THE PRICE OF ADMISSION

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When investors think about risk, 2008 is usually the first thing that comes to mind. And for good reason. It was the worst year that most investors alive today have ever experienced. With dividends included, the S&P 500® Index lost 37% in 2008, its largest decline since 1931 (during the Great Depression).

Since the end of 2008, the S&P 500 has gained 449% with only one down year, a small loss of 4.4% in 2018. That's a gain of 15% per year, compounded over 12 years.

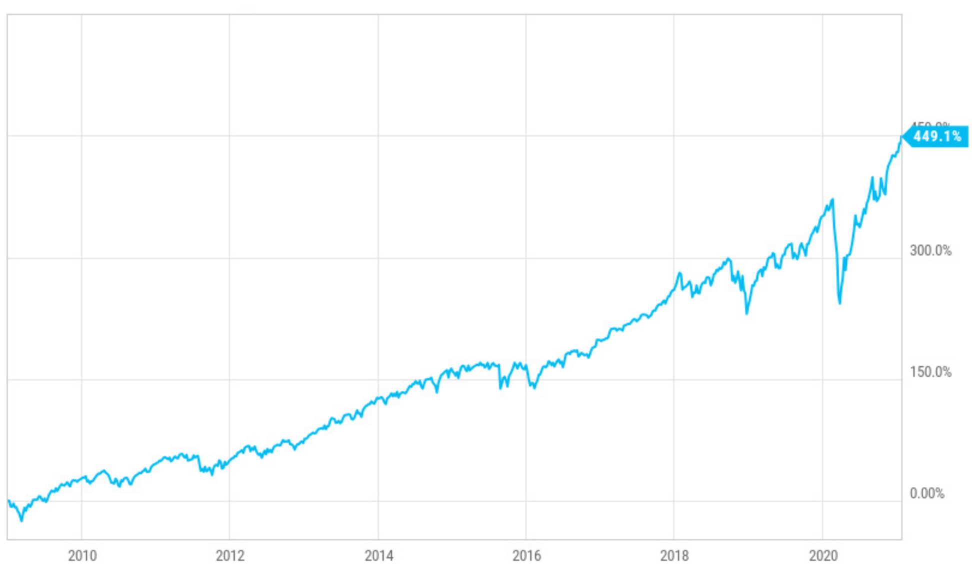
S&P 500® INDEX TOTAL RETURNS: 1928–2020

Year	Return	Year	Return	Year	Return	Year	Return	Year	Return
1928	43.8%	1947	5.2%	1966	-10.0%	1985	31.2%	2004	10.9%
1929	-8.3%	1948	5.7%	1967	23.8%	1986	18.5%	2005	4.9%
1930	-25.1%	1949	18.3%	1968	10.8%	1987	5.8%	2006	15.8%
1931	-43.8%	1950	30.8%	1969	-8.2%	1988	16.6%	2007	5.5%
1932	-8.6%	1951	23.7%	1970	3.6%	1989	31.7%	2008	-37.0%
1933	50.0%	1952	18.2%	1971	14.2%	1990	-3.1%	2009	26.5%
1934	-1.2%	1953	-1.2%	1972	18.8%	1991	30.5%	2010	15.1%
1935	46.7%	1954	52.6%	1973	-14.3%	1992	7.6%	2011	2.1%
1936	31.9%	1955	32.6%	1974	-25.9%	1993	10.1%	2012	16.0%
1937	-35.3%	1956	7.4%	1975	37.0%	1994	1.3%	2013	32.4%
1938	29.3%	1957	-10.5%	1976	23.8%	1995	37.6%	2014	13.7%
1939	-1.1%	1958	43.7%	1977	-7.0%	1996	23.0%	2015	1.4%
1940	-10.7%	1959	12.1%	1978	6.5%	1997	33.4%	2016	12.0%
1941	-12.8%	1960	0.3%	1979	18.5%	1998	28.6%	2017	21.8%
1942	19.2%	1961	26.6%	1980	31.7%	1999	21.0%	2018	-4.4%
1943	25.1%	1962	-8.8%	1981	-4.7%	2000	-9.1%	2019	31.5%
1944	19.0%	1963	22.6%	1982	20.4%	2001	-11.9%	2020	18.4%
1945	35.8%	1964	16.4%	1983	22.3%	2002	-22.1%		
1946	-8.4%	1965	12.4%	1984	6.1%	2003	28.7%		

Past performance is not indicative of future results. Data Sources: YCharts, Bloomberg, Compound.

