

Make room Magnificent Seven. The fourth industrial revolution means more mega-caps

Investment views
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First, Wintel. Then, the Four Horsemen. Later, FAANG. And now, the “Magnificent Seven” has us all riveted at their size, growth, and disruptiveness—from two to four to five to seven massive companies over the past two decades.¹ And we don’t think we’re done yet. The fourth industrial revolution is likely to create more half-trillion-dollar companies, and the United States is the place where it is likely to happen.

Last year was a tale of two stock markets: the Magnificent Seven and the S&P 493. The Magnificent Seven represented only 1.4% of companies in the index but contributed 70% of the S&P 500’s gains during the year. It is understandable that investors are uneasy about the narrowness of 2023’s gains. This uneasiness may not be merited. The rise of the Magnificent Seven is not as exceptional in history as it first appears, and we make the case that we will not stop at seven.

Matching one’s investing time horizon to the proper economic time horizon is essential for success. As long-term investors, then, it is logical for us first to ask where we are in the longer arc of time. Because our time horizon is over a decade, understanding the multi-decade arc is not only important but critical. In fact, it may outweigh all other considerations. Of course, the corollary is also true. An investor with a time horizon of 3–5 years, logically, should focus on the near-term business cycle. There are even investors that have time horizons of milliseconds, literally building servers and optical cables as close to exchanges as possible to gain the smallest advantages. Each approach has its merits, but, in this paper, we will focus on locating ourselves within the multi-decade arc.

Right now, we believe we are somewhere near the end of the third industrial revolution and the beginning of the fourth. The third industrial revolution started with the birth of modern-day information technology. According to scholar Klaus Schwab, the third began in the late 1960s and is called the “computer” or “digital” revolution because it was advances in semiconductors, mainframes, personal computing and the internet that propelled it forward.² These new technologies brought us companies like Microsoft, Intel, Google and Facebook. The fourth industrial revolution is the transition to the *application* of data in the real world, or what we like to refer to as the era of the byte, the atom and the gene.

1. Group	Companies in Group	Years
Wintel	Microsoft and Intel	Est. 1986–1999
Cramer’s Four Horsemen	Apple, Research in Motion, Amazon, Google	Est. 2007–2012
FAANG	Facebook, Apple, Amazon, Netflix, Google	Est. 2013–2021
Magnificent Seven	Apple, Meta, Google, Amazon, Nvidia, Tesla, Microsoft	Est. 2023–?

2. Source: Schwab, K. The Fourth Industrial Revolution. January 3, 2017.

Big, new and disruptive companies are often built on general-purpose technologies. These are new technologies or innovations that become so disruptive and pervasive in the economy that they serve as platforms for many other complementary innovations.³ Industrial revolutions are built on multiple concurrent general-purpose technologies. The third industrial revolution was ignited by the semiconductor, the internet and, somewhat separately but concurrently, biotechnology. The fourth industrial revolution, which is just beginning, is likely to be built on the gains of the third but will include new general-purpose technologies like artificial intelligence (AI), genomics and robotics. New general-purpose technologies compound the value of these previous technologies by *putting to work* the vast repositories of data now available to use with ease and efficiency.

A general-purpose technology is an innovation with the potential to become pervasive in the economy. It tends to serve as a platform for the development of complementary innovation built on top of it. Examples range from the very ancient, like fire, spoken language and the wheel, to the ultra-modern, like the semiconductor, artificial intelligence and genomics.

The rapidly changing composition of the largest companies in the US market, using the S&P 500 as a proxy, proves our position in the multi-decade arc. To show this, we identified the top 10 companies in the S&P 500, measured by end-of-year market capitalization, from each decade over the past five, starting in 1978. We chose the eights, in homage to the year Intel was founded, 1968, which was arguably the start of the third industrial revolution. Exhibit 1 displays these companies in 10-year increments, including the most recent year along with the founding date of each company and its age at the time. Companies founded during or native to the third industrial revolution (i.e., founded after 1968) are highlighted in teal.

Over the Past 50 Years, We Have Moved from Firms Founded During the Second Industrial Revolution to Newer Companies Founded During the Third Industrial Revolution

Exhibit 1: Firms Highlighted in Teal Were Founded During or Native to the Third Industrial Revolution (i.e., Founded After 1968)

