

Hypothetical Outcomes of Crisis Periods

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Introduction

One major reason that investor returns are considerably lower than index returns has been the fact that many investors withdraw their investments during periods of market crises. Since 1984, approximately 70% of this underperformance occurred during only ten key periods. All these massive withdrawals took place after a severe market decline.

The investor experiences during and after these key periods reveal the motivation for the underperforming withdrawals.

Forecasts of market rises have coexisted with conflicting forecasts of doom since the origin of investment markets. History explains the coexistence of the contradictory opinions. Since 1964, positive markets occurred in 54% of cases and negative in 46%.

Investors therefore always have an expert opinion to support the action they take (buy, sell or hold). These opinions serve to maintain the investors' awareness of unpredictability, thus increasing the vulnerability to market changes.

The result is that market changes initiate a call to action, which often translates to withdrawal. A startling event often leads to a withdrawal, but this is almost always after the event has occurred and the market has adjusted. Such a withdrawal takes place after the decline and is only productive if additional declines occur.

The ten most severe cases of such underperformance are presented here, comparing the outcomes of three potential courses of action:

- Withdrawal which avoids the less likely exposure to negative markets and misses the opportunity for the more likely market rise.
- Insurance which uses the i-PRT¹ strategy to purchase index puts that protect the investor from a market downturn but allows participation in the more likely case that the market rises.
- No Action where the investor recognizes that their action will be too late to prevent a loss and investments will benefit from the likely market rise.

¹ i-PRT is a short-term strategy that protects equity portfolios from imminent losses. i-PRT enables an advisor or sophisticated investor to design an index put that will make up for expected losses. Investors avoid the necessity of withdrawing funds and instead pay for the desired protection if a portfolio loss occurs.

Assumptions

The hypotheticals presented here cover the ten most severe monthly outflows from equity mutual funds since 1964. It is assumed that investor's holdings are valued at \$100,000 at the start of the month during which the outflow occurs.

Hypotheticals compare the results of three investor courses of action, assuming the investments track the performance of the S&P 500. These three courses of action are taken in the month following the associated market decline. The three actions are:

- Investor withdraws funds. Withdrawn assets are held privately by the investors and the value remains constant for the next year.
- Investor obtains insurance using the i-PRT strategy:
 - Using Index Puts that track the S&P 500
 - 30-day expiration
 - No action is taken during the year after Puts expire
- Investor takes no action.

Results are measured 30 days and one year after the action is taken.

Two perspectives are presented:

- Effect on investor's holdings
- Effect on asset held by an institution or advisor

i-PRT Use

The insurance alternative discussed here is based on the proper use of the i-PRT strategy.

Fundamentally, i-PRT is an asset preservation strategy, not an investment tool. The following practices are essential to proper use:

- i-PRT is only presented at the time an investor has expressed a desire to withdraw funds. It is not and does not compete with investment or risk management tools. i-PRT is designed for use only when investors seek to abandon their investments in fear of imminent market losses.
- Investors must be told that the i-PRT strategy is not the best economic alternative. The best alternative is most often to "Take No Action". This best choice for economic reasons may be off the table if the investor is fearful of market conditions.
- i-PRT is a preferred alternative to withdrawal and must be presented in that light. i-PRT should never be compared to other investment strategies which are long term measures, unlike the stopgap measure that is the i-PRT strategy.
- i-PRT strategy is never offered to answer long term concerns. Such concerns are far more effectively handled by investment or financial planning practices.

Summary of Findings

The top ten withdrawal periods were triggered by market declines, but the most severe losses resulted from the withdrawals that were a reaction to the declines. Investors who withdrew locked in losses of 8.17% while those purchasing insurance using the i-PRT strategy gained an average of 18.48% during the year after the decline. Investors who took no action gained an average of 17.94% in comparable years.

As the following table shows markets declined an average of 0.02% in the month following events and advanced an average of 17.94% in the year after.

