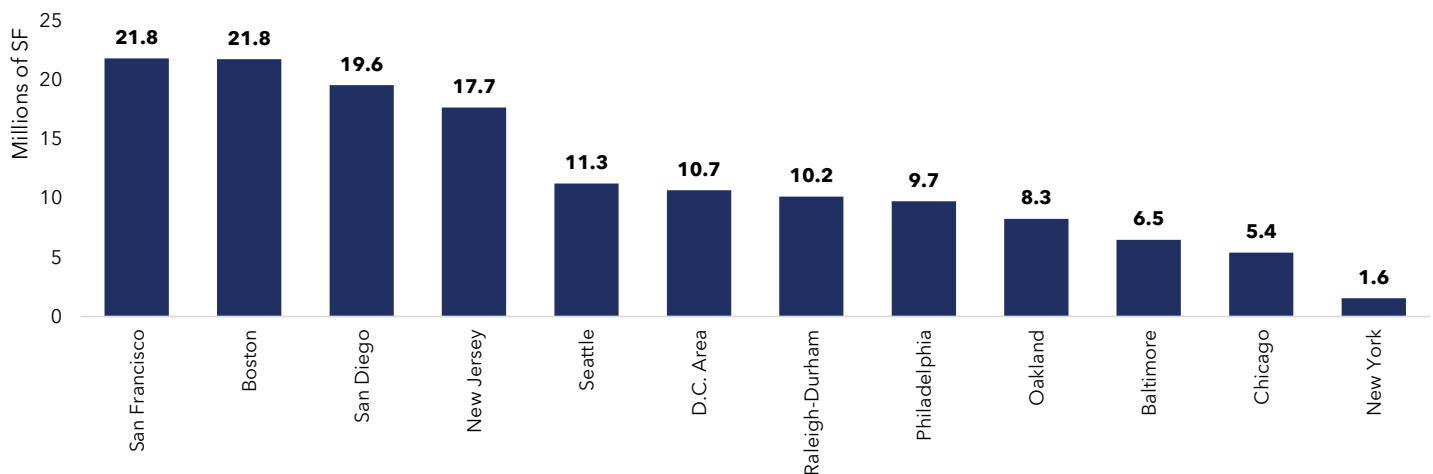


National Life Science/Lab Office Market Overview

The life sciences industry is the most promising sector of the U.S. economy, having already yielded important breakthroughs in genomics, cell and gene therapies and gene editing, to name just a few. The coronavirus crisis has only accelerated interest in this space as there is now renewed attention to eradicating disease and improving population health, irrespective of COVID-19.

The life sciences industry is generally housed in specialized office properties with lab space where research can be conducted. The typical lab property contains 40% traditional office space and 60% lab space. The tenants who occupy this space tend to be directly involved in the medical research sector. This includes research and academic institutions, medical device and service companies and pharmaceutical and biotechnology firms.

