

# A WHALE OF A TALE

## The History of Venture Investing in the United States

By Mark Higgins



**“You can’t really understand what is going on now unless you understand what came before.”**

— *Steve Jobs,*  
*founder of Apple Computer*

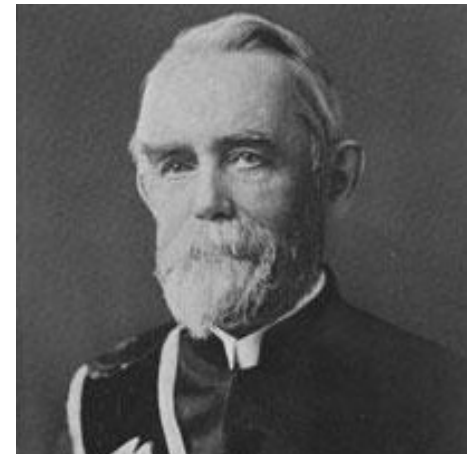
WHEN PEOPLE DISCUSS venture capital, the conversation often involves famous venture firms, such as Sequoia Capital, Kleiner Perkins, Venrock and a handful of others. These firms were instrumental in financing many of America’s greatest technology companies, including Apple Computer, Intel, Genentech and Google. But investing in early-stage

ventures has a much richer history than is often assumed—a history that includes the funding of the perilous but lucrative whaling voyages in the early 1800s.

This article seeks to educate readers on the fundamental dynamics of venture investing by recounting its evolution over the past 200 years. Several insights may prove timely because the US venture capital industry appears to have entered a period in which the proliferation of new market entrants and incessant inflows of institutional capital have placed significant downward pressure on returns. As such, trustees would be wise to consider whether these returns still warrant the risk.

### Funding Ventures on the High Seas

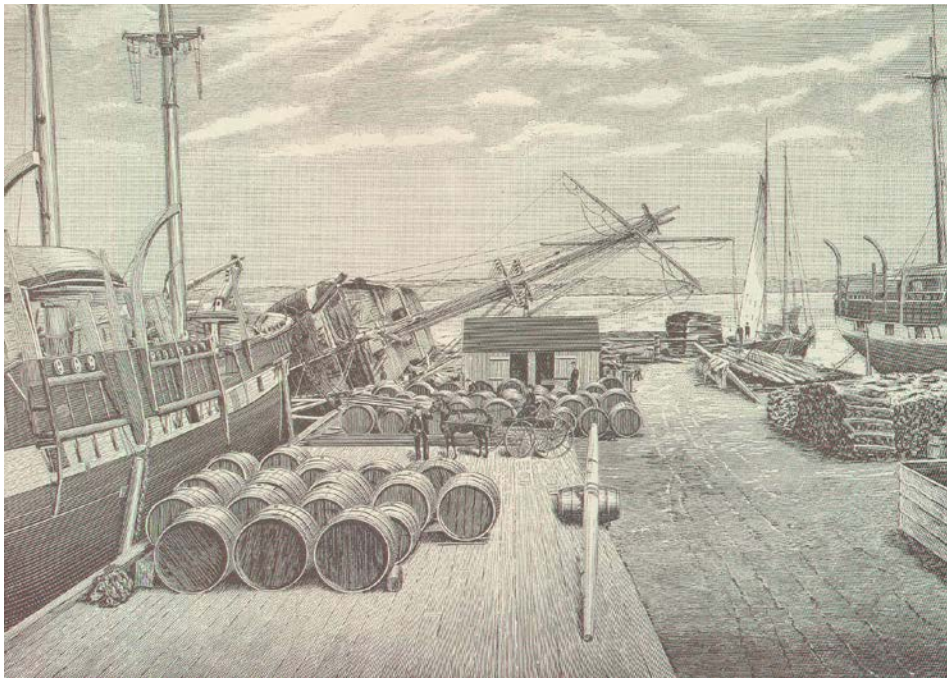
In the mid-1800s, Catholic missionaries were busy sowing the seeds of fruit trees that would blossom into bountiful orchards spanning California’s Santa Clara Valley. A hundred years later, many of these orchards were uprooted to make room for America’s burgeoning tech industry, and the Santa Clara Valley was henceforth referred to as “Silicon Valley.” A handful of premier venture capitalists provided the seed funding for many of Silicon Valley’s greatest ventures, but



**“While some vessels on their voyages have made but poor returns... others have done extraordinarily well and brought in fortunes to those investing in them.”**

— *Alexander Starbuck (1878)*

these firms were non-existent in the 1800s. Instead, the 19th century version of the venture capital industry was situated more than 2,500 miles to the east. The epicenter was New Bedford, Massachusetts, where a tight-knit community of Quakers quietly amassed fortunes from the whaling industry.



