Newsletter

July 15, 2022

Executive Summary

In this newsletter, I present some foundational advice from legendary investor and advisor Nick Murray about successfully navigating bear markets. Here it is:

"Wealth is not determined by investment performance but by investor behavior."

"Bear markets are as common as dirt, get used to them."

"No bear market is unique, none is fatal, and this time is never different."

"Bear markets are a temporary interruption of a permanent uptrend."

I also present some economic data from Dimensional Funds about bear markets, recessions, and the recoveries from those unfortunate events.

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A Bear Market Primer

We are currently suffering through a bear market, and investors are bracing for a potential recession. As losses mount, some investors are questioning their investment portfolios and long-term financial plans.

It is a pivotal time. If you make the wrong move, you could put into jeopardy the very plans you are trying so hard to protect. It's a good time to revisit some foundational advice that has sustained smart investors through many bear markets and recessions.

Shortly after I founded my firm in 2010, I attended a small conference in Santa Monica, California, hosted by Dimensional Funds where I met Nick Murray. Nick is the author of 13 books about investing. He had a long career as a financial advisor and professional investor. He is now an advisor to financial advisors.

Nick had navigated a lot of difficult markets and had some sage advice for financial advisors like me. In 2007, he received the Malcolm S. Forbes Public Awareness Award for Excellence in Advancing Financial Understanding.

What Nick said during that conference really resonated with me. In this newsletter, I want to impart to you the advice he gave to me and a handful of other financial advisors as we struggled to shepherd clients through the aftermath of the Great Recession.

Here are four timeless pieces of advice from Nick Murray:[1]

"Wealth is not determined by investment performance but by investor behavior."

Study after study shows that investor behavior is the primary driver of the success, or failure, of individual investors – not security selection, not market timing, not even portfolio design. ***The truth is that far too many investors panic during bear markets and make rash decisions, dramatically reducing their chances of reaching their long-term investment goals.***

[1] Nick Murray has written one book for individual investors: *Simple Wealth, Inevitable Wealth (20th Anniversary Edition,)*, 2019. Most of the quotations presented here come from Nick's book *Behavioral Investment Counseling*, 2008 (particularly, Chapter 12: "Bear Markets, An Appreciation"). Nick's books and other materials can be found on his website: www.nickmurray.com.

Decisions like the following: ***"I'm going to the sidelines while this thing blows over."*** This sounds so reasonable and simple, but there are so many problems with this decision.

First, when this investor "goes to the sidelines," the market has already gone down substantially. They are essentially selling at or near the bottom, locking in losses. ***Mistake number one.***

Second, while this investor waits until things "blow over," they will likely miss the robust recovery that inevitably follows a downturn. Markets typically start to rise during a recession, not when it's over. Even so, these investors won't get back in. They believe the recent rise must be a "head fake" or we are heading for a "double dip." By the time they finally get back into the market when the "coast is clear," it is near the top of the next cycle when assets are becoming overvalued again. ***Mistake number two.***

History shows us a few things.[2]

First, bear markets are followed by robust recoveries that drive the markets even higher.

Second, these recoveries occur well before "the coast is clear."

Third, markets are forward looking and tend to move well in advance of positive developments.

If you don't believe me, look at Exhibit C: A History of Market Ups and Downs, Exhibit D: History Shows that Stock Gains Can Add Up after Big Declines, and Exhibit E: Market Returns through a Century of Recessions. These exhibits show how the markets have recovered in the past. If you wait until the recession is over to get back into the market, you are too late.

Recommendations

Don't panic. Although no one can say for sure, there will likely be a robust recovery from this bear market – just like all the others. As you will see, there have been 17 bear markets since WWII. In each case, the market recovered and went on to reach new highs. It would be unwise to bet against the weight of this history.

The recovery will occur long before the problems we face today are resolved – long before inflation goes back down to 2%, gas is $3 a gallon, and the war in Ukraine is over. If you wait for these things to happen, you will likely miss the recovery.

"Bear markets are as common as dirt, get used to them."

There have been 17 bear markets since the end of WWII – about one every 4.5 years on average. Recessions are also common. There have been 16 of them since 1926 – about one every six years.

When it comes to the frequency of bear markets, Nick says: "If you work and accumulate capital for 40 years, on average you're going to go through eight of them, and if you and/or your spouse live 30 years in retirement, you'll get to enjoy six more." He adds, "[i]n the long run, a bear market really doesn't matter. The only thing that matters is how investors respond to them."

[2] Here I must add the ubiquitous "past performance is no guarantee of future results." Personally, I believe that history provides valuable perspective for the problems, challenges, and tumult of today, but it is not an accurate predictor of what will happen in the future or when.

Recommendations

Please look at Exhibit A: List of Bear Markets Since WWII and Exhibit B: List of Recessions Since 1926.

Study these exhibits carefully. Now, take your birth year and compare it to those lists. How many bear markets and recessions have you already survived? I have been alive for 14 bear markets and eight recessions. I have been an investor during nine bear markets and four recessions. How about you?

As you can see, we have recovered from each bear market and recession that we have ever faced. In each of those events, we faced serious problems and challenges – many of which were more serious than those we face today. Yet, we overcame them all. The market recovered and went on to reach new highs.

While none of us can predict what exactly will happen next, I believe that the recovery to this bear market is sitting out there waiting for the patient and disciplined investor.

"No bear market is unique, none is fatal, and this time is never different."

Nick points out that "[t]he world does not end; it only appears to be ending from time to time. No bear market is unique, none has ever been fatal." He is also critical of the catastrophist, someone who is advocating the apocalypse *du jour* and the imminent demise of the world.

The problem with catastrophists is what they believe goes directly against the weight of history. They cannot distinguish between what is possible (which is almost anything) and what is probable (which is a range of likely outcomes). Successful equity investing is based on historical probabilities, not remote catastrophist possibilities.

The world is constantly beset by problems. Those problems invariably get solved only to be replaced by new ones.

These problems include but are not limited to wars, famine, disease, drought, inflation, unemployment, deflation, defaults, bankruptcies, foreclosures, business failures, accounting scandals, legal risks, deficit spending, central bank errors, fiscal policy errors, overleverage, collapsing credit markets, rising interest rates, volatile commodities prices, reckless speculation, hurricanes, fires, terrorist attacks, assassinations, gun violence, crime, climate change, regulatory risk, political risk, fraud, investment swindles, lower corporate earnings, revolutions, coups, panics, taxes, tariffs, and any other reason you can think of.

We have experienced them all, and we have solved them all. They come back again and again. Then we solve them again and again. ***That is why this time is not different.***

This is how the world works. We sometimes forget all the hardships we have faced and problems we have solved. It is not our nature to pause and celebrate our successes – we are already focused on the next urgent, apparently unsolvable problem.

The catastrophist casts the weight of all this history aside. They believe this time is different. It must be worse. It must be intractable. It is the end of the capital markets and Western civilization as we know them.

Today's media do not help. Rather than putting today's challenges into proper perspective, "journalists arrive to isolate whatever is wrong at the current time, extrapolate it – and make things appear much worse than they really are," says Nick. And he's right.

Recommendations

This bear market is not unique. It is not fatal. And this time is definitely not different.

We have faced down inflation in the past, like in 1980 when inflation reached 13.5% (much worse than today). We dealt with surging energy prices in 1973 during the Arab Oil Embargo (much worse than today). We have dealt with many wars and conflicts such as WWI, WWII, the Korean War, Vietnam, Iraq, Afghanistan, and the attacks on 9/11 (all more serious than the war in Ukraine at this time).

We have been here many times before. Markets crash and then recover to reach new highs.

As for the media, remember that today's journalists and pundits are entertainers with their own sponsors, networks, and viewership metrics. These people cannot look out for your best interests – they don't even know you.

The catastrophist struggles to put today's problems and challenges into the proper perspective, and this can sometimes lead to panic. Resist heading down this path. ***Patience, not panic, is the order of the day. This too shall pass.***

"Bear markets are a temporary interruption of a permanent uptrend."

In 1946, the S&P 500 bear market trough was 13.6. As I write, the S&P 500 bear market sits at 3,799.5. That is an increase of 280 times! The long-term trend of the markets is decidedly up – there is no doubt about it.

The average annual return of the S&P 500 Index from 1926 to 2021 was 10.5%. The average annual return of the Bloomberg US Aggregate Bond Index from 1976 to 2021 was 7.1%.[3]

This is the financial engine that allows you to save, invest, and grow your money so that you can achieve your long-term financial goals. But to earn these returns, you must be constantly invested in the market.

Bear markets appear from time to time, largely because of human nature. ***We tend to overshoot valuations at the top of a cycle and undershoot them at the bottom.*** But bear markets are the reason that investors are paid a premium for investing in stocks because they are putting their capital at risk of loss in the short run. If there were no bear markets, there would be no risk premium – no long-term returns higher than the CD rate offered at your local bank.

As Nick says, "[a] bear market is a period of time during which common stocks are returned to their rightful owners."

Our system of capitalism remains dynamic. There are tremendous incentives, financial and otherwise, to successfully develop and implement new technologies to solve today's problems. Optimistic and industrious people are hard at work as you read this – you may be one of them. The companies they form to take on these problems are tomorrow's investment opportunities that will drive returns for years to come. Fortunately, we can invest our money with these optimistic people and they can help us make our long-term financial goals and dreams a reality.

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[3] *DFA Matrix Book* 2021, pp. 16, 40.

In 1899, Charles Duell, commissioner of the U.S. Patent Office, famously said that “[e]verything that can be invented has been invented.” He could not have been more wrong.

According to *Time* magazine, these are the 20 most important inventions of the 20th century: the automobile, radio, television, the transistor, the laser, electric refrigeration, the personal computer, wireless technology, manned spaceflight, the airplane, radar, magnetic tape, plastics, air conditioning, global networks, the atomic bomb, artificial intelligence, fiber optics, xerography, and the Internet.

And in the 21st century, so far, we have artificial intelligence, virtual reality, smartphones, capsule endoscopy, e-readers, driverless cars, and so on.

Despite today’s negativity, the real pace of progress is upward and accelerating – not the other way around.

Recommendations

Right now, it seems like we have a lot of intractable problems, and they are serious, but we have faced far greater challenges in the past. After going through this pandemic, I think we underestimate our potential. In my view, the catastrophist is today’s Charles Duell.

The weight of history is behind the optimist. I recently watched a series on television called “Chasing the Moon.” It documented the space program from its inception to Apollo 11, which put Neil Armstrong and Buzz Aldrin on the moon. Our space program was built by optimists with courage and slide rules. In the show, Aldrin marveled at the capabilities of his own smartphone, which has 100,000 times more computing power than the computer on Apollo 11. That’s what progress looks like.

In the capital markets, just look at what Warren Buffet is up to lately. He’s buying stock – lots of stock. He knows that stocks are on sale right now. He is not shrinking from making an investment in the future of our economy, our country, and the world.

Panic is your worst enemy. If you have a sound investment portfolio, I encourage you to simply stay the course.

If you have questions about your portfolio or your long-term financial plan, give us a call or reach out to a competent financial advisor.

I hope this newsletter finds you safe and well. Please reach out with your investment questions and concerns.