<u>Investor Reactions</u>	<u>Average of Investor Return for Ten Major Decline Events</u>					
	Month of Decline	For Month After	Net After 1 Month	For Year After	Net After 1 Year	Value of \$100,000 After 1 Year
Withdraw Assets	-8.17%	0.00%	-8.17%	0.00%	-8.17%	\$91,831
Purchase Insurance	-8.17%	0.34%	-7.82%	18.48%	10.32%	\$110,315
Take No Action	-8.17%	-0.02%	-8.18%	17.94%	9.77%	\$109,774

It should be noted that using the i-PRT strategy yielded marginally better results on average than taking no action but is not the better choice since taking no action was successful in 8 of the 10 cases (See next section). The higher returns reflect the fact that the i-PRT strategy yielded substantially better results in the most severe decline of October 1987.

Best Economic Alternatives for Investors

While investor actions and choices are heavily influenced by fear of the unknown, historical events presented here illustrate the economic effect of the three alternatives examined.

The best course of action can only be one that an investor is willing to take. During the crises covered here, many investors rejected the alternative of taking no action, even though the historical evidence is overwhelming that “Take No Action” is most often the best course.

Investors who reject the “Take No Action” alternative should consider the i-PRT strategy that avoids the more costly and imprudent course of a full withdrawal.

(for Investors) <u>Event Date</u>	<u>Best After 1 Month</u>			<u>Best After 1 Year</u>		
	Withdraw Assets	Purchase Insurance	Take No Action	Withdraw Assets	Purchase Insurance	Take No Action
September 1986			✓			✓
October 1987		✓			✓	
March 1988	✓					✓
August 1988			✓			✓
November 1988			✓			✓
February 1989			✓			✓
August 1990			✓			✓
September 2001			✓	✓		
July 2002			✓			✓
October 2008	✓					✓
TOTAL	2	1	7	1	1	8

Best Economic Alternatives for Institutions & Advisors

The holders of assets benefit in proportion to the benefits derived by investors, except when it is in the investor's best interest to withdraw assets. As is evident from the previous chart, it is rarely the case that investors benefit from such withdrawals.

This harmony is illustrated in the chart below that shows the best alternatives for institutions and advisors.

(for Institutions & Advisors) <u>Event Date</u>	<u>Best After 1 Month</u>			<u>Best After 1 Year</u>		
	Withdraw Assets	Purchase Insurance	Take No Action	Withdraw Assets	Purchase Insurance	Take No Action
September 1986			✓			✓
October 1987		✓			✓	
March 1988			✓			✓
August 1988			✓			✓
November 1988			✓			✓
February 1989			✓			✓
August 1990			✓			✓
September 2001			✓			✓
July 2002			✓			✓
October 2008		✓				✓
TOTAL	0	2	8	0	1	9

Crisis: September 1986

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-8.22%	\$91,780	\$91,780
<u>Withdraw Assets</u>			
After 30 days	0.00%	\$91,780	\$0
After 1 year	0.00%	\$91,780	\$0
<u>Purchase Insurance (i-PRT)</u>			
After 30 days		-\$1,815	
After 1 year		\$95,105	\$95,105
After 1 year	35.81%	\$129,161	\$129,161
<u>Take No Action</u>			
After 30 days	5.56%	✓ \$96,883	✓ \$96,883
After 1 year	35.81%	✓ \$131,576	✓ \$131,576

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
1.66%	-5.69%	7.48%	-8.22%	5.56%	35.81%

Commentary

The 8.22% decline in one month was one of the largest in investors' memory and resulted in panic withdrawals. This panic came after a decline of 5.69% two months earlier.

The reversal the next month and 35.81% rise over the next year was a handsome payoff to the investors who remained.

Insurance would have been far better alternative than withdrawing for those investors who felt compelled to act.