This is what a chart of that growth looks like over time.

S&P 500® INDEX TOTAL RETURNS LEVEL % CHANGE



Past performance is not indicative of future results. 1/1/2009–1/21/21. Source: YCharts.

Seems like an easy ride, but any investor living through the last 12 years will tell you otherwise. There were 27 corrections of more than 5% since the March 2009 low. Of these, 10 were larger than 10%, three exceeded 20%, and one was more than 30%.

Before investing, many will tell you that they can easily stomach a 20-30% decline—they can "tolerate" such a risk. But, when it actually happens, and real dollars are at stake, the true test begins.

S&P 500® INDEX >5% CORRECTIONS SINCE MARCH 2009 LOW

Correction Period	# Days	S&P High	S&P Low	% Decline	"Stocks Fall On..."
2020: Sep 2 - Sep 24	22	3588	3209	-10.6%	Coronavirus, No New Stimulus Deal, Election Fears
2020: Feb 19 - Mar 23	33	3394	2192	-35.4%	Coronavirus, Global Depression Fears
2019: Jul 26 - Aug 5	10	3028	2822	-6.8%	Trade War, Tariffs, Yuan Devaluation, Recession Fears
2019: May 1 - Jun 3	33	2954	2729	-7.6%	Trade War, Tariffs, Inverted Yield Curve, Global Slowdown/Recession Fears
2018: Sep 21 - Dec 26	96	2941	2347	-20.2%	Rising Rates, China Slowdown, Trade War/Tariffs, Housing Slowdown
2018: Jan 26 - Feb 9	14	2873	2533	-11.8%	Inflation Fears, Rising Rates
2016: Aug 15 - Nov 4	81	2194	2084	-5.0%	Election Fears/Concerns/Jitters
2016: Jun 8 - Jun 27	19	2121	1992	-6.1%	Brexit Concerns, Pound Crashing, European Banks
2015/16: Nov 3 - Feb 11	100	2116	1810	-14.5%	China, EM Currencies, Falling Oil, Middle East, North Korea Nukes
2015: May 20 - Aug 24	96	2135	1867	-12.5%	Greece Default Concerns, China Stock Crash, EM Currency Turmoil
2014/15: Dec 29 - Feb 2	35	2094	1981	-5.4%	Falling Oil, Strong Dollar, Weak Earnings
2014: Dec 5 - Dec 16	11	2079	1973	-5.1%	Falling Oil, Strong Dollar
2014: Sep 19 - Oct 15	26	2019	1821	-9.8%	Ebola, Global Growth Fears, Falling Oil
2014: Jan 15 - Feb 5	21	1851	1738	-6.1%	Fed Taper, European Deflation Fears, EM Currency Turmoil
2013: May 22 - Jun 24	33	1687	1560	-7.5%	Fed Taper Fears
2012: Sep 14 - Nov 16	63	1475	1343	-8.9%	Fiscal Cliff Concerns, Obama's Re-Election
2012: Apr 2 - Jun 4	63	1422	1267	-10.9%	Europe's Debt Crisis
2011: Oct 27 - Nov 25	29	1293	1159	-10.4%	Europe's Debt Crisis
2011: May 2 - Oct 4	155	1371	1075	-21.6%	Europe's Debt Crisis, Double-Dip Recession Fears, US Debt Downgrade
2011: Feb 18 - Mar 16	26	1344	1249	-7.1%	Libyan Civil War, Japan Earthquake/Nuclear Disaster
2010: Aug 9 - 27	18	1129	1040	-7.9%	Global Growth Concerns
2010: Apr 26 - Jul 1	66	1220	1011	-17.1%	Europe's Debt Crisis, Flash Crash, Growth Concerns
2010: Jan 19 - Feb 5	17	1150	1045	-9.2%	China's Lending Curbs, Obama Bank Regulation Plan
2009: Oct 21 - Nov 2	12	1101	1029	-6.5%	Worries About The Recovery
2009: Sep 23 - Oct 2	9	1080	1020	-5.6%	Worries About The Recovery
2009: Jun 11 - Jul 7	26	956	869	-9.1%	World Bank Neg Growth Forecast; Fears Market Is Ahead Of Recovery
2009: May 8 - 15	7	930	879	-5.5%	Worries That Market Has Gotten Ahead Of Itself
Median	**26**			**-8.9%**	