Thank you.

D. Austin Lewis

Exhibit A - List of Bear Markets Since WWII

Dates of Market Peak	Dates of Market Trough	% Return	Duration in Months	S&P 500 Market Peak	S&P 500 Market Trough	Full Recovery?
05/29/46	06/13/49	-30.0	36.5	19.3	13.6	Yes
08/02/56	10/22/57	-22.0	8.0	49.7	39.0	Yes
12/12/61	06/26/62	-28.0	6.5	72.6	52.3	Yes
02/09/66	10/07/66	-22.0	8.0	94.1	73.2	Yes
11/29/68	05/26/70	-36.0	18.0	108.4	69.3	Yes
01/11/73	10/03/74	-48.0	20.5	120.2	62.3	Yes
09/21/76	03/06/78	-19.0	17.5	107.8	86.9	Yes
11/28/80	08/12/82	-27.0	20.5	140.5	102.4	Yes
08/25/87	12/24/87	-34.0	4.0	336.8	223.9	Yes
07/16/90	10/11/90	-20.0	3.0	369.0	295.5	Yes
07/17/98	08/31/98	-19.0	1.5	1186.8	957.3	Yes
03/24/00	10/09/02	-49.0	30.5	1527.5	776.7	Yes
10/09/07	03/08/09	-57.0	17.0	1565.1	676.5	Yes
05/02/11	10/04/11	-20.0	5.0	1361.2	1099.2	Yes
09/20/18	12/24/18	-20.0	4.0	2930.0	2351.0	Yes
02/20/20	03/23/20	-31.0	1.0	3337.7	2304.9	Yes
01/03/22	06/16/22	-24.0	6.5	4796.0	3666.0	?

Exhibit B - List of Recessions Since 1926

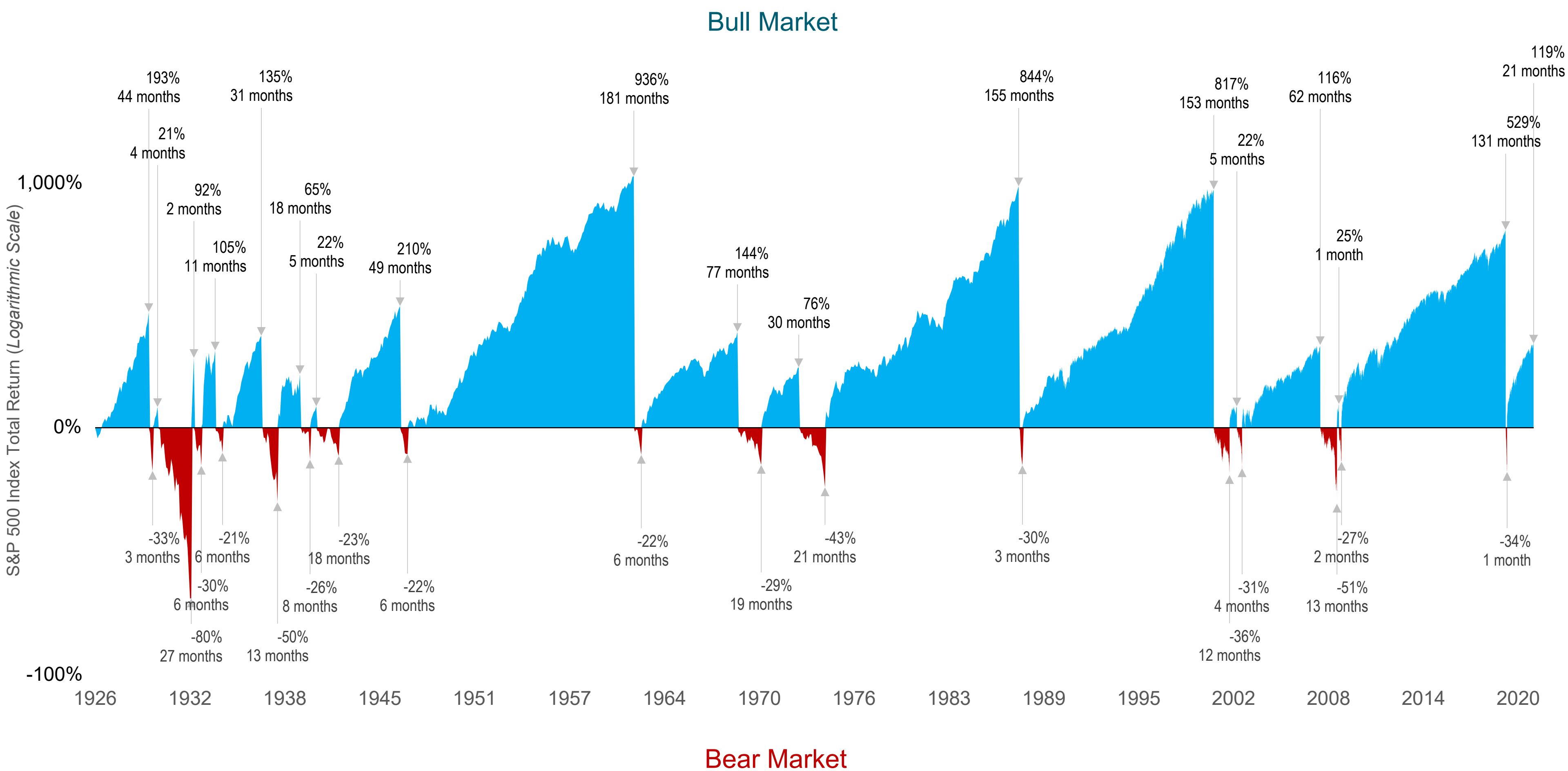
Date Recession Started	Date Recession Ended	Industrial Production %	Inflation %	Duration in Months	Return from Peak %	Full Recovery?
1926	1927	-6.0	-1.1	1.0	-2.9	Yes
1929	1941	-48.6	.26.6	33.0	-83.6	Yes
1937	1938	-32.5	-2.1	12.0	-49.2	Yes
1945	1945	-26.0	1.7	1.0	-3.9	Yes
1948	1949	-5.0	-1.2	6.0	-11.0	Yes
1953	1954	-9.5	0.0	6.0	-6.7	Yes
1957	1958	-11.3	1.8	5.0	-14.9	Yes
1960	1961	-6.1	1.0	4.0	-7.9	Yes
1969	1970	-5.3	4.5	19.0	-33.6	Yes
1973	1975	-12.0	14.4	21.0	-46.4	Yes
1980	1980	-5.9	6.3	2.0	-12.0	Yes
1981	1982	-8.3	7.2	14.0	-15.9	Yes
1990	1990	-3.2	3.4	5.0	-17.0	Yes
2001	2002	-3.0	0.9	13.0	-33.2	Yes
2007	2009	-17.0	1.8	16.0	-50.4	Yes
2020	2020	-3.8	-0.2	2.0	-20.2	Yes

Exhibit C: A History of Market Ups and Downs

A History of Market Ups and Downs

S&P 500 Index total returns in USD, January 1926–December 2021

Using a 20% threshold for downturns



Past performance is no guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.

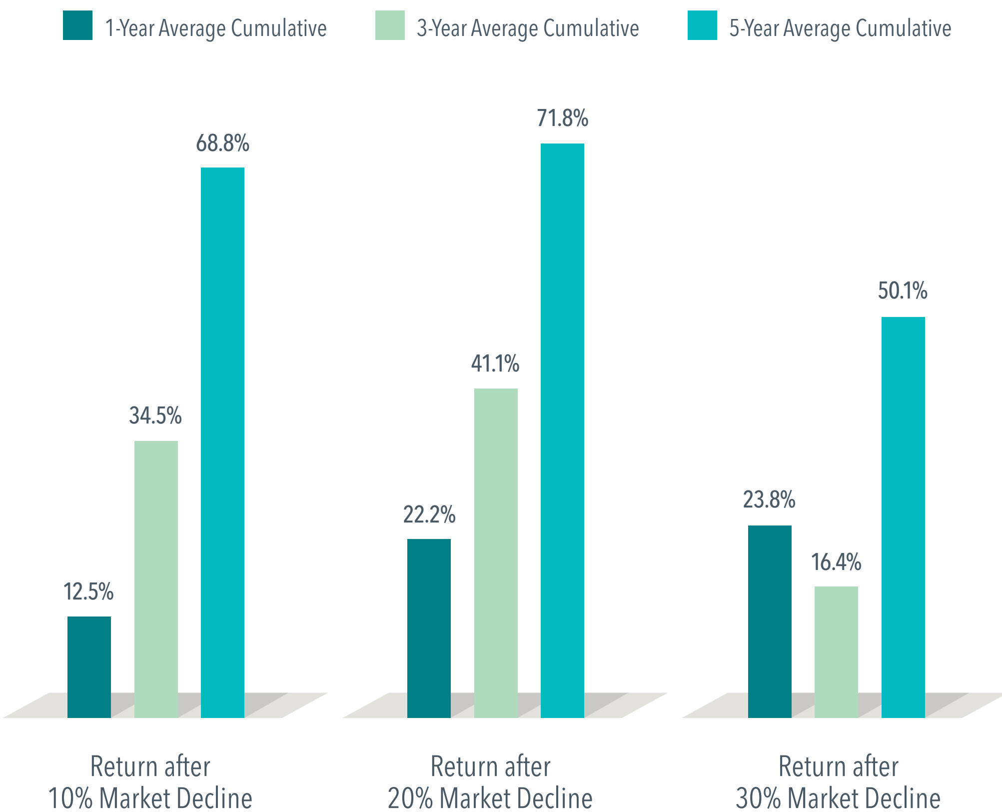
Chart end date is 12/31/2021, the last peak to trough return of 119% represents the return through December 2021. Due to availability of data, monthly returns are used January 1926 through December 1989; daily returns are used January 1990 through present. Periods in which cumulative return from peak is –20% or lower and a recovery of 20% from trough has not yet occurred are considered bear markets. Bull markets are subsequent rises following the bear market trough through the next recovery of at least 20%. The chart shows bear markets and bull markets, the number of months they lasted and the associated cumulative performance for each market period. Results for different time periods could differ from the results shown.

Exhibit D: History Shows that Stock Gains Can Add Up after Big Declines

History Shows That Stock Gains Can Add Up after Big Declines

Dimensional

FAMA/FRENCH TOTAL US MARKET RESEARCH INDEX RETURNS
July 1, 1926–December 31, 2021



Sudden market downturns can be unsettling. But historically, US equity returns following sharp downturns have, on average, been positive.

- A broad market index tracking data since 1926 in the US shows that stocks have tended to deliver positive returns over one-year, three-year, and five-year periods following steep declines.
- Cumulative returns show this to striking effect. Five years after market declines of 10%, 20%, and 30%, the cumulative returns all top 50%.
- Viewed in annualized terms across the longest, five-year period, returns after 10%, 20%, and 30% declines have been close to the historical annualized average over the entire period of 9.8%.[1]

Sticking with your plan helps put you in the best position to capture the recovery.

1. The average annualized returns for the five-year period after 10% declines were 9.54%; after 20% declines, 9.66%; and after 30% declines, 7.18%.

