



**FTSE
RUSSELL**
An LSEG Business

How we built a better US equity benchmark

40 years of the Russell US Indexes





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40

In 2024 we celebrate the 40th anniversary of the Russell US Indexes, which offer a complete representation of the investable US equity market.

The Russell US Indexes are the leading benchmarks for institutional investors in US equities, with approximately \$9 trillion in associated assets under management.¹

The Russell US Indexes succeeded from the start because they were comprehensive, objective, predictable, modular and reliable.

Since their launch in 1984, the Russell US Indexes have become an essential and closely followed part of the US financial markets. The annual Russell index reconstitution day ('Russell recon day' at the end of June) is now one of the most widely-anticipated events in the US equity trader's calendar. It often generates the highest daily trading volume of the year on US stock exchanges.

Russell style indexes are another mainstay of the US equity market. They segment the equity universe into styles – growth and value, defensive and dynamic – offering a systematic and intuitive way of differentiating stocks' behavior.

As we discuss in this paper, the Russell US Indexes succeeded from the start because

they were comprehensive, objective, predictable, modular and reliable. They offered something existing benchmarks did not.

Although design of the indexes has been modernized to ensure they remain representative and useful to investors, these attributes are as accurate today as they were in 1984.

In the following pages, we delve into history to explain why the Russell US Indexes have become such indispensable tools for those following, investing in or seeking to understand the world's largest stock market.

Origins of the US stock market index

Demand for a better benchmark

The Russell US Indexes were invented in 1984 to serve a particular need: Map the US stock market in its entirety, but only with those equities that are truly accessible to professional investors. Early stock market indexes did not meet these requirements.



Dow Jones Industrial

The Dow Jones Industrial Average, created by journalist Charles Dow in 1896, included only twelve 'smokestack' US firms at launch. (This was later increased to 30 industrial stocks).

Although it was a closely followed barometer of the US stock market, the Dow was of limited use for investment purposes. It was calculated by means of an unusual price-weighted methodology:

The higher a company's share price in dollars, the higher its index weighting and the higher that company's impact on the index as a whole.

Changes to Dow Jones Industrial Average constituents were irregular, occurring on average every two years. Also, they were impossible to predict. Index changes were decided by a committee that included journalists from the Wall Street Journal.



S&P 500 Index

The S&P 500 Index, created in 1957, served professional investors better than the Dow. The S&P 500 is broader and is capitalization-weighted, mirroring the way portfolio managers look at and measure the market.

However, the S&P 500 doesn't necessarily select the largest 500 US equities. And, like the Dow Jones Industrial Average, the index's constituent selection is at the discretion of a committee. The S&P 500 Index's focus on large-caps also means it excludes the small- and micro-cap stocks that have often been the engine of US economic growth.

Also, it was not fully investable. Before 2005, S&P included all company shares in its calculation of market capitalization. In other words, before that date the S&P 500 was not adjusted for 'free float' (a Russell innovation).



Wilshire 5000 Index Series

At the other end of the scale in terms of index size and scope, the all-cap Wilshire 5000 index (with 5000 constituents) had too many illiquid stocks and was too broad for use in professional asset management.

So by the early 1980s there was an opportunity to create a new US equity index to address the needs of institutional investors. And the rapidly rising popularity of index funds was driving demand for a better US equity benchmark.

The rise of the index fund

In the 1970s, a few investment pioneers decided it was time to stop trying to beat the US stock market and instead to try and match its return at the lowest cost possible.

One of those pioneers was Burton Malkiel, author of the 1973 book, *A Random Walk Down Wall Street*. In the book, Malkiel said it was time to reduce unnecessary transaction costs when investing in US shares. He wrote:

"What we need is a no-load, minimum management-fee mutual fund that simply buys the hundreds of stocks making up the broad stock-market averages and does no trading from security to security in an attempt to catch the winners."

Malkiel didn't call this an index fund, but in essence, that is what he was describing.



Early attempts at equal weighting

There had been early attempts to track the stock market, rather than attempting to beat it. In 1971, William Fouse and John McQuown of Wells Fargo bank set up a \$6 million portfolio for the Samsonite pension fund. The portfolio's objective was to hold all the stocks listed on the New York Stock Exchange (NYSE) with equal weightings.

The strategy soon ran into problems. Its choice of benchmark meant excessive trading costs. An equal-weighted strategy requires constant rebalancing. In those days, NYSE trades carried relatively high fixed commissions.

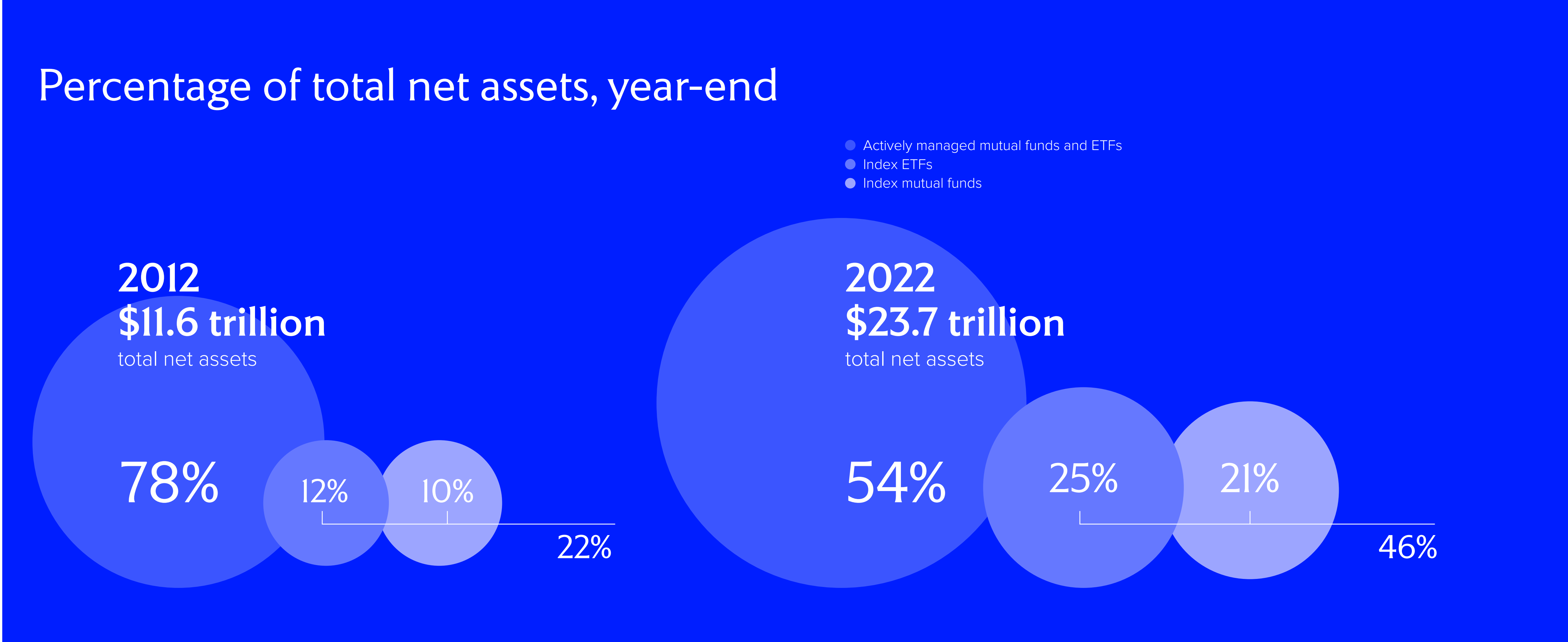
A few years after launch, Wells Fargo ditched the Samsonite fund's benchmark, replacing it by the capitalization-weighted S&P 500. This was an early lesson in index design: while remaining objective, a stock or bond index must also meet the needs of its users.

