chile is a top producer, boasts the world's biggest reserves, and is part of the so-called "Lithium Triangle" along with Argentina and Bolivia. Demand for lithium has been the driving force behind the big gains in the S&P 500 Materials and Specialty Chemicals sectors ytd, as Jackie pointed out in the 11/2 *Morning Briefing* "High on Lithium & Paint." Indeed, Charlotte, NC-based Albemarle is one of just two companies allowed to mine lithium in Chile under a contract signed in the 1980s, according to a report in the 6/15 *Economist,* which also noted that Chile's Economic Development Agency extended Albemarle's mining lease to 2044 and added to its quota. Albemarle's stock is up 68.8% ytd.

(3) *Regime change?* Also contributing to the optimism surrounding Chilean stocks are elections scheduled for November 19 in which billionaire rightwing candidate and former president Sebastian Pinera is widely expected to prevail and return Chile to a growth trajectory. Though he's deeply unpopular, Chile enjoyed average annual economic growth of 5% under his previous tenure compared with the under 2% on average delivered by the current president, Michelle Bachelet. In late summer, Bachelet's entire economic team quit, frustrated by their inability to persuade her to pursue policies that would have resulted in increased and more diversified growth, according to an 8/31 *FT* article.

(4) *By the numbers*. Through Tuesday, Chile is up 27.8% ytd in the MSCI global stock price index performance derby (in local currency) (*Fig. 7*).

Chile's market performance may be getting ahead of itself, already factoring in projected economic growth and hopefulness surrounding the coming elections and the likelihood of a new pro-growth government. Its near-record-high forward P/E of 20.1 is out of whack with its forward earnings growth estimate of 13.3% and revenue growth of 5.2%, and, all the while, revisions have been to the downside (*Fig. 8*, *Fig. 9*, *Fig. 10*, *Fig. 11*, *Fig. 12*, and *Fig. 13*). This is a country that narrowly missed slipping into recession in Q2. Let's look more closely at the economy.

Chile II: Not So Hot Economy. Chile's economy isn't all about copper. While mining output has increased sharply since July following a strike, other economic activity has been weak, particularly in the construction industry. As noted above, the current government's economic policies have weighed on growth, and stock investors may be hoping that a new government might deliver better numbers than the following:

(1) *GDP growth.* Chile's economy managed to avoid slipping into recession during Q2, though growing at only 0.9% y/y, worse than expected. That result was a big improvement over the 0.1% y/y gain eked out in Q1, which was the worst showing since 2009 during the global financial crisis. A 43-day strike earlier in the year at the world's largest copper mine—Escondida, operated by majority owner BHP Billiton—continued to impact economic growth. The strike reflected workers' reaction to production cuts amid soft copper prices in Q2, and production came back on line only gradually. It was the country's longest mine strike since a 74-day strike at the El Teniente mine in 1973, and is expected to reduce annual GDP by 0.2%. The mine produces 5.0% of the world's copper and represents 20% of Chile's total production and 2.0% of its GDP.

A 9/7 Reuters article reported that Chile's central bank revised its forecast for full-year economic growth to 1.75%-2.75% from a previous range of 2.0%-3.0%. "On the domestic front, the main concern has to do with the low growth the Chilean economy is facing," Central Bank President Rodrigo Vergara told Reuters. "If this scenario (the bank is projecting) comes true, it will mark four straight years of annual growth of around 2.0 percent." The Central Bank forecasts 2018 GDP growth of 2.5%-3.5%.

(2) *Inflation.* Chile's Central Bank kept its benchmark rate unchanged at 2.50% at its 10/19 meeting, despite September's sharp drop in inflation to 1.5%, according to a 10/31 piece in Focus Economics. Central bankers justified standing pat due to slightly stronger underlying inflation in September and more optimistic business and consumer sentiment.

(3) *Government spending.* Higher copper prices and improving sentiment led President Bachelet to announce a 3.9% increase in budget spending, to widen access to free higher education, raise teachers' salaries, and continue to build new hospitals. Higher tax revenues from rising copper prices are expected to offset the spending.

Higher copper prices go a long way toward improving Chile's fortunes, but they're not enough to get the overall economy humming again.

Mexico: Heading South. Earthquakes and hurricanes took a toll on Mexico's economy during Q3 as real GDP shrank for the first time in more than four years, according to official estimates quoted by Reuters in a 10/31 story.

Real GDP contracted about 0.2% q/q (sa) during Q3, the national statistics agency said, following an expansion of 0.6% in Q2. If confirmed when official data is released on November 24, the result would mark the country's first quarterly contraction since Q2-2013.

