Proceedings of CONF-BPS 2026 Symposium: Innovation, Finance, and Governance for Sustainable Global Growth
DOI: 10.54254/2754-1169/2026.BJ29954

An Analysis of the Influence of Crisis Memory on Investment Decisions from the Perspective of Behavioral Finance

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Abstract. You know, the global financial markets have really taken some hard hits over the years — from the 2008 financial crisis to the wild swings caused by COVID-19 in 2020, it's just been one shock after another. Every time something big like that happens, asset prices go crazy, and investors end up with some pretty deep psychological scars. Those "crisis memories," as we call them, have actually become a super important concept in behavioral finance lately — people in both academia and the financial world are paying more and more attention to them.So, in this study, we take a behavioral finance perspective and try to figure out how these crisis memories mess with people's investment decisions. Basically, we look back at past financial crises, pull in theories like risk preference, loss aversion, and herd behavior, and analyze how crisis memories create psychological biases. Those biases then lead people to do things like panic selling, being overly cautious, or just blindly following the crowd — all of which make market volatility worse.Our results show that the impact of crisis memories is long-term and pretty complicated. The way they play out depends on stuff like how transparent the market is and what kind of investors you're talking about. In the end, we also throw out some practical suggestions to help investors make better decisions, help financial institutions manage risk more effectively, and give regulators a few ideas for keeping markets more stable.

Keywords: Behavioral finance, crisis memory, investment decision-making

1. Introduction

Over the past few decades, the global financial markets have been through some serious storms — think the Great Depression of 1929, the 2008 global financial meltdown, and the crazy roller coaster during the COVID-19 pandemic in 2020. None of those were easy times. Each crisis didn't just crash asset prices and drag economies into recession; it also left some lasting marks in investors' minds. That's what we call crisis memory, and it's a key idea in behavioral finance that shapes how people see risk, how they react emotionally, and how they make decisions.

In today's hyper-connected and constantly changing financial world, crisis memory isn't just about "remembering the past." It actually shapes how people think and behave through psychological biases. It affects how investors assess and respond to risk — and that, in turn, can really shake up market stability. So yeah, figuring out how crisis memories influence investor

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behavior has become a big deal if we want to understand why markets act irrationally and how to make them more resilient.

Researchers have found that those irrational decisions investors make during crises often come from psychological biases built on past experiences. For example, Liu Jiechen and Mao Lingjie studied emotional contagion on a macro level and found that investors' moods can seriously amplify market volatility. They also confirmed that crisis memories affect these emotional reactions — when people feel pessimistic, they tend to avoid risk too much, but when they're too optimistic, they start taking silly risks [1]. Their work helps us see how crisis memories spread through market emotions.

On the micro side, Ruan Jiaqi found that individual investors often show cognitive biases like herd behavior, the disposition effect, and overconfidence. When markets get rough, those biases make people trade irrationally [2]. Put all this together and you've got a "macro emotional contagion – micro cognitive bias" framework that really helps explain how crisis memories shape investor behavior on multiple levels.

Then there's Wang Nan, who focused on sudden public events. He found that shocks like pandemics make emotions have an even bigger impact on stock prices — especially for small and mid-cap stocks where information asymmetry is worse [3]. That's an important step forward in emotional contagion theory — it shows not only how external shocks trigger crisis memories, but also how market structure makes the effects different.

And Ma Hao? He challenged an old assumption — that institutional investors are always rational. Turns out, they can show strong herd behavior too, especially during crises, which might make market swings even worse [4]. That's not totally in line with Ruan Jiaqi's findings, but it shows that crisis-induced biases are everywhere, no matter who you are.

So, building on all that, our research uses behavioral finance theory to dig deeper into how crisis memories affect investment decisions. We pull together ideas like changing risk preferences, loss aversion, herd behavior, and overconfidence, then take a close look at two big cases — the 2008 financial crisis and the 2020 COVID-19 shock — to see how crisis memories push people toward panic selling, extreme risk aversion, or bottom-fishing opportunities [5].

All in all, this study helps us better understand the psychology behind irrational investment behavior. It also gives some practical insights for improving personal investment strategies, strengthening financial risk management, and shaping smarter regulatory policies. And since fintech is growing so fast, our work also sets the stage for using big data and AI to track and predict how crisis memories affect markets — helping us build a stronger, more resilient financial ecosystem in the long run.

2. Theoretical analysis of investor behavior

2.1. Risk preference and decision-making

So, when we talk about risk preference, we're basically talking about how people feel about taking risks. It's really just their attitude toward uncertainty. And honestly, you can split people into three groups: those who hate risk, those who love risk, and those who just don't care either way.