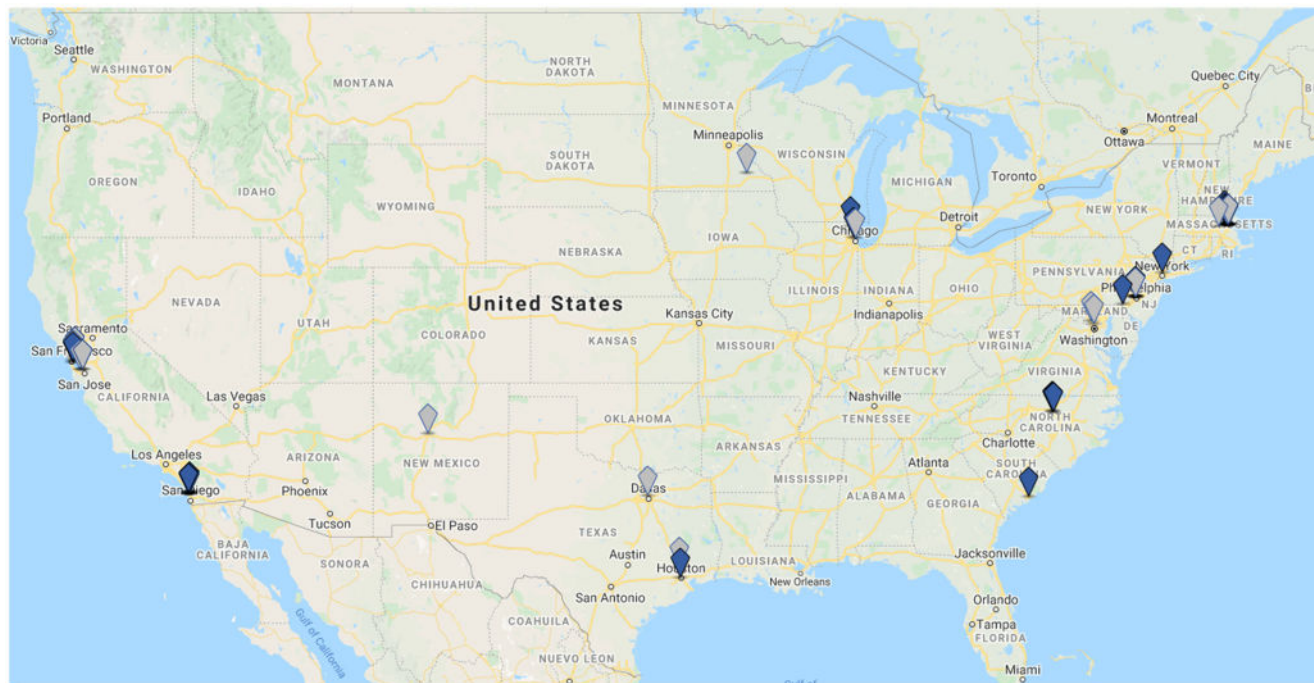
Life Science Office Space, 2019



Source: Cushman & Wakefield

San Francisco and Boston comprise the two largest U.S. life sciences markets, followed closely behind by San Diego and New Jersey.

U.S. Life Sciences Clusters



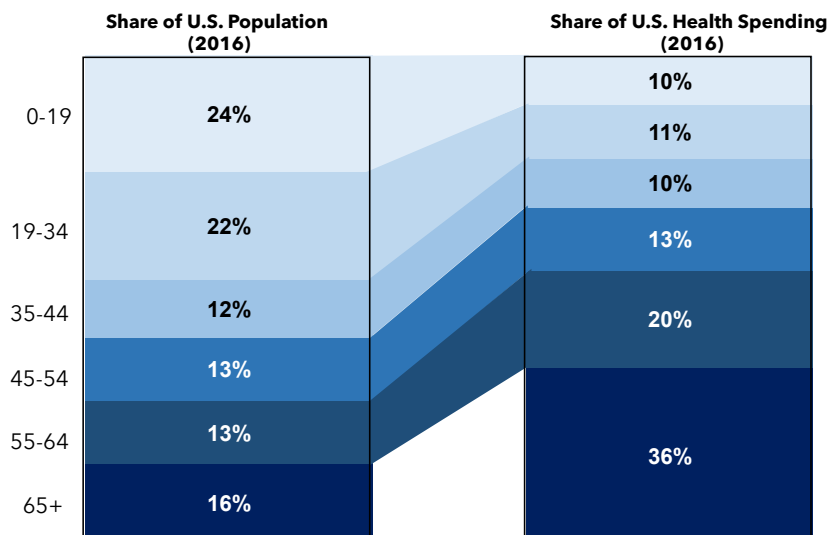
Source: L&B Realty Advisors' analysis of CoStar data

L&B Research has identified several factors that have directly and/or indirectly led to the expansion of the Life Science industry: 1) population aging, 2) public and private research and development funding, 3) industry clustering, 4) a favorable cost structure, 5) robust employment trends and 6) recession resiliency.

