Long-Term Secular Growth Drivers Healthcare and Aging Demographics

Scout Investments' Small Cap Strategy Investment Team believes that healthcare and demographic developments play a vital role in driving outsized investment returns. These trends develop over time and help us identify opportunities in the markets that others often miss. From Alexander Fleming's discovery of penicillin (the world's first antibiotic, discovered in 1928) to organ transplants, antiviral drugs, and stem cell therapy, the last century has produced some of the most important healthcare advancements in recorded history. These innovations have revolutionized our world in many ways, and with the advent of artificial intelligence in the 21st century there are no signs of this evolutionary arc slowing. Due in large part to these innovations, healthcare now comprises nearly one-quarter of the small-cap growth universe - a trend that makes our research in this space as important as ever. In this paper, we will discuss several healthcare themes that are most pertinent today and explain how the Scout Small Cap investment team seeks to take advantage of these trends in its portfolio.

Demographic Factors

In the U.S. today there are two big generations working their way through the demographic pipeline. The Millennial generation is reaching peak earning years, while the Baby Boom generation is transitioning into retirement.

The growth and maturation of the Baby Boom generation drove an immense transformation of culture as well as



Births Underlying Each Generation

Sources: Department of Health and Human Services, National Center for Health Statistics, web: www.dhhs.gov, as of 3/27/23. Info please (www.infoplease.com/us/population/live-births-and-birth-rates-year) as of 3/27/23 demand for goods from housing to cars, clothes, and electronics. After decades as the biggest economic force in the U.S., the Boomers are retiring and driving demand for a variety of leisure goods and services as well as additional healthcare services.

The Millennial generation is now the largest U.S. generation in total population and the most influential in terms of spending power for many categories as members enter their prime earning and spending years. Much discussion and analysis has gone into understanding Millennials' preferences and how they may be similar to or different from other generations. The Millennial generation came of age with the digital experience and the smart phone but also began their working lives in challenging economic conditions. There is a belief that Millennials prefer experiences over things, but as they mature, it appears that some preferences (including the desire to own a home) may be reverting to patterns similar to earlier generations. A large grouping combined with pent-up demand and easy financial conditions create compelling conditions for continued consumption growth.

Scout Small Cap targets high-growth-rate age groups to uncover lasting demographic trends that will drive performance moving forward. Given their size and influence, Baby Boomers and Millennials likely will continue to wield immense power over how companies attempt to win the business of these two cohorts well into the future.

Biopharmaceuticals (R&D spending to speed drug development)

Biotechnology has been changing the way healthcare and pharmaceuticals have been delivered since the launch of the first recombinant insulin in 1982. These biopharmaceuticals are derived from living organisms as opposed to chemical compounds created by traditional pharmaceutical companies, and they use biological methods such as gene therapy and editing, cellular therapy, and RNA therapeutics to treat disease. Therapies now exist to treat everything from rheumatoid arthritis to cancers to COVID-19. From those humble beginnings in 1982, by 2021 it had evolved into a \$514 billion market. In early 2024, that market was projected to grow at a compound annual growth rate (CAGR) of 14% through 2032, reaching more than \$3.6 trillion.¹

¹Source: "Biotechnology Market Anticipates Soaring to a Staggering USD 3,672.9 Billion by 2023 || Market,us," Yahoo! Finance, Jan. 8, 2024. Available at: https://bit.ly/4cR3Chy, accessed on April 9, 2024.

Moreover, as research and development spending increases to speed drug development, biopharmaceuticals will continue to play a vital role in the ever-evolving healthcare landscape.

The promise of these therapies has led to massive investment in biotechnology startups by venture capital and public market investors. These companies are investing tens of billions of dollars in research and development as well. Indeed, the global coronavirus pandemic spurred both venture capital funding and initial public offering fundraising to record levels in 2020.² While the vast majority of these early stage and small-cap biotech companies are unprofitable, this R&D spending provides opportunities for investment through adjacent businesses such as clinical trial operators, research toolmakers, and companies that provide enabling technologies such as drug delivery methods. Despite being halved over the $2\frac{1}{2}$ years post-pandemic, biotechnology and pharmaceutical stocks still comprise more than 12% of the Russell 2000° Growth Index and together account for a greater weight within the index than any other single industry, as of March 29, 2024 (source: Bloomberg). These stocks will continue to be an important driver of relative performance over the long term and the Scout Small Cap investment team will continue to research these companies in an attempt to separate ideal investments from so-called "public science" experiments."

