Tech Leads the Way

When Amazon announced that it was searching for a second headquarters, 238 communities across the continent scrambled to put together expansive applications. As of this writing, 20 finalists remain in the race, with a number offering billions of dollars in subsidies to a company founded by the world’s wealthiest individual. At stake is a $5 billion facility that will employ 50,000 people, will substantially expand a region’s local tax base, and position a community for leadership in global e-commerce. Among the finalists are predictable cities like Boston and Atlanta and arguably less obvious choices such as Indianapolis and Columbus, OH.

But Amazon represents only one of a number of blockbuster real estate deals involving America’s tech giants. A report from online technology news website GeekWire states that Internet search giant Google is planning on doubling the size of its Seattle campus. Vulcan Real Estate announced that it would begin developing a third block, with more than 600,000 square feet already under construction. The new block will house a 12-story office building along with an additional 23,000 square feet of retail space. Construction is set to begin late next year.

An article supplied by Construction Dive states that Facebook has filed for more than $900 million in construction permits in and around its Menlo Park campus in San Francisco. The combined permit value of all of Facebook’s planned projects easily exceeds $1 billion.

That tech companies are driving commercial real estate and significant volumes of construction activity is hardly new. A 2007 article from DataCenter Knowledge indicates that more than a decade ago Google paid about $3,000 per square feet ($3,597 in today’s dollars) for a data center it was building in North Carolina. The specialized needs of tech giants tend to produce disproportionate levels of construction investment. The Google data center’s per square foot cost was roughly three times the average rate for that year.

Apple, the world’s first $1 trillion company as measured by market capitalization, recently finished construction and renovation of a 1.3 million square foot data center in Mesa, Arizona. At a total cost of $2 billion, the project cost the company roughly $1,500 per square foot. Data centers continue to be among the fastest growing construction segments in America, and with the growing appetite for cloud computing, no end appears to be in sight.

And while many eyes have been on Amazon’s HQ2, Apple has been more surreptitiously searching for a location for its next major campus. According to recent media reports, the maker of the iPhone may be on the verge of selecting Research Triangle Park in North Carolina atop its list of possible sites. As indicated by Fortune, the company’s second campus is slated to house technical support employees, but could add other types of professional staff going forward. It doesn’t hurt that Apple CEO Tim Cook is an alumnus of Duke University.
More than Tech

The ongoing strength of the tech sector is becoming increasingly important. That’s because many other segments of the economy are facing growing headwinds. There are few segments for which this is truer than for housing. With prices rising in the wake of shrinking for-sale inventory and with mortgage rates also edging higher, Americans are facing the worst housing affordability in about a decade.

Meanwhile, builders are wrestling with higher materials prices, including softwood lumber, the price of which recently expanded 20 percent over a 12-month period. While it is true that the number of single family housing starts achieved a post-recession high last November, they subsequently slipped significantly and have been swerving sideways ever since. Moreover, what is being built is meaningfully smaller than the typical homes of the past. In 2015, the average new single family home encompassed nearly 2,750 square feet. Since then, average new home size has declined by nearly 200 square feet.