If two investments are expected to make about the same amount of money, the risk-averse folks are gonna go for the safer option every time. The risk-takers, on the other hand, will go, "Hey, higher risk, higher reward — let's roll the dice!" And then you've got the "whatever" crowd — they only care about how much they can make, not how risky it is [6].

But here's the thing — when a financial crisis hits, all that changes fast. People's attitudes toward risk can flip like a light switch. Take the 2008 global financial crisis, for example. Before the

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meltdown, the economy was booming and the markets were on fire. Everyone was feeling bold — investors were throwing piles of cash into high-risk, high-return stuff like subprime mortgage products. Between 2006 and 2007, the U.S. subprime market just exploded — from around $600 billion to nearly $1.3 trillion. And the market for those related derivatives? Also went absolutely nuts. Everyone got blinded by the promise of big profits and totally ignored the risks hiding underneath.

Then boom — the crisis hit, and asset prices just went off a cliff. People started losing tons of money, uncertainty shot through the roof, and suddenly all those brave investors turned super cautious. Between September and December 2008, over $800 billion got pulled out of risky assets like stocks and poured into "safe havens" like U.S. Treasury bonds and gold. Investors were panic-selling anything risky and moving their money to whatever felt secure.

That sudden shift in risk preference totally messed with the flow of funds in the financial market — and yeah, it made the market swings even worse.

2.2. Herd behavior and conformity psychology

Herd behavior, also referred to as conformity behavior, describes the tendency of individuals to imitate the actions of the majority under conditions of uncertainty or social pressure, rather than relying on their own independent judgment. In financial markets, this manifests as investors blindly following prevailing market trends—buying popular assets or engaging in panic selling—without conducting fundamental analysis [7].

During financial crises, information asymmetry typically becomes severe, making it difficult for investors to access complete and accurate data for market assessment. Under such circumstances, investors are more easily influenced by others' behavior and exhibit conformity. For example, in early 2020, the outbreak of COVID-19 triggered widespread market panic. Observing others rushing to sell stocks, many investors followed suit—often without fully analyzing their own portfolios or the underlying fundamentals—resulting in rapid market declines and heightened volatility.

A similar pattern can be observed in emerging investment markets such as cryptocurrencies. Before the 2022 crypto market crash, the total global cryptocurrency market capitalization surged from around USD 200 billion in early 2020 to nearly USD 3 trillion by November 2021. Driven by herd mentality, a vast number of investors rushed into the market without fully understanding the risks. When the market downturn began in 2022, the overall market capitalization shrank by more than USD 1.5 trillion in the first half of the year alone. As some investors started selling in response to negative news, others followed in panic, leading to a chain reaction of sell-offs and a dramatic collapse in asset prices.

2.3. Loss aversion and overconfidence

Alright, let's talk about loss aversion first. Basically, it's that gut-wrenching feeling investors get when they lose money — it just hurts way more than the joy they feel from making the same amount. Psychologists say that the emotional pain of losing is about two to two and a half times stronger than the pleasure of gaining the same thing.

In the world of investing, that kind of bias makes people do some pretty silly stuff. When their stocks go up, they get scared the profits might disappear, so they rush to sell and "lock in" the gains. But when the stock price drops, they suddenly turn patient — like, really patient — and refuse to sell, hoping it'll bounce back someday. That's what we call the disposition effect.

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For example, I've got this friend who sold his stock right after it went up 10%, 'cause he was terrified it might fall again. But in the same account, he had another stock that was down 20%, and he just couldn't bring himself to sell it. He kept holding on, waiting for that magical rebound — and, yeah, you can guess what happened next. He lost even more [8].

Now, let's talk about overconfidence. That's when investors think they're way smarter or better informed than they actually are. They overestimate their own judgment, believe their info is rock solid, and end up trading too often or taking dumb risks. When the market's doing great — no crisis in sight — that confidence can get totally out of control. People start thinking, "I've got this. I can read the market perfectly." So they dive into short-term trades or speculation like there's no tomorrow.

Remember China's stock market boom back in 2015? Tons of people borrowed money like crazy to buy stocks, totally ignoring the risks. They thought the bull market would last forever. Then the market crashed, and those investors who'd leveraged up couldn't handle the margin calls — they lost everything.

That's the dark side of overconfidence: it blinds people during good times, and when a crisis hits, they're too stubborn or too slow to change their strategy. And yeah, that's when the losses really pile up [9].