The preliminary data showed the industrial sector likely shrank by 0.5% in Q3 compared with Q2, while services slipped 0.1%. Agriculture expanded 0.5% q/q. The economy is expected to bounce back as reconstruction efforts gain momentum. The National Statistics Institute also introduced a new base year of 2013 for GDP data, replacing data based on 2008 and leading to upward revisions in previous quarters. Mining now is assigned a lower weight than services.

More bad news came in the form of the October IHS Markit M-PMI data for Mexico, which showed a decline to 49.2 from 52.8 in September as output, new orders, and employment contracted. Business sentiment was the weakest since March.

As its economy has shrunk, so have the gains in the Mexico MSCI stock price index since we last wrote about the country in the 8/23 *Morning Briefing* (*Fig. 14*). The index is up 7.3% ytd through Tuesday (in local currency) compared with an advance of 11.8% then. Its forward P/E has retreated to 16.1 from the 17.2 of August, and forward earnings growth is estimated at 6.1% compared with 14.2% in August. That's a wide enough gap to give us pause, but it remains to be seen whether the weakness reflects the natural disasters or deeper uncertainties plaguing the economy. NAFTA, anyone?

CALENDARS

US. Thurs: Jobless Claims 232k, Wholesale Inventories 0.3%, Weekly Consumer Credit Index, EIA Natural Gas Report. **Fri:** Consumer Sentiment Index 100.0, Treasury Budget -$56.1b, Baker-Hughes Rig Count. (*Wall Street Journal* estimates)

Global. Thurs: Germany Trade Balance (euros) 22.5b, China CPI & PPI 1.7%/6.6% y/y, ECB Publishes Economic Bulletin. **Fri:** UK Headline & Manufacturing Industrial Production 1.9%/2.4% y/y, China New Yuan Loans 775.0b, China Aggregate Financing 1102.5b, China M2 9.2% y/y, RBA Statement on Monetary Policy. (DailyFX estimates)

STRATEGY INDICATORS

Stock Market Sentiment Indicators (*link*): Our Bull/Bear Ratio (BBR) climbed for the seventh time in eight weeks to 4.47 this week—the highest reading March 1987! Bullish sentiment posted its fifth straight reading of 60.0% or above, increasing steadily the past eight weeks from an 11-month low of 47.1% to 64.4% this week—just shy of its high of 64.9% posted in early 1987. The correction count fell in seven of the past eight weeks from 32.7% to 21.2%—near its low for the year of 20.4% during the final week of February. Bearish sentiment was unchanged at 14.4% this week, the fewest bears since early May 2015; it was at 20.2% eight weeks ago. This is the fifth week with the bears below the narrow 16.5%-18.3% range that held for most of this year, and may be setting a new, lower range. The AAII Ratio rebounded to 61.2% last week after sinking the prior two weeks from 59.7% to 54.5%. Bullish sentiment rose from 39.6% to 45.1% last week, while bearish sentiment fell from 33.0% to 28.6%.

S&P 500 Earnings, Revenues & Valuation (*link*): Last week saw S&P 500 consensus forward revenues and earnings rise to new record highs. The forward profit margin forecast was steady at a record high of 11.1%, which is its first since September 2015 and up from a 24-month low of 10.4% in March 2016. Forward revenue growth for the S&P 500 edged down to 5.4% from 5.5%. That's down from 5.8% in late January, which was the highest since May 2012 and compares to a cyclical low of 2.7% in February 2016. Forward earnings growth dropped to 11.0% from 11.4%, and is down from a nine-month high of 11.5% in mid-October. That compares to January's 11.7%, which was the highest since October 2011 and a cyclical low of 4.8% in February 2016. S&P 500 forward revenues and forward earnings growth are enjoying a tailwind now due to easy y/y comparisons for Energy and improving forward growth rate forecasts for revenues (STRG) and earnings (STEG) for Industrials, Materials, and Tech. However, Energy's contribution to forward growth peaked at the start of 2017. Looking at last week's results, the S&P 500 ex-Energy's STRG of 5.2% is only 0.2ppts lower and STEG of 10.0% is 1.0ppts lower. The S&P 500 ex-Energy forward profit margin was steady w/w at a record high of 11.7%, which is its first since August 2007. The forward P/E edged down to 18.0 from 18.1, which was the highest since February 2004 and compares to a 15-month low of 14.9 in January 2016. The S&P 500 price-to-sales ratio was steady at a record high of 2.01, and edged up to a record high of 2.08 on an ex-Energy basis. On an ex-Energy basis, the forward P/E of 17.7 remains the highest since February 2004.