<table>
<thead>
<tr>
<th>Subsector</th>
<th>June 2018</th>
<th>1-month % Change</th>
<th>12-month % Change</th>
<th>36-month % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonresidential</td>
<td>$742,412</td>
<td>-1.6%</td>
<td>4.2%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Lodging</td>
<td>$31,706</td>
<td>-0.4%</td>
<td>10.7%</td>
<td>39.2%</td>
</tr>
<tr>
<td>Office</td>
<td>$72,758</td>
<td>0.1%</td>
<td>10.8%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Commercial</td>
<td>$90,991</td>
<td>-1.9%</td>
<td>1.1%</td>
<td>39.1%</td>
</tr>
<tr>
<td>Health care</td>
<td>$42,086</td>
<td>-0.9%</td>
<td>1.5%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Educational</td>
<td>$87,855</td>
<td>-9.3%</td>
<td>-5.5%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Religious</td>
<td>$3,096</td>
<td>-1.8%</td>
<td>-13.7%</td>
<td>-7.6%</td>
</tr>
<tr>
<td>Public safety</td>
<td>$9,377</td>
<td>0.9%</td>
<td>20.2%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Amusement and recreation</td>
<td>$26,075</td>
<td>3.3%</td>
<td>2.5%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Transportation</td>
<td>$51,223</td>
<td>0.2%</td>
<td>14.5%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Communication</td>
<td>$24,556</td>
<td>-0.8%</td>
<td>-0.8%</td>
<td>30.5%</td>
</tr>
<tr>
<td>(incl. data centers)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>$103,487</td>
<td>-0.9%</td>
<td>8.5%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Highway and street</td>
<td>$94,091</td>
<td>-1.3%</td>
<td>6.2%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Sewage and waste disposal</td>
<td>$22,563</td>
<td>0.9%</td>
<td>11.7%</td>
<td>-14.1%</td>
</tr>
<tr>
<td>Water supply</td>
<td>$14,199</td>
<td>-0.6%</td>
<td>17.7%</td>
<td>-5.0%</td>
</tr>
<tr>
<td>Conservation and development</td>
<td>$7,711</td>
<td>-2.6%</td>
<td>10.4%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>$60,638</td>
<td>1.1%</td>
<td>-5.7%</td>
<td>-30.2%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

Then there’s the consumer, who has been stung in recent months by rising inflationary pressures. While it is true that more people are working and fewer people are unemployed, consumer sentiment as measured by the University of Michigan declined to an 11-month low in August. The dip in sentiment is concentrated among households in the bottom third of the income distribution. This group has become somewhat concerned by rising home prices (many of them are aspirational homeowners) and prices for other big-ticket items. For instance, consumers’ perceptions of motor vehicle prices are the least ebullient since 1984.

Should consumers respond by ramping down expenditures, growth in future quarters is unlikely to resemble anything like the 4.1 percent annualized GDP growth performance of the second quarter. To date, the consumer has remained a willing participant in the expansion. Consumer spending rose at a 4.0 percent annualized clip during the second quarter. Retail sales in July were 6.4 percent higher than a year ago in nominal terms. That’s impressive.
Whatever their psychological state, typical American consumers must feel good about a nation that has added 19.4 million net new jobs since the end of the downturn. July brought another 157,000 net new positions, which brings the consecutive monthly streak for job growth to a record 94. Unemployment stands at 3.9 percent as of this writing, and there are nearly 6.7 million available job openings in America. This is essentially a record high. That compares to 6.28 million unemployed Americans. There is literally a job for everyone in America presently engaged in a job search (geographical and skills mismatches notwithstanding).

The nation’s construction industry added another 19,000 net new positions in July, with industry unemployment falling to 3.4 percent, the lowest level in the 18 years of the series. On a year-ago basis, the industry has added 308,000 jobs, representing an increase of 4.4 percent over that timeframe.

If We Could Only Turn Down the Volume

Like a good movie, it’s tough to enjoy a healthy economy when the environment is so noisy. For months, economists, business owners, and others have been unnerved by expanding skills shortages and the implications of those shortages for productivity, inflation, and interest rates. Indeed, key long-term interest rates such as the prime rate and mortgage rates have been edging higher. Data supplied by the St. Louis Federal Reserve Bank indicate that rates on 30-year fixed mortgages are more than half a percentage point higher than 12 months ago.

Then came the specter of tariffs, retaliatory tariffs, and fears of full-blown trade wars. Those remain in place, but recent indications suggest that EU and Chinese trade negotiators are willing to sit down with their American counterparts to begin framing what may turn out to be a new global trading order – one that may eventually be more open to American goods and services. The stock market has surged in response to these indications on numerous occasions.

