

## Leveraged ETF Price Drops and Estimated Required Gains For Recovery

After a leveraged ETF Drops, the amount it must gain to return to its starting price.

$$\text{GainL} = (1/(1-\text{Drop})) - 1$$

For a 60% Drop, the gain required is 150%

For a 3x leveraged etf, the required gain for the underlying(U) index can be calculated **ASSUMING A LINEAR RECOVERY.**

$$\text{GainU} = (1/L) \times (\text{Drop}/(1-\text{Drop}))$$

For a 60% drop in a 3xETF, GainU is 62%

For a 2x leveraged etf, the required gain for the underlying(U) index can be calculated **ASSUMING A LINEAR RECOVERY.**

$$\text{GainU} = (1/L) \times (\text{Drop}/(1-\text{Drop}))$$

For a 30% drop in a 2xETF, GainU is 21%

Est. Initial Underlying Index Drop For 3x Case	Leveraged Price Drop %	Leveraged GainL to Recover %	Required Linear Gain of Underlying Index for 3X ETF to Recover	Reequired Linear Gain of Underlying Index for 2X ETF to Recover
1.7%	5%	5%	1.8%	2.6%
3.3%	10%	11%	3.7%	5.6%
5.0%	15%	18%	5.9%	8.8%
6.7%	20%	25%	8.3%	12.5%
8.3%	25%	33%	11.1%	16.7%
10.0%	30%	43%	14.3%	21.4%
11.7%	35%	54%	18%	27%
13.3%	40%	67%	22%	33%
15.0%	45%	82%	27%	41%
16.7%	50%	100%	33%	50%
20.0%	60%	150%	50%	75%
21.7%	65%	186%	62%	93%
23.3%	70%	233%	78%	117%
26.7%	80%	400%	133%	200%
30.0%	90%	900%	300%	450%
33.0%	99%	9900%	3300%	4950%
			for L= 3	for L= 2