S&P 500 Sectors Earnings, Revenues & Valuation (*link*): Consensus forward revenue forecasts rose last week for all 11 sectors, and forward earnings rose for all but Real Estate. Forward revenues and earnings are at or around record highs for 5/11 sectors: Consumer Discretionary, Consumer Staples, Health Care, Industrials, and Tech. Energy's forward revenues and earnings are ticking higher now, but remain near their lowest levels since the spring of 2017. Health Care's valuation is easing again; its P/E of 16.4 and P/S of 1.75 are down from their respective 25-month highs of 16.8 and 1.79 in September, and remain below their early 2015 highs of 17.9 and 1.88, respectively. Financials' P/E is up from 12.0 before the election to 14.4, which matches the post-election high from early March. With Energy's forward revenues and earnings up from cyclical lows in early 2016, its valuations are coming back to Earth; its P/S ratio of 1.35 compares to a record high of 1.56 in May 2016, and its P/E of 26.7 is down from a record high of 57.5 then. Higher y/y margins occurred for only 7/11 sectors in 2016, but margins are expected to improve in 2017 for all but Industrials, Real Estate, and Utilities. In the latest week, the forecasted forward profit margin edged down for Industrials and Real Estate, but rose for four sectors: Energy, Financials, Materials, and Tech. Here's how they rank based on their current forward profit margin forecasts: Information Technology (21.0%), Real Estate (17.0), Financials (16.5), Telecom (11.7), Utilities (11.4), S&P 500 (11.1), Materials (10.7, 9.6), Health Care (10.7), Industrials (9.2), Consumer Discretionary (7.6), Consumer Staples (6.8), and Energy (5.1).

S&P 500 Q3 Earnings Season Monitor (*link*): With over 87% of S&P 500 companies finished reporting Q3-2017 earnings and revenue results through midday Wednesday, their percentage surprise and y/y growth results are mostly weaker compared to the same point during the Q2 earnings season, but more companies have reported positive y/y revenue and earnings growth. Of the 436 companies in the S&P 500 that have reported, 73% exceeded industry analysts' earnings estimates, by an average of 5.6%; they have averaged a y/y earnings gain of 8.3%. At the same point during the Q2-2017 reporting period, a lower percentage of S&P 500 companies (72%) had beaten consensus earnings estimates by a higher 6.1%, and earnings were up a higher 12.3% y/y. On the revenue side, 67% beat sales estimates so far, with results coming in 1.3% above forecast and 5.9% higher than a year earlier. At this point in the Q2 season, a higher 68% had exceeded revenue forecasts by a lower 1.1%, and sales rose a lower 5.4% y/y. Q3 earnings results are higher for 71% of companies, vs 72% at the same point in Q2, and revenues are higher for 79%, vs 81% a quarter ago. Although these figures will continue to change as more Q3-2017 results are reported in the coming weeks, particularly for the retailers, the results are very encouraging. Q3-2017 will mark the fifth straight quarter of positive y/y earnings growth despite the negative impact of the three hurricanes. Y/Y growth fell back into the single digits during Q3 from double-digit percentage growth in H1-2017, which were the first double-digit growth quarters seen since Q3-2011. However, Q3 growth will probably mark a low point as tax reform should boost growth back into the double digits.

US ECONOMIC INDICATORS

Consumer Credit (*link*): Consumers' credit accelerated in September at its fastest pace since last November as both nonrevolving and revolving credit picked up. Credit advanced $20.8 billion, up from $13.1 billion in August and above the average gain of $15.2 billion the first eight months of this year. Nonrevolving credit, which includes student and auto loans, jumped $14.4 billion, nearly double August's $7.6 billion, likely reflecting a rebound in motor vehicle purchases as consumers in the hurricane-related areas replaced damaged autos. (Quarterly data are available for both student and auto loans for Q3 and show the former increased by $35.2 billion, unadjusted, during the quarter while the latter advanced $19.3 billion.) Meanwhile, revolving credit jumped $6.4 billion, near its high for the year, as credit-card debt outstanding exceeded $1.0 trillion for the first time in the history of the series going back to 1968.

Contact us by email or call 480-664-1333.

Ed Yardeni, President & Chief Investment Strategist, 516-972-7683
Debbie Johnson, Chief Economist, 480-664-1333
Joe Abbott, Chief Quantitative Strategist, 732-497-5306
Melissa Tagg, Director of Research Projects & Operations, 516-782-9967
Mali Quintana, Senior Economist, 480-664-1333
Jackie Doherty, Contributing Editor, 917-328-6848
Valerie de la Rue, Director of Institutional Sales, 516-277-2432
Mary Fanslau, Manager of Client Services, 480-664-1333
Sandy Cohan, Senior Editor & Webmaster, 570-775-6823