Whale ships at the New Bedford wharves, 1887.

The funding of whaling ventures is rarely associated with venture capital. One reason is because the entire industry disappeared soon after John D. Rockefeller expanded the oil industry under the Standard Oil banner. By the late 1800s, kerosene and petroleum-based lubricants were much cheaper than whale oil, rendering the whaling industry obsolete. Yet there remains much to be learned from reexamining the rise and fall of its predecessor, as US venture capital firms resurrected its financing method in the mid-1900s.

The first distinguishing attribute of whaling investments was the time horizon. In 1850, the average voyage lasted 3.6 years, and an average of 6% of ships were lost at sea each year. Throughout each voyage, investors knew little regarding a ship's prospects. Thus, once capital was deployed, it was nearly impossible to exit the investment until the ship returned.

A second challenge was the extreme variability of returns. After completing voyages, most ships returned to port with profits that were unworthy of the risks. An inventory of 4,127 documented voyages departing New Bedford between 1817 and 1906 revealed that 35.5% lost money and another 22% reported a profit of less than 10%. Figure 1 shows the distribution of whaling voyage profit rates. It is nearly identical to the distribution of venture capital returns, which is included for comparison.

The final challenge was gaining exposure to the rare voyages that produced outsized returns. Whaling investments only made sense if the occasional blockbuster return offset the much more common subpar returns. As indicated in Figure 1, only 12.6% of voyages produced returns of 40% or more, which rendered whaling ventures sensible only for gamblers or investors who adequately diversified across multiple voyages.

### Emergence of a 19th Century Venture Capital Industry

Investors in New Bedford addressed the unique investment challenges of whaling in much the same way that modern venture capitalists address the risks of early-stage venture investments. First, they structured investments as partnerships. The whaling agent functioned like a general partner, and wealthy individuals functioned as limited partners. The whaling agents then allocated investors' funds across multiple voyages, much like modern venture capital funds allocate to multiple portfolio companies. In addition to the partnership and portfolio structure, other notable similarities included:

1. **Lending of Managerial Expertise:** By the mid-1800s, capital was a commodity in New Bedford, but obtaining high-quality mentoring and proprietary knowledge

## The Princess of Whales Becomes the Queen of Wall Street

**"I buy when things are low and no one wants them. I keep them, just as I keep a considerable number of diamonds on hand, until they go up and people are anxious to buy them."**

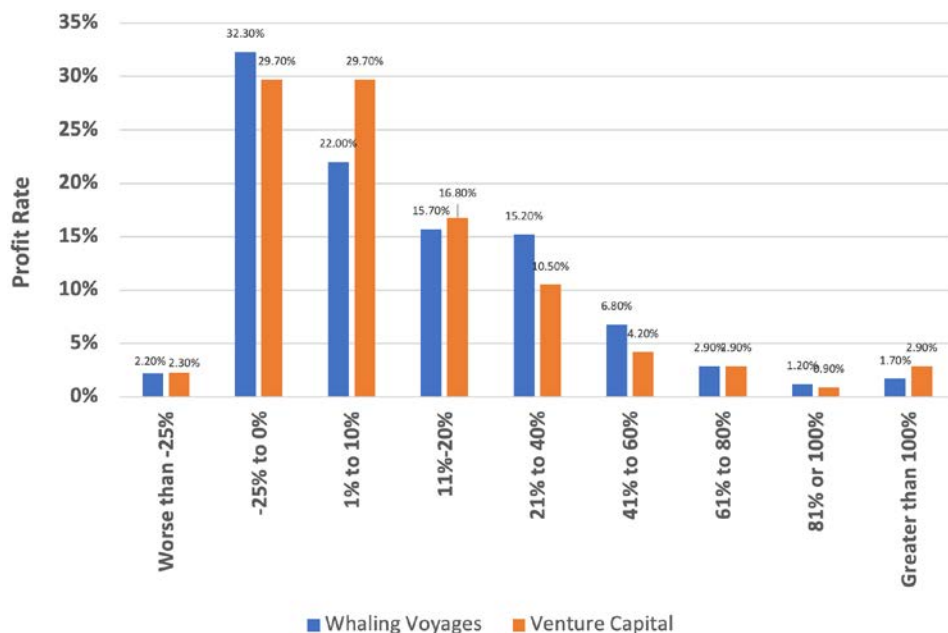
**—Hetty Green,  
The Queen of Wall Street (1905)**

Hetty Green is arguably the most underrated investor in US history. She was the richest woman in America by the end of the Gilded Age, but her investment philosophy and temperament differed markedly from the stock operators who dominated Wall Street. She shunned the dark arts of insider trading and market manipulation, she refused to leverage her positions and she embraced a life of thrift rather than luxury.