Russell 2000[®] Growth Weights 24% 20% 16% 12% 8% 4% 0% 1990 1995 2000 2005 2010 2015 2020 Biotechnology Pharmaceuticals

Source: Furey Research and FactSet, as of 3/31/24

Rapid Decline of Gene Sequencing Cost

The human genome was sequenced in 2003 at a cost at the time of \$2.7B. It took more than 13 years. A dramatic decrease in time and cost took place with the introduction of next-generation sequencing techniques, ultimately driving the cost to below \$1,000 per human genome. More recently, it only took three days to sequence the genome of COVID-19 (SARS-CoV-2). This provided valuable information that helped researchers develop the foundation of how they could begin taking on this disease and track its various forms as it mutates. The graph in this section illustrates how the sequencing cost per human genome has improved faster than Moore's Law for semiconductors, which involves the doubling of the number of transistors on a microchip about every two years with the cost of the chip divided in half. As most investors are familiar with this growth trend, if new technology is outpacing Moore's Law, it is considered a good barometer that makes for a useful comparison.

With this exponential improvement, gene sequencing has moved into clinical settings such as cancer treatments, reproductive health, and rare diseases. This has enabled personalized medicine to incorporate various treatment options that have proven most

Cost per Human Genome³



Source: National Institutes of Human Genome Research Institute, as of 4/9/24

successful with a patient's genetic makeup. The clinical market is the fastest-growing component of nextgeneration sequencing. For cancer patients, a genomic test can help doctors determine a patient's prognosis whether the cancer is aggressive or slow-growing, and choose the most effective treatment. Differences in a person's genome affect the risk of developing diseases and how they respond to different medications.

As expected, with the cost of sequencing dropping, the number of companies participating in the industry has grown as have overall applications using this new technology. For instance, the global next-generation sequencing (NGS) services market has been predicted to grow at a CAGR of about 12% from 2023 to 2030,

² Source: www.forbes.com/sites/brucebooth/2020/07/15/the-record-breaking-biotech-funding-tsunami-of-1h2020/?sh=20205480c0fe ³ DNA Sequencing Costs: Data. From the National Human Genome Research Institute. Available at: www.genome.gov/about-genomics/fact-sheets/DNA-Sequencing-Costs-Data. Accessed 4/9/2024.

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with much of the growth being driven by advancements in technology and increased demand for precision medicine.⁴ Demand for NGS testing should continue to grow apace and create opportunities for a wide array of companies – opportunities that the Scout Small Cap investment team will work to discover.

⁴ "Global Next Generation Sequencing (NGS) Data Industry Research 2024: Market to Reach \$2.1 Billion by 2030, Driven by Rising Use in Drug Discovery, NGS, & Rising Application of Whole Genome Sequencing," ResearchAndMarkets.com, April 8, 2024. Available at: https://finance.yahoo.com/news/global-next-generation-sequencing-ngs-113600041.html. Accessed April 10, 2024.

Definitions:

Secular stocks are characterized by having consistent earnings over the long term constant regardless of other trends in the market. Secular companies often have a primary business related to consumer staples most households consistently use whether the larger economy is good or bad.

Compound annual growth rate (CAGR) is the rate of return that would be required for an investment to grow from its beginning balance to its ending balance, assuming that profits were reinvested at the end of each year over the span of the investment.

Moore's Law is named for information technology executive Gordon E. Moore, who observed in the 1960s that the number of transistors on a microchip can be doubled about every two years at a minimal increase in cost.

Next-generation sequencing (NGS) is a recently developed technology used for DNA and RNA sequencing and for detecting genetic variants and mutations. NGS can sequence hundreds and thousands of genes or an entire genome in a short period of time. The sequence variants/ mutations detected by NGS have been widely used for disease diagnosis, prognosis, therapeutic decision, and follow-up of patients. The use of next-generation sequencing is expected to lead to new opportunities for personalized precision medicine.

The Russell 2000[°] Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

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