Population Aging

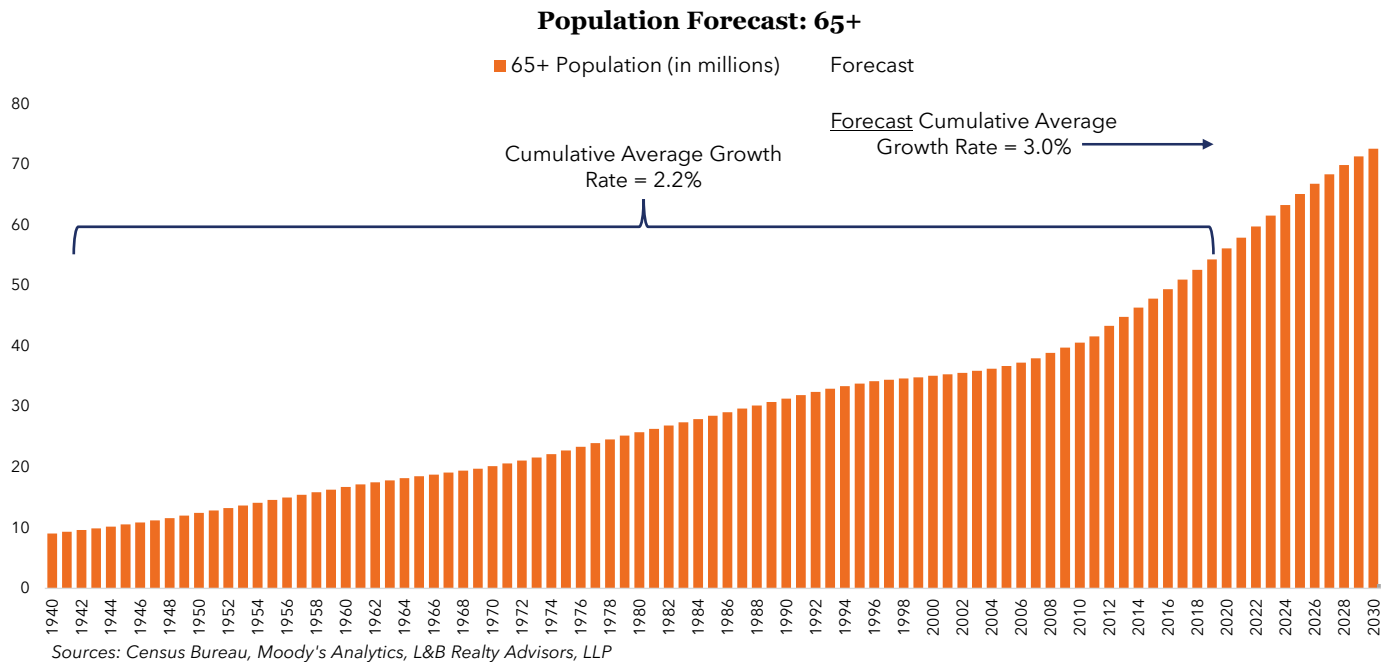
Population aging remains a core, long-term driver of health care spending, which includes spending on new drugs and medical equipment and treatments, all of which are developed in the life sciences ecosystem. There is a strong and well-established relationship between age and health spending.