Past performance is not indicative of future results. Data Sources: YCharts, Compound.

This is what a 20% decline looks like in real time.

Not pretty. And not easy to sit through while many were prophesying that the losses would continue.

S&P 500® INDEX 2011 CORRECTION

Past performance is not indicative of future results. Source: YCharts.

These were a few of the headlines on the day of the low in 2011...

Notice the fear-inducing language:

- **"worst quarter since the 2008 financial crisis, and the swoon is hardly over"**
- **"eerily reminiscent of the months leading up to the Lehman Brothers' bankruptcy in 2008"**

Stocks tumble into the fourth-quarter

By Hibah Yousuf October 3, 2011: 4:32 PM ET

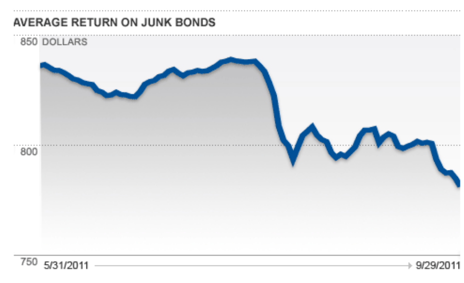
Click the chart for more stock market data.

NEW YORK (CNNMoney) -- Stocks just closed out the worst quarter since the 2008 financial crisis, and the swoon is hardly over. With worries about Greece's solvency still in the spotlight, stocks kicked off the fourth quarter with a huge sell-off.

As investors shrugged off a positive U.S. manufacturing report and focused on the worsening debt crisis in Europe, stocks finished at their lowest levels since September 2010.

Junk bonds get crushed in market chaos

By Maureen Farrell October 3, 2011: 5:29 AM ET



Junk bonds have been hit hard in the past few months -- much like the broader stock market.

NEW YORK (CNNMoney) -- Investors became so nervous in the past two months that they're not willing to gamble on risky junk bonds anymore -- despite the lucrative promise of high yields.

The junk, or high-yield, bond market has tumbled along with the stock market, **which suffered its worst performance in three years.**. Traders say it's eerily reminiscent of the months leading up to Lehman Brothers' bankruptcy in 2008.

If you held your position through 2011, you would be tested again seven years later. In 2018, we saw a similar decline over a shorter period of time.

S&P 500® INDEX 2018 CORRECTION

Past performance is not indicative of future results. Source: YCharts.

Once again, the headlines were not good ("worst week since Great Recession…last time the market fell this much in December was 1931, during the Great Depression…")

Wall Street craves certainty but all it's getting is chaos

Analysis by David Goldman, CNN Business
Updated 1:42 PM ET, Mon December 24, 2018

New York (CNN Business) – Wall Street, markets and business crave certainty. For the past month, they have been contending with confusion and disorder.

Uncertainty abounds at the end of a volatile year: Investors question the Federal Reserve's plans for 2019, and President Donald Trump asked aides if he could fire Fed Chairman Jerome Powell. Congress entered a budget stalemate with the president, partially shutting down the government. Trade policy that for years tried to stitch economies together is in retreat. Economists warn that the pace of US economic growth will slow next year.

