É comum pensar que com esse tipo de portfólio estamos diversificados, já que na maior parte do tempo esses ativos têm correlação diferente de 1. No entanto, em momentos de estresse financeiro, todos esses ativos caem ao mesmo tempo, e o que parecia diversificado acaba não gerando proteção alguma ao portfólio. Alguns desses ativos, como o ouro, são vistos como Hedge para ações, mas nem sempre isso é verdade, como podemos ver no estudo sobre correlação condicional.

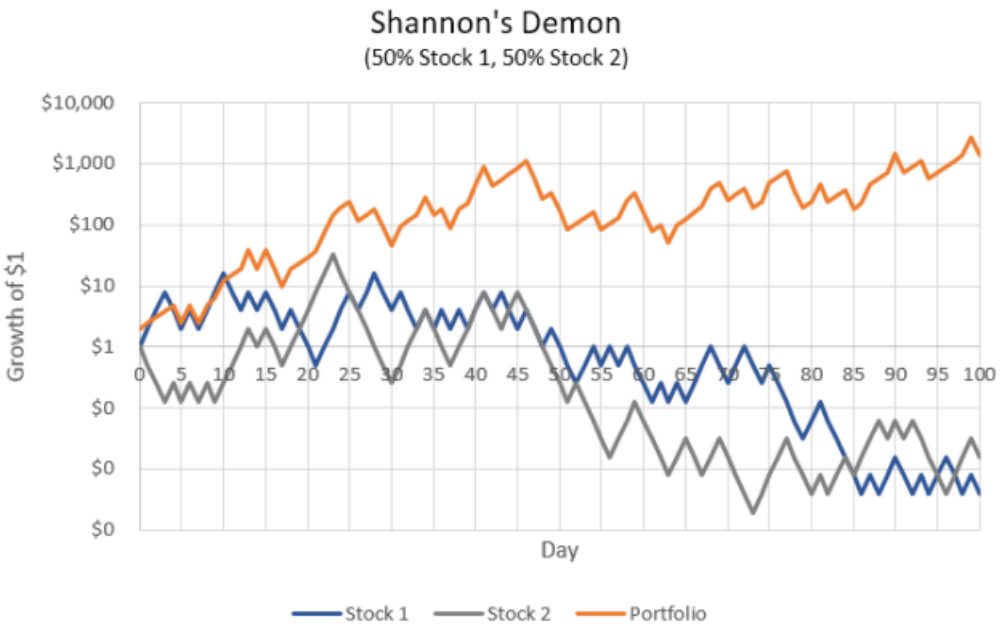
https://github.com/BernardoRMendes/Projeto/blob/main/Hedge.ipynb

Uma possível solução seria destinar uma parcela do portfólio à compra de Volatilidade, gerando retornos quando todas as outras classes de ativos performam mal. A interação entre Long Equities e Long Vol permite construir um portfólio mais robusto (tanto em CAGR quanto em métricas de risco/retorno) do que as partes individualmente. Além disso, estratégias compradas em Volatilidade possuem propriedades estatísticas que agregam valor a um portfólio de ações, como assimetria positiva de retornos, conforme mostram os estudos abaixo:

https://github.com/BernardoRMendes/Projeto/blob/main/LongVolSPX.ipynb

https://github.com/BernardoRMendes/Projeto/blob/main/VaR_Modificado.ipynb

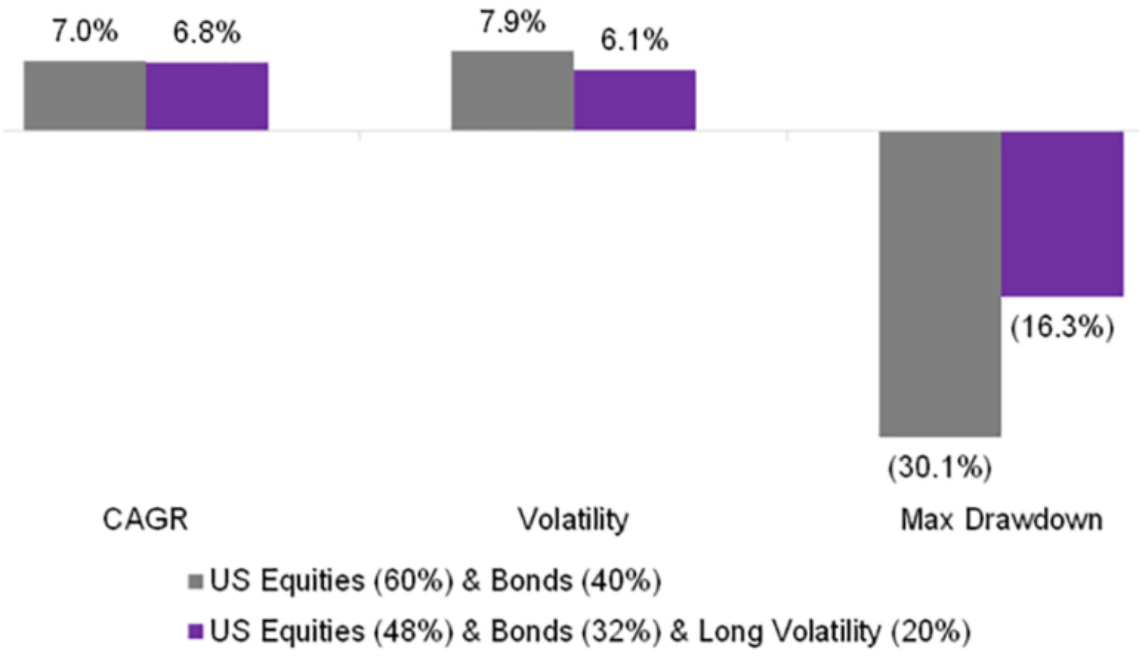
No clássico exemplo de “Shannon’s Demon”, observamos dois ativos perdedores ao longo do tempo, mas a interação entre eles (via rebalanceamento) gera um portfólio com retorno positivo.



Alguns exemplos de Portfólios com alocações compradas em Volatilidade:

1)

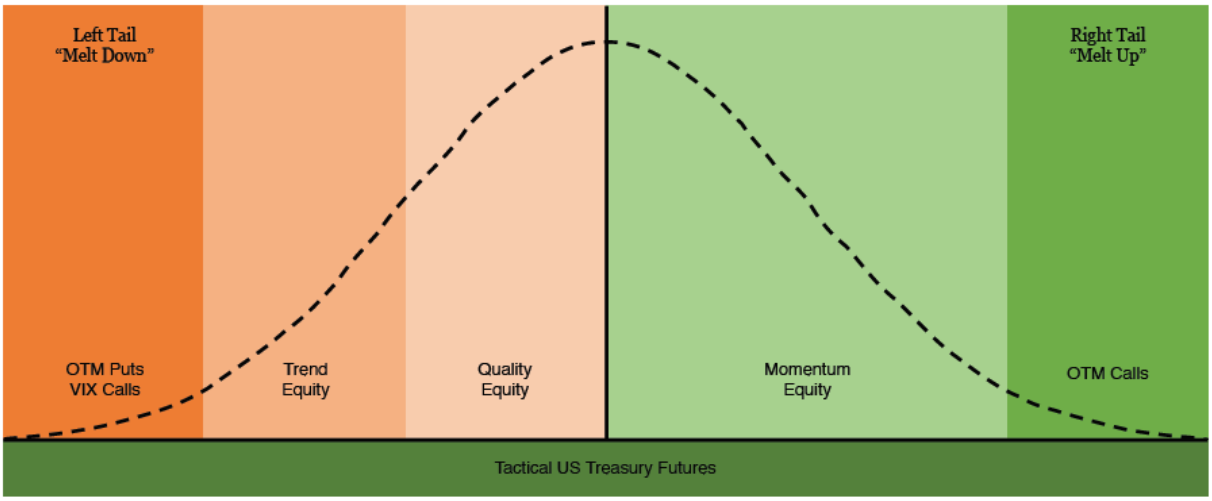
https://blogs.cfainstitute.org/investor/2020/08/03/creating-anti-fragile-portfolios/