U.S. Age Structure & Health Expenditures

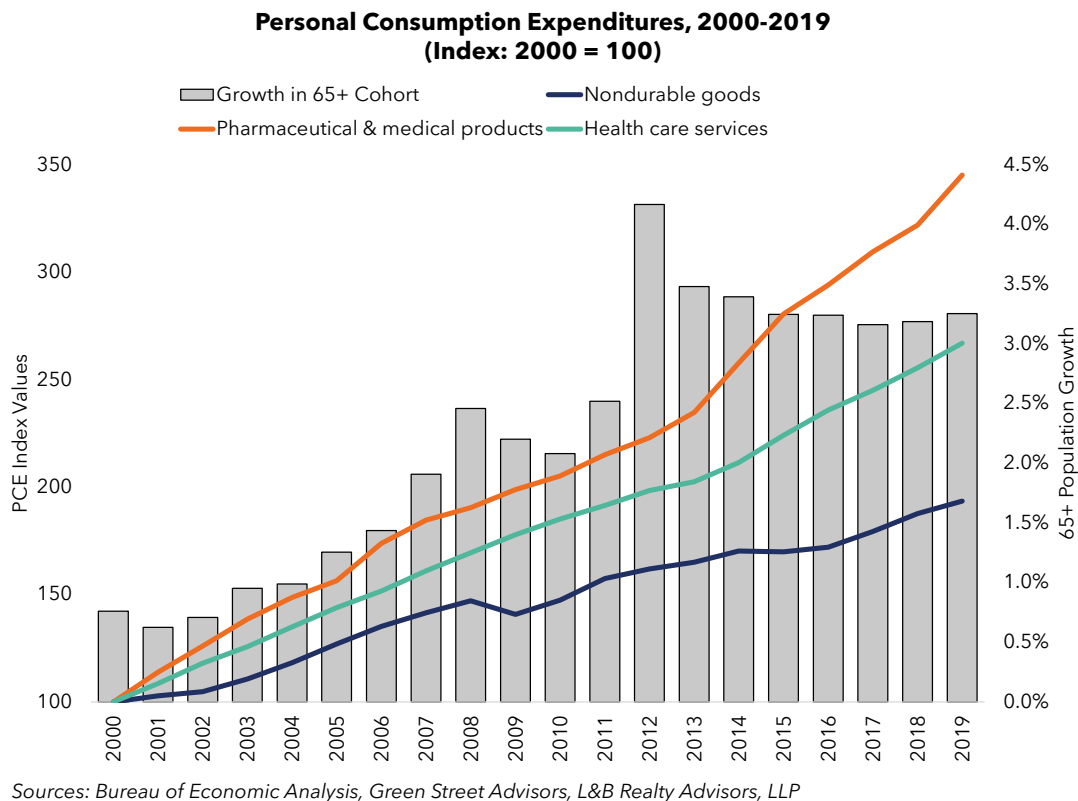


Sources: Kaiser Family Foundation, L&B Realty Advisors, LLP

This relationship bodes well for long-term life sciences office demand as the 65+ age cohort is projected to grow at a relatively rapid rate through 2030 and beyond.



The relationship between consumption of health care goods and services and the growth in the 65+ age cohort was clearly evident over the last two decades when analyzing personal consumption trends:



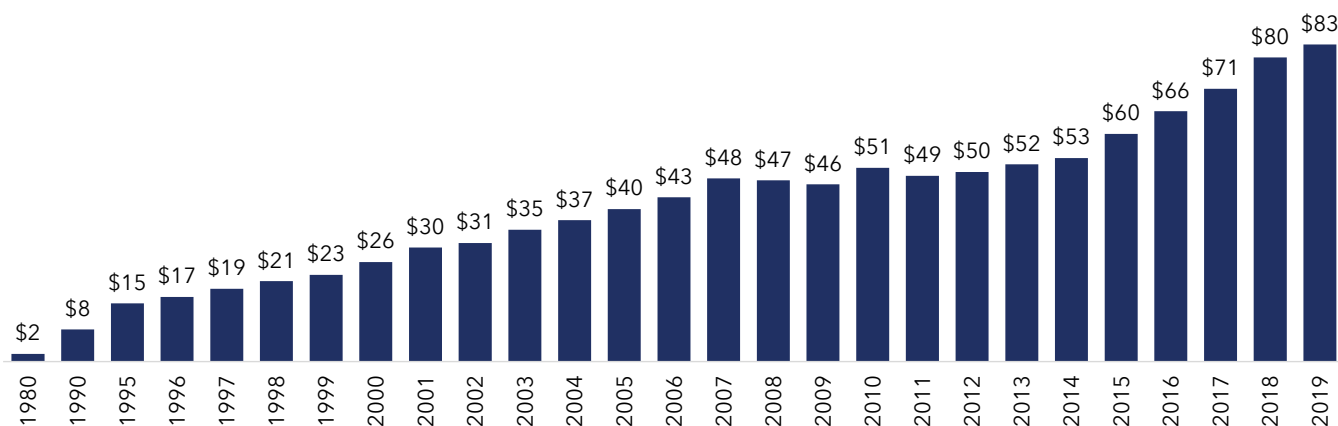
Spending on both pharmaceutical/medical products and health care services outpaced spending on all other nondurable goods by a considerable margin between 2000 and 2019. The most favorable trend in the chart above for the life sciences sector is the widening gap between pharmaceutical/medical products and health care services since the former is more directly linked to demand for lab space. Absent a major policy intervention—which we do not foresee—we would expect health care spending to continue to grow exponentially as the population continues to age.