To cap that off, Treasury Secretary Steven Mnuchin issued a bizarre statement Sunday, saying he called top bank executives to assess their liquidity. He asked if they had the ability to continue lending to consumers and businesses — at a time when confidence in banks had been high.

That set already jittery investors on edge. Stocks followed their worst week since the Great Recession by plummeting yet again Monday. The last time the market fell this much in December was in 1931, during the Great Depression.

Investors are now worried about five big items going into 2019.

If you held your position through 2018, the biggest test since the financial crisis would come in early 2020.

The COVID-19 crash would take stocks down 35% in a little over a month, the fastest bear market in history.

S&P 500® INDEX 2020 CORRECTION

Past performance is not indicative of future results. Source: YCharts.

On the day of the low (March 23), the outlook was bleak: "many fear the worst has yet to come" with "experts" predicting the "biggest economic downturn since the Great Depression."

All news was bad news at the time, wreaking havoc on investor psychology.

WSJ Wall Street Journal

Stock Market Meltdown's Historic Velocity Bruises Investors

Markets have never unraveled as quickly as they did in the past month. ... As fast as the downturn has been, many fear the worst has yet to come as investment ... the longest streak in the index's history, according to Dow

Mar 23, 2020

BH Boston Herald

Biggest economic downturn since Great Depression looms: Experts

Some economists fear the nation is heading toward the biggest economic downturn since the Great Depression, even as the Federal Reserve and Congress ...

Mar 23, 2020

CNBC

Coronavirus market plunge is making people question if they should sell stocks and run to cash

Thus, the question of whether to sell stocks and run to cash is not uncommon, ... My husband and I are 78 years old and have several million in the stock market.

Mar 23, 2020

What's the commonality of 2011, 2018, and 2020?

The large declines that occurred in these years and the fear-inducing narratives associated with them are the **price of admission** for long-term investors.

What does that mean? In simplest terms: risk is the price you pay for the possibility of higher long-term reward. Let me explain…

Since 1928, the S&P 500 Index has generated an annualized total return of roughly 10%, versus 5% for 10-Year Treasury Bonds and 3% for Cash (3-Month Treasury Bills).

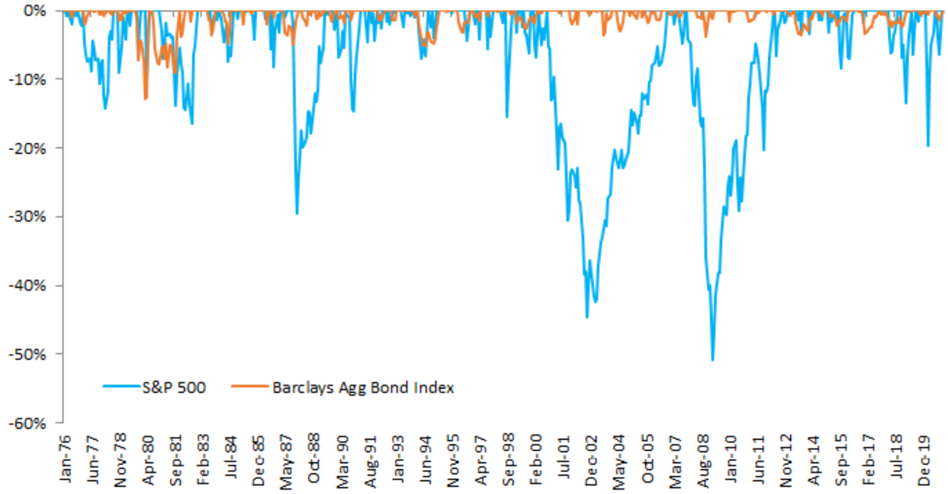
Why have equities returned a premium over bonds and cash?