From innovation to mainstream

If index-based investing was an innovation in 1971, it's now part of the mainstream. The first index mutual funds were created later in the 1970s, followed by index-tracking exchange-traded funds (ETFs) in the 1990s. Index-based investment strategies have since risen to represent around half of the US mutual fund market.

According to the US Investment Company Institute, index mutual funds and index ETFs accounted for 46 percent of assets in long-term US investment funds at the end of 2022 – more than double their market share of a decade earlier (see Figure 1).

Figure 1: The rise of the index fund



Why Russell invented a 3000-stock index

Despite the growing popularity of indexing, the choice of index to measure active investors' performance, or to underlie a passive portfolio, was still a matter of debate.

In the early 1980s, a leading US based pension fund consulting firm decided it could do better than the existing index options.

By 1982, the consulting firm Frank Russell had been appointed by the three largest corporate pension funds in the US – IBM, AT&T and General Motors – to advise on investment strategy. This role included working with the pension funds on asset allocation, the selection of active managers and the choice of benchmarks.

Kelly Haughton, a Frank Russell consultant and a former Wells Fargo employee, decided that the firm's newest client, General Motors, could do better than use the S&P 500 Index for performance measurement purposes. In Haughton's view, the index's choice of members (by means of a committee) rendered its approach more akin to an active strategy than to a truly objective representation of the market.

Initially, Haughton looked at the Wilshire 5000 as an alternative since that index purported to represent the whole equity market. However, he found that the Wilshire 5000 included too many illiquid stocks, as well as several non-US companies with listings on US exchanges.

Russell 3000® Index arrives

After consulting managers of index and active funds, Haughton found that most selected from a list of around 3000–3200 US stocks. And so the idea of a 3000-stock US equity index – which Haughton and his colleagues called the Russell 3000 Index – was born.

The index was sub-divided into a 1000-stock, large-cap index (Russell 1000® Index) and a 2000-stock, small-cap index (Russell 2000® Index, see figure 2).

Figure 2: It's really this simple

$$1,000 + 2,000 = 3,000$$

Russell 1000 Index

The largest 1,000 stocks by market cap, the index comprehensively covers the large cap opportunity set.

Russell 2000 Index

The next 2,000 largest stocks by market cap, the index comprehensively covers the small cap opportunity set.

Russell 3000 Index

This broad cap index of the top 3,000 US stocks by market cap was designed to cover approximately 98% of the US equity investable universe.

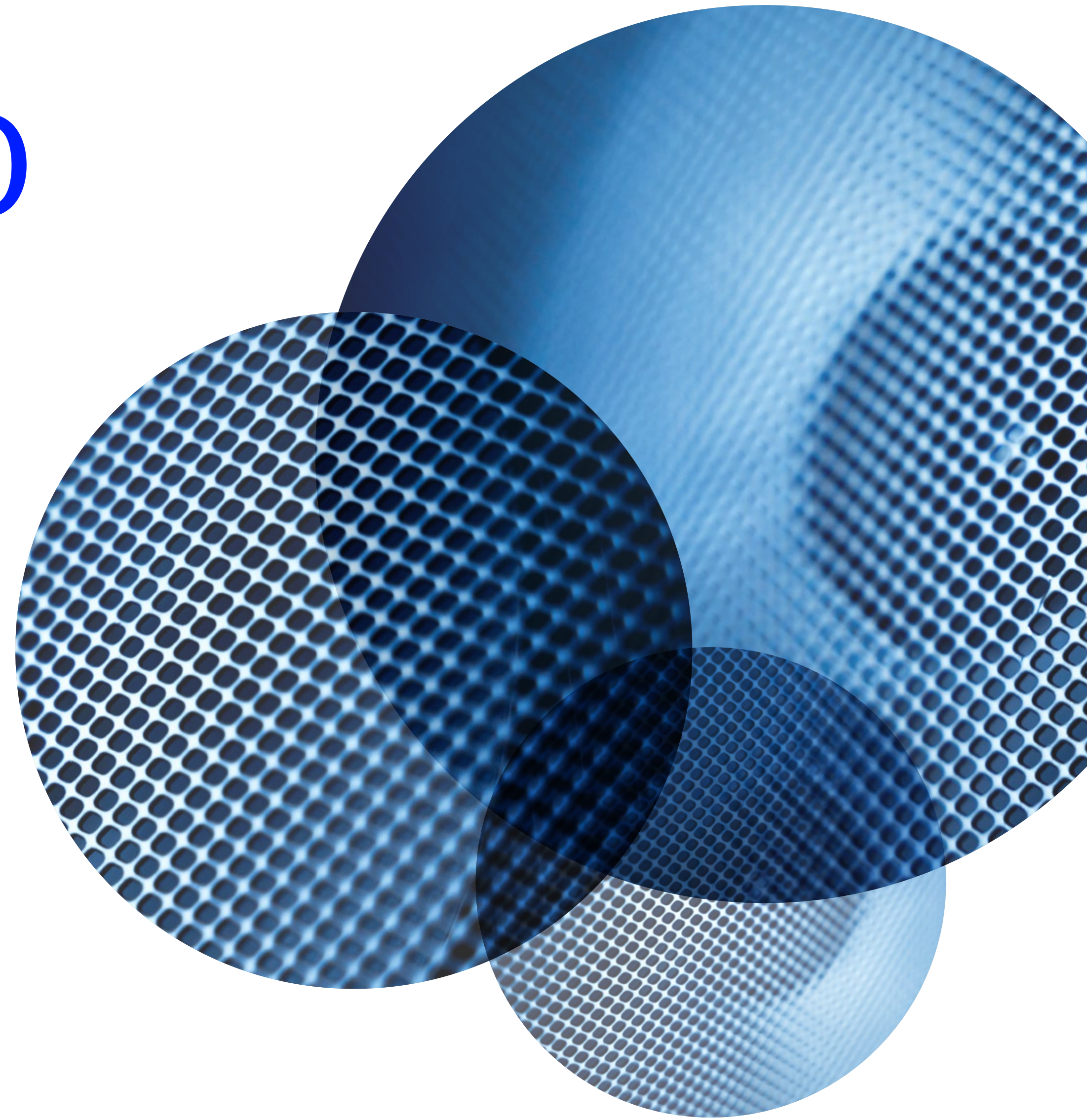
The new index required lots of data to back it up:

- documentation of all equity characteristics, including share counts, dividends and other corporate actions; plus
- five years of performance history (Russell US Indexes are calculated from the end of 1978).

