WealthDefender ™

Client Use Case

User Story

John Smith was an early employee at Google and is about to sell the majority of his shares. His remaining shares cannot be sold for 10 years after the IPO, so the earliest he can sell them is August 2014. He and his wife Jane are planning for retirement, with both wanting to retire by the age of 50. They both were recently bequeathed an inheritance of approximately $1.8 million worth of Intel Corp. shares, which was a key factor in their decision to retire early.

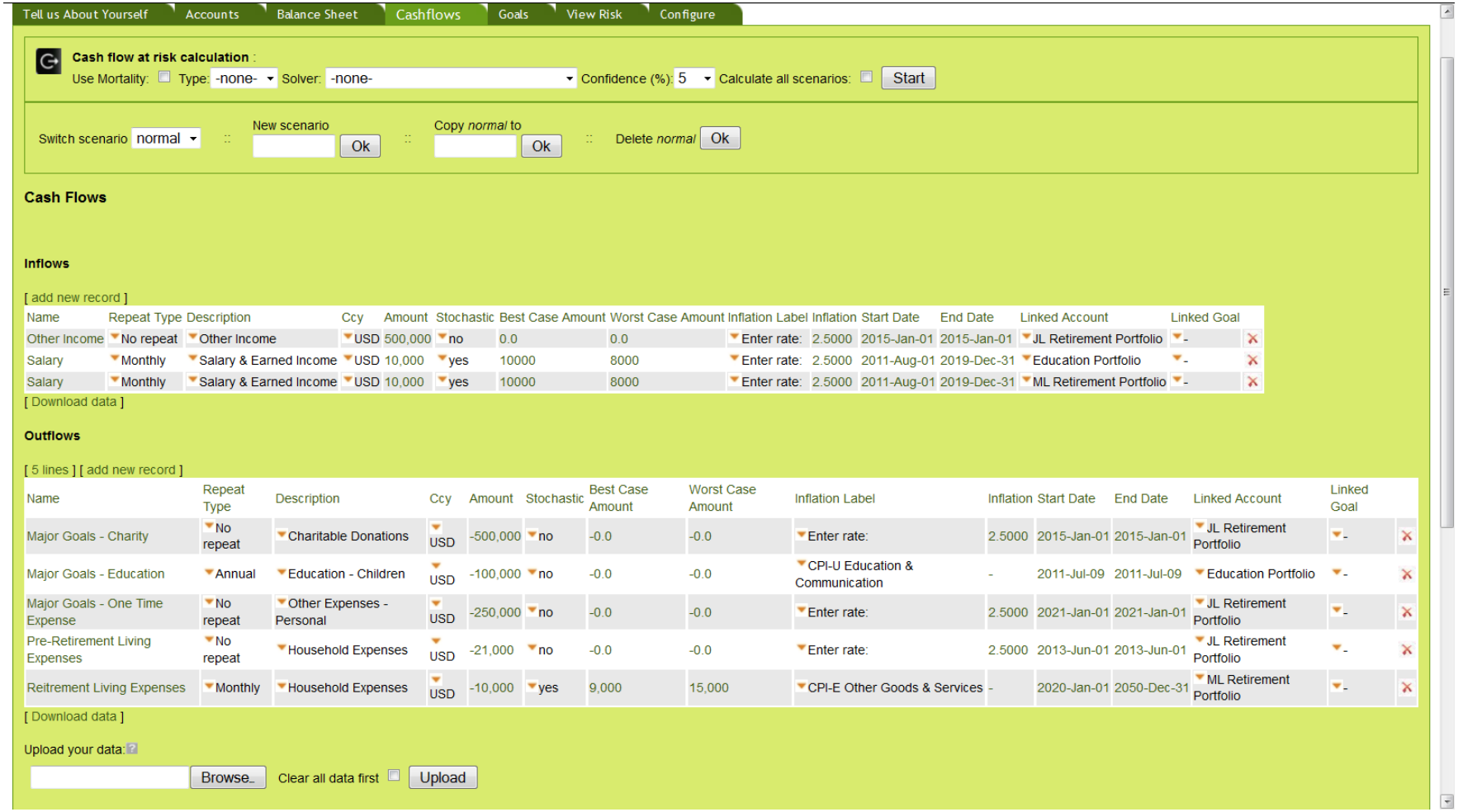
Post-retirement expenses include travel and their plans to fully cover their two daughter's college expenses, both of whom have not started yet. In addition, they would like to buy a condo in Lake Tahoe after their youngest daughter begins college. They will also need $21,000 in the future for unknown expenses. The Smiths would like to donate charitably across multiple non-profit organizations, and will conduct due diligence themselves to determine ideal recipients. In all likelihood they will use the sale of their remaining Google stock to make this donation.