Green's behavior derived from her experiences in New Bedford. Her father, Edward Robinson, and her grandfather, Gideon Howland, were members of an exclusive clan of successful whaling agents. She often accompanied her father on the docks during the day and read newspapers and business reports to her grandfather at night.

Green's training in the risky business of whaling forced her to internalize virtues, such as thriftiness, patience and relentless due diligence. These virtues proved invaluable in the tumultuous markets of the Gilded Age. Many of her peers quickly amassed and lost fortunes during the waves of manias, panics and crashes on Wall Street. In contrast, Green skillfully navigated the treacherous currents while deftly avoiding the occasional rogue wave. Hetty's experience as a whaler helped her remain afloat, while the recklessness of many peers caused their fortunes to sink to the bottom of the sea.

**FIGURE 1: Distribution of New Bedford Whaling Voyage Profit Rates and Venture Capital Net Internal Rate of Return (IRR)**



Source: Tom Nicholas, *VC: An American History* (Cambridge: Harvard University Press, 2019). Whaling voyage profitability based on voyages from 1817–1906; venture capital net IRRs based on data from 1981–2006.

from skilled whaling agents was in short supply. For example, the most successful agents shared lessons obtained from prior voyages (both successes and failures). They also helped assemble the most experienced and reliable crew members. High-quality venture capital firms function in a similar capacity today.

- Incentive-based Compensation for Agents:** Whaling agents possessed unique skills, which enabled them to command a premium for their services. This explains why they typically received incentive-based compensation that was much like the carried interest of modern venture capital funds. In fact, the share of profits for whaling agents was even more attractive than the typical 20% share commanded by venture capitalists. On average, whaling agents received 39% of the profits from voyages.
- Incentive-based Compensation for Crews:** Whaling voyages were risky and grueling. Not only did crew members face the high likelihood of returning empty-handed, but they also faced a real possibility that they would never return at all. Whaling agents also had little control over the behavior of captains and crews after the voyage commenced.

It was critical, therefore, to align the interests of investors and crew members. The solution was allowing crews to share in the profits of the voyage. The percentage share, which was referred to as a “lay,” was greatest for the captain, but all members of the crew participated to a degree. The profit-sharing system was similar to the use of stock options at start-up companies.

#### Venture Capital Resuscitates a “Risk-Less” Economy

**“We cannot depend safely for an indefinite time on the expansion of our big old industries alone. We need new strength, energy and ability from below. We need to marry some small part of our enormous fiduciary resources to the new ideas which are seeking support.”**

**— Ralph Flanders, president of the Federal Reserve Bank of Boston (1945)**

The great whaling partnerships of New Bedford disappeared by the turn of the 20th century, but innovation in the United States persisted. A relatively small community of wealthy individuals supplied

capital for entrepreneurial ventures. For example, Thomas Edison received funding from wealthy financiers, such as J.P. Morgan and William H. Vanderbilt. While it is conceivable that economic progress was held back to a degree by the absence of an organized industry to fund new ventures, advancements in the United States still far outpaced economic rivals in Europe in the early 1900s.

It was not until after the end of World War II that the scarcity of capital posed a threat to entrepreneurship in America. The first problem was extreme risk aversion among potential capital providers. Banks were still recovering from the scars of the Great Depression, and funding new ventures in unproven markets was considered too risky. Insurance companies and pension plans, which had amassed substantial pools of capital during the war, were equally risk averse. Trustees rarely ventured much beyond high-quality bonds. Another problem was that demand for capital skyrocketed after the war. The US had won an unprecedented global war on two fronts, and much of the success was attributable to the inventiveness of academic institutions and industrialists. Many inventions had compelling commercial applications, but there was insufficient capital to bring them to market.

Several leading financiers and academics feared that the capital shortage threatened the nation’s economic progress. They described the post-war business climate as the “risk-less economy,” and they feared the United States would lose its technological edge if innovation depended entirely on large companies.