Past performance is no guarantee of future results. Short-term performance results should be considered in connection with longer-term performance results. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.

Market declines or downturns are defined as periods in which the cumulative return from a peak is –10%, –20%, or –30% or lower. Returns are calculated for the 1-, 3-, and 5-year look-ahead periods beginning the day after the respective downturn thresholds of –10%, –20%, or –30% are exceeded. The bar chart shows the average returns for the 1-, 3-, and 5-year periods following the 10%, 20%, and 30% thresholds. For the 10% threshold, there are 29 observations for 1-year look-ahead, 28 observations for 3-year look-ahead, and 27 observations for 5-year look-ahead. For the 20% threshold, there are 15 observations for 1-year look-ahead, 14 observations for 3-year look-ahead, and 13 observations for 5-year look-ahead. For the 30% threshold, there are 7 observations for 1-year look-ahead, 6 observations for 3-year look-ahead, and 6 observations for 5-year look-ahead. Peak is a new all-time high prior to a downturn. Data provided by Fama/French and available at *mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html*. Eugene Fama and Ken French are members of the Board of Directors of the general partner of, and provide consulting services to, Dimensional Fund Advisors LP.

FAMA/FRENCH TOTAL US MARKET RESEARCH INDEX
1926–present: Fama/French Total US Market Research Factor + One-Month US Treasury Bills. Source: Ken French website.

Investing risks include loss of principal and fluctuating value. There is no guarantee an investment strategy will be successful.

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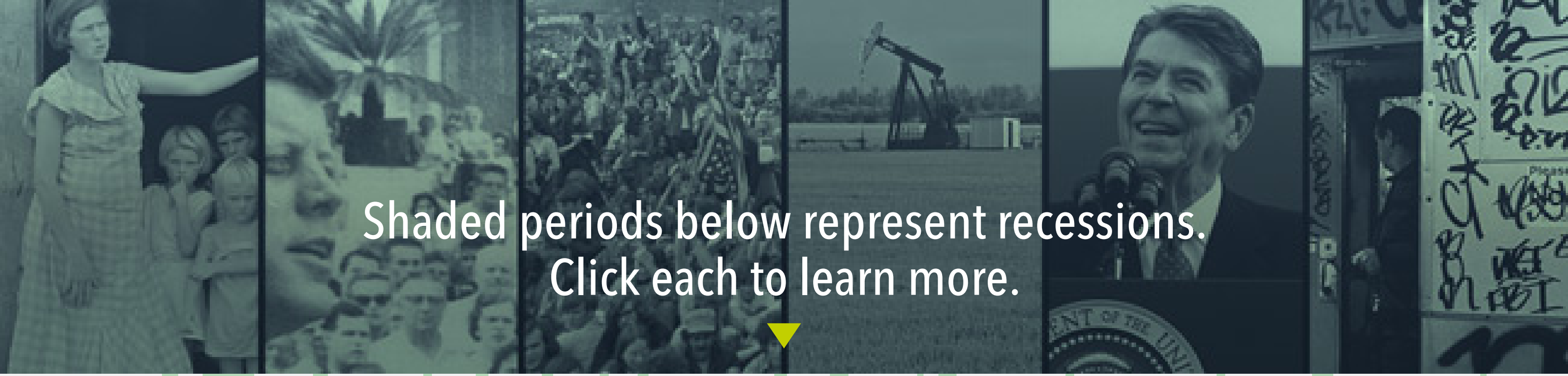
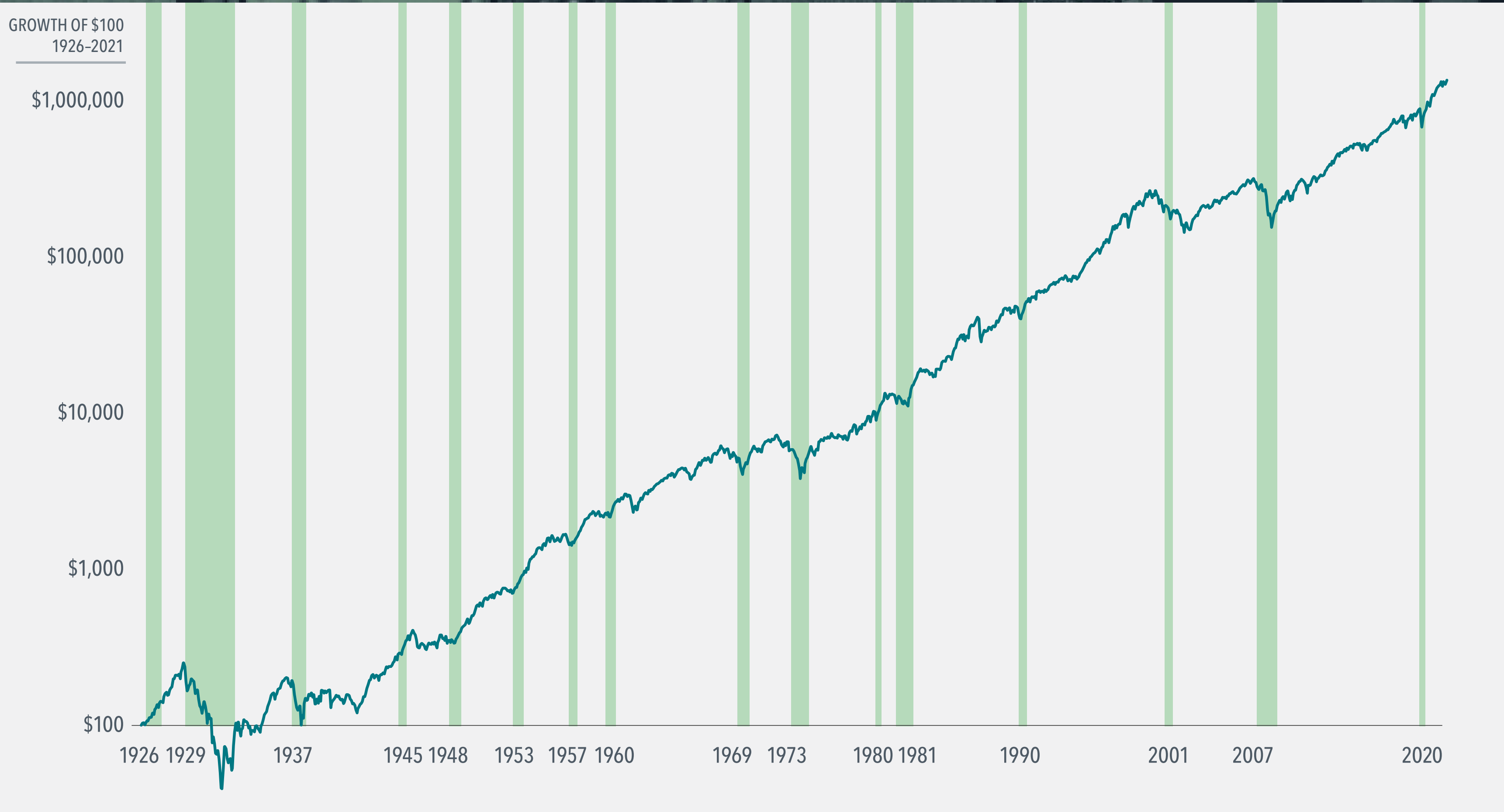
Exhibit E: Market Returns through a Century of Recessions.

Market Returns through a Century of Recessions

What does a century of economic cycles teach investors about investing? Our interactive exhibit examines how stocks have behaved during US economic downturns. Markets around the world have often rewarded investors even when economic activity has slowed. This is an important lesson on the forward-looking nature of markets, highlighting how current market prices reflect market participants' collective expectations for the future.

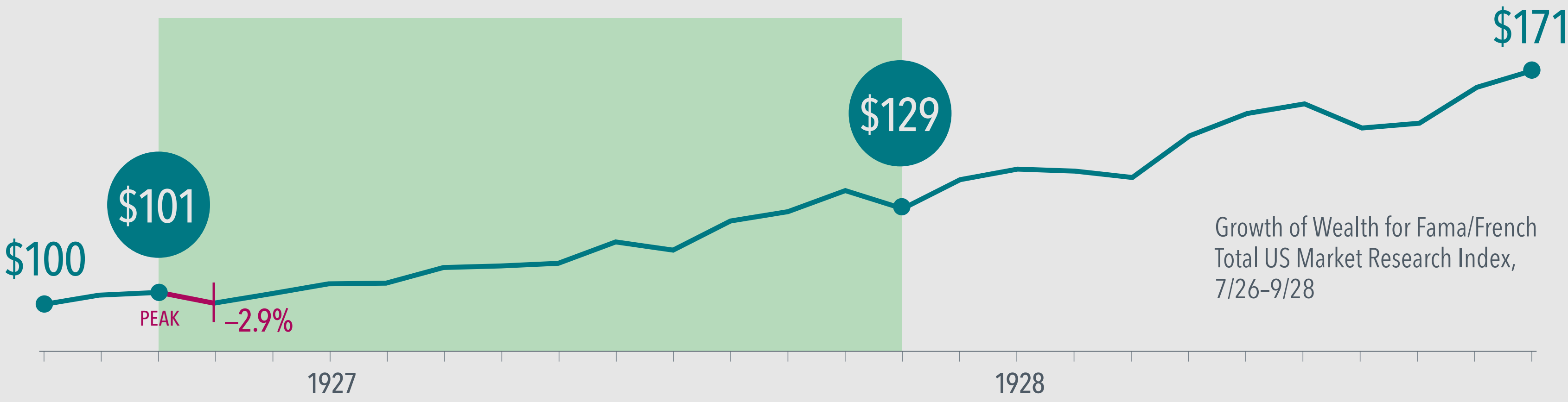

Shaded periods below represent recessions.
Click each to learn more.


GROWTH OF $100
1926–2021
$1,000,000
$100,000
$10,000
$1,000
$100
1926
1929
1937
1945
1948
1953
1957
1960
1969
1973
1980
1981
1990
2001
2007
2020

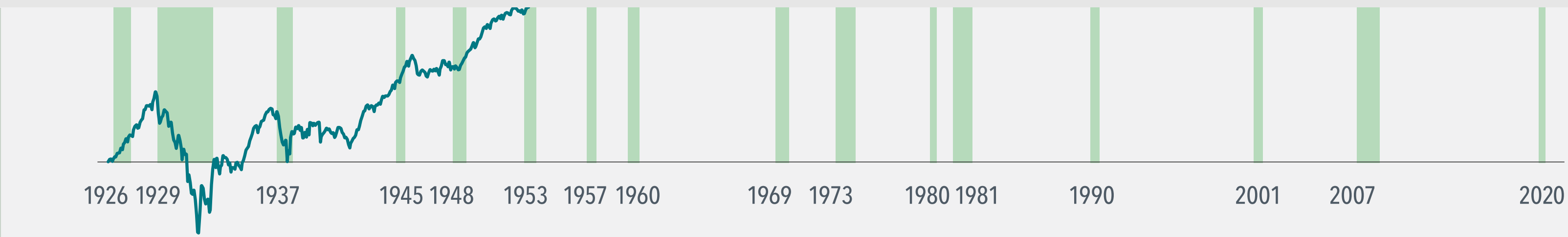
1926–1927

A few years before the Depression, the US experienced a mild, yearlong recession accompanied by a minor bout of deflation. The stock market slipped 2.9% in the first month of the downturn.