2) Daedalus Portfolio

https://www.thinknewfound.com/liquidity-cascades

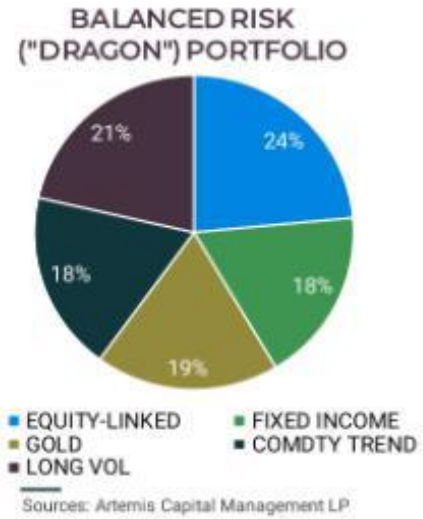
EQUITY MARKET RETURN REGIME AND CORRESPONDING STRATEGIES

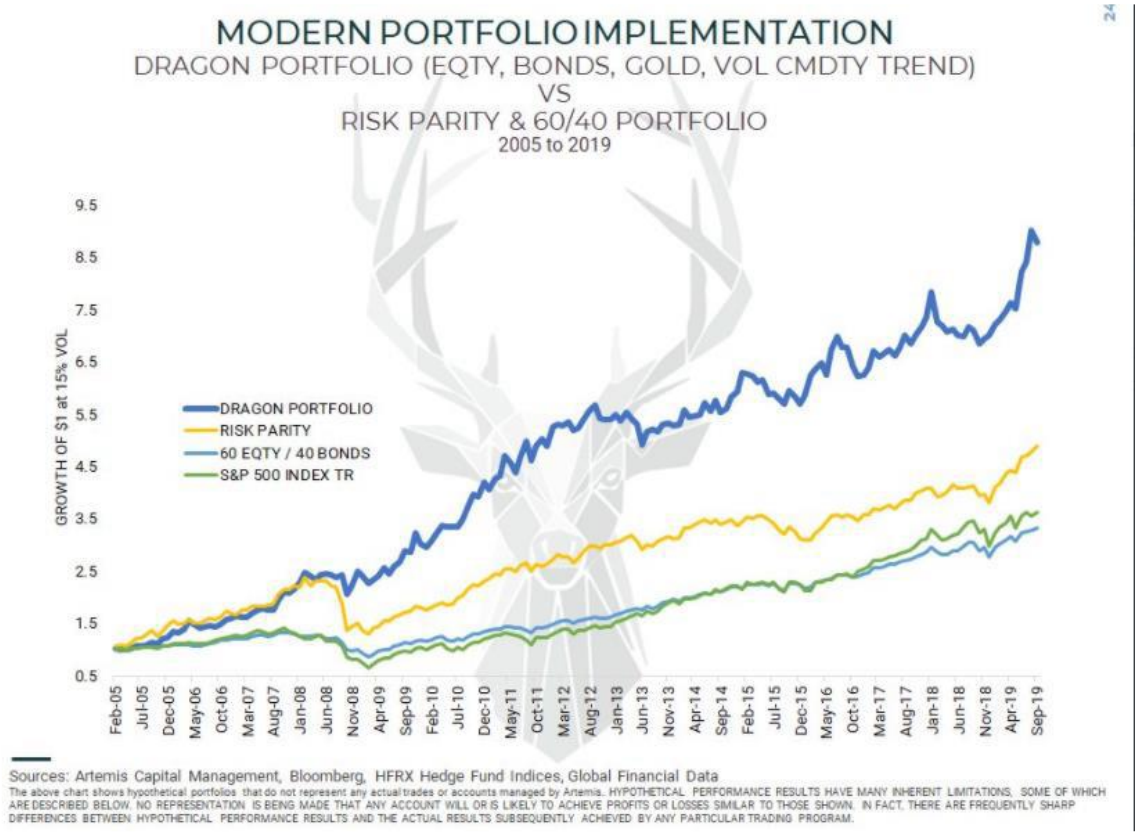


	S&P 500	Trend Equity	Momentum Equity	OTM SPX Calls	Quality Equity	OTM SPX Puts	Tactical UST Futures	Daedalus Portfolio
2006	15.91%	15.91%	10.58%	2.48%	11.03%	-3.00%	-0.89%	10.60%
2007	5.08%	5.08%	17.63%	-1.21%	6.57%	-1.24%	4.95%	11.29%
2008	-36.81%	-14.16%	-40.98%	-5.03%	-28.00%	11.08%	12.48%	-8.62%
2009	26.37%	23.76%	17.46%	3.27%	26.27%	-3.47%	-2.93%	15.23%
2010	15.06%	12.74%	18.03%	-0.03%	17.37%	-3.15%	7.47%	19.33%
2011	1.89%	-2.54%	5.93%	-1.79%	11.06%	-1.73%	10.50%	10.67%
2012	15.99%	15.46%	14.92%	-1.09%	13.64%	-3.77%	2.19%	10.64%
2013	32.31%	32.31%	34.39%	11.28%	33.09%	-4.77%	-2.97%	34.44%
2014	13.46%	13.46%	14.61%	2.93%	15.94%	-3.35%	4.97%	18.15%
2015	1.25%	-2.54%	8.93%	-3.83%	6.59%	-2.99%	1.18%	-0.62%
2016	12.00%	8.42%	5.00%	1.11%	7.43%	-3.82%	1.13%	6.07%
2017	21.70%	21.70%	37.50%	8.02%	25.94%	-4.41%	0.16%	29.88%
2018	-4.56%	-2.89%	-1.66%	-0.35%	0.77%	1.61%	-0.33%	-0.91%
2019	31.22%	20.35%	26.29%	7.87%	33.96%	-6.14%	3.33%	30.51%
2020*	2.52%	-11.02%	12.45%	8.95%	16.84%	2.37%	4.40%	27.06%
Ann. Return	9.52%	7.74%	11.73%	2.03%	12.76%	-0.82%	2.73%	13.68%
Ann. Volatility	15.16%	10.92%	16.08%	4.76%	13.25%	1.82%	4.00%	11.97%

3) Dragon Portfolio

https://artemiscm.docsend.com/view/taygkbn





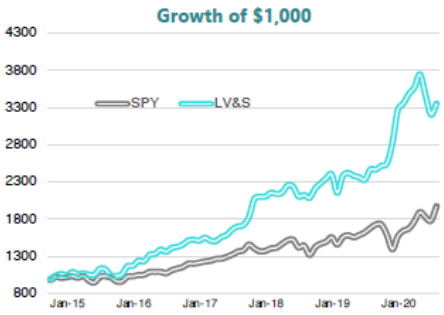
4) Mutiny Fund

https://mutinyfund.com/