Even more recently, there are new concerns regarding the state of emerging markets like Turkey and Argentina. The Turkish lira lost approximately half its value against the U.S. dollar during a recent 12-month period. Turkey is associated with considerable private debt levels, much of it financed by foreign money. With the lira sliding lower and with annual inflation recently running around 16 percent, fears of emerging market contagion have spread. To date, the crisis (if it can be called that) remains contained, but this represents just one more bit of news and noise that U.S. construction leaders must consider.

Given this rising set of obstacles as well as the fact that many observers are concerned about what appear to be bubbly asset prices, many economists have begun to predict the onset of the next recession in 2020 or 2021. That said, there is little indication of recession presently.

Exhibit 2. Nonresidential Construction Spending, June 2015 through June 2018

Source: U.S. Census Bureau
Looking Ahead – It Won’t Get Quieter

According to Census Bureau data, nonresidential spending is up 4.2 percent from the same time one year ago. While that's not awful, it isn't nearly what one might expect given the general performance of the U.S. economy. Many factors have served to constrain construction spending growth, including a lack of available workers, weakness in a number of infrastructure construction segments, and growing concerns regarding over-valued and over-built real estate markets in certain parts of the country. It is also conceivable that a growing scarcity of certain construction materials is resulting in project delays. The hope is that these delays will not eventually become cancellations. While construction backlog as measured by Associated Builders and Contractors among others remains elevated, backlog has manifested a tendency to disappear in prior business cycles as projects that are planned and scheduled are canceled; the result of economic uncertainty and the response of financiers to that uncertainty.

For now, such dynamics are not especially apparent. Business confidence remains high. Those who purchase construction services are well aware of the labor and materials challenges. Nonetheless, projects proceed. Among the leading sources of construction growth are data centers, office buildings, hotels, and fulfillment centers.

Exhibit 3. Construction Employment Growth, 20 Largest U.S. Metropolitan Areas
July 2017 v. July 2018, Not Seasonally Adjusted

<table>
<thead>
<tr>
<th>Rank</th>
<th>MSA</th>
<th>% Change</th>
<th>Rank</th>
<th>MSA</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Phoenix-Mesa-Scottsdale, AZ</td>
<td>11.4%</td>
<td>11</td>
<td>Minneapolis-St. Paul-Bloomington, MN-WI*</td>
<td>3.7%</td>
</tr>
<tr>
<td>2</td>
<td>Miami-Fort Lauderdale-West Palm Beach, FL</td>
<td>10.2%</td>
<td>12</td>
<td>Riverside-San Bernardino-Ontario, CA</td>
<td>3.3%</td>
</tr>
<tr>
<td>3</td>
<td>Houston-The Woodlands-Sugar Land, TX</td>
<td>8.9%</td>
<td>13</td>
<td>Seattle-Tacoma-Bellevue, WA</td>
<td>3.1%</td>
</tr>
<tr>
<td>4</td>
<td>Atlanta-Sandy Springs-Roswell, GA</td>
<td>6.9%</td>
<td>14</td>
<td>Los Angeles-Long Beach-Anaheim, CA</td>
<td>3.0%</td>
</tr>
<tr>
<td>5</td>
<td>Boston-Cambridge-Nashua, MA-NH*</td>
<td>6.8%</td>
<td>15</td>
<td>San Diego-Carlsbad, CA</td>
<td>2.9%</td>
</tr>
<tr>
<td>6</td>
<td>Dallas-Fort Worth-Arlington, TX*</td>
<td>5.5%</td>
<td>16</td>
<td>New York-Newark-Jersey City, NY-NJ-PA*</td>
<td>2.6%</td>
</tr>
<tr>
<td>7</td>
<td>Chicago-Naperville-Elgin, IL-IN-WI</td>
<td>5.1%</td>
<td>17</td>
<td>Baltimore-Columbia-Towson, MD*</td>
<td>1.6%</td>
</tr>
<tr>
<td>8</td>
<td>San Francisco-Oakland-Hayward, CA</td>
<td>4.7%</td>
<td>18</td>
<td>Washington-Arlington-Alexandria, DC-VA-MD-WV*</td>
<td>1.1%</td>
</tr>
<tr>
<td>9</td>
<td>Detroit-Warren-Dearborn, MI*</td>
<td>4.6%</td>
<td>19</td>
<td>Philadelphia-Camden-Wilmington, PA-NJ-DE-MD*</td>
<td>0.1%</td>
</tr>
<tr>
<td>10</td>
<td>Tampa-St. Petersburg-Clearwater, FL</td>
<td>3.9%</td>
<td>20</td>
<td>St. Louis, MO-IL*</td>
<td>-2.6%</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Labor Statistics  *Construction, Mining, and Logging are included in one industry.
### Second Quarter 2018 Performance Values