This was a significant challenge, given the technological constraints of the early 1980s.

At this point, the indexes nearly failed to get off the ground. Haughton's colleagues at Frank Russell complained that he was monopolizing the company's mainframe computer at a time when processing power was expensive and rationed.

Undeterred, Haughton and his colleagues took to using the mainframe at night and weekends, eventually completing their searches. On January 1, 1984, they launched the Russell 1000, 2000 and 3000 indexes.



Segmenting the market by size

At launch, the Russell US Indexes addressed a key need by dividing the investable US equity opportunity set into separate large-cap and small-cap segments.

By the late 1970s and early 1980s, many asset managers were highlighting the attractions of smaller companies, with some launching small-cap equity funds to capitalize on the potential client demand.

Their investment thesis was that small-cap stocks were often less well-researched than large-caps, creating greater stock-picking opportunities. The managers also argued that small companies (often recent start-ups) could grow their earnings faster than established, more bureaucratic firms.

In 1992, academics Eugene Fama and Kenneth French formalized the idea of a small-cap return 'premium' in their famous *Journal of Finance* paper, 'The Cross-Section of Expected Stock Returns'. Fama later received the Nobel prize for his research on financial markets.

Analyzing US stock prices from 1963–1990, Fama and French showed that two 'factors' – company size and value – had played a significant part in explaining equity returns, in addition to a third factor, overall market risk or 'beta'.

The confluence of academic theory and investor practice helped create demand for a comprehensive small-cap index to benchmark the returns of this important equity segment.

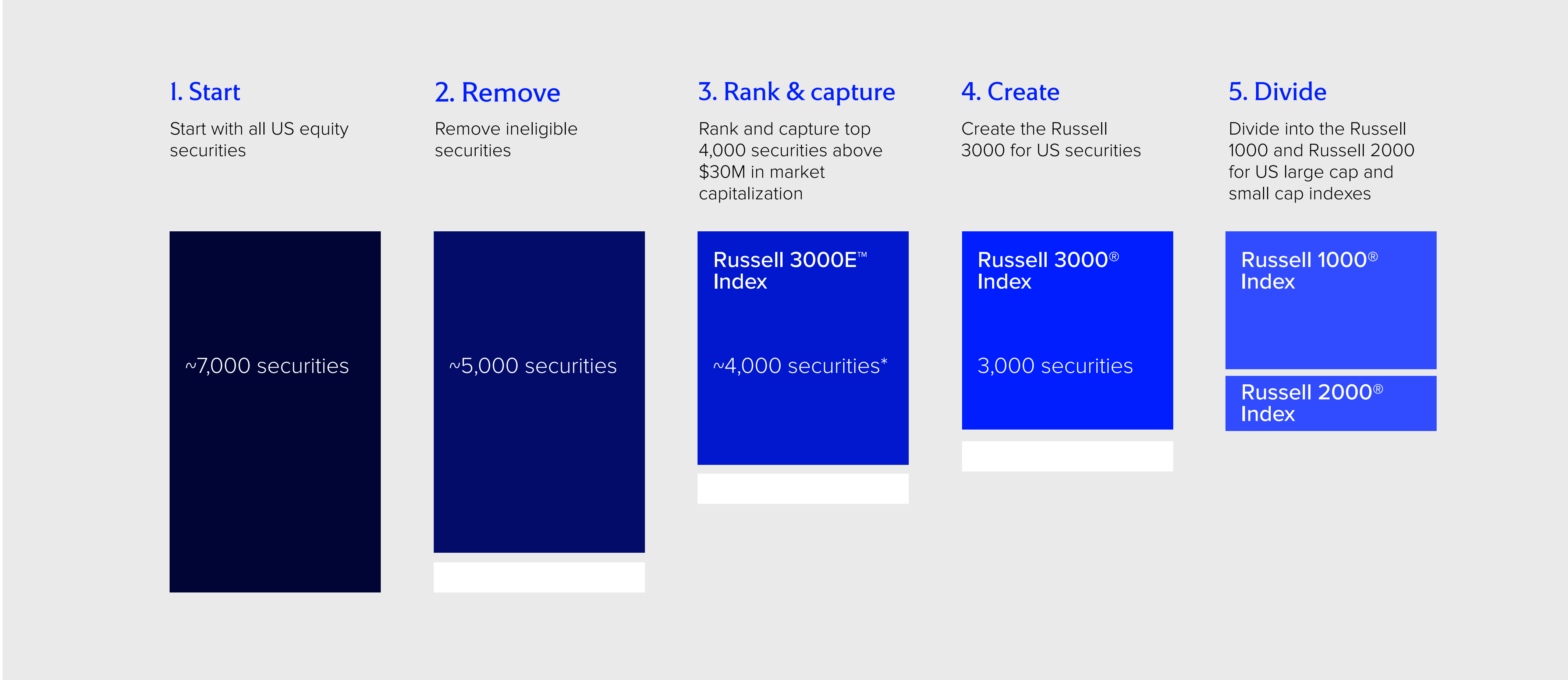
What is small cap?

But the Russell 2000 Index's introduction begged a question: what is a small cap? Designers of the Russell US Indexes answered it simply. They took all US stocks, removed ineligible securities, ranked the remaining equities by their market capitalization and selected the top 3000 stocks to make the Russell 3000 Index (see figure 3).

The smallest 2000 firms in the Russell 3000 became the Russell 2000, which had no overlap with the large-cap Russell 1000 Index. There's merely a cut-off point, or 'breakpoint', between the two.

This process is still the way the indexes are recalculated and reconstituted each year.