In 1946, a group of leading academics, financiers and industrialists in New England formed a closed-end investment company to address this problem. The company was called Advanced Research and Development (ARD), and its mission was to provide a new form of financing for early stage ventures. The famed Harvard Business School Professor, Georges Doriot, took the helm soon after ARD’s formation, and the financing model pioneered by the whalers of New Bedford returned.

ARD ultimately proved the viability of venture investing, but it took more than a decade of struggle. The greatest challenge derived from the structure of the fund. As a closed-end investment company, ARD was subject to SEC oversight. This created

significant constraints on the investment strategy and the company's ability to compensate employees.

Even in the late 1950s, it was unclear whether ARD would succeed. The portfolio funded several successful ventures, but the successes did not adequately compensate for the failures. This changed on August 19, 1966, when Digital Equipment Corporation (DEC) became ARD's first home run. ARD had invested \$70,000 in 1957, and after DEC's IPO, its position was valued at \$38.5 million. This equated to an annualized return of approximately 100% per year over a 10-year period. The return was so large that it completely altered ARD's overall performance. Between 1946 and 1971, ARD produced an annualized return of 15.8%. Without the DEC investment, it would have only returned 7.4% per year. This single investment validated the venture capital model, but it also reinforced the fact that success depended almost entirely on the ability of venture capitalists to find home runs.

### Venture Capital Moves West

**"West Coast investors aren't bolder because they're irresponsible cowboys, or because the good weather makes them more optimistic. They're bolder because they know what they are doing."**

— *Paul Graham,*  
*founder of Y Combinator*

ARD proved the viability of venture capital in the 20th century, but the company did not survive. It merged with Textron Corporation in 1972, and its influence waned. Doriot's spirit lived on, however, as many of his former students and employees seeded a new generation of venture capital firms. Examples included Greylock Partners, Flagship Ventures and Fidelity Ventures. But the next generation set their sights on the West Coast, where a forward-thinking professor named Fred Terman had created a formidable high-tech ecosystem in the vicinity of Stanford University.

The second generation of venture capitalists had a deep appreciation for the importance of hitting home runs, which made the high-tech industry the most attractive source of opportunities. Tech companies could quickly dominate large

## The Social Benefits of Venture Capital

**"We are undertaking pioneering projects that with proper backing will encourage sound scientific and economic progress in a new field—fields that hold the promise of tremendous future development."**

— *Laurance Rockefeller,*  
*founder of Venrock Associates*

ARD proved that venture investing was viable for institutional investors, but it was not the first to resurrect the model itself. Ironically, the Rockefeller family—whose wealth derived from the demise of the whaling industry—was among the first to resurrect venture investing. But wealth creation was only a secondary goal. Their primary goal was to promote social and economic progress by supporting cutting-edge research in the United States.

The Rockefellers achieved their primary goal but fell short of the secondary one. Between 1938 and 1969, the Rockefellers made 59 investments, which achieved an investment multiple of 3.2. Over the same period, the stock market produced a multiple of 8.6.

The Rockefellers' performance revealed an interesting paradox of venture investing. Considerable evidence suggests that individual investors in venture capital funds are unlikely to achieve a return that is commensurate with the risk, yet the aggregate investments of the venture capital industry can provide extraordinary benefits to society. For example, a recent study by Stanford University revealed that 43% of US public companies founded since 1979 were funded by venture capital.

The paradox of venture investing is not a unique phenomenon. Investors experienced a similar dynamic when investing in canals, railroads and industrial conglomerates in the 1800s and early 1900s. Despite the high probability of disappointing returns at the individual level, the nation as a whole reaped significant benefits.

markets and then defend their position with strong patent protection. By 1970, Silicon Valley was America's high-tech capital. In 1972, two of America's most prestigious venture firms, Sequoia Capital and Kleiner Perkins, opened offices on Sand Hill Road. Many firms followed, and Sand Hill Road became the destination of choice for venture capitalists.

### The Department of Labor Makes it Rain

**"The most common exit strategy was that we lost all our money."**

— *Jack Melchor,*  
*venture capitalist*

By structuring their funds as limited partnerships, the second generation of venture firms freed themselves from SEC

oversight, but they faced new headwinds in the 1970s. The biggest one was an unanticipated side effect of the Employee Retirement Income Security Act (ERISA) of 1974. The Act required trustees of ERISA plans to abide by the Prudent Man Rule when selecting investments. Fearful of violating the rule, most trustees restricted investments to traditional stocks and bonds. Even trustees of non-ERISA plans, such as endowments, exercised an abundance of caution and employed similar restrictions. As a result, venture funding all but evaporated in the mid-1970s.