<table>
<thead>
<tr>
<th>Overall Real GDP</th>
<th>2018Q2(1)</th>
<th>2018Q1</th>
<th>2017Q4</th>
<th>% Change from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Domes/g415c Product (Quarterly % Growth)</td>
<td>4.1%</td>
<td>2.2%</td>
<td>2.3%</td>
<td>NA</td>
</tr>
<tr>
<td>Nonresidential Fixed Investment in Structures</td>
<td>7.3%</td>
<td>11.5%</td>
<td>4.8%</td>
<td>NA</td>
</tr>
</tbody>
</table>

#### Construction Spending, SA ($Millions)

<table>
<thead>
<tr>
<th>Overall Real GDP</th>
<th>2018Q2(1)</th>
<th>2018Q1</th>
<th>2017Q4</th>
<th>% Change from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Real GDP 4.1%</td>
<td>2.2%</td>
<td>2.3%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nonresidential Fixed Investment in Structures 7.3%</td>
<td>11.5%</td>
<td>4.8%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

#### Employment, SA (in thousands)

<table>
<thead>
<tr>
<th>Overall Real GDP</th>
<th>2018Q2(1)</th>
<th>2018Q1</th>
<th>2017Q4</th>
<th>% Change from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Real GDP 4.1%</td>
<td>2.2%</td>
<td>2.3%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nonresidential Fixed Investment in Structures 7.3%</td>
<td>11.5%</td>
<td>4.8%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

#### Producer Price Index, NSA (1)

<table>
<thead>
<tr>
<th>Overall Real GDP</th>
<th>2018Q2(1)</th>
<th>2018Q1</th>
<th>2017Q4</th>
<th>% Change from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Real GDP 4.1%</td>
<td>2.2%</td>
<td>2.3%</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nonresidential Fixed Investment in Structures 7.3%</td>
<td>11.5%</td>
<td>4.8%</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>


[2] The Producer Price Index (PPI) program measures the average change over time in the selling prices received by domestic producers for their output. The prices included in the PPI are from the first commercial transaction for many products and some services. All figures are indexed from a base year, that base year being different for each individual index.

Marcum LLP is one of the largest independent public accounting and advisory services firms in the nation, with offices in major business markets throughout the U.S., as well as Grand Cayman, China and Ireland. Headquartered in New York City, Marcum provides a full spectrum of traditional tax, accounting and assurance services; advisory, valuation and litigation support; and an extensive range of specialty and niche industry practices. The Firm serves both privately held and publicly traded companies, as well as high net worth individuals, private equity funds and hedge funds, with a focus on middle-market companies and closely held family businesses. Marcum is a member of the Marcum Group, an organization providing a comprehensive array of professional services.

Services ▼

Assurance ▼

Marcum’s Assurance Services Division provides independent audit, attestation and transaction advisory services to both publicly traded and privately owned companies in a wide variety of industries. The Firm provides clients with an independent and objective view of their financial condition and results of operations, while maximizing the transparency and reliability of financial information.