RECESSION			MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Duration (Months)	Return from Peak
13	–6.0%	–1.1%	1	–2.9%



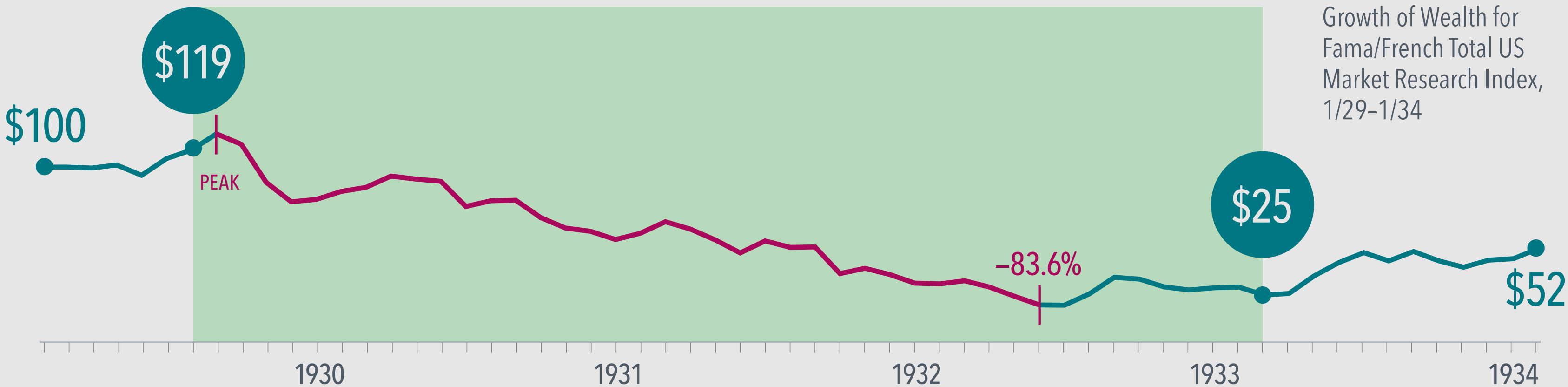
Peak represents month-end stock market peak prior to market downturn associated with recession. Past performance is no guarantee of future results.



Great Depression

The Depression decimated the US economy—unemployment climbed to 25.2%, and industrial production plunged 48.6%. Before the collapse ended, stocks collectively lost 83.6% in a 33-month market downturn.

RECESSION				MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Duration (Months)	Return from Peak
43	–48.6%	–26.6%	25.2%	33	–83.6%



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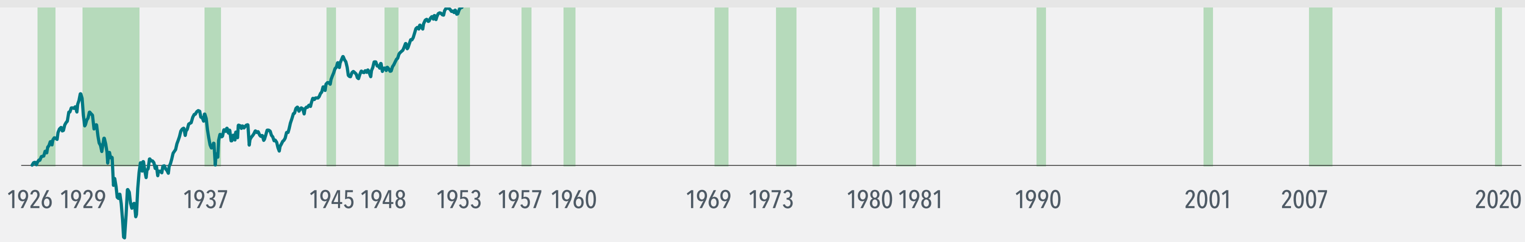
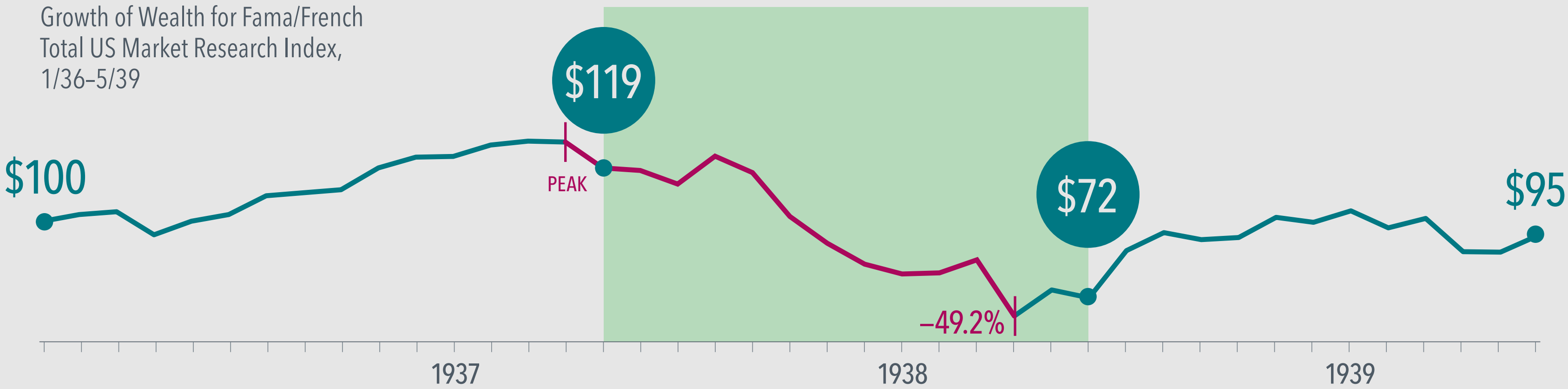


1937–1938

A sharp, 13-month recession—marked by high unemployment and a big dip in industrial production—occurred in the midst of the nation's recovery from the Depression. Stock market investors suffered a 49.2% loss.

RECESSION				MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Duration (Months)	Return from Peak
13	–32.5%	–2.1%	19.7%	12	–49.2%

Growth of Wealth for Fama/French Total US Market Research Index, 1/36–5/39



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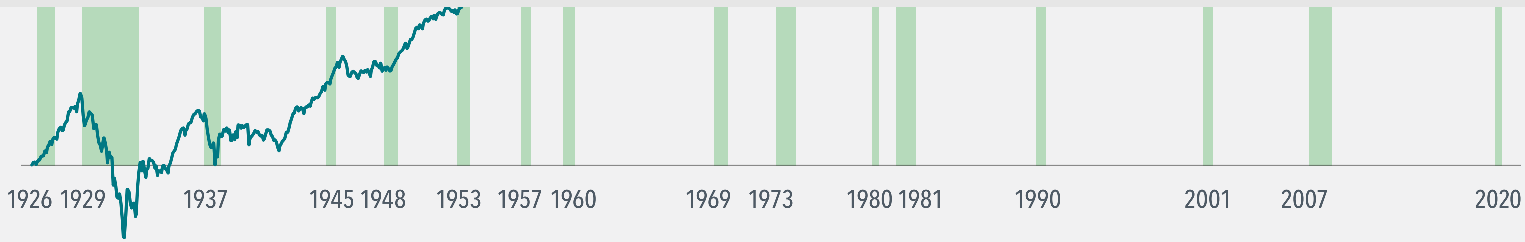
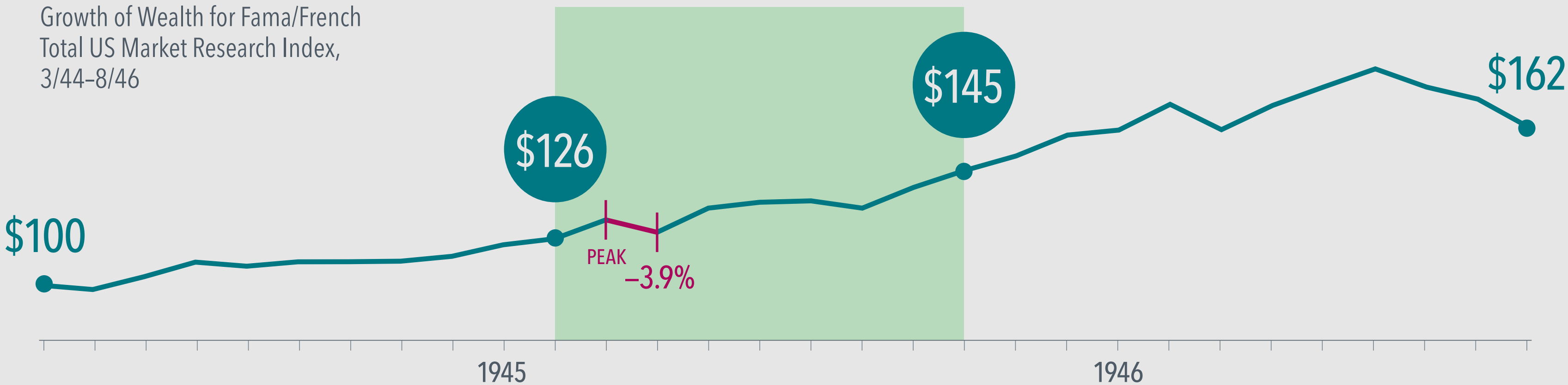


World War II Recession

Industrial production plunged 26% during the eight-month recession near the end of World War II. But the stock market dipped only 3.9% early in the recession before rebounding.