The funding drought devastated the fledgling profession. The National Venture Capital Association (NVCA) responded by lobbying relentlessly to convince the Department of Labor (DOL) to allow a more flexible interpretation of the Prudent Man Rule. On June 21, 1979, the DOL

obliged and offered new guidance that provided trustees with the flexibility they needed to invest in venture funds. Commitments to venture capital skyrocketed in the subsequent years, giving high-tech entrepreneurs the capital they needed to fund the personal computing revolution of the 1980s (See Figure 2).

### The Dot-Com Bubble

**“What risk? If the company doesn’t work out, we’ll sell it for \$150 million. If the company kind of works out, we’ll sell it for \$500 million, and if it really works out, it’ll be worth \$2 billion and \$10 billion. Tell me how that’s risk.”**

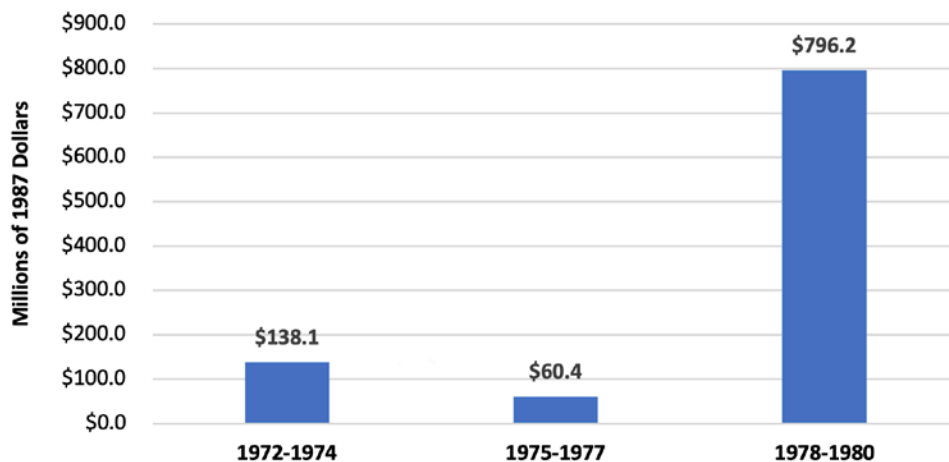
— **Geoffrey Yang**,  
co-founder of **Redpoint Ventures**

Venture capital firms generated breathtaking returns in the 1980s, as valuations soared in companies such as Apple Computer, Microsoft Corporation, Oracle and Genentech. Premier firms, such as Kleiner Perkins, the Mayfield Fund and Sequoia Capital, rewarded limited partners with massive Internal Rates of Return (IRRs). Attracted by the windfalls, institutional investors increased commitments steadily in the early 1990s. But enthusiasm soon transformed into mania after the IPO of Netscape Communications on August 9, 1995. The company was merely a business plan in early 1994, but it was suddenly valued at nearly \$3 billion after the IPO.

In 1994, new commitments to US venture capital funds totaled \$7.6 billion. In 2000, they exploded to \$101 billion. The internet era also attracted many new entrants. In 1994, the United States had 136 venture capital firms. In 2000, there were 632. But the dot-com bubble eventually ran its course, as all bubbles do. In 1999, the Federal Reserve began tightening monetary policy, as rampant speculation had reduced unemployment to levels at which inflationary pressures became concerning. Over the next year, the tech bubble collapsed. Figure 3 shows the rise and fall of the tech-heavy NASDAQ Composite Index.

The collapse of the dot-com bubble damaged the reputation of many leading venture capital firms. Nevertheless, capital commitments from institutional investors quickly returned due to an unexpected tailwind that emerged from the exceptional performance of the Yale University Endowment.

**FIGURE 2: New Commitments to VC Firms (1972–1980)**



Sources: *Venture Capital Yearbook*, 1988; Poterba, James M. “Venture Capital and Capital Gains.” *Tax Policy and the Economy*; Volume 3 (1989).