Public & Private R&D Funding

Biotechnology is the most research-intensive industry in the U.S. economy. As a result, public and private research and development funding sources are significant demand drivers in the life sciences space. There are three primary sources of life sciences funding.

First, corporate R&D, the largest of the three sources, continues to grow dramatically. The race is on for new innovations in genomics, cell and gene therapies and gene editing. U.S. firms in these three areas had a combined market cap of \$20.8 billion as of 2018. The growth in pharmaceutical research and development spending—which is the primary driver of corporate R&D—tells a story of rapid growth:

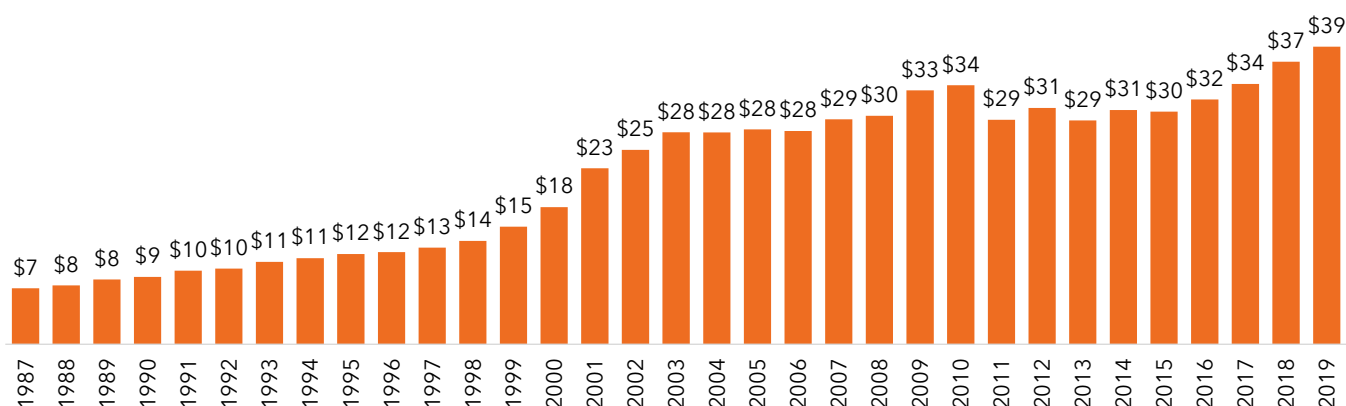
U.S. Pharmaceutical R&D Spending (\$bil), 1995 - 2019



Sources: PhRMA, L&B Realty Advisors, LLP

Secondly, the National Institutes of Health represents the primary source of public funding for R&D.

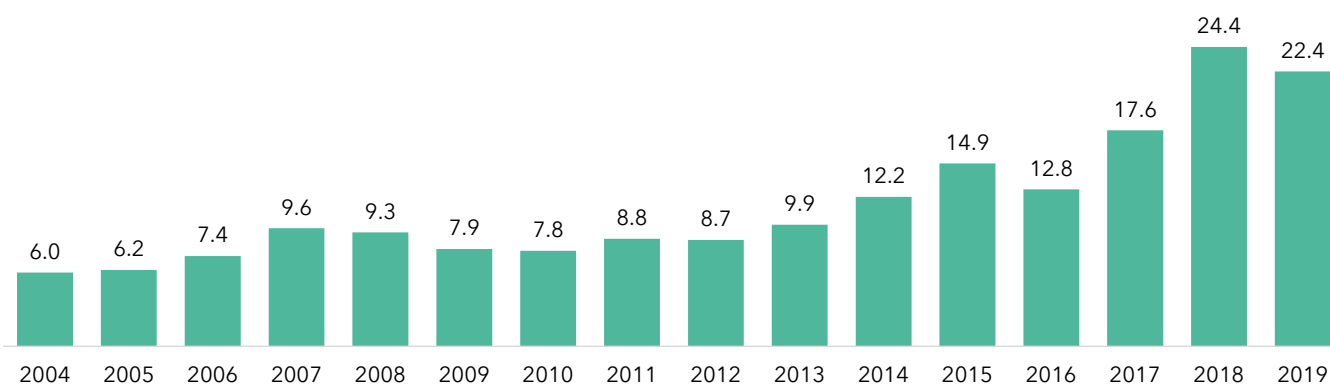
Federal R&D Spending for Life Sciences (\$ bil), 1987 - 2019



Sources: National Science Foundation, L&B Realty Advisors, LLP

Finally, venture capital deal volume reflects the commercialization of biotech products.