RECESSION				MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Duration (Months)	Return from Peak
8	–26.0%	1.7%	3.4%	1	–3.9%

Growth of Wealth for Fama/French Total US Market Research Index, 3/44–8/46



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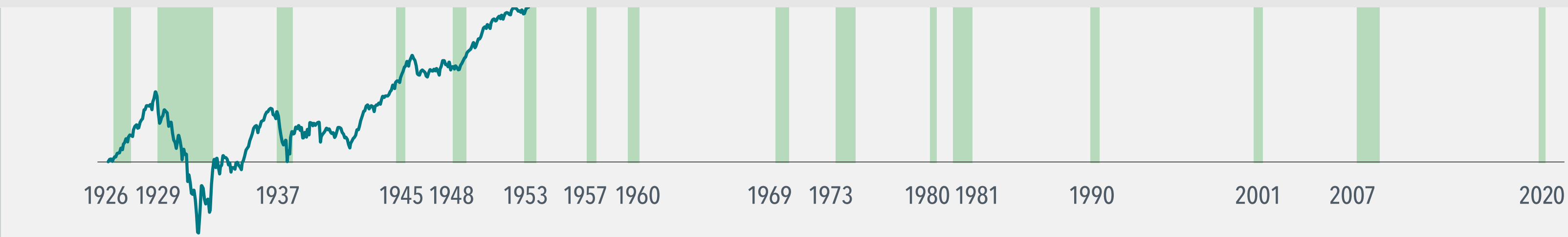
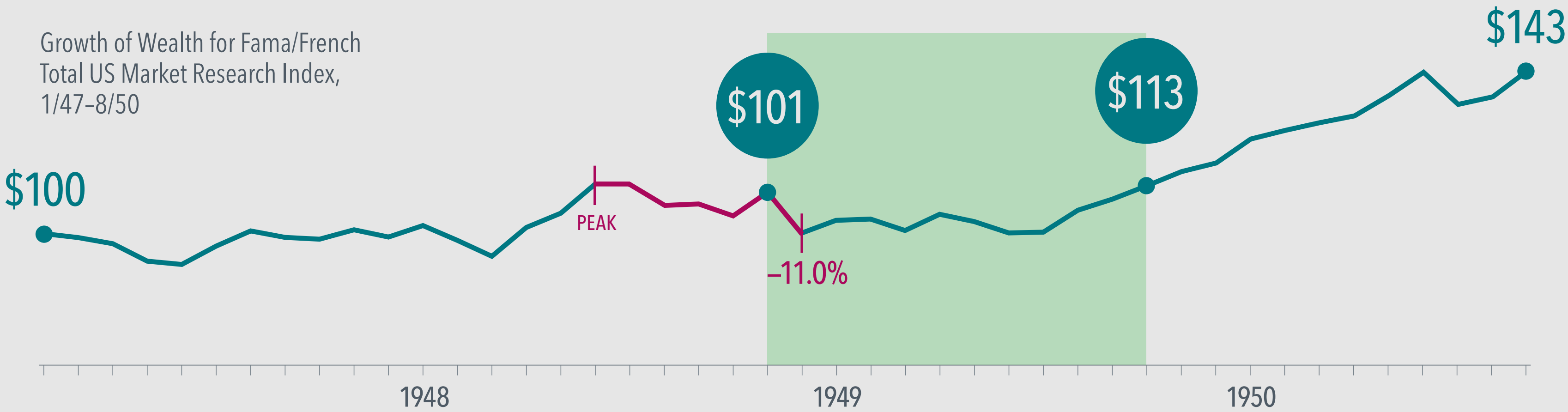


1948–1949

A modest stock market slide (–11.0%) began five months before this relatively small economic downturn that occurred a few years after the war.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
11	–5.0%	–1.2%	6.8%	–1.5%	6	–11.0%

Growth of Wealth for Fama/French Total US Market Research Index, 1/47–8/50



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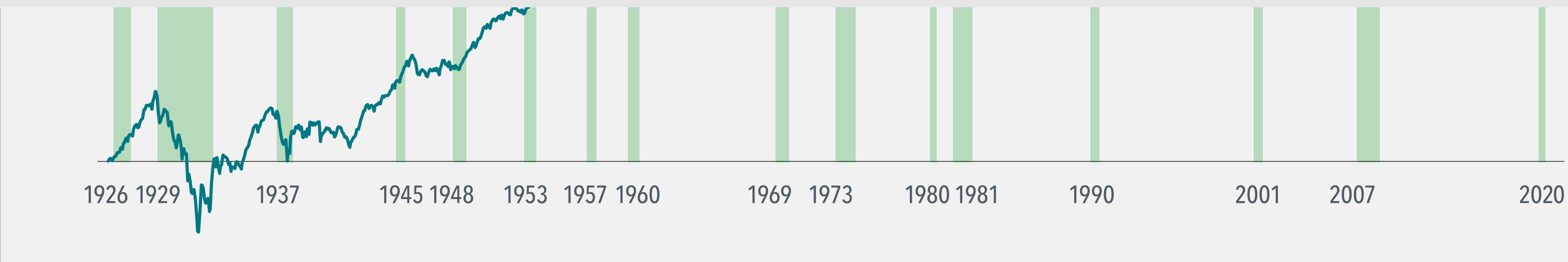
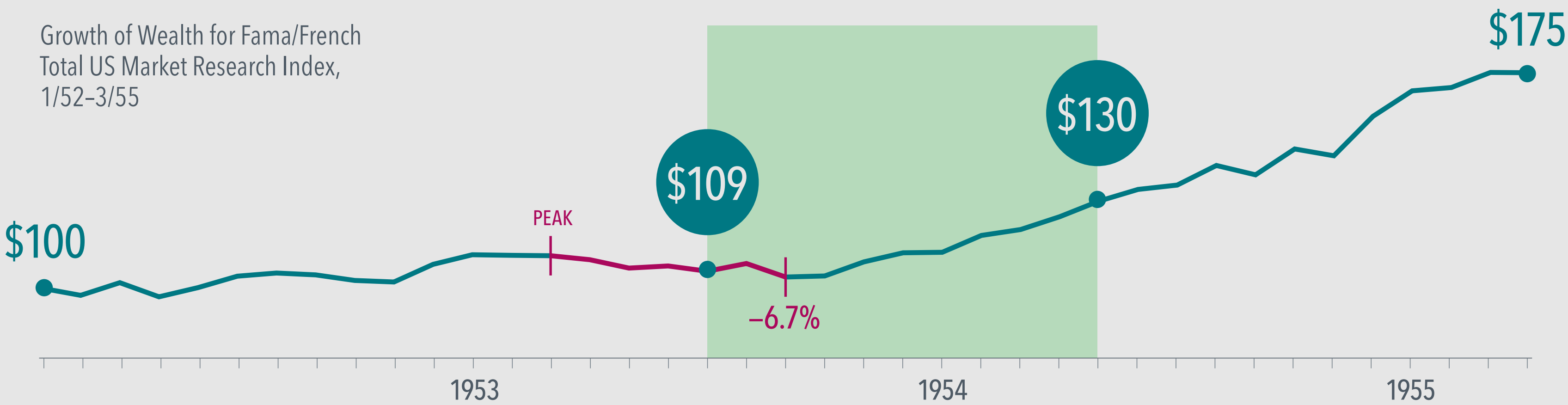


1953–1954

The Korean Armistice was signed in the summer of 1953. A stock market slump that had begun in March was over by August, but the recession continued until early 1954.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
10	–9.5%	0.0%	5.9%	–2.4%	6	–6.7%



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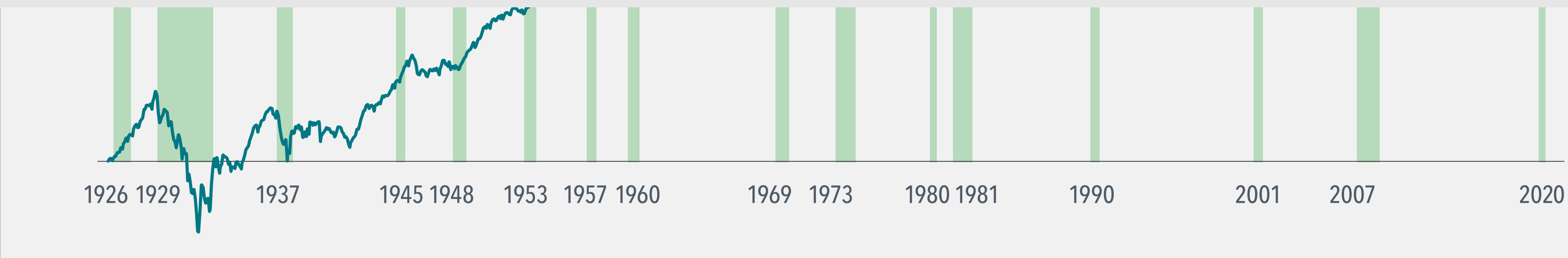
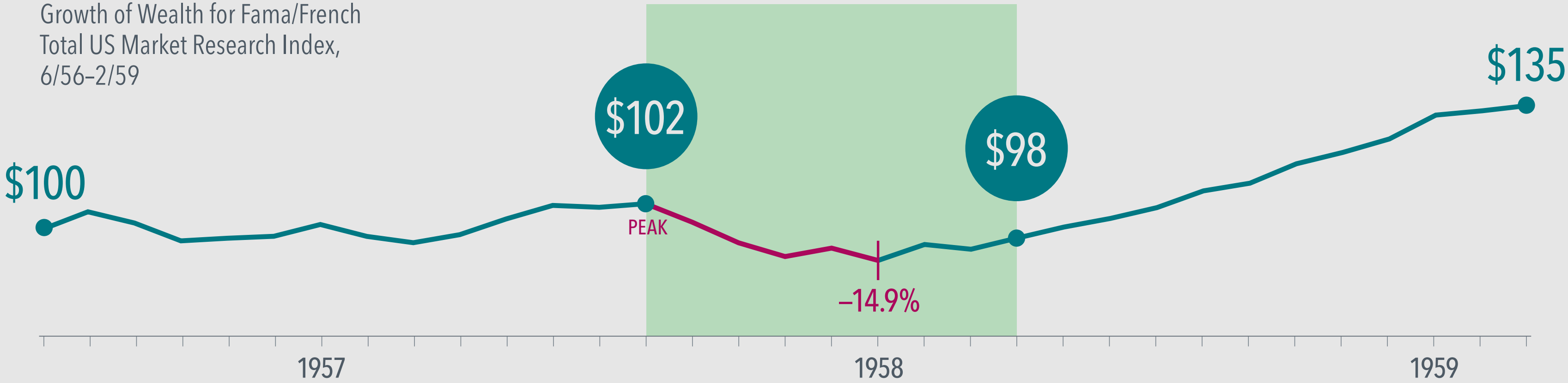


1957–1958

A huge drop in industrial production (–11.3%) and a contraction in GDP (–3%) interrupted the 1950s boom. Stocks retrenched 14.9% in the midst of a decade-long climb.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
8	–11.3%	1.8%	6.7%	–3.0%	5	–14.9%