There are many different theories, but these are the strongest arguments:

- **Economic uncertainty:** the value of future cash flows on stocks is uncertain due to fluctuations in the overall economy.
- **Long-run growth risk:** small downward revisions in long-run growth can have large changes in stock prices.
- **Myopic loss aversion:** investors are more sensitive to losses in wealth than gains and take a short-term (myopic) view of their portfolios.

The common theme? Risk. Uncertainty. Potential for loss. Which is another way of saying that there's no free lunch. The premium you earn from owning equities over bonds/cash is primarily due to the higher volatility and drawdowns you must stomach over time.

HISTORICAL DRAWDOWNS: 1976–2020



Past performance is not indicative of future results. Data Sources: YCharts, Bloomberg Barclays, Compound.

Importantly, the equity premium is not static. And it is by no means guaranteed, particularly in the short run, but also over longer periods.

We observe this each and every year in the equity market, to varying degrees. In the median year since 1928, an investor in the S&P 500 has experienced a 13% drawdown at some point during the year.

S&P 500® INDEX MAX INTRA-YEAR DRAWDOWNS: 1928–2020

Year	DD	Year	DD	Year	DD	Year	DD	Year	DD
1928	-10.3%	1947	-14.7%	1966	-22.2%	1985	-7.7%	2004	-8.2%
1929	-44.6%	1948	-13.5%	1967	-6.6%	1986	-9.4%	2005	-7.2%
1930	-44.3%	1949	-13.2%	1968	-9.3%	1987	-33.5%	2006	-7.7%
1931	-57.5%	1950	-14.0%	1969	-16.0%	1988	-7.6%	2007	-10.1%
1932	-51.0%	1951	-8.1%	1970	-25.9%	1989	-7.6%	2008	-48.8%
1933	-29.4%	1952	-6.8%	1971	-13.9%	1990	-19.9%	2009	-27.6%
1934	-29.3%	1953	-14.8%	1972	-5.1%	1991	-5.7%	2010	-16.0%
1935	-15.9%	1954	-4.4%	1973	-23.4%	1992	-6.2%	2011	-19.4%
1936	-12.8%	1955	-10.6%	1974	-37.6%	1993	-5.0%	2012	-9.9%
1937	-45.5%	1956	-10.8%	1975	-14.1%	1994	-8.9%	2013	-5.8%
1938	-28.9%	1957	-20.7%	1976	-8.4%	1995	-2.5%	2014	-7.4%
1939	-21.2%	1958	-4.4%	1977	-15.6%	1996	-7.6%	2015	-12.4%
1940	-29.6%	1959	-9.2%	1978	-13.6%	1997	-10.8%	2016	-10.5%
1941	-22.9%	1960	-13.4%	1979	-10.2%	1998	-19.3%	2017	-2.8%
1942	-17.8%	1961	-4.4%	1980	-17.1%	1999	-12.1%	2018	-19.8%
1943	-13.1%	1962	-26.9%	1981	-18.4%	2000	-17.2%	2019	-6.8%
1944	-6.9%	1963	-6.5%	1982	-16.6%	2001	-29.7%	2020	-33.9%
1945	-6.9%	1964	-3.5%	1983	-6.9%	2002	-33.8%		
1946	-26.6%	1965	-9.6%	1984	-12.7%	2003	-14.1%		

Past performance is not indicative of future results. Closing Prices (does not include intra-day or dividends. Data Sources: Bloomberg, Compound.

Another way of looking at this is to view the historical odds of varying intra-year drawdowns. We have seen a decline of at least 10% every other year, and a 20% decline every four years on average.

S&P 500 Intra-Year Decline	% of Years (since 1928)	Happens Every __ On Average
-1%	100%	Year
-5%	94%	1.1 Years
-10%	63%	1.6 Years
-15%	40%	2.5 Years
-20%	26%	4 Years
-25%	20%	5 Years
-30%	11%	9 Years
-40%	6%	15 Years
-50%	2%	46 Years

Past performance is not indicative of future results. Data Sources: YCharts, Bloomberg, Compound.