U.S. Life Sciences Venture Capital Funding (\$bil)



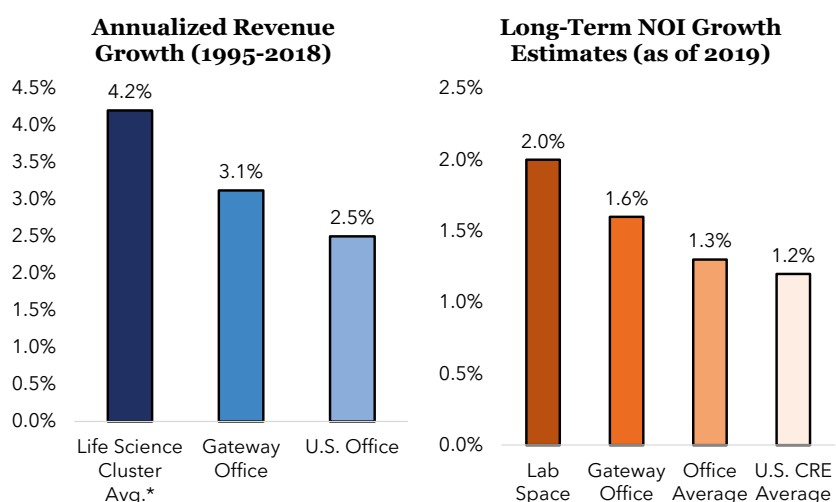
Source: Pitchbook

In short, for each of the three funding sources above, spending continues to grow at an above average pace. Insofar as the recipients of these funding sources are tenants of life sciences office properties, growth in these funding sources serve as a proxy for current and future demand for life sciences office/lab space.

Biotech Clusters

High-tech industries generally depend on local innovation “clusters” to support industry competitiveness. Clusters are geographic concentrations of firms and institutions dedicated to a specific field or competency. Clusters promote cooperation (and some degree of competition) across these firms and institutions, such that developments in one firm can quickly spread to others, with benefits accruing to the entire cluster. Most importantly, despite the rapid improvements in communication technology over the last several decades, the *geographic* component of clusters remains essential.

The top life sciences office markets are those that are home to a biotechnology cluster since the very presence of the cluster reduces risk. Indeed, there is evidence that suggests that biotechnology clusters cause superior long-term NOI and revenue growth.



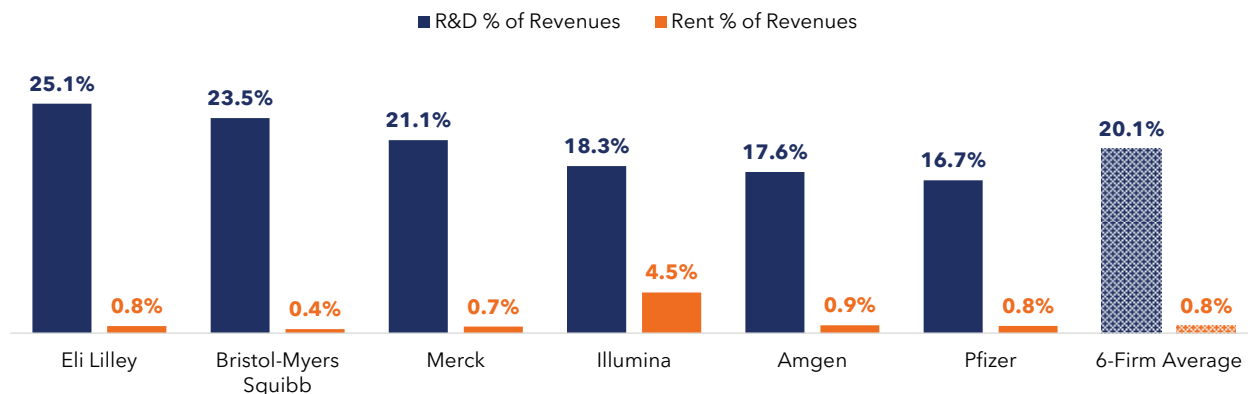
*Cambridge, South San Francisco, San Diego (Torrey Pines & UTC)

Source: Green Street Advisors

Life Sciences Industry Cost Structure

The cost structure of the life sciences industry also supports the lab space real estate market. R&D is, by far, the most expensive component of a life sciences firm's cost structure. Prescription drug development, a huge driver of space demand in the sector, can run into the billions of dollars.