Growth of Wealth for Fama/French Total US Market Research Index, 6/56–2/59



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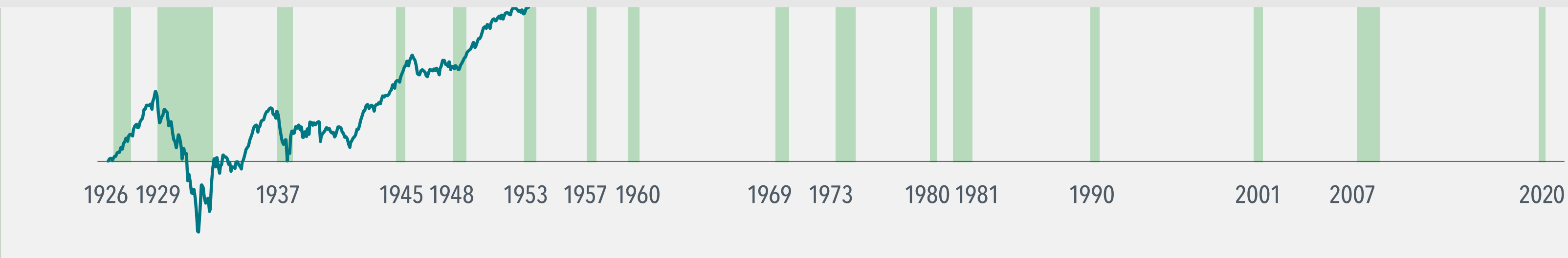
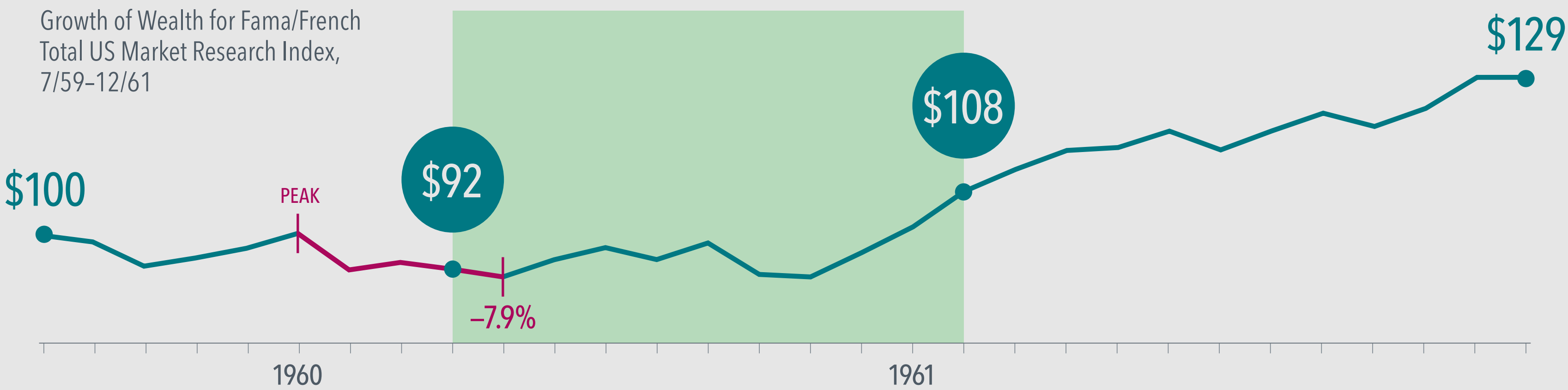


1960–1961

This four-month pause followed the previous decade's bull market. In the election year of 1960, unemployment rose to 6.6%, and the stock market dropped 7.9%.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
10	–6.1%	1.0%	6.6%	0.1%	4	–7.9%



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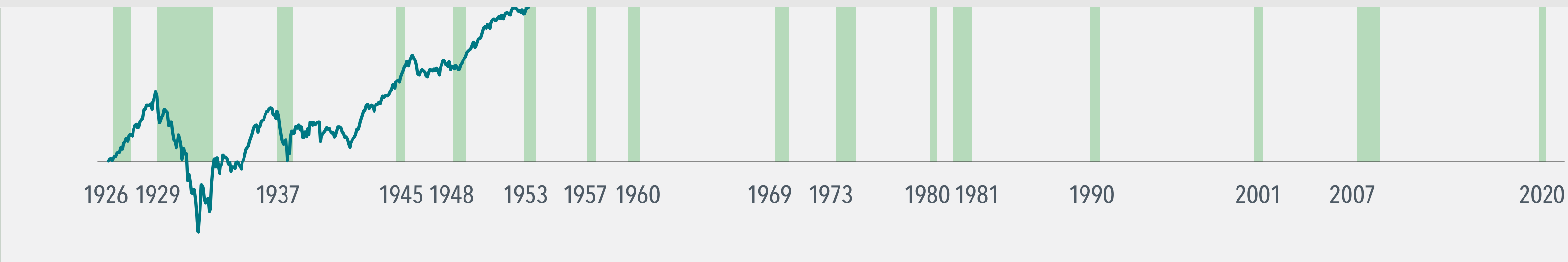
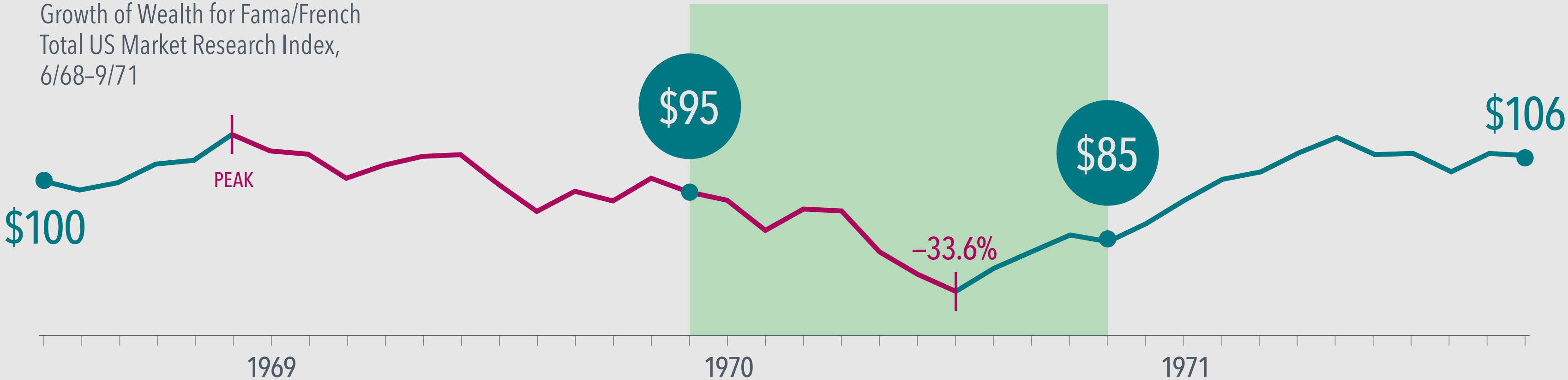


1969–1970

High inflation and a big jump in unemployment punctuated the 11-month recession that began in December 1969. A volatile stock market eventually lost 33.6% over 19 months.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
11	–5.3%	4.5%	5.5%	–0.2%	19	–33.6%

Growth of Wealth for Fama/French Total US Market Research Index, 6/68–9/71



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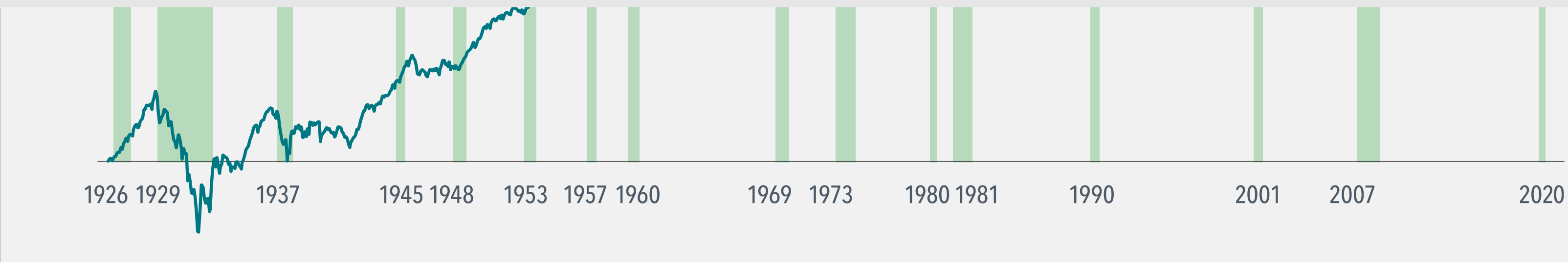
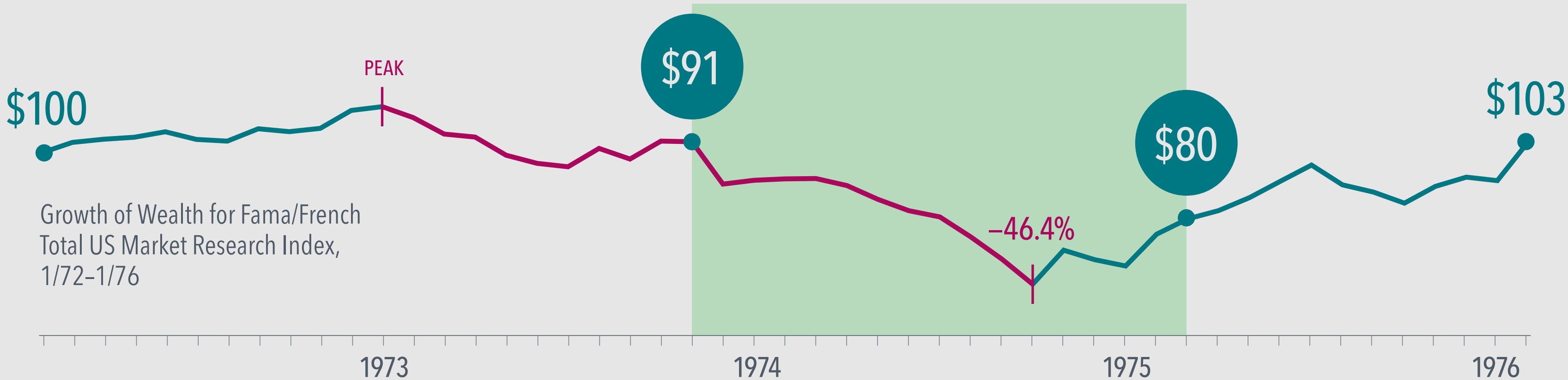


Oil Crisis

Inflation hit double digits during the 1973–75 recession. The stock market lost nearly half its value in the first 11 months of the 16-month economic downturn.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
16	–12.0%	14.4%	8.1%	–3.1%	21	–46.4%



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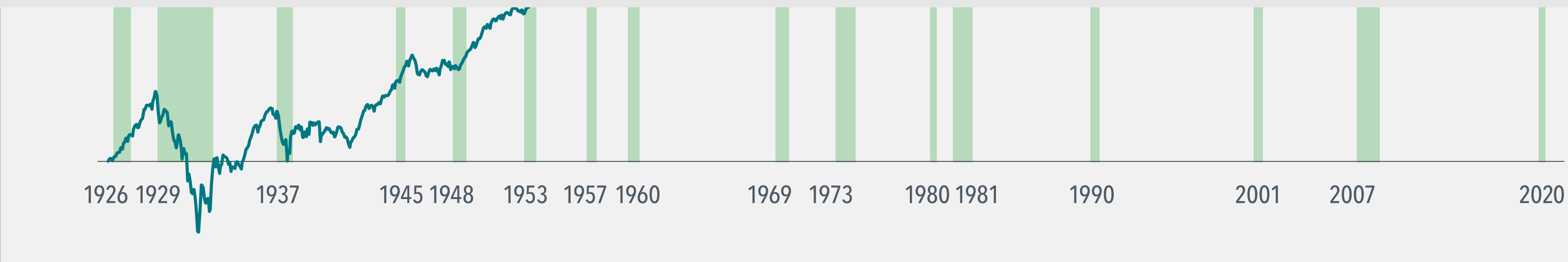
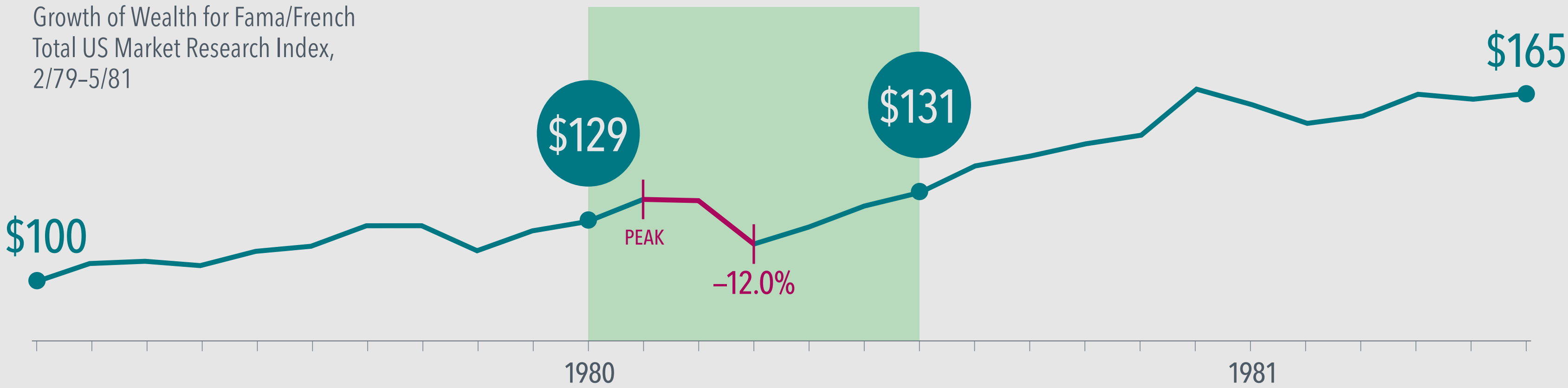