User Story

Propose the investment vehicles (Products, Individual Security etc.) based on optimization which meets -

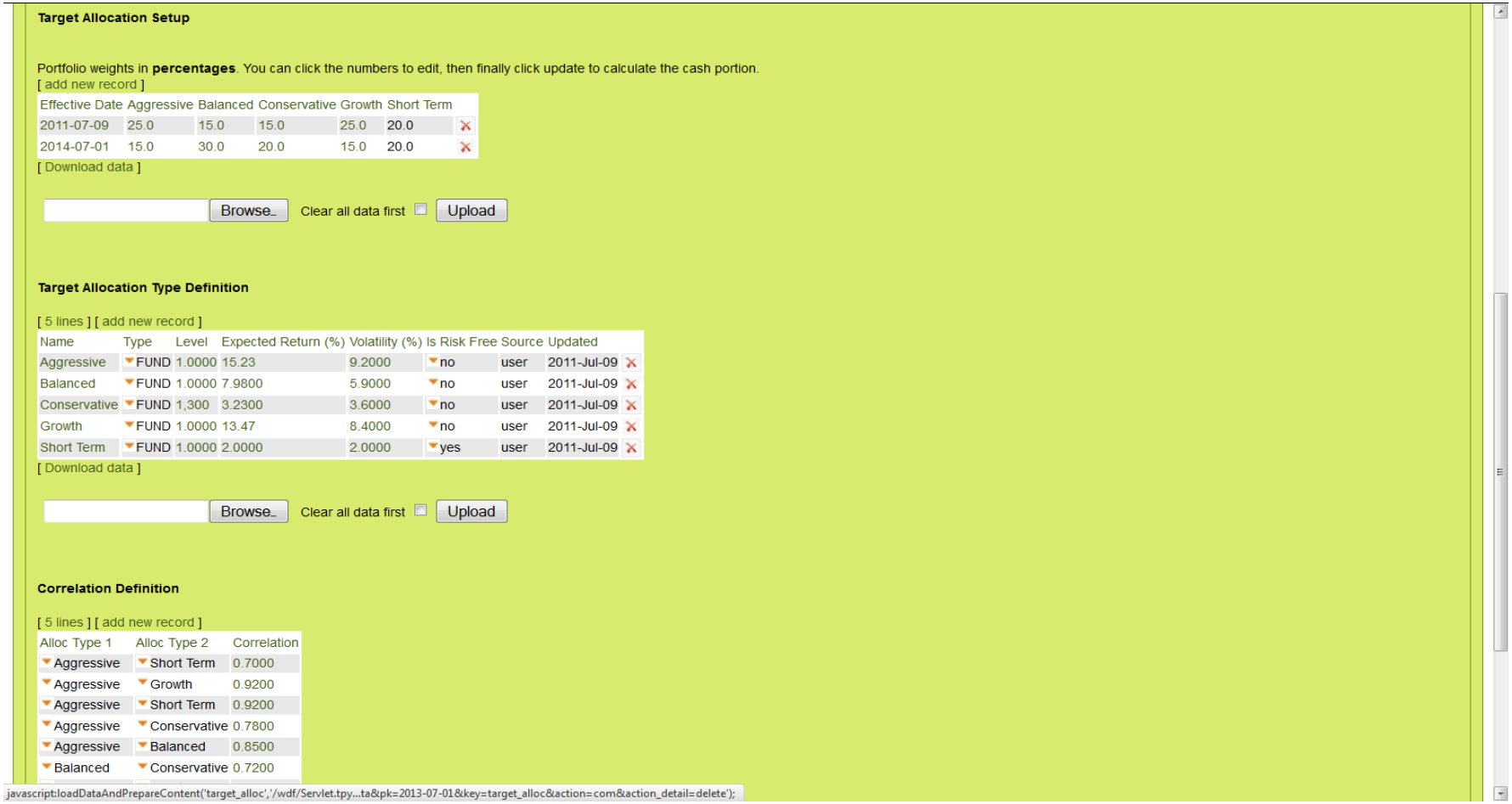
- Selected Target Asset Allocation
- Propose products from list of available products within each asset class
- Optimize as per user's selected objectives and priority :
    - Minimize Tax Consequences (Current Holding Tax Lots would be provided)
- Optimize within user specified asset class constraints
- Optimize within user specified investment constraints

Goal and Cash Flow Modeling



With WealthDefender ™ the user can model goals & cash flows stochastically and can use different inflation data sets per cash flow for more precise planning.

Target Allocations and Investment Modeling



Target Allocation Setup

Portfolio weights in **percentages**. You can click the numbers to edit, then finally click update to calculate the cash portion.
[add new record]

Effective Date	Aggressive	Balanced	Conservative	Growth	Short Term
2011-07-09	25.0	15.0	15.0	25.0	20.0
2014-07-01	15.0	30.0	20.0	15.0	20.0

[Download data]

Browse... Clear all data first Upload

Target Allocation Type Definition

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Name	Type	Level	Expected Return (%)	Volatility (%)	Is Risk Free	Source	Updated
Aggressive	FUND	1.0000	15.23	9.2000	no	user	2011-Jul-09
Balanced	FUND	1.0000	7.9800	5.9000	no	user	2011-Jul-09
Conservative	FUND	1,300	3.2300	3.6000	no	user	2011-Jul-09
Growth	FUND	1.0000	13.47	8.4000	no	user	2011-Jul-09
Short Term	FUND	1.0000	2.0000	2.0000	yes	user	2011-Jul-09

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Correlation Definition

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Alloc Type 1	Alloc Type 2	Correlation
Aggressive	Short Term	0.7000
Aggressive	Growth	0.9200
Aggressive	Short Term	0.9200
Aggressive	Conservative	0.7800
Aggressive	Balanced	0.8500
Balanced	Conservative	0.7200

javascript:loadDataAndPrepareContent('target_alloc','/wdf/Servlet.tpy...ta&pk=2013-07-01&key=target_alloc&action=com&action_detail=delete');

With WealthDefender ™ the user can set allocations, capital markets projections, and correlations based on age range so that simulated wealth evolution and plan optimization results are more accurate.