3. Case analysis: the impact of crisis memory on investor behavior — evidence from the COVID-19 pandemic

So, let's rewind to early 2020. Out of nowhere, COVID-19 hit — and man, it hit hard. The virus spread like wildfire all over the world, and the global economy basically took a punch right in the gut. To slow things down, tons of countries went into lockdown. Businesses shut down, factories stopped running, and people just weren't spending money anymore. In short — everything froze. And when the economy stops, financial markets freak out.

Stocks went into freefall, oil prices totally collapsed, and investors? They completely lost it. Panic was everywhere [10].Between late February and mid-March 2020, global stock markets went through some of the worst weeks ever. Like, record-breaking bad. Just look at the U.S. — the markets hit circuit breakers multiple times in a matter of days. The Dow Jones Industrial Average dropped about 37% between February 12 and March 23, 2020. Europe and Asia weren't any better — every market was tanking.

The oil market experienced an unprecedented collapse in early 2020. Amid widespread economic shutdowns and a precipitous decline in global energy demand, crude oil prices plummeted dramatically. The situation was further exacerbated by a price war initiated between Saudi Arabia and Russia, which intensified downward pressure on prices. This confluence of factors culminated in an extraordinary event in April 2020, when the price of West Texas Intermediate (WTI) crude oil futures fell below zero—marking the first recorded instance in history of negative pricing for this benchmark commodity.

To put that in perspective, during the 2014–2016 oil slump, prices fell from about $107 a barrel to around $26. But during COVID? Prices dropped even faster, and we saw that once-in-a-lifetime moment where oil producers literally had to pay people to take their oil. Crazy, right?

Now, in the middle of all this chaos, investors' fear hit the roof. Everyone was panic-selling like crazy. What was really happening was a massive shift in risk perception. Before the crisis, people could handle a bit of risk — they were feeling confident. But once the crash hit, they got terrified. And that's where loss aversion really kicked in.

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Investors hate losing money way more than they like making it. So, instead of holding on to their assets, they started dumping them at low prices just to stop the pain. On top of that, the information environment was a total mess — no one knew what was going on. That's when herd behavior took over. People weren't thinking rationally anymore. They were just following the crowd — "Everybody's selling, so I'd better sell too before I lose even more."

In March 2020, global equity funds saw the biggest outflows in history. Money was flying out of the market like there was no tomorrow. That wave of panic selling made prices drop even further, which freaked out even more investors — and boom, you get the vicious cycle: prices fall → people panic → more selling → prices fall again. It's a perfect example of how crisis memories and psychological biases feed off each other and make market volatility spiral out of control.

But not everyone lost their heads. Some investors saw opportunity in the chaos. The long-term thinkers — the ones with stronger nerves and solid fundamentals — realized the market was seriously overshooting. They thought, "Okay, this is ugly, but it's temporary."

Take Warren Buffett's Berkshire Hathaway, for instance. During that 2020 meltdown, they went on a bit of a shopping spree — buying up undervalued companies and making strategic investments. Why? Because they did their homework. They knew the fundamentals were still there and that the pandemic was a short-term shock, not a full-blown structural collapse [11].

So yeah, the COVID crash showed us a real split in investor behavior — pure fear versus cool-headed logic. The panic sellers let their emotions run the show. They were terrified about the long-term impact of the pandemic and just wanted to minimize losses, no matter the cost. But the calm, rational investors — they kept their heads, looked long-term, and bought when everyone else was scared.

Another thing that made the panic worse? The media. Every headline was about the virus, the lockdowns, the economic collapse — it was nonstop doom and gloom. That wall of negative news made people even more anxious, amplifying the fear, and dragging even more investors into the panic-selling frenzy.

In the end, the COVID-19 market meltdown was basically a live demo of how crisis memories, loss aversion, and herd behavior all collide — and how they can turn a market shock into full-blown chaos.

4. Exploring the mechanisms of influence

4.1. Psychological factors

When it comes to the wild ups and downs of the financial market, psychology is like this invisible but super powerful force that quietly messes with investors' decisions. Among all the emotions out there, fear and greed are basically the two main drivers that shape how the market moves [12].

Let's start with fear. This is the emotion that hits investors the hardest during a crisis. When a financial crash happens or the market suddenly tanks, prices drop like crazy, portfolios shrink fast, and fear just takes over everything — people stop thinking rationally. They start focusing only on the bad news, overestimating risks, and making panic-driven decisions.

Take the 2008 global financial crisis as an example — tons of investors freaked out and rushed to sell off their stocks. The funny part? A lot of those companies were still doing fine fundamentally. But everyone was scared the market would fall even more, so they dumped their holdings anyway. In the end, prices fell way below their real value. This kind of fear-driven selling doesn't just mess up short-term trades — it can change how people invest in the long run. After going through a crash,

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some investors just lose their risk appetite altogether. They stop buying stocks and stick with "safe" stuff like bonds or cash.