1980

A 12% stock market decline occurred early in 1980's six-month recession, during which unemployment hit 7.6%. But the market finished the year with an impressive gain of 33.4%.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
6	–5.9%	6.3%	7.6%	–2.2%	2	–12.0%

Growth of Wealth for Fama/French Total US Market Research Index, 2/79–5/81



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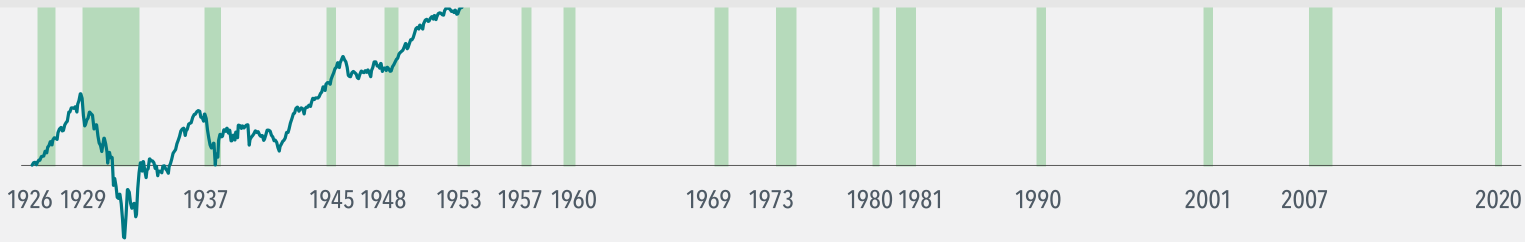
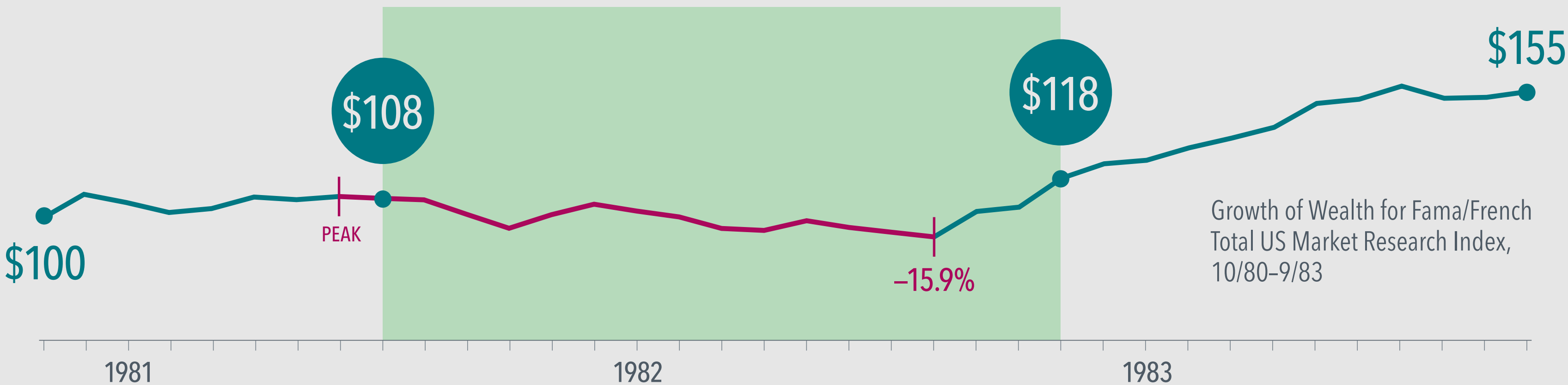


1981–1982

Historically high interest rates preceded a harsh recession that dragged on for 16 months and saw unemployment peak at 10.4%. The stock market experienced a 15.9% slide before beginning a long rally.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
16	–8.3%	7.2%	10.4%	–2.5%	14	–15.9%



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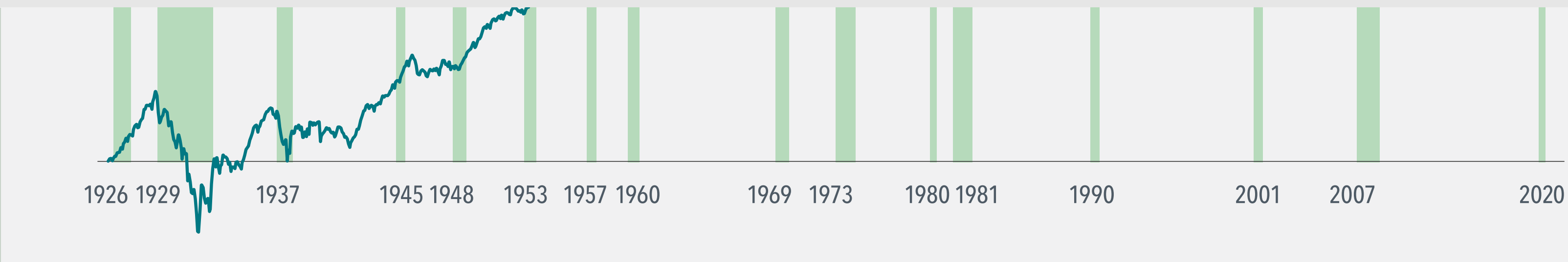
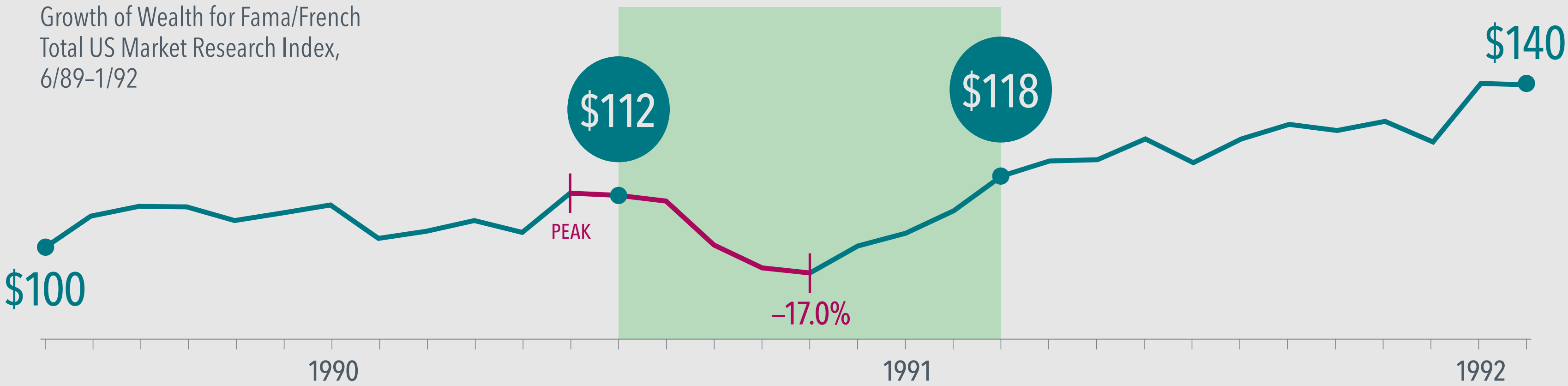


Gulf War

Stocks reacted negatively to the onset of the Gulf War in August 1990, dropping 17% over five months as the price of oil doubled. When the market regained its footing, stocks were set to start a nine-year bull market that peaked in the dot-com era.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
8	–3.2%	3.4%	6.6%	–1.4%	5	–17.0%

Growth of Wealth for Fama/French Total US Market Research Index, 6/89–1/92



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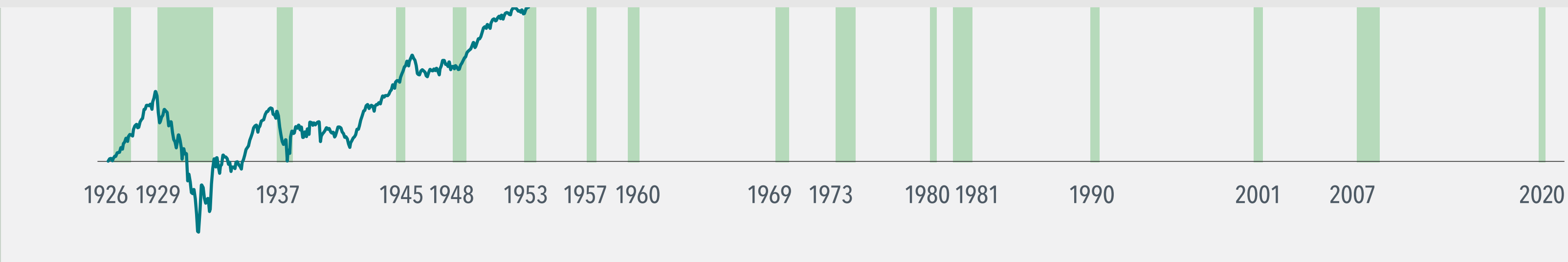
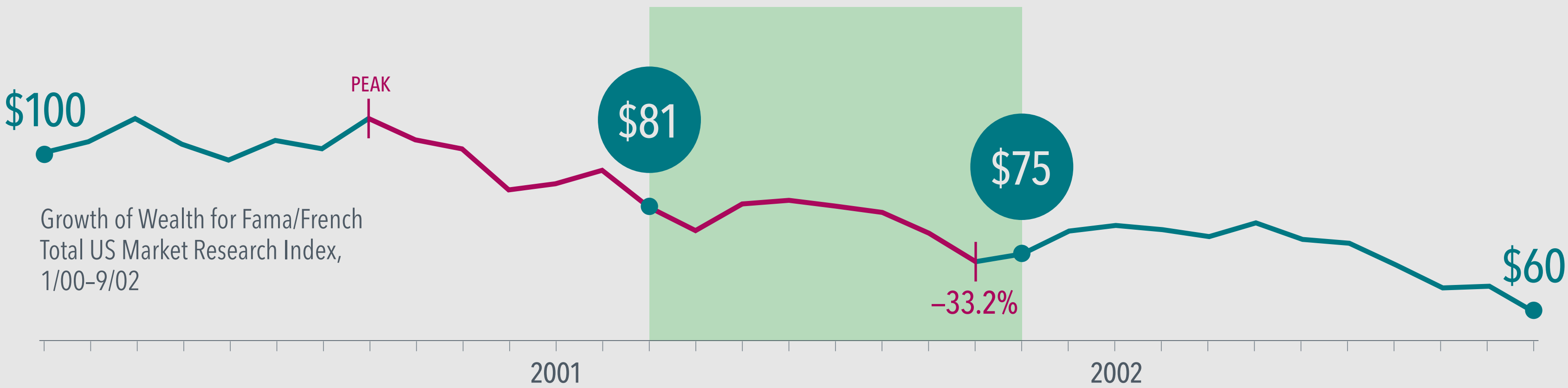