- Attestation Engagements
- Audits
- Compilations & Reviews
- Employee Benefit Plans
- International Financial Reporting
- IT Risk & Assurance
- Mergers & Acquisitions
- SEC Advisory Services
- SOC Reports
- Transaction Services

Marcum’s Tax & Business Services Division offers all forms of accounting and regulatory compliance services. Our tax professionals are deeply experienced in advising large corporations, international businesses, foreign nationals, high-net-worth individuals, family business owners, local business operators and others on complex transactions at the local, national and international levels. Our high degree of specialization ensures that both the advice and services clients receive are specific to their needs.

- Accounting Services
- Bankruptcy and Insolvency
- Business Advisory
- Cost Segregation
- EB-5 Investor Services
- Financial Statements
- International Taxation
- Marcum Family Office
- State & Local Taxation
- Transaction Advisory
- Tax Controversy
- Tax Credits & Incentives
- Tax-Exempt Business
- Tax Return Compliance
- Trusts & Estates

Marcum’s Advisory Services Division provides regulatory agencies, lawyers, trustees, financial institutions, insurance companies and business owners with answers to business and litigation matters. Our teams of asset managers, operational consultants, forensic experts and accountants have the experience and expertise to accomplish the specific goals of our clients.

- Anti-Money Laundering
- Bankruptcy
- Business Interruption Claims
- Business Process Outsourcing Solutions
- Civil & Criminal Fraud
- Computer Forensics
- Financial Advisory
- Forensic Services
- Insolvency Analysis
- Performance Improvement
- Risk Management
- Workplace Security & Investigations

Marcum LLP is a leading provider of business valuation, litigation support, economic damages, and financial forensic investigations.

We are frequently retained to provide expert witness services relating to the value of a business; loss of a business or segment of a business; determination of reasonable compensation; and other financial matters. Our professionals are often court appointed or jointly retained by the parties involved in a dispute. In addition, our experts are regularly invited to peer and legal conferences to teach, and regularly publish in top industry journals.

- Business Valuations
- Litigation Support
- Financial Forensic Investigations
- Marital Dissolution

National Construction Industry Services Leaders

**JOSEPH NATARELLI**  
National Construction Industry Group Leader  
Joseph Natarelli is the national leader of Marcum’s Construction Industry Practice and an office managing partner in New Haven. For more than a decade, he has served as a technical reviewer for the AICPA’s Audit Risk Alert for Construction Contractors and the AICPA Accounting Guide – Construction Contractors. Joe has also chaired the annual AICPA National Construction Industry Conference.

New England:  
ROBERT MERCADO  
robert.mercado@marcumllp.com  
203.781.9730

New York:  
IRA KANTOR  
ira.kantor@marcumllp.com  
631.414.4726

**PHILADELPHIA:**  
EDWARD REITMEYER  
edward.reitmeyer@marcumllp.com  
215.297.2995

**NASHVILLE:**  
BILL CLARK, JR.  
bill.clark@marcumllp.com  
615.245.4040

**FLORIDA:**  
MICHAEL BALTER  
michael.balter@marcumllp.com  
954.320.8040

**CHICAGO:**  
TIM CROSBY  
tim.crosby@marcumllp.com  
847.262.6368

**CALIFORNIA:**  
WARREN HENNAGIN  
warren.hennagin@marcumllp.com  
949.235.5620

**Anirban Basu**  
Anirban Basu is Marcum’s chief construction economist. He is also a member of the Firm’s National Construction Practice, as well as chairman & CEO of Sage Policy Group, Inc., an economic and policy consulting firm in Baltimore, Maryland. Anirban leads Marcum’s research and analysis of the economic health of the commercial construction industry in America. Additionally, he writes the quarterly Marcum Commercial Construction Index and annual Marcum JOLT Survey analysis and is a keynote presenter at the Firm’s construction industry summits.