Life Sciences Firm Cost Structure Snapshot, 2019



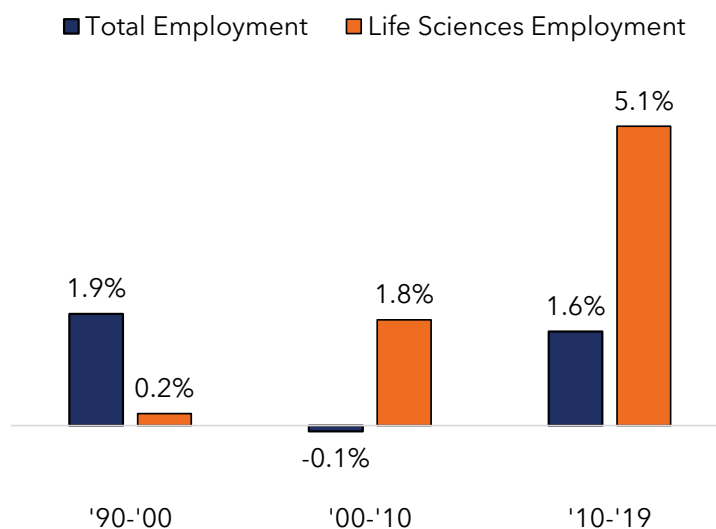
Sources: Company Reports, L&B Realty Advisors, LLP, Green Street Advisors

Across the six life sciences firms analyzed in the chart above, the average share of revenues devoted to research and development is about 20%. By contrast, rent or operating lease payments represent only 0.8% of firm revenues, on average. As a result, rent is rarely a significant factor driving real estate decisions in the life sciences industry. This suggests that these office users will more readily pay up for high quality office space.

Life Sciences Employment

Life sciences employment growth has significantly outpaced total employment growth in the U.S. over the last decade. This is in line with expectations given the explosion in public and private funding for the sector.