Figure 3: How we build the Russell 1000 and 2000 indexes

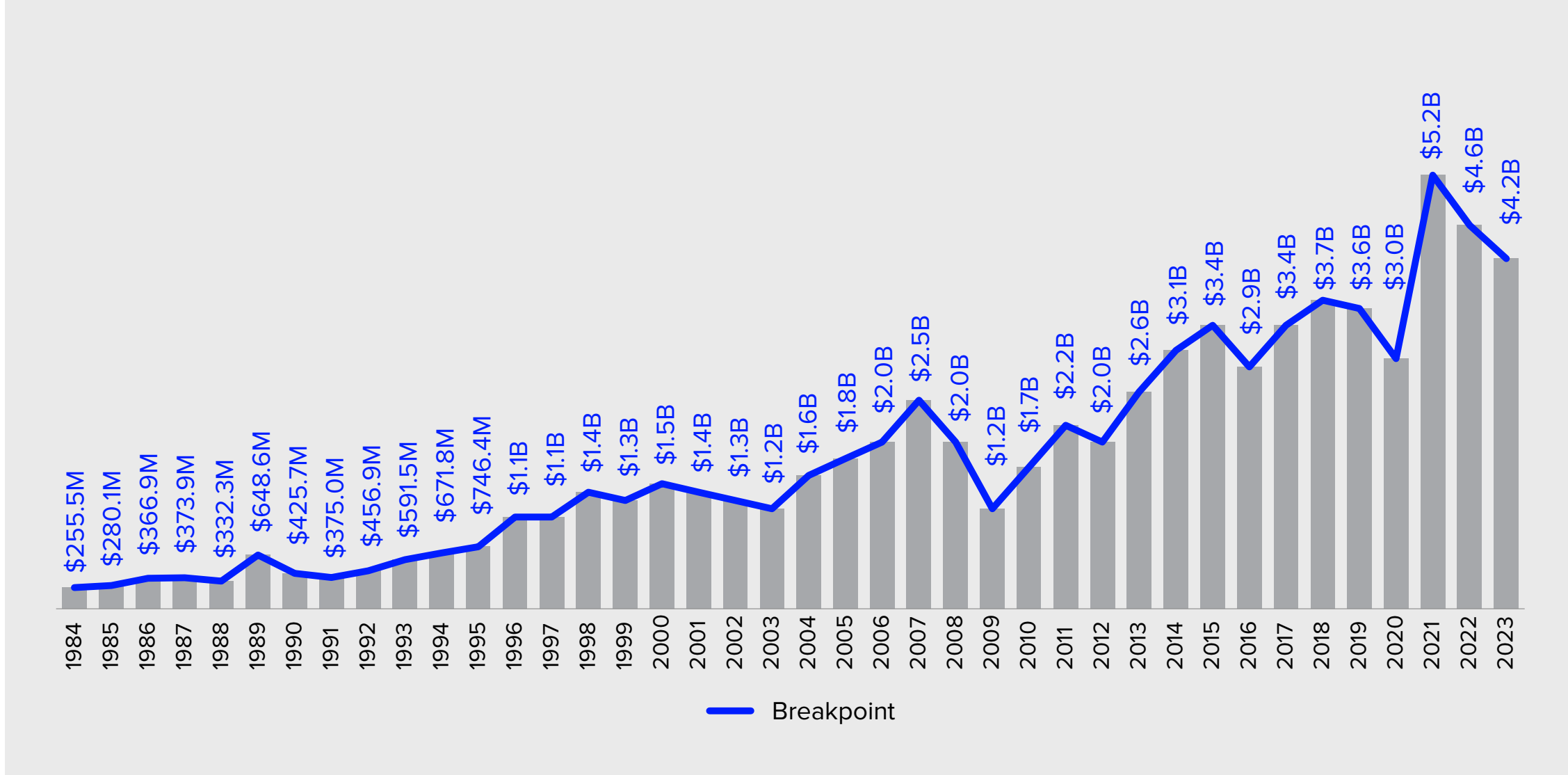


*Note: If there are fewer than 4,000 eligible companies above \$30M in size, the R3000E will contain fewer than 4,000 companies.
Source: FTSE Russell

Variation of index breakpoints

Since the creation of the Russell US Indexes in 1984, the breakpoint between the Russell 1000 and Russell 2000 has varied dynamically to reflect the shifting valuations of US stocks (see figure 4). At \$5.2 billion, the 2021 breakpoint was over four times higher than in June 2009 – the immediate aftermath of the global financial crisis. And it was over 20 times higher than the year the Russell US Indexes were launched: 1984.

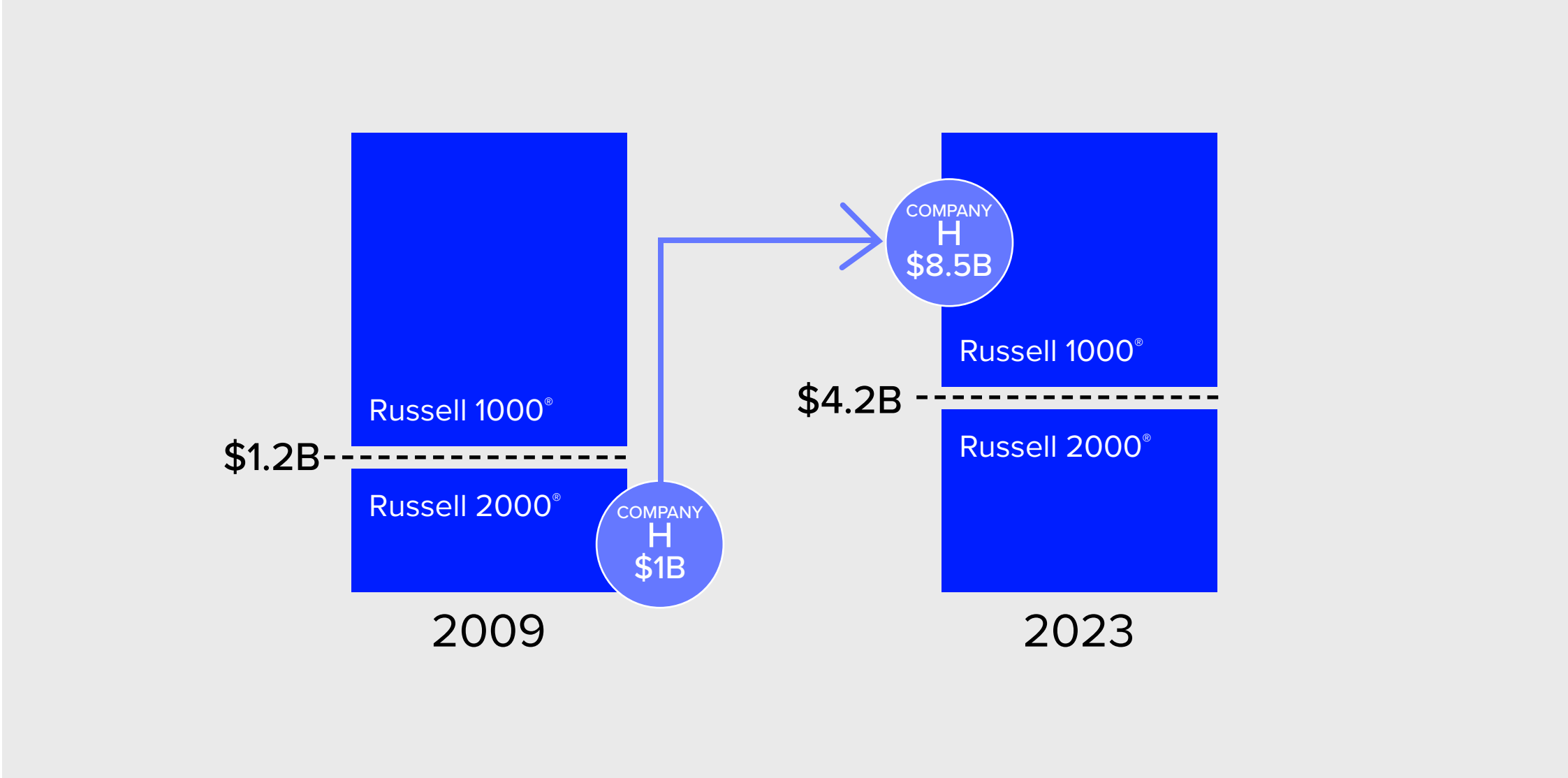
Figure 4: Historical breakpoint between large-cap (Russell 1000) and small-cap (Russell 2000) indexes



Source: FTSE Russell. As of "rank day" each year.