Risk, of course, is not limited to a single year, but can be extended over multiple years in a longer bear market. This is to be expected if you are an equity investor, with a 30% decline occurring roughly once every eight years and a 50% decline every 20 years.

S&P 500 Bear Markets	% of Time (since 1928)	Happens Every __ On Average
-20%	24%	4.2 Years
-25%	15%	6.6 Years
-30%	12%	8 Years
-40%	8%	13 Years
-50%	5%	20 Years
-80%	1%	90 Years

Past performance is not indicative of future results. Data Sources: YCharts, Bloomberg, Compound.

These are historical averages and the future will not look exactly like the past, but the overarching point is clear: if you're a long-term investor in equities, experiencing a large decline is a matter of **when**, not **if**.

And when these declines come, I can assure you that you won't be thinking in terms of percentages.

S&P 500 Bear Markets (defined by 20% Peak to Trough Decline): 1929 - Present						
Bear Market Period	Length of Bear Market (Months)	NBER Recessions	Length of Recession (Months)	S&P Start	S&P End	% Change
Feb 2020 to Mar 2020	1	Mar 2020 to ?	?	3394	2192	-35%
Sep 2018 to Dec 2018	3			2941	2347	-20%
May 2011 to Oct 2011	5			1371	1075	-22%
Oct 2007 to Mar 2009	17	Dec 2007 to Jun 2009	18	1576	667	-58%
Mar 2000 to Oct 2002	31	Mar 2001 to Nov 2001	8	1553	769	-51%
Jul 1998 to Oct 1998	3			1191	923	-22%
Jul 1990 to Oct 1990	3	Jul 1990 to Mar 1991	8	370	295	-20%
Aug 1987 to Oct 1987	2			338	216	-36%
Nov 1980 to Aug 1982	22	Jul 1981 to Nov 1982	16	142	102	-28%
Sep 1976 to Mar 1978	18			109	86	-20%
Jan 1973 to Oct 1974	21	Nov 1973 to Mar 1975	16	122	61	-50%
Dec 1968 to May 1970	17	Dec 1969 to Nov 1970	11	109	69	-37%
Feb 1966 to Oct 1966	8			95	72	-24%
Dec 1961 to Jun 1962	6			73	51	-29%
Aug 1956 to Oct 1957	14	Aug 1957 to Apr 1958	8	50	39	-21%
Jun 1948 to Jun 1949	12	Nov 1948 to Oct 1949	11	17	14	-21%
May 1946 to May 1947	12			19	14	-28%
Nov 1938 to Apr 1942	36			14	7	-46%
Mar 1937 to Mar 1938	12	May 1937 to Jun 1938	13	19	9	-54%
Jul 1933 to Mar 1935	20			12	8	-34%
Sep 1932 to Feb 1933	5	Aug 1929 to Mar 1933	43	9	6	-41%
Sep 1929 to Jun 1932	33	Aug 1929 to Mar 1933	43	32	4	-86%
Average All	**14**					-36%

Past performance is not indicative of future results. Data Sources: NBER, Bloomberg, YCharts, Compound.

Which is why when trying to assess someone's actual risk tolerance (no easy task), you should always convert to dollars. A 50% decline for someone with $10,000 invested early in their career is not going to be viewed nearly the same as a retiree that has $1 million invested. A $5,000 drawdown is more tolerable than $500,000 to almost everyone, even though the percentages are exactly the same.