Now let's talk about greed, which can be just as destructive. When the market's booming, people get greedy — all they can think about is making more money, and they completely ignore the risks. They throw their cash into whatever's trending, hoping for bigger returns.

Remember the 2015 bull run in China's A-share market? Prices were soaring, everyone was hyped, and investors started borrowing like crazy to buy even more stocks. They only saw the unrealized gains on their accounts and never stopped to think, "What if this bubble bursts?" Sure enough, when the bull market ended and prices started to drop, a lot of those overleveraged investors got hit hard — some even ended up deep in debt.

The thing is, fear and greed almost never show up alone — they take turns running the show. During a bull market, greed is in charge, pushing people to chase high returns and inflating bubbles. When the market drops, fear quickly takes over, sparking panic selling and accelerating the fall. This constant back-and-forth creates a self-reinforcing cycle — greed blows the bubble bigger, fear pops it faster — making market swings even more extreme and financial crises even worse [13].

4.2. Informational factors

In the financial world, information is the key to every decision investors make. But when a crisis hits, uncertainty and information gaps get worse than ever, and that really affects how people behave.

Information uncertainty basically means investors have no idea what's going to happen next — they can't tell where the economy's headed, how companies will perform, or what policy changes might come.

Think back to early 2020, when COVID first broke out. No one knew how bad it was going to get or how long it would last. Investors couldn't estimate how much profits would drop or when markets might recover. That kind of uncertainty made people freeze — they delayed decisions, stayed on the sidelines, and waited for clearer signals before making any moves.

Then there's information asymmetry, which means not everyone has access to the same info. Some people — usually institutional investors or insiders — always have an advantage.

For example, in March 2020, a listed tourism company was basically shut down because of the pandemic. Insiders knew in advance that the company was about to release a profit warning, so they quietly sold their shares before the announcement. Regular investors, who had no clue, were still buying. When the bad news officially came out, the stock price collapsed — and those unaware investors lost a ton of money. You see this all the time in mergers or restructurings too: insiders trade based on private info, while retail investors trade blind and end up getting burned [14].

Both uncertainty and information asymmetry make decision-making way harder and riskier. Investors might make bad choices just because they don't have the full picture, or they're stuck at a disadvantage because others know more.

To handle this, investors really need to step up their game — learn how to collect and analyze information better, and boost their financial literacy. At the same time, regulators and financial institutions need to tighten up information disclosure rules, improve transparency, and make the market fairer and more orderly for everyone.

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5. Conclusion

So here's the deal: crisis memories — those lasting psychological marks that financial crises leave in investors' minds — really mess with how people behave in the market, and the effects aren't short-lived. From what we've seen, things like sudden shifts in risk appetite, herd behavior, loss aversion, and overconfidence all get amped up when crisis memories kick in. Put simply: when people suddenly become more risk-averse, their asset choices before and after a crisis can change drastically; herd behavior makes market swings even wilder; and loss aversion combined with overconfidence pushes investors into all sorts of irrational moves, cranking up risk across the board.

If you look closely at big events like the 2008 global financial crisis or the 2020 COVID-19 crash, you can actually spot some recurring behaviors tied directly to past crises — panic selling, cautious rebalancing, and even opportunistic "buying the dip." Each of these behaviors isn't random; they're basically the echoes of what people lived through before. And these behaviors don't just affect an individual's wallet — they have ripple effects on overall market stability and long-term financial development.

So what can be done about this? Well, for individual investors, first off: get smarter about finance. Read up on books, take online or offline courses, boost your financial literacy — this helps you spot real opportunities and avoid blindly following the crowd. Second: stay cool and rational. Make your investment plan based on your own goals and careful market analysis, and stick to it no matter the noise.

For institutions, it's about taking responsibility: educate investors, beef up risk management systems, and provide services that fit different types of clients. Regulators also need to keep improving the framework, enforce clear information disclosure, and make sure markets stay stable.

Looking ahead, there's a ton of room for research using big data and AI to track and analyze investor behavior more accurately, exploring how crisis memories work in different market environments and across different investor types. Cross-disciplinary research is key too — mixing psychology, sociology, and behavioral finance to really understand what drives investors at their core.

On a bigger picture level, as markets evolve, investors' ability to understand and manage risk should keep improving, and their mindset should gradually shift toward long-term, rational investing. Financial institutions and regulators need to keep pace with that trend, working together to build a market that's stable, healthy, and orderly.

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