Portfolio and Plan Optimization

Cash Flow at Risk report

Probability of Failure Report | Change Sensitivity Parameters

The possibility of you *not* reaching your goal (probability of failure). You don't reach your goal, when at the *evaluation date* your account balance is negative.

Table on the right shows different account balance possibilities (5%, 10%, 20% worst case, median and best case accordingly).

Scenario	Analysis	Prob. of Failure	Optimum	Change	Expected Legacy Value	Expected Shortfall
normal	all goals	0.0	-	-	3,670,010	0.0

[Download data]

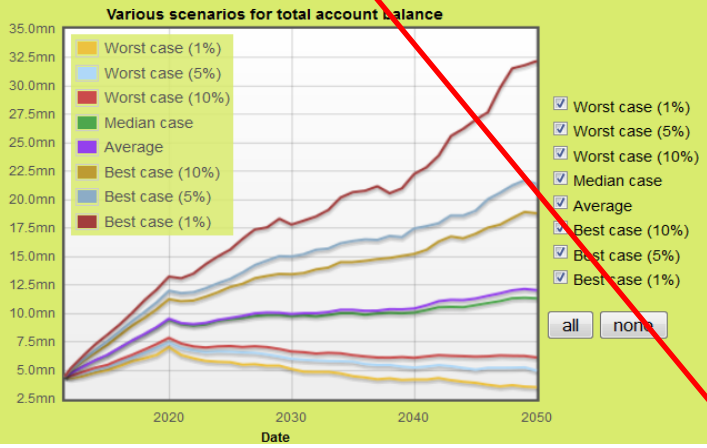
Scenario name	Worst 5%	Worst 10%	Worst 20%	Median	Average	Best 20%	Best 10%	Best 5%
all goals	4,992,570	6,155,650	7,676,160	11,348,500	12,068,100	15,915,700	18,811,500	21,370,000

[Download data]

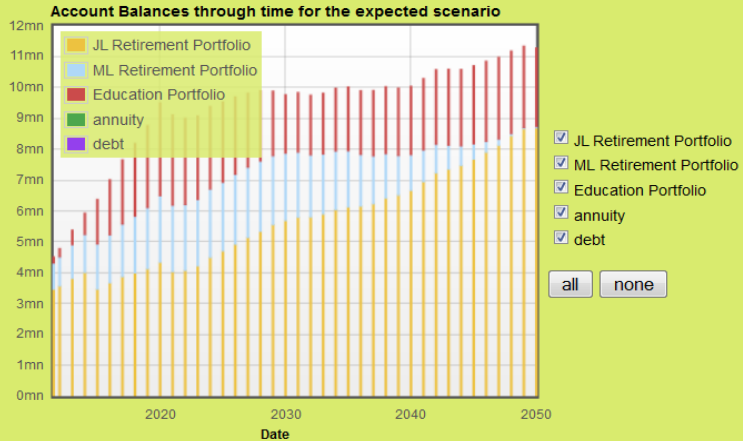
histogram

best case, worst case

Time evaluation of your total account balance for worst case and best case scenarios.