Company Name | Market Cap \$B | Year Founded

1978			1988			1998			2008			2018			2023		
IBM	\$44	1911	IBM	\$72	1911	Microsoft	\$345	1975	Exxon	\$406	1882	Microsoft	\$785	1975	Apple	\$3,044	1976
AT&T	\$41	1885	Exxon Mobil	\$57	1882	General Electric	\$333	1892	Walmart	\$220	1962	Apple	\$749	1976	Microsoft	\$2,781	1975
Exxon Mobil	\$22	1882	General Electric	\$40	1892	Intel	\$198	1968	P&G	\$185	1837	Amazon	\$734	1994	Google	\$1,690	1998
General Motors	\$15	1908	AT&T	\$31	1885	Walmart	\$181	1962	Microsoft	\$173	1975	Google	\$723	1998	Amazon	\$1,523	1994
General Electric	\$11	1892	General Motors	\$26	1908	Exxon Mobil	\$178	1882	General Electric	\$170	1892	Brk Hathaway	\$503	1839	Nvidia	\$1,173	1993
Eastman Kodak	\$9	1888	Ford	\$25	1903	Merck	\$174	1891	AT&T	\$168	1885	Meta	\$377	2004	Meta	\$855	2004
Amoco	\$8	1910	Altria	\$24	1920	IBM	\$169	1911	J&J	\$166	1886	J&J	\$346	1886	Brk Hathaway	\$780	1839
Schlumberger	\$8	1826	Merck	\$23	1891	Nokia	\$166	1865	Chevron	\$150	1879	J.P. Morgan	\$325	1871	Tesla	\$775	2003
Chevron	\$8	1879	Dupont	\$21	1802	Coca Cola	\$165	1886	Pfizer	\$119	1849	Visa	\$319	1958	Eli Lilly	\$568	1876
3M	\$7	1902	Nabisco	\$21	1898	Pfizer	\$162	1849	J.P. Morgan	\$118	1871	Exxon	\$289	1882	United Health	\$509	1974
Average Age of Cohort	89.7			98.8			89.9			116.2			79.7			59.8	

3. Source: Parikh, T. "Erik Brynjolfsson: 'This could be the best decade in history—or the worst.'" January 30, 2024.

In this table, the changing composition of the top 10 companies does indeed reflect the transition between industrial revolutions. Specifically, it shows that, over the last 50 years, companies that benefited from general-purpose technologies from the second industrial revolution were replaced by those founded in the third industrial revolution.

The top 10 in 1978 and 1988 are direct legacies of the second industrial revolution, which took place in the 19th and early 20th centuries. Companies like AT&T, Exxon Mobil, General Motors and Eastman Kodak are synonymous with the general-purpose technologies they were built upon, in this case telegraph and telecommunications, the combustible engine, and photography, respectively. The second industrial revolution is generally believed to span 1880–1920. Note that, in 1988, every company was founded during the second industrial revolution. This was over 100 years after its start and almost 70 years after its end. Further, not a single company in the top 10 was younger than 50 years old.

The top 10 in 1998, 2008 and 2018 signal that the status quo is changing, spurred by the third and fourth revolutions.

By the time we reach 2023...the dominant companies are those built on the general-purpose technologies of the latest revolution.

By the time we reach 2023, the top 10 reflects a vastly altered world. The dominant companies are those built on the general-purpose technologies of the latest revolution, and they are, not surprisingly, the Magnificent Seven, plus United Healthcare, Eli Lilly and Berkshire Hathaway. Of the 10, eight companies were founded during the third industrial revolution and are younger than 50 years old. And, of these youthful eight, the average age is 33 years, and their total value is US\$12.4 trillion, or 31% of the S&P 500.⁴

That these companies are so young and so big supports our intuition that we are in the middle of a new revolution.

In fact, the rise of the Magnificent Seven isn't really a strong surprise to us because it's what Carlota Perez, a prominent academic who has studied industrial revolutions and has written one of the leading books on the topic, *Technological Revolutions and Financial Capital*, might have predicted.⁵ In her model, economic revolutions start with new disruptors (usually small, young companies) that introduce innovation—usually general-purpose technologies, though she doesn't call them that—to the world. Once investors catch onto the power of the innovation, dollars start chasing these smaller companies, effectively lowering their cost of capital relative to older incumbents. With the wind at their sails, these upstarts quickly grow larger and more dominant than the incumbents and become the latest monopolists. Until the whole cycle starts again. This is the “creative destruction” of capitalism at work.

Perhaps scholar Hendrik Bessembinder would also have predicted this. He found that the best-performing 4% of listed companies were responsible for the entire US stock market gains since 1926.⁶ In other words, a narrow market is not historically unique. And it is certainly true of the Magnificent Seven that they are the most successful firms today—excluding Tesla, earnings for the other six companies are projected to jump 62.8% in the fourth quarter of 2023 versus an 8.6% decline for the rest of the S&P 500.⁷

4. Source: Bloomberg. December 31, 2023.

5. Source: Perez, Carlota. *Technological Revolutions and Financial Capital*. 2002.

6. Source: Bessembinder, H. “Do Stocks Outperform Treasury Bills?” *Journal of Financial Economics*. June 3, 2018.

7. Source: Grant, C., Singh, H. “Big Tech Stocks Find Little Room for Error After Monster Run.” *The Wall Street Journal*. February 5, 2024.

Currently, we can see the third industrial revolution laying down the foundational general-purpose technologies that will aid the fourth... starting with AI today and potentially expanding to include genomics, electrification and robotics.

We believe that the rise of the Magnificent Seven is another marker that we are going through a period of massive economic change. We are not at the end of that change but rather in the middle of it. Currently, we can see the third industrial revolution laying down the foundational general-purpose technologies that will aid the fourth. That we can spot several potential general-purpose technologies—starting with AI today and potentially expanding to include genomics, electrification and robotics—gives us further confidence in this view. These emerging innovations suggest to us that this next era may produce more new companies that will use these new technologies to solve hard problems in all different corners of the economy. Under these auspices, we find it increasingly likely that the ranks of the Magnificent Seven will grow larger. And our focus remains on separating what is durable and revolutionary from what is merely short-term noise, so that we get right the multi-decade arc that is the fourth industrial revolution.



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