Crisis: October 1987

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-21.52%	\$78,480	\$78,480
<u>Withdraw Assets</u>			
After 30 days	0.00%	\$78,480	\$0
After 1 year	0.00%	\$78,480	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,515	
After 30 days	-8.19	✓ \$78,727	✓ \$78,727
After 1 year	24.97%	✓ \$98,389	✓ \$98,389
<u>Take No Action</u>			
After 30 days	-8.19%	\$72,052	\$72,052
After 1 year	24.97%	\$90,047	\$90,047

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
4.98%	3.85%	-2.20%	-21.52%	-8.19%	24.97%
Commentary					
The worst decline since the 1920's was followed by massive withdrawals after the market had suffered most of its losses. Losses continued in the month after, but only at one third the rate.					
Investors who withdrew in October did avoid the losses of November but failed to participate in the 24.97% recovery that followed.					
Investors with insurance would have avoided the November loss but participated in the recovery.					

Crisis: March 1988

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-3.02%	\$96,980	\$96,980
<u>Withdraw Assets</u>			
After 30 days	0.00%	✓ \$96,980	\$0
After 1 year	0.00%	\$96,980	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,815	
After 30 days	1.08	\$96,232	\$96,232
After 1 year	16.89%	\$112,484	\$112,484
<u>Take No Action</u>			
After 30 days	1.08%	\$98,027	✓ \$98,027
After 1 year	16.89%	✓ \$114,583	✓ \$114,583

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
7.38%	4.27%	4.70%	-3.02%	1.08%	16.89%
Commentary					
<p>With the memory of the October 1987 still very fresh, investors saw the 3.02% decline in March as another possible catastrophe and withdrew funds to avoid a repetition. This was a mistake since the decline was short-lived.</p> <p>Insurance would have been a better course of action but the best course would have been to take no action.</p>					

Crisis: August 1988

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-3.31%	\$96,690	\$96,690
Withdraw Assets			
After 30 days	0.00%	\$96,690	\$0
After 1 year	0.00%	\$96,690	\$0
Purchase Insurance (i-PRT)			
		-\$1,815	
After 30 days	4.24%	\$98,936	\$98,936
After 1 year	33.57%	\$132,150	\$132,150
Take No Action			
After 30 days	4.24%	✓ \$100,790	✓ \$100,790
After 1 year	33.57%	✓ \$134,626	✓ \$134,626

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
0.78%	4.64%	-0.40%	-3.31%	4.24%	33.57%
Commentary					
A second dip in the market within a year of October 1987 caused another panic and investors that withdrew regretted that action after the market moved ahead 33.57% in the next year.					
Other than relieving the panic at the time, insurance would not have been useful.					

Crisis: November 1988

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-1.42%	\$98,580	\$98,580
<u>Withdraw Assets</u>			
After 30 days	0.00%	\$98,580	\$0
After 1 year	0.00%	\$98,580	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,815	
After 30 days	1.81%	\$98,539	\$98,539
After 1 year	28.60%	\$126,719	\$126,719
<u>Take No Action</u>			
After 30 days	1.81%	✓ \$100,364	✓ \$100,364
After 1 year	28.60%	✓ \$129,066	✓ \$129,066

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-3.31%	4.24%	2.73%	-1.42%	1.81%	28.60%
Commentary					
November 1988 was one full year after the massive withdrawals of October 1987 and investors who had not withdrawn but were still concerned decided to take the opportunity to avoid further risk. These withdrawals were the last that were a direct effect of October 1987.					

Crisis: February 1989

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-2.49%	\$97,508	\$97,508
<u>Withdraw Assets</u>			
After 30 days	0.00%	\$97,508	\$0
After 1 year	0.00%	\$97,508	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,815	
After 30 days	2.33%	\$97,936	\$97,936
After 1 year	16.19%	\$113,792	\$113,792
<u>Take No Action</u>			
After 30 days	2.33%	✓ \$99,783	✓ \$99,783
After 1 year	16.19%	✓ \$115,938	✓ \$115,938

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-1.42%	1.81%	7.32%	-2.49%	2.33%	16.19%
Commentary					
After a robust rise of 7.32% in January, investors moved to take profits in February.					
The strong markets continued for the next year, indicating that the above average level of withdrawals were mistakes.					
Insurance that avoided withdrawals would have been useful and paid for itself.					