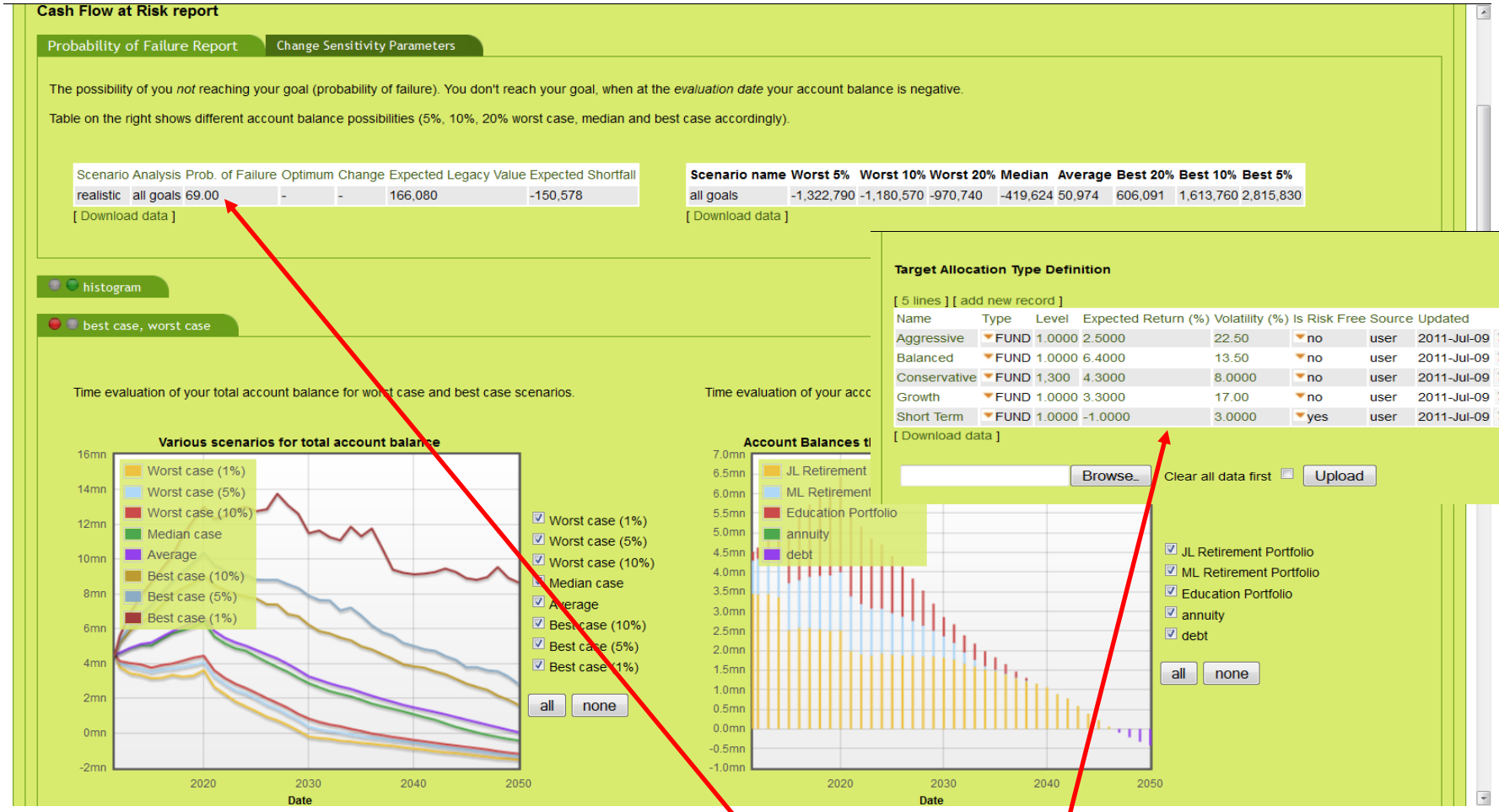


Time evaluation of your account balances (different accounts), taking the median scenario.



Results show a high probability of meeting goals – but next the user wants to determine whether this is still the case under different market assumptions and conditions.

Results With Historical Capital Markets Behavior



The user enters capital markets assumptions that reflect actual historical behavior leading to a vastly different result a much lower probability of goal success.

Optimized Portfolio with Variable Annuity

Cash Flow at Risk report

Probability of Failure Report | Change Sensitivity Parameters

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Scenario	Analysis	Prob. of Failure	Optimum	Change	Expected Legacy Value	Expected Shortfall
realistic with VA	all goals	7.2000	-	-	4,012,590	-32,956

[Download data]

Scenario name	Worst 5%	Worst 10%	Worst 20%	Median	Average	Best 20%	Best 10%	Best 5%
all goals	-214,075	316,574	1,336,410	3,699,940	4,625,790	6,936,100	9,502,320	12,051,000

[Download data]

histogram

best case, worst case

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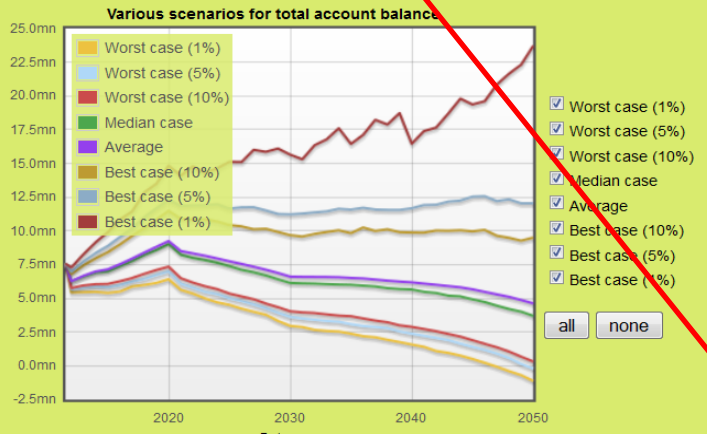
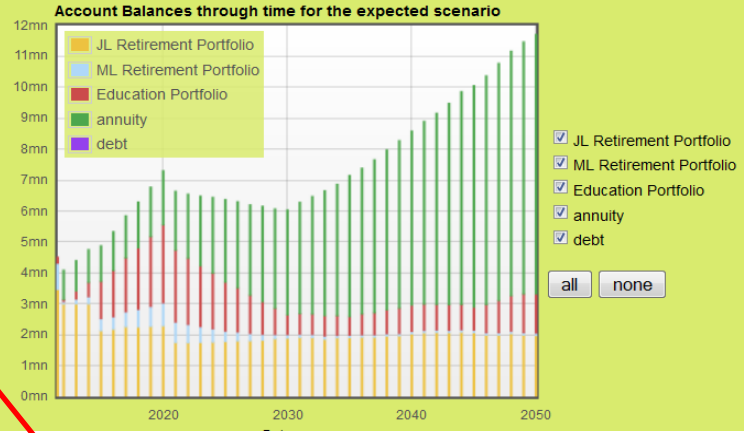


Time evaluation of your account balances (different accounts), taking the median scenario.



Introducing a $1 million Jackson variable annuity with a guaranteed lifetime income benefit with step up and lock ins brings the probably of success back up.