	% Decline and $ Losses								
Starting Assets	-1%	-5%	-10%	-15%	-20%	-25%	-30%	-40%	-50%
$10,000	($100)	($500)	($1,000)	($1,500)	($2,000)	($2,500)	($3,000)	($4,000)	($5,000)
$50,000	($500)	($2,500)	($5,000)	($7,500)	($10,000)	($12,500)	($15,000)	($20,000)	($25,000)
$100,000	($1,000)	($5,000)	($10,000)	($15,000)	($20,000)	($25,000)	($30,000)	($40,000)	($50,000)
$200,000	($2,000)	($10,000)	($20,000)	($30,000)	($40,000)	($50,000)	($60,000)	($80,000)	($100,000)
$500,000	($5,000)	($25,000)	($50,000)	($75,000)	($100,000)	($125,000)	($150,000)	($200,000)	($250,000)
$1,000,000	($10,000)	($50,000)	($100,000)	($150,000)	($200,000)	($250,000)	($300,000)	($400,000)	($500,000)
$1,500,000	($15,000)	($75,000)	($150,000)	($225,000)	($300,000)	($375,000)	($450,000)	($600,000)	($750,000)
$2,000,000	($20,000)	($100,000)	($200,000)	($300,000)	($400,000)	($500,000)	($600,000)	($800,000)	($1,000,000)
$3,000,000	($30,000)	($150,000)	($300,000)	($450,000)	($600,000)	($750,000)	($900,000)	($1,200,000)	($1,500,000)
$5,000,000	($50,000)	($250,000)	($500,000)	($750,000)	($1,000,000)	($1,250,000)	($1,500,000)	($2,000,000)	($2,500,000)
$10,000,000	($100,000)	($500,000)	($1,000,000)	($1,500,000)	($2,000,000)	($2,500,000)	($3,000,000)	($4,000,000)	($5,000,000)
$20,000,000	($200,000)	($1,000,000)	($2,000,000)	($3,000,000)	($4,000,000)	($5,000,000)	($6,000,000)	($8,000,000)	($10,000,000)
$50,000,000	($500,000)	($2,500,000)	($5,000,000)	($7,500,000)	($10,000,000)	($12,500,000)	($15,000,000)	($20,000,000)	($25,000,000)
$100,000,000	($1,000,000)	($5,000,000)	($10,000,000)	($15,000,000)	($20,000,000)	($25,000,000)	($30,000,000)	($40,000,000)	($50,000,000)
$500,000,000	($5,000,000)	($25,000,000)	($50,000,000)	($75,000,000)	($100,000,000)	($125,000,000)	($150,000,000)	($200,000,000)	($250,000,000)
$1,000,000,000	($10,000,000)	($50,000,000)	($100,000,000)	($150,000,000)	($200,000,000)	($250,000,000)	($300,000,000)	($400,000,000)	($500,000,000)

Past performance is not indicative of future results. Source: Compound.

As I'm writing this, losses are probably the last thing on your mind, as the memories of last March have long faded. The Dow Jones Industrial Average, S&P 500, and Nasdaq-100® Index have been trading at all-time highs, day after day. New IPOs and SPACs are all the rage, and risk appetite from investors has rarely been higher.

How long will it continue? Nobody knows.

But, risk hasn't been eradicated. There will be another drawdown. And, when it comes, you will have no way of knowing if it will be just a 5% pullback, a 10% correction, a 20% decline, or something more. That's ok, as long as you're prepared for it. For uncertainty is a feature of equity investments, not a bug.

Bearing that risk is the **price of admission** for long-term investors, without which there would be no reward.

"You get recessions, you have stock market declines. If you don't understand that's going to happen, then you're not ready, you won't do well in the markets."

– Peter Lynch

The **Dow Jones Industrial Average (DJIA)** is an index that tracks 30 large, publicly-owned companies trading on the New York Stock Exchange (NYSE) and the Nasdaq. The **Nasdaq-100® Index** is a basket of the 100 largest, most actively traded U.S companies listed on the Nasdaq stock exchange. The **S&P 500® Index** is a free-float market capitalization-weighted index of 500 of the largest U.S. companies. The index is calculated on a total return basis with dividends reinvested. The index is unmanaged, its returns do not reflect any fees, expenses, or sales charges, and it is not available for direct investment.

All investments carry a certain degree of risk, including possible loss of principal.