### The Magnetism of Venture Investing

**“Money wasn’t hard to get, even for a company with a notably vague business plan; getting a top consigliere and a bona fide CEO magnet made [Kleiner Perkins Caulfield Byers] dollars worth more than other dollars.”**

— **Jim Clark**, co-founder of **Netscape Communications**

In the 19th century, whaling agents with strong track records were much more likely to repeat their success—an investment phenomenon referred to as persistence. Some of the persistence was attributable to their unique skills at selecting the most promising voyages, but the more important factor was the ability of the best agents to attract the best captains. This is because captains knew that the mere association with a top agent was valuable in and of itself. It signaled competence, which captains used to attract the best crews. It also provided captains with access to proprietary knowledge regarding the most effective whaling tactics and hunting grounds.

Premier venture firms experience a similar phenomenon today, and it is why top-tier firms are much more likely to generate attractive returns than second- or third-tier firms. The quote from Jim Clark reveals this principle. Clark accepted a \$5 million investment from Kleiner Perkins in 1994. Only a handful of top-tier firms were even considered. Ultimately, it was the magnetism of John Doerr that attracted Clark to Kleiner Perkins. Despite Clark’s general distaste for venture capitalists—which he often derisively referred to as velociraptors—he knew that Doerr could attract a top-notch CEO and provide invaluable managerial guidance as a board member. Lesser-known firms provided little more than capital.

When Kleiner Perkins invested in Netscape, there were nearly 400 venture capital firms in existence. Only three had a realistic shot at Netscape. Kleiner’s \$5 million investment skyrocketed to \$400 million in less than two years. Securing access to such investments is a rarity for the best venture capitalists, but it is a virtual impossibility for second- and third-tier firms.

**FIGURE 3: Daily Closing Price of the Nasdaq Composite Index**  
(January 1, 1998–October 31, 2002)



Source: Yahoo! Finance

### Overcrowding in Silicon Valley



**“What has been true of railroads has been true of other forms of permanent investment. First, high charges and high profits. Then speculative investments in the same line. Next, an overstocked market, and no profit at all. Finally, cutthroat competition and widespread insolvency.”**

**— Arthur Twining Hadley, former president of Yale University**

In 2000, David Swensen, the CIO of the Yale University Endowment, published his classic book, *Pioneering Portfolio Management*. The book shared many details of Yale’s investment strategy, which enabled its endowment to substantially outperform other peers. But many institutional investors misinterpreted Swensen’s advice and concluded that blunt allocations to alternative assets, such as venture capital, were the secret to producing Yale-like returns.

Few realized that it was the rare strength of the people making the decisions at Yale that accounted for their success.

Over the next two decades, institutional investors substantially increased allocations to alternative asset classes, and venture capital was a common destination. In 1995, assets under management (AuM) in US venture funds was \$38.9 billion. By 2021, total AuM hit \$995 billion. The problem, however, is that much like the New Bedford whaling industry, the supply of high-tech home runs is limited, and a small number of top-tier firms are far more likely to snag them. This is why Swensen cautioned investors that, “In no other area of the capital markets does the identity of the source fund matter in the way that it does in the venture capital world.” To this day, few institutional investors heed his warning.

### The Shifting Tradewinds of Venture Capital

The drilling of the first oil wells in Titusville, Pennsylvania ended the reign of the great whaling financiers of New Bedford, but profits were already suffering from increased competition and shrinking whale populations. For the 20 years ending in 1836, an average of 77 ships departed New Bedford each year. For the 20 years ending in 1856, this increased to an average of 242 ships. Unsurprisingly, the profitability of voyages declined from 21.3% to 13.4%.

The US venture capital industry now faces a similar challenge. From 1981 to

1999, an average of 196 venture funds made new investments in any given year. For the 15-year period ending in 2014, an average of 604 funds made new investments. Net IRRs followed a predictable trajectory. For the 20-year period ending in 1999, the average, equal-weighted pooled IRR was 28%. For the 15-year period ending in 2014, the average, equal-weighted pooled IRR had declined to 11%.

Severe overcrowding in the US venture capital industry is a conundrum. While the magnetism of venture investing may shield premier venture firms from severe consequences, second- and third-tier firms seem unlikely to thrive. Like the 19th century whaling investors, modern venture capital investors are hunting in a crowded sea. It is up to trustees to decide if they should search for undiscovered treasures in uncharted waters—or avoid the perilous seas altogether. **\$**

*Mark Higgins, CFA, CFP® is a financial historian, experienced institutional investment advisor and frequent contributor to Financial History magazine. His book, Investing in US Financial History, recounts the full financial history of the United States from 1790 to 2023. The book will be published in February 2024 by Greenleaf Book Group.*

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