The Variable Annuity Input Screen

General							
	purchase price	1,000,000					
	start date	1 Jan 2011					
	accumulation end	31 Dec 2050					
	name	Jackson VA					
	contribution since	0					
	investment gain since	0					
	current income base	1,000,000					
Tax Policy							
	income tax rate	10%					
	life expectancy	80.00					
	allowed withdrawal	10%					
	IRS min age	59.5					
	IRS penalty rate	10%					
	Contract age	0	1	2	3	4	5
	Surrender rate	8%	8%	7%	6%	5%	0%
Guaranteed Income Base							
	step up	Y	lock in	Y	eval freq	4	
	step up rate	5.00%	lock in age limit	85	apply freq	1	
	step up age limit	85	lock in time limit	7	cap	8.00%	
	step up time limit	7	lock in can reset	Y			
	step up can reset	N	initial lock in	0.00%			
Subaccounts							
	weight			100%			
	linked index			SP500			
	cap			7%			
	positive floor			1%			
	floor						
Distribution							
	select policy	N	Y	N	N	N	
	policy type	Fixed Period	GLIB	Fixed Amount	Inflation Protecte	Lump Sum	
	pay amount	200,000		50,000	40,000		
	period length	7					
	start date	28 Apr 2029	1 Jan 2020	28 Apr 2029	28 Apr 2029	28 Apr 2029	
	inflation type				Housing		
	payments per year	12	12	12	12	0	
	age group enhancement		Y				
Fee							
	name	mortality & expense fee	investment fee	handling fee			
	based on	Account Value	Account Value	Account Value			
	rate	0.40%	0.00%	0.90%			
	start date	25 Jun 2011	25 Jun 2011	25 Jun 2011			
	end date	28 Apr 2100	28 Apr 2100	28 Apr 2100			
	pay frequency	12	12	12			
	reset frequency	1	1	1			
Other							
	age band age	0	55	65	75		
	age band income ratio	0%	4%	5%	6%		

Stress Test Results

Cash Flow at Risk report

Probability of Failure Report | Change Sensitivity Parameters

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Scenario	Analysis	Prob. of Failure	Optimum	Change	Expected Legacy Value	Expected Shortfall
realistic with VA stressed	all goals	18.60	-	-	2,725,790	-131,733

[Download data]

Scenario name	Worst 5%	Worst 10%	Worst 20%	Median	Average	Best 20%	Best 10%	Best 5%
all goals	-1,148,900	-670,648	133,272	1,864,700	3,015,240	4,524,260	6,883,710	9,435,910

[Download data]

histogram

best case, worst case

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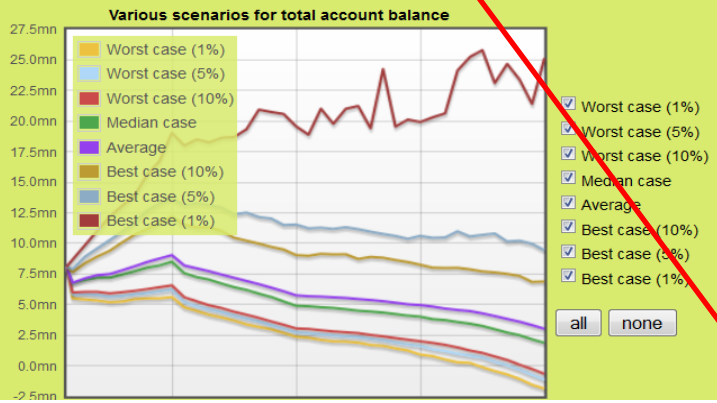

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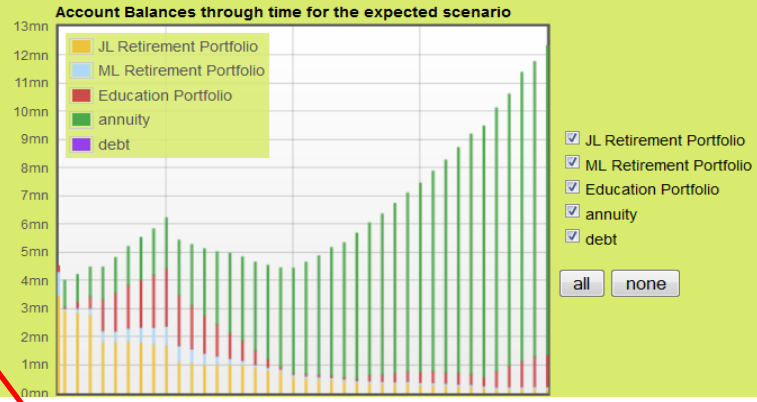

In a *stressed market* with higher income volatility, sustained lower returns, higher asset volatility, and more correlation among asset classes the probability of success drops but not past 80%.

Rebalancing

Cash Flow at Risk report

Probability of Failure Report | Change Sensitivity Parameters

The possibility of you *not* reaching your goal (probability of failure). You don't reach your goal, when at the *evaluation date* your account balance is negative.

Table on the right shows different account balance possibilities (5%, 10%, 20% worst case, median and best case accordingly).