This design feature means that a stock can move seamlessly from the small-cap Russell 2000 Index to the large-cap Russell 1000 Index without reliance on a fixed market capitalization target to determine index inclusion (see figure 5).

Figure 5: Movement of a hypothetical company ('H') from Russell 2000 to Russell 1000 between 2009–2023



Source: FTSE Russell

Style indexes helped assess manager skill

The Russell US Indexes soon helped measure the equity market in another way, too. As the consulting company to many leading US pension funds, Frank Russell was often asked by its clients to analyze how much of an active equity manager's past performance had been due to luck rather than skill.

It turned out that a simple segmentation of the US equity market into 'growth' stocks (those with a below-average book-to-price ratio) and 'value stocks' (above-average book-to-price ratio) went a long way toward answering the question.

In the words of George Russell, chairman of Frank Russell during the 1980s and 1990s:

“When we research managers, one of our fundamental questions is, ‘How much is luck and how much is skill?’ For example, suppose a manager was able to beat the Russell 1000 Index by 500 basis points in a given year. . . . That’s a great result. But then we would look more closely. What style does the manager use? If growth, then we’d look at the Russell 1000 Growth Index, because it’s a better benchmark. Now we see that the manager’s outperformance is ‘only’ 50 basis points.”



Figure 6: Allocation of company shares to Russell value and growth indexes

SECURITY	VALUE PROBABILITY	GROWTH PROBABILITY	NUMBER OF SHARES	VALUE INDEX	GROWTH INDEX
Company C	0	1	1500	0	1500
Company B	0	1	2000	0	2000
Company D	0	1	50	0	50
Company A	0.05	0.95	500	25	475
Company G	0.35	0.65	1500	525	975
Company E	0.80	0.20	450	360	90
Company H	1	0	1200	1200	0
Company F	1	0	2000	2000	0

Source: FTSE Russell. For illustrative purposes only. Does not represent actual data.

Variables to determine style categories

This distinction between style categories is still widely used by Russell index clients. We enhanced the style methodology since the indexes' launch in 1987: Instead of a single variable to separate growth and value stocks, we now use three:

- book-to-price ratio,
- I/B/E/S two-year forecast earnings growth, and
- historical 5-year sales-per-share growth.

We no longer allocate companies exclusively to either the growth or value category. When stock characteristics don't allow for an absolute style distinction, the Russell US Style Indexes allocate portions of a firm's market value to both growth and value categories (see figure 6).

For the Russell 1000 and Russell 2000, around 30 percent by market capitalization is split between the two styles. However, the style index market caps always sum to that of the parent index, ensuring no double-counting.

Two new styles emerge

In 2010 we extended the style index range by introducing two new categories: defensive and dynamic stocks.

Russell Defensive Indexes® measure the performance of companies that are less sensitive to economic cycles, credit cycles and market volatility. Russell Dynamic Indexes® measure the performance of companies that have relatively less stable business conditions and are more sensitive to those market cycles.

The Russell US Style Indexes now serve as the foundation for a whole ecosystem of investment funds: as of December 2022, out of the \$9.2 trillion benchmarked to the Russell Indexes overall, \$6.3 trillion were benchmarked to the Russell Style Indexes.

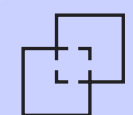
Why a naïve methodology can pay off

The Russell US Equity Indexes were created to serve as benchmarks for anyone following or investing in the US stock market. To achieve this objective, they embedded four design principles.



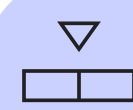
A 'naïve' construction approach

Yield the return and risk an investor could obtain without any extraordinary knowledge of the investment opportunity set.



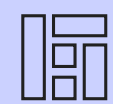
Simplicity

Constructed using a transparent method that can be replicated by users.



Representative weighting

Capitalization-weighted and float-adjusted.



Completeness

Include all the assets available for investment.

Introducing free float

Following the preparatory work on equity characteristics undertaken by Frank Russell in the early 1980s, the Russell indexes were the first to weight constituents by 'free float'.

Free float adjustment is now a standard index technique. It means to remove restricted shares, shares that are never traded, or shares otherwise not available for purchase from the total used to calculate each constituent's market capitalization and ultimately determine its weight.