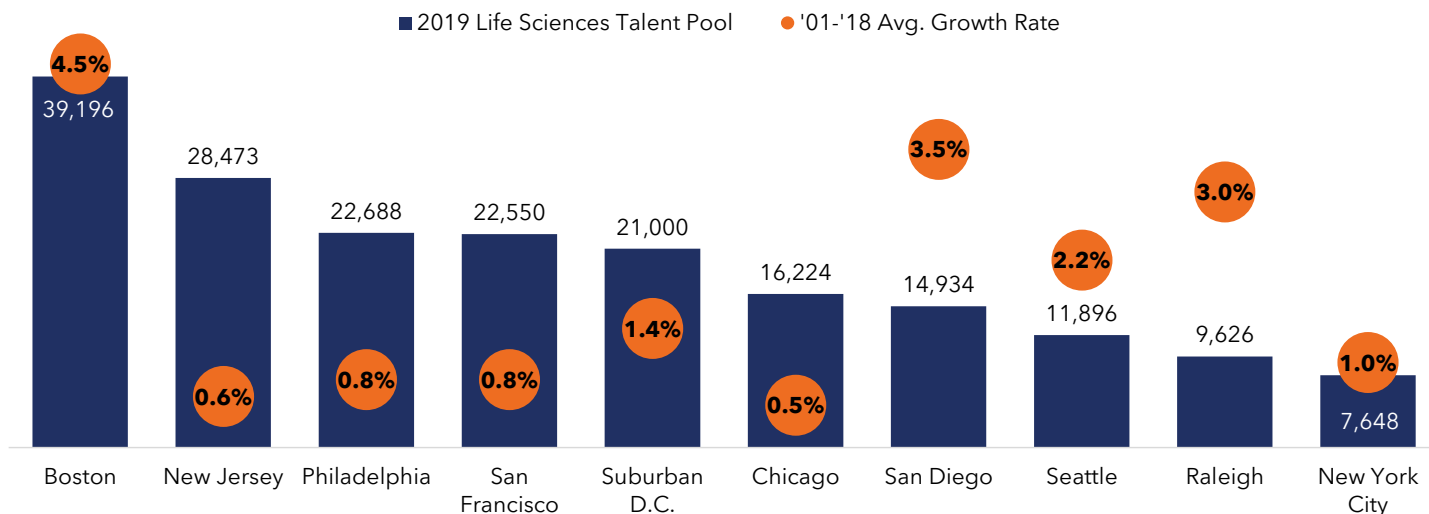
U.S. Employment Growth by Decade



Sources: BLS, Cushman & Wakefield

According to data compiled by Cushman & Wakefield and EMSI, the life sciences talent pool is largest in the East Coast markets. San Francisco leads the West Coast markets with an estimated talent pool of 22,550.

Life Sciences Talent Pool by Market, 2019



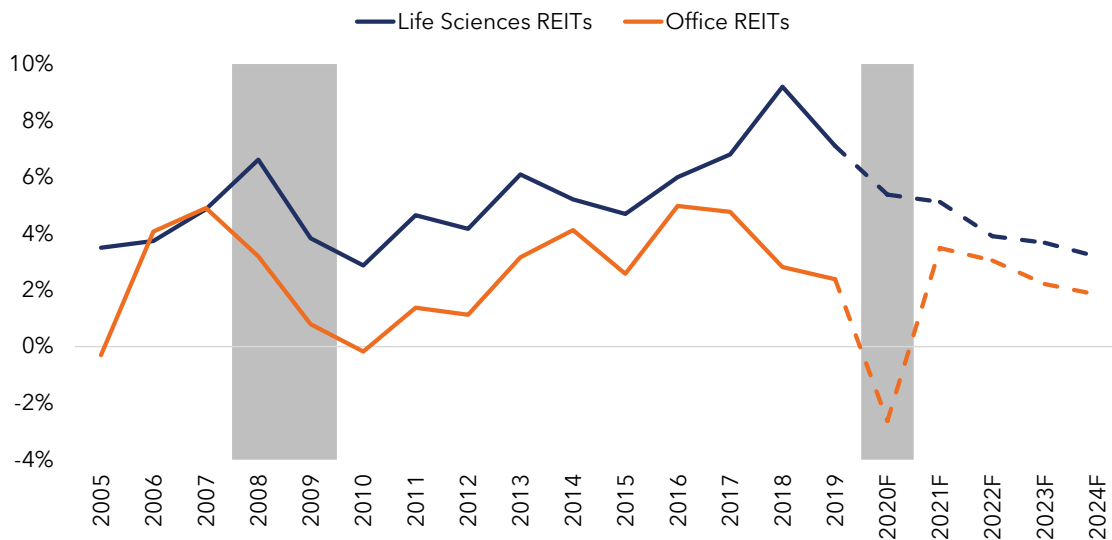
Sources: Cushman & Wakefield, Bureau of Labor Statistics, L&B Realty Advisors, LLP

Recession Resiliency

Life sciences is expected to experience surging investor interest due to the sector's resilience to recessions, generally, and the COVID-19-induced recession, specifically. With private market data on the space difficult to track, we make use of data reported from the public life sciences owners.

Consistent data coverage for this REIT sector begins in 2005, which allows us to examine how life sciences properties performed during the Global Financial Crisis.

REIT NOI Growth, 2005 - 2024F



Sources: Green Street Advisors, L&B Realty Advisors, LLP

In terms of NOI growth, life sciences REITs outperformed office REITs in the 2008-2009 Great Recession by over three percentage points (324 basis points). An even larger divergence in NOI growth is expected in 2020 based on eight months of historical data: life sciences NOI is projected to increase by 5.3% this year, compared to a 2.5% *decline* in office NOI growth (a gap of 776 basis points).

Considering that the demand drivers mentioned above (capital sources, areas of research and development, demographics, etc.) in the life sciences sector are long-term in nature, we would expect to see life sciences investments continue to thrive during economic downturns. Current trends, while still preliminary, are very encouraging in this regard.