Scenario	Analysis	Prob. of Failure	Optimum	Change	Expected Legacy Value	Expected Shortfall
realistic with VA stressed optimized	all goals	13.40	-	-	3,869,260	-81,824

[Download data]

Scenario name	Worst 5%	Worst 10%	Worst 20%	Median	Average	Best 20%	Best 10%	Best 5%
all goals	-790,485	-260,448	694,609	2,834,900	4,402,380	6,673,160	9,827,400	13,811,500

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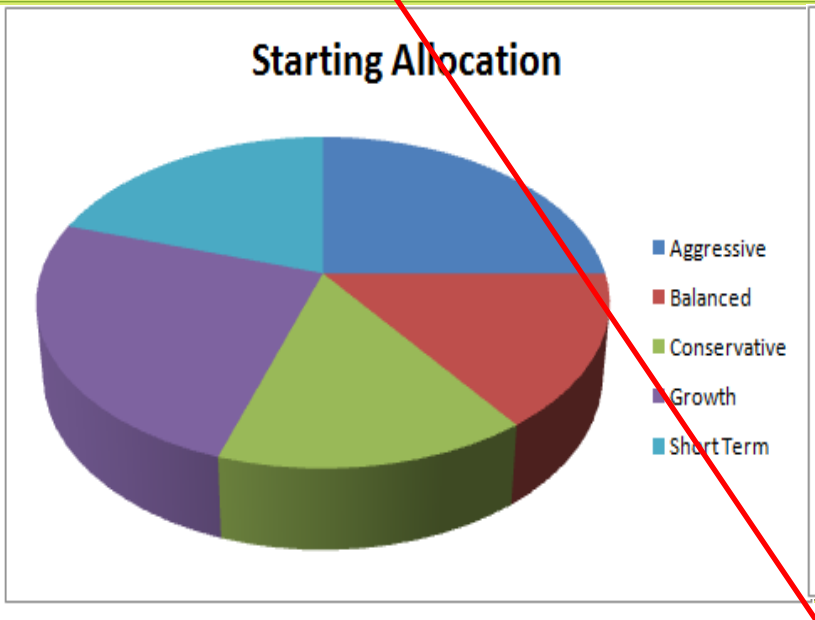
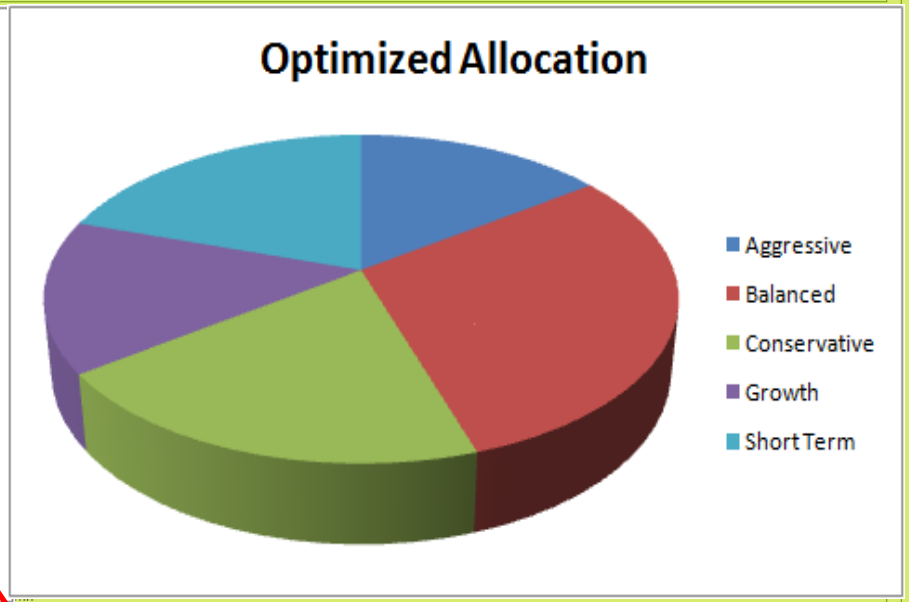
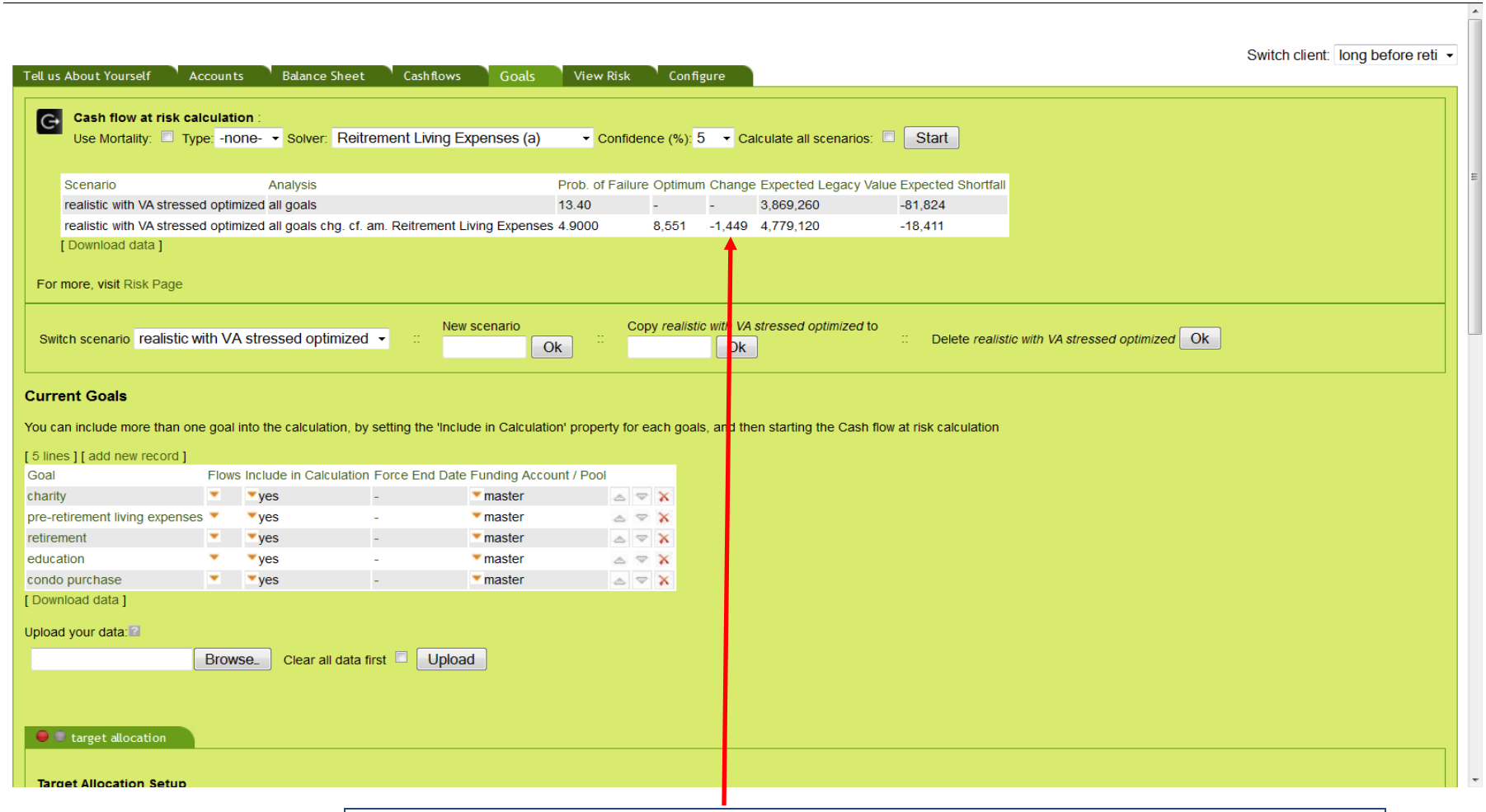