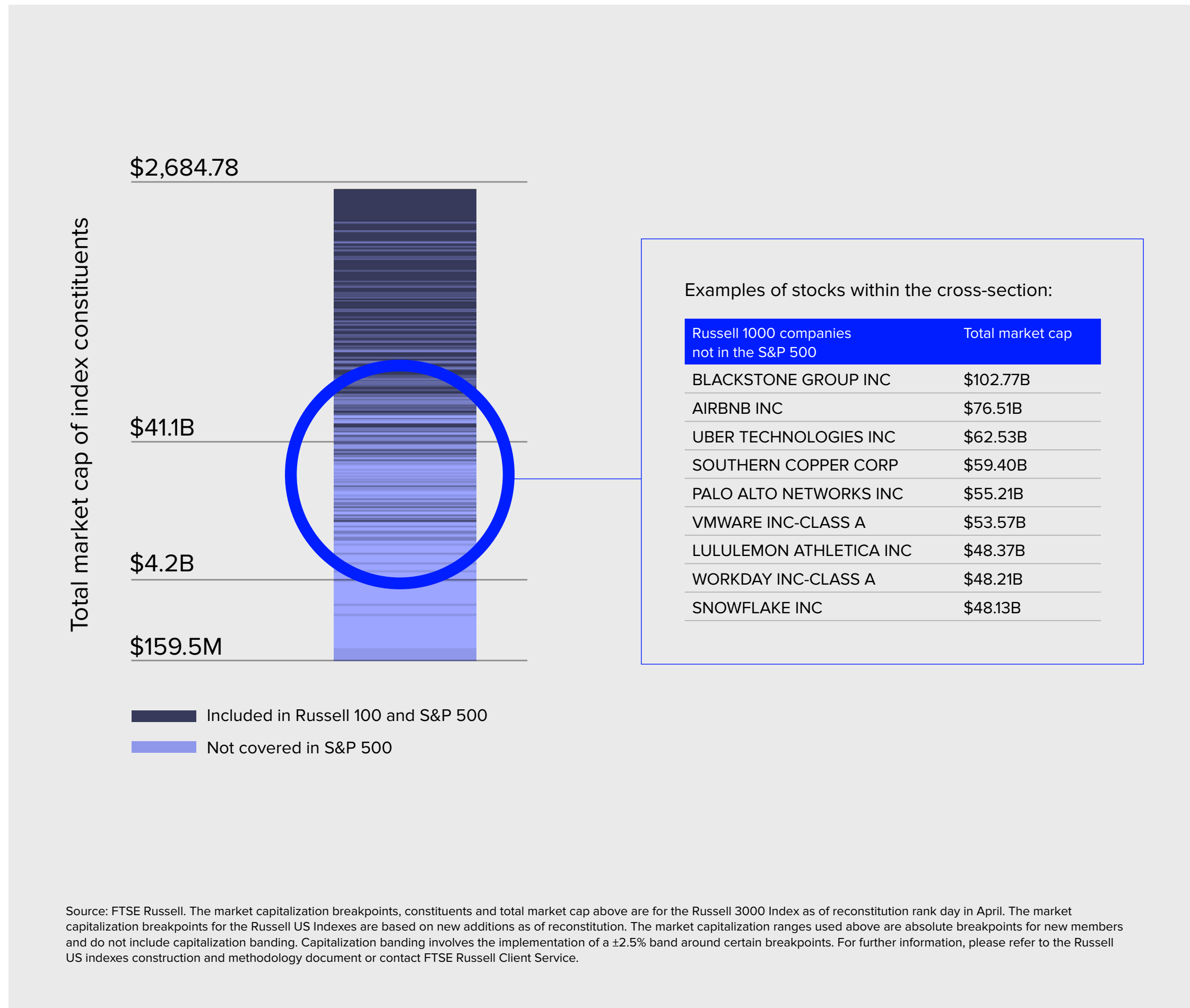
Naïve construction

A naïve approach to index construction means that, subject to meeting certain criteria, any company can join the Russell US Indexes. The criteria include

- US nationality
- listed on an eligible US exchange
- minimum 5% free float and voting rights
- minimum share price of \$1, and
- minimum market capitalization of \$30 million

A naïve construction methodology also means that index users are subject as little as possible to judgment calls by the index firm. In practical terms, this means that the Russell 1000 Large-Cap Index has included (and includes) several top-500 stocks that are not represented in the competing S&P 500 Index because of the latter's design rules (see figure 7).

Figure 7: Differences in holdings between the Russell 1000 and S&P 500 as of June 2023 Russell recon



Unique differences compared to the S&P 500

The S&P 500 does not necessarily include the largest 500 stocks in the US equity markets. Instead, its constituents are changed on an as-needed basis by a committee consisting of full-time professional members of S&P Dow Jones Indexes' staff.

And while the Russell 1000 adds eligible initial public offerings (IPOs) to the index quarterly, the S&P 500 has no regularly scheduled IPO addition process apart from a rule stating that IPOs must trade for 12 months before becoming eligible for index inclusion.

The S&P 500 also has a profitability requirement for index inclusion. A company must report positive earnings in its most recent quarter and the sum of its earnings in the previous four quarters must be positive. The Russell US Indexes do not have a profitability requirement.

Why index choice is important

The differences in index construction methodology have had a major practical impact in the past.

For example, Russell's US equity indexes added fast-growing but not necessarily profitable tech stocks like Microsoft, Amazon, Netflix, Alphabet and Google up to a decade before the S&P 500. For FTSE Russell, these companies were eligible for inclusion in the Russell US Indexes as soon as they met the index rules. But inclusion in the S&P 500 depended on the approval of the S&P index committee.

In the case of Microsoft, Amazon, Netflix and Tesla, stock prices increased between 1,900–17,000 percent from the point at which they entered the Russell 1000 or the Russell 2000 (if they joined the small-cap index first and were later promoted to the Russell 1000) and the time they joined the S&P 500 (see figure 8).

Figure 8: Differences in performance from timing of index additions – Russell 1000 vs S&P 500

Company	IPO month	Added to Russell 3000 (A)	Added to S&P 500 (B*)	% Cumulative Total Return of the Stock from A to B*	Russell 1000 Cumulative Excess Return over S&P 500 from A to B*	Russell 3000 Cumulative Excess Return over S&P 1500 from A to B*
Apple	Dec 1980	Mar 1981	Nov 1982	30%	-0.7%	N/A*
Microsoft	Mar 1986	Mar 1986	Jun 1994	3,270%	-6.1%	N/A*
Starbucks	Jun 1992	Jun 1993	Jun 2000	523%	-6.0%	N/A*
Amazon.com	May 1997	Jun 1997 (R2); Jun 1998 (R1)	Nov 2005	3,043%	6.4%	-1.3%
Nvidia	Jan 1999	Jun 1999 (R2); Jun 2000 (R1)	Nov 2001	1,043%	1.1%	-0.6%
Netflix	May 2002	Jun 2002 (R2); Jun 2009 (R1)	Dec 2010	2,412%	6.7%	3.3%
Alphabet (Google)	Aug 2004	Sep 2004	Mar 2006	201%	2.5%	1.7%
Super Micro Computer	Mar 2007	Jun 2007 (R2)	Mar 2024	9,990%	-2.1%	-11.3%
Tesla	Jun 2010	Sep 2010	Dec 2020	17,192%	6.1%	5.8%
Meta Platforms Inc (Facebook)	May 2012	Jun 2012	Dec 2013	46%	0.8%	0.6%
Palo Alto Networks Inc	Jul 2012	Sep 2012	June 2023	1,294%	-5.9%	-8.15%
Lululemon Athletica	Jul 2007	Jun 2015	Oct 2023	503%	-6.3%	-6.8%
Block Inc (Square)	Nov 2015	Dec 2015	TBD*	546%	-4.2%	-5.2%
Moderna	Dec 2018	Mar 2019	Jul 2021	1,638%	2.0%	2.2%
Uber	May 2019	Jun 2019	Dec 2023	33%	-1.7%	-2.2%
Blackstone Inc	Jun 2007	Jun 2021	Sep 2023	20%	-2.9%	-3.4%
Airbnb	Dec 2020	Jun 2022	Sep 2023	54%	-0.1%	-0.1%

Source: FTSE Russell, data as of March 28, 2024. Russell 3000 additions are to the Russell 1000 (R1) unless a date is noted for the Russell 2000 (R2). The inception date of the Russell 3000 Index is January 1, 1984. All performance presented prior to the index inception date is back-tested performance. Past performance is no guarantee of future returns. See the end for important disclosures.

*S&P 1500 Index inception is 1/31/1995, so index performance is not available prior to this date. If the S&P 500 has not added the stock yet, performance is as of March 28, 2024.



The annual Russell US Indexes reconstitution day has become one of the most widely anticipated events in the US equity market calendar.

What is Russell recon?