Crisis: August 1990

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-9.04%	\$90,961	\$90,961
<u>Withdraw Assets</u>			
After 30 days	0.00%	\$90,961	\$0
After 1 year	0.00%	\$90,961	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,665	
After 30 days	-4.87%	✓ \$90,223	✓ \$90,223
After 1 year	33.40%	✓ \$120,354	✓ \$120,354
<u>Take No Action</u>			
After 30 days	-4.87%	\$86,534	\$86,534
After 1 year	33.40%	\$115,433	\$115,433

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
9.75%	-0.67%	-0.32%	-9.04%	-4.87%	33.40%
Commentary					
Soft markets for two months followed by a large 9.04% decline set the stage for investor withdrawal panic. As is almost always the case, withdrawal is shown to be a mistake just one year later, evidenced by a 33.04% rise.					
Insurance in this case would have paid off handsomely.					

Crisis: September 2001

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-8.08%	\$91,925	\$91,925
<u>Withdraw Assets</u>			
After 30 days	0.00%	\$91,925	\$0
After 1 year	0.00%	✓ \$91,925	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,815	
After 30 days	1.91%	\$91,857	\$91,857
After 1 year	-21.97%	\$71,673	\$73,036
<u>Take No Action</u>			
After 30 days	1.91%	✓ \$93,678	✓ \$93,678
After 1 year	-21.97%	\$73,093	✓ \$73,093

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-2.43%	-0.98%	-6.26%	-8.08%	1.91%	-21.97%
Commentary					
The panic surrounding 9/11 drove down the market and prompted investors to withdraw their funds. Unlike the case with other massive withdrawals, the 9/11 actions were justified by the next year's market. Losses continued resulting with a shortfall of 21.97%.					
This is the only case among the major withdrawal events where there is a loss for following year. Insurance would not have been helpful.					

Crisis: July 2002

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-7.80%	\$92,205	\$92,205
<u>Withdraw Assets</u>			
After 30 days	0.00%	\$92,205	\$0
After 1 year	0.00%	\$92,205	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,815	
After 30 days	0.66%	\$91,312	\$91,312
After 1 year	9.92%	\$100,372	\$100,372
<u>Take No Action</u>			
After 30 days	0.66%	✓ \$92,810	✓ \$92,810
After 1 year	9.92%	✓ \$102,019	✓ \$102,019

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-6.06%	-0.74%	-7.12%	-7.80%	0.66%	9.92%
Commentary					
Four consecutive months of S&P 500 declines led to one of the 10 greatest withdrawals. The recovery after a year was 9.92%, which is among the lowest of the greatest withdrawal events. As is the case in 9 of the top 10 events, withdrawal at that time was also a mistake.					
Insurance provided a better alternative to withdrawal, but the best option would have been to take no action.					

Crisis: October 2008

	% Change	Client Valuation	Amount Held at Institution
Value before event		\$100,000	\$100,000
After event	-16.79%	\$83,205	\$83,205
<u>Withdraw Assets</u>			
After 30 days	0.00%	✓ \$83,205	\$0
After 1 year	0.00%	\$83,205	\$0
<u>Purchase Insurance (i-PRT)</u>			
		-\$1,515	
After 30 days	-7.18%	\$82,896	✓ \$82,896
After 1 year	18.29%	✓ \$98,060	✓ \$98,060
<u>Take No Action</u>			
After 30 days	-7.18%	\$77,235	\$77,235
After 1 year	18.29%	\$91,363	\$91,363

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-0.84%	1.45%	-8.91%	-16.79%	-7.18%	18.29%
Commentary					
News reports of the collapse of the world's financial system led a market meltdown and drove investors to withdrawal. Despite the dire reports, the market rebounded with an 18.29% gain in the succeeding 12 months.					
Insurance would have been very valuable, producing nearly 7% higher returns than taking no action.					