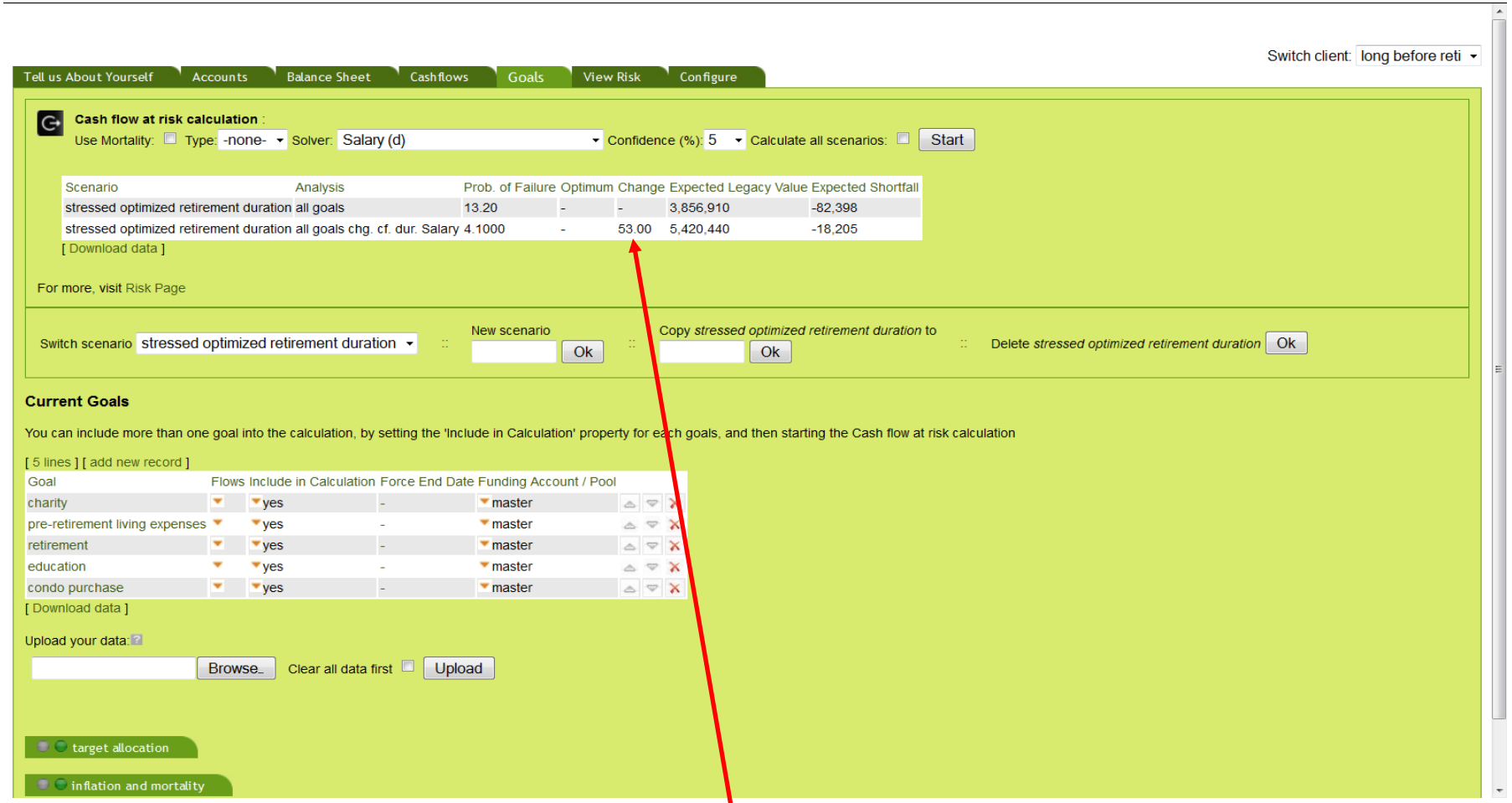
The user can ask WealthDefender ™ to run its optimization algorithms to rebalance investments, leading to a higher probability of goal success even under stressed markets.