The annual Russell US Indexes reconstitution day has become one of the most widely anticipated events in the US equity market calendar. In 2023, Russell recon generated aggregate trading volumes of \$134 billion across US stock exchanges, making it the highest-turnover day of the year.

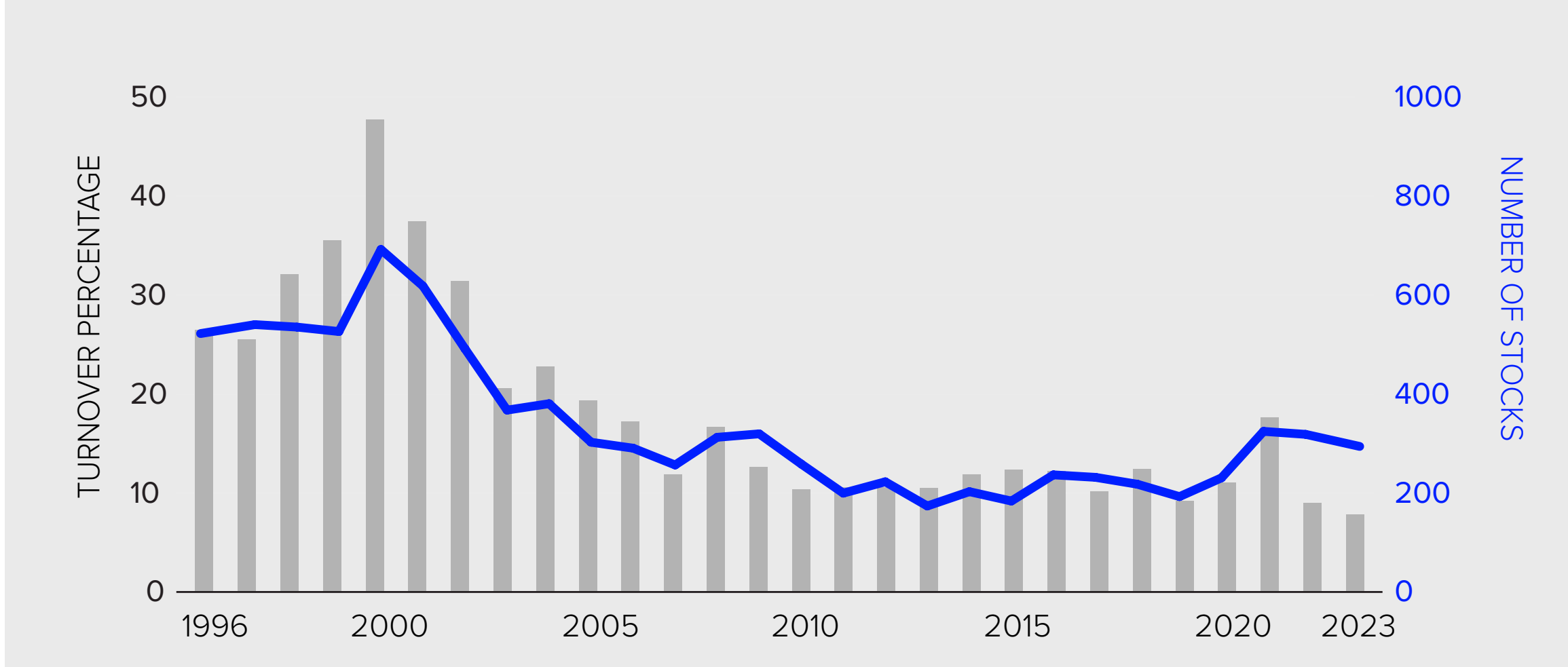
Russell recon is important because the size and composition of the US equity market is constantly changing. At each recon day, the Russell 3000 universe is recalculated and reset together with the constituent lists for the Russell 1000, Russell 2000 and the Russell US Style Indexes.

Originally conducted quarterly, the annual frequency of the index reconstitution balances the need for representativeness with a wish to limit unnecessary index turnover. Nevertheless, the overall index impact of Russell recon has declined over the years because of enhancements to index methodology (see figure 9).

The most significant recon methodology changes that reduced index turnover were:



Figure 9: Impact of recon on Russell 2000 index turnover

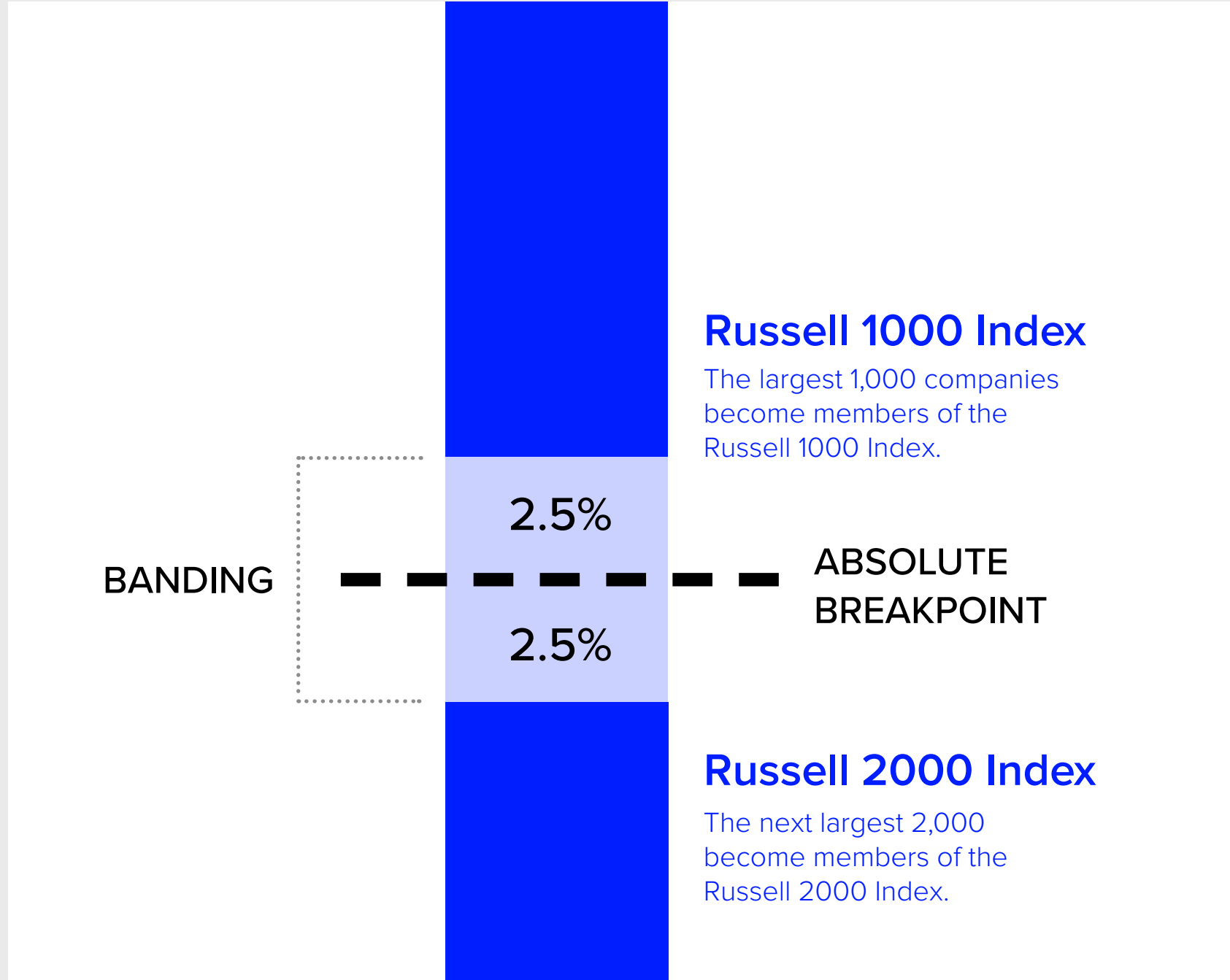


Between 1996 and 2005, the one-way turnover resulting from recon (the higher of index additions or deletions, divided by the starting index value) for the Russell 2000 index averaged 29.8%, while 495 stocks were affected. But between 2006 and 2023, turnover fell to an average 11.8% and the number of stocks affected fell by around half.

	Average: 1996–2005	Average: 2006–2023	Difference
Turnover percentage	29.8%	11.8%	-18.0%
Number of stocks	495	245	-250

Source: FTSE Russell, as of April 2024.

Figure 10: How capitalization banding reduces index turnover around the breakpoint



Source: FTSE Russell, as of April 2024.

Enhancing index design

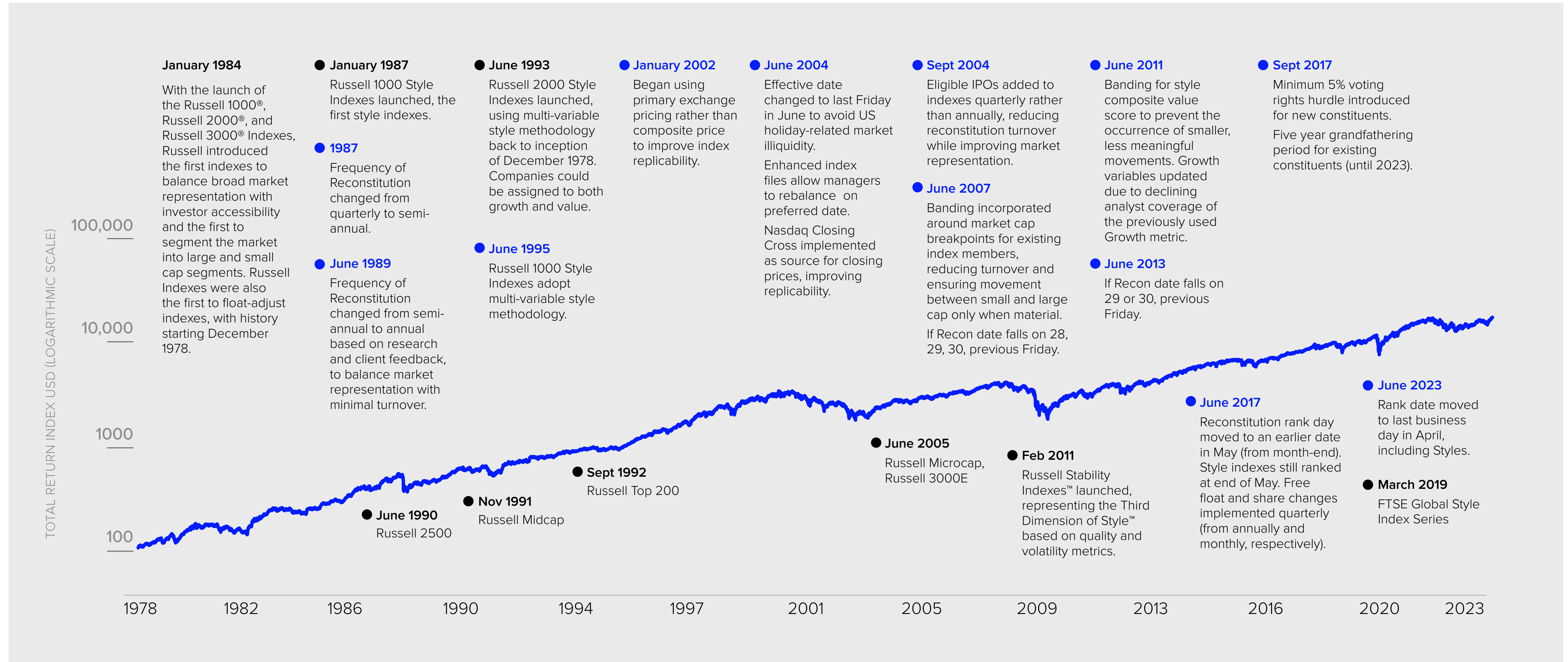
Over the forty years since the creation of the Russell US Indexes, we have made other enhancements to our index methodology to ensure that indexes remain representative, objective and useful to investors. Index design changes have also reflected client feedback, the evolution of investor preferences and the ongoing changes to the US equity market's structure.

These enhancements are highlighted in blue in figure 11, which also shows the key Russell US Index launches since 1984 and the total index return since inception.



Figure 11: Russell US Indexes: A timeline of enhancements

- Methodology enhancements
- Index launches
- Total return index value





Conclusion

40 years ago

A few dedicated staff at Frank Russell company helped provide the foundation for what is now one of the most recognizable index brand names in the financial market.

For Kelly Haughton and his colleagues, a clear idea of index design and persistence in implementation paid off.

Today

In early 2024, the United States is the world's largest equity market by an order of magnitude. Its biggest companies, like Apple, Microsoft, Amazon, Alphabet and Meta, are famous around the world for their products and services.

But the choice of index to measure the ever-changing risk and return characteristics of US stocks has never been a foregone conclusion.

The Russell US Indexes are well established as representative, relevant and reliable benchmarks for the US equity market, with approximately \$9 trillion benchmarked to a Russell index. Since iShares launched their first Russell ETF in 2000, ETF assets tracking a Russell index have grown to more than \$600 billion as of March 2024.

Russell US Indexes have gained widespread acceptance and usage by:

- Incorporating future equity market winners up to a decade before competitor indices
- Introducing the first free-float-adjusted equity index methodology
- Forming a modular index family segmented by size to help in portfolio analysis and management
- Dividing the market into growth and value style segments
- Making regular methodological enhancements to transparent rules, improving usability

FTSE Russell

Your essential index partner for a changing world

For 40 years, the Russell US Indexes have mapped the risk and return characteristics of the US equity market and its size and style components.

Relevant, representative and reliable, the Russell US Indexes are built by professionals to meet the needs of professional investors.

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