Tech Boom and Bust

Many investors may not realize that the stock market had started a deep decline before the relatively mild recession in March 2001, which followed the tech boom.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
8	–3.0%	0.9%	5.3%	0.4%	13	–33.2%



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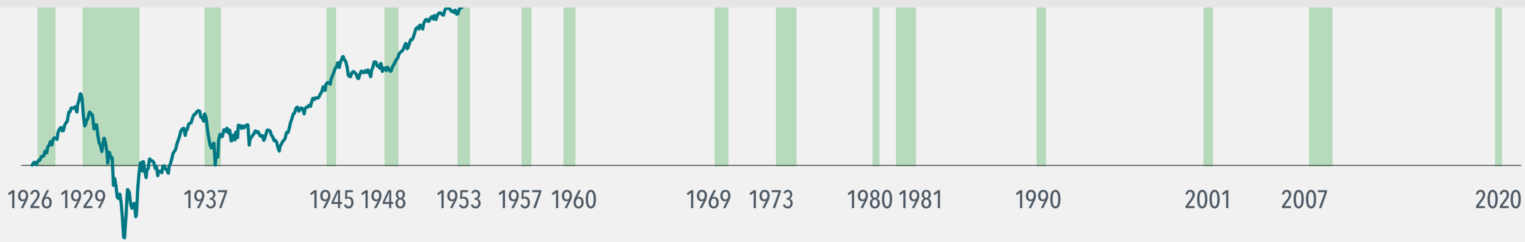
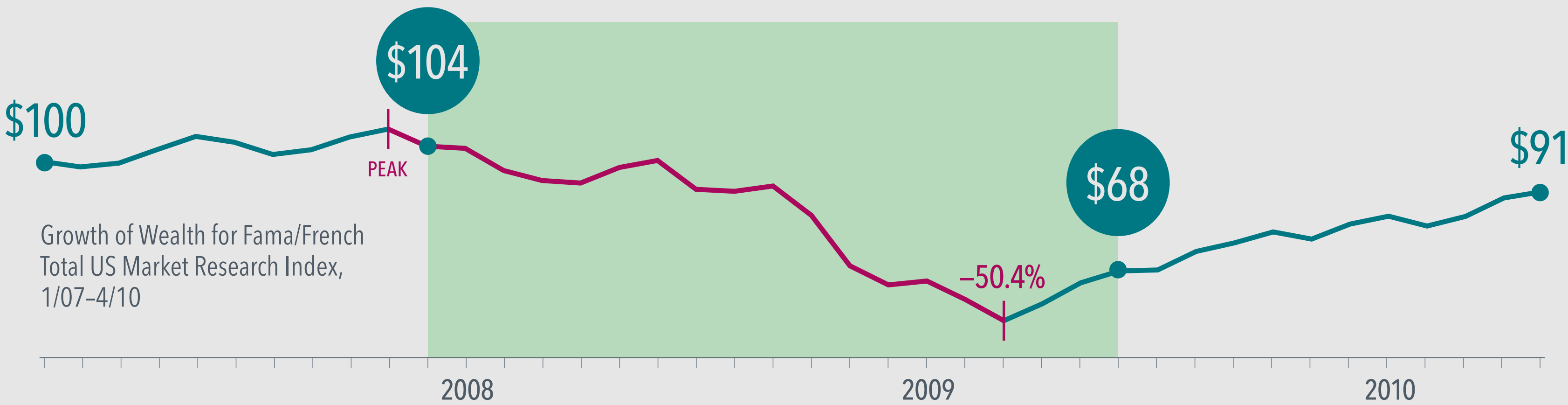


Global Financial Crisis

During the Global Financial Crisis, the worst of the 50.4% stock market dive happened in the latter half of an 18-month recession that saw unemployment hit 9.4% and industrial production tumble 17%. But after falling for 16 months, the market started a nearly 11-year bull run.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
18	–17.0%	1.8%	9.4%	–4.0%	16	–50.4%



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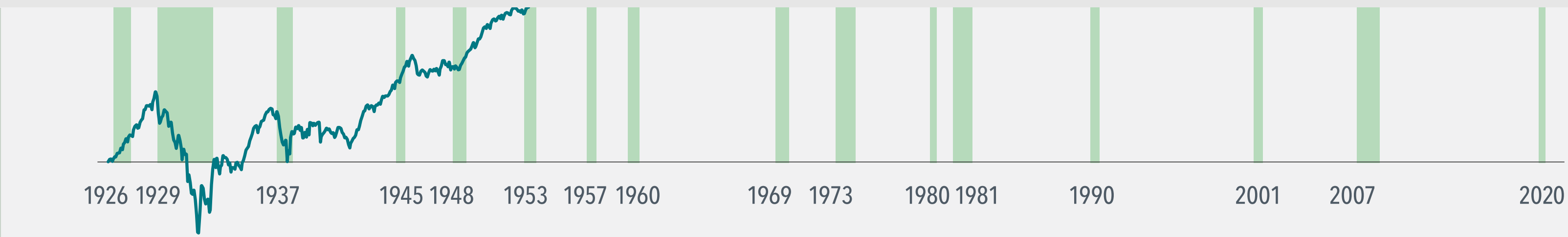
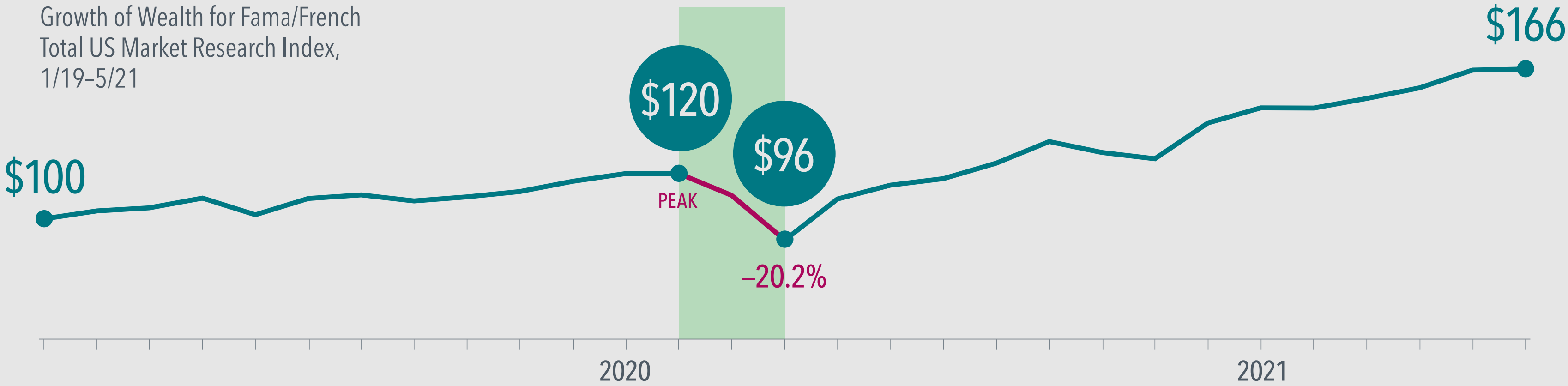


COVID-19

The shortest recession in the past 100 years—and the deepest decline in GDP (–8.9%) since World War II—occurred in early 2020. The US stock market tumbled more than 20% as investors priced in the effects of the pandemic. But stocks made a sharp rebound and recorded a 24.1% gain for the year.

RECESSION					MARKET DOWNTURN	
Duration (Months)	Industrial Production	Inflation	Max Unemployment	Change in GDP	Duration (Months)	Return from Peak
2	–3.8%	–0.2%	4.4%	–8.9%	2	–20.2%

Growth of Wealth for Fama/French Total US Market Research Index, 1/19–5/21



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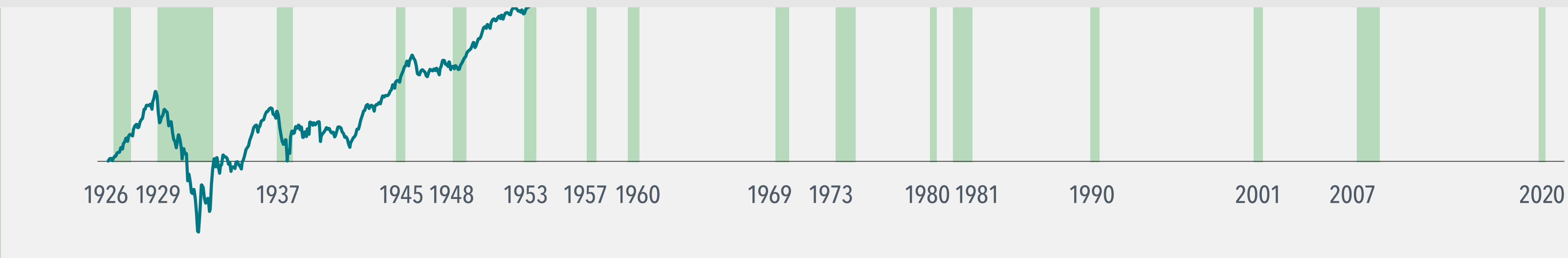

NOTES AND DATA SOURCES

- In US dollars. Stock returns represented by Fama/French Total US Market Research Index, provided by Ken French and available at *mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html*. This value-weighed US market index is constructed every month, using all issues listed on the NYSE, AMEX, or Nasdaq with available outstanding shares and valid prices for that month and the month before. Exclusions: American depositary receipts. Sources: CRSP for value-weighted US market return. Rebalancing: Monthly. Dividends: Reinvested in the paying company until the portfolio is rebalanced.
- Growth of wealth shows the growth of a hypothetical investment of $100 in the securities in the Fama/French US Total Market Research Index from July 1926 through December 2021.
- Gross Domestic Product (GDP) based on quarterly data from the US Bureau of Economic Analysis; quarterly data not available prior to 1947. Percentage change in GDP based on business cycle peak to trough quarter as reported by National Bureau of Economic Research (NBER).
- Industrial Production, Inflation, and Unemployment based on monthly data from Federal Reserve Bank of St. Louis (FRED); Unemployment data not reported prior to 1929.
- All calculations are cumulative.

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