Plan Optimization – Retirement Expenses



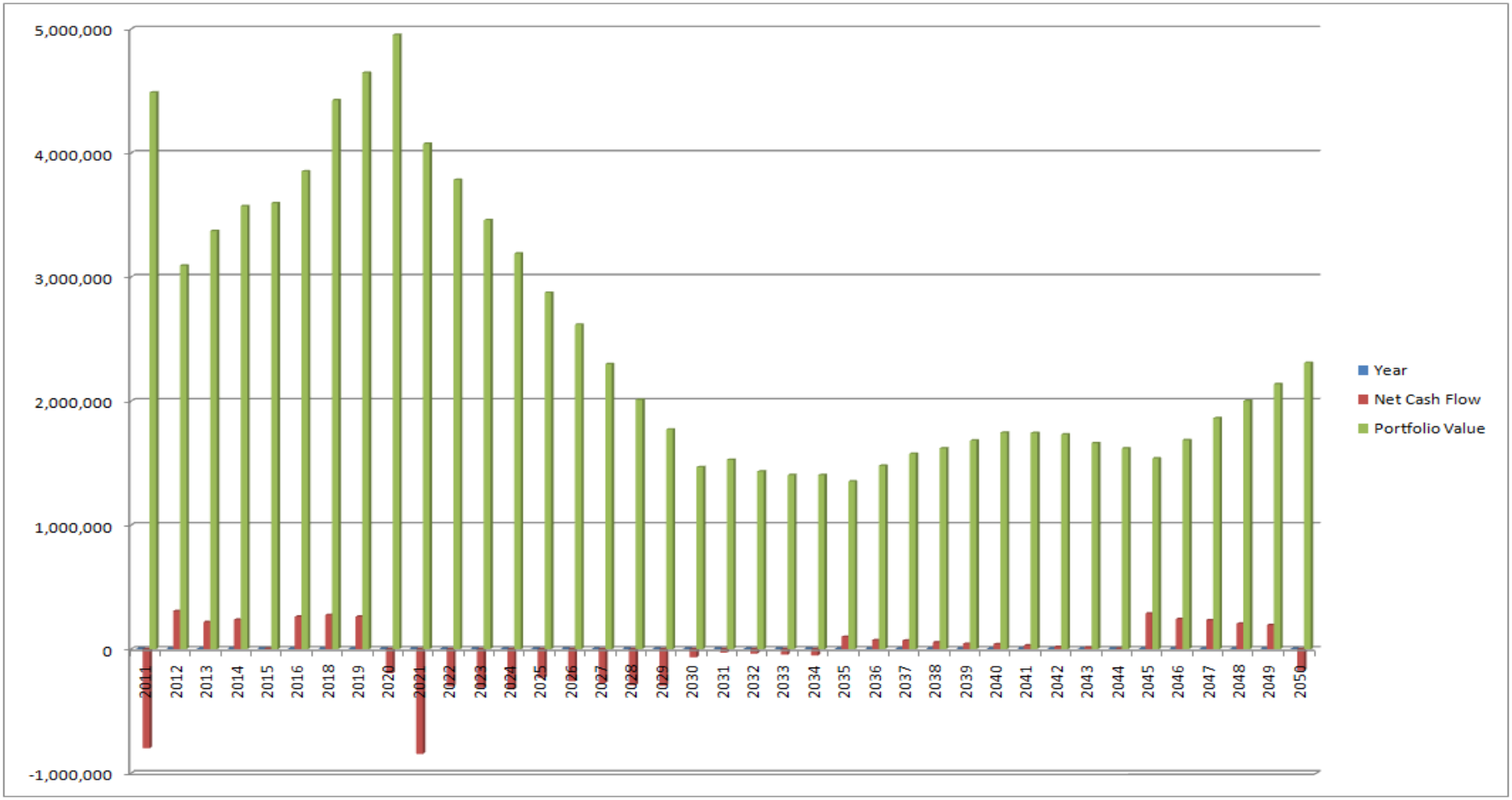
The user can ask WealthDefender ™ to run its optimization algorithms to restructure cash flow amounts and timing – in this case, reducing planned monthly retirement expenses by $1,500 (with the variable annuity) brings probability of success to 95% even under stressed market conditions.

Plan Optimization – Retirement Timing



Alternatively, the user can see that putting off retirement by nearly 4.5 years (and keeping retirement expenses as planned) will bring probability of goal success up to 95% even under stressed markets.

Simulated Cash Flow and Portfolio Evolution



The user can see simulated net cash flows and portfolio value year by year.