Long Volatility & Stocks Series

The Mutiny Fund Long Volatility & Stocks Series combines the Mutiny Fund Long Volatility Series with 100% Exposure to S&P Futures.
The following tables are Hypothetical Composite Performance, net of all fees, please see full disclaimer on last page

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
'20	2.06%	1.22%	10.84%	16.03%	2.60%	3.88%	2.48%	4.92%	-7.47%	-7.55%	4.60%	1.93%	38.66%
'19	6.07%	3.10%	2.99%	2.31%	-10.38%	10.56%	1.62%	-1.55%	-0.76%	-1.60%	6.06%	-0.10%	18.22%
'18	6.21%	13.61%	1.09%	0.30%	2.37%	-0.76%	0.76%	4.59%	-0.64%	-6.08%	1.11%	-1.94%	21.25%
'17	2.02%	3.58%	0.69%	-0.90%	2.78%	-2.56%	-0.50%	3.63%	1.89%	4.80%	2.29%	1.11%	20.56%
'16	-0.62%	2.48%	10.16%	0.34%	5.95%	-0.75%	7.19%	0.89%	4.40%	-2.30%	4.01%	1.01%	37.18%
'15	-0.58%	4.70%	1.94%	-1.49%	3.89%	-2.27%	0.78%	-1.62%	-0.31%	8.01%	-0.89%	-7.35%	4.05%



*View source info, page 31

	Stocks & Long Vol	Stocks Alone
Total Rate of Return	242%	104.63%
Compound RoR	22.75%	12.68%
Annzd Std Dev	15.51%	14.80%
Worst DD	-14.46%	-19.43%
Sharpe (rfr =0)	1.47	0.86
MAR (Ret/DD)	1.57	0.65

Aug '20 onwards are actual Mutiny Fund returns. Prior moths are calculated by adding an equal weighting of the SPDR S&P 500 ETF ($SPY) monthly total return, subtracting -2.5% per year to reflect friction in replicating this exposure via e-mini S&P 500 futures, and then deducting 20% of the net new outperformance over the 60/40 benchmark as represented by the Vanguard Balanced Index Inv mutual fund (VBINX).