HKEX 香港交易所

May 2019

COMPOUNDING EFFECTS OF LEVERAGED AND INVERSE PRODUCTS

(I) PRICE PERFORMANCE OF LEVERAGED PRODUCTS

Leveraged Products seek to provide two times (2x) the **daily** performance of their benchmark, before fees and expenses. When held for periods longer than one trading day, Leveraged Products' performance is likely to deviate from two times the benchmark's cumulative performance because of the compounding effects of daily returns.

Generally:

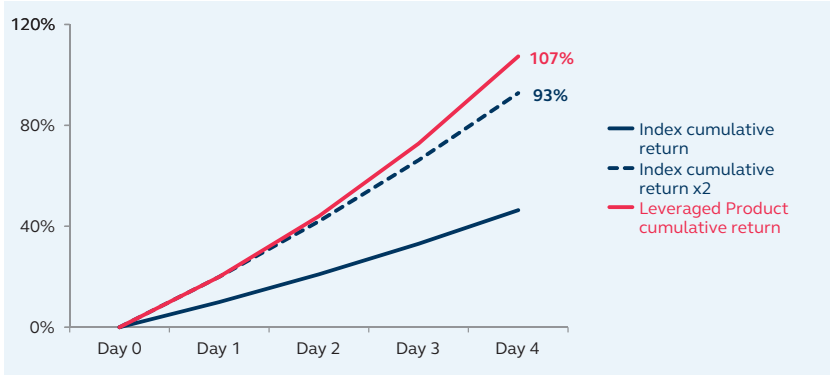
- In continuous trending markets, Leveraged Products tend to perform **better** than two times the benchmarks' cumulative performance; and
- In volatile markets, Leveraged Products tend to perform **worse** than two times the benchmarks' cumulative performance.

ILLUSTRATION[1]

Scenario 1: Continuous upward trend

When held for periods longer than one trading day, a Leveraged Product's performance tends to be **better** than two times the benchmark's cumulative performance.

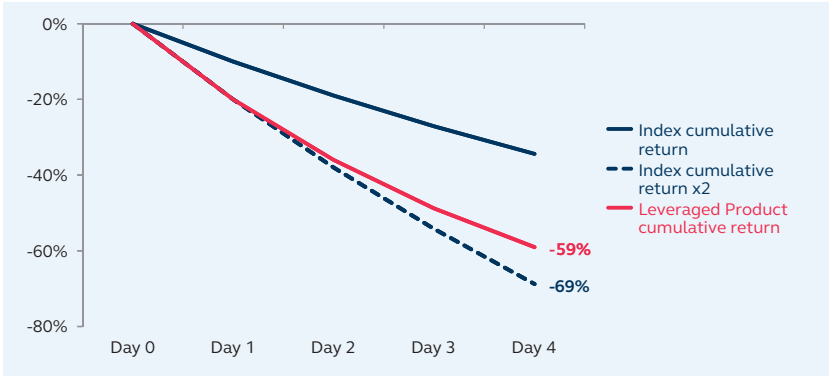
Day	1	2	3	4
Index:				
Daily return	10%	10%	10%	10%
Cumulative return	10%	21%	33%	46%
Cumulative return x2	20%	42%	66%	93%
Leveraged Product (2x):				
Daily return	20%	20%	20%	20%
Cumulative return	20%	44%	73%	107%



Scenario 2: Continuous downward trend

When held for periods longer than one trading day, a Leveraged Product's performance tends to be **better** than two times the benchmark's cumulative performance.

Day	1	2	3	4
Index:				
Daily return	-10%	-10%	-10%	-10%
Cumulative return	-10%	-19%	-27%	-34%
Cumulative return x2	-20%	-38%	-54%	-69%
Leveraged Product (2x):				
Daily return	-20%	-20%	-20%	-20%
Cumulative return	-20%	-36%	-49%	-59%

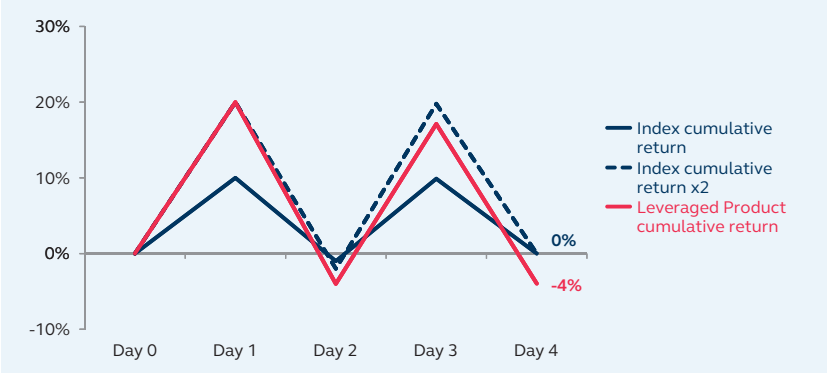


[1] The illustrations use extreme benchmark movement to demonstrate the effects of compounding over time. The illustrations do not include fees and expenses.

Scenario 3: Volatile but flat market

When held for periods longer than one trading day, a Leveraged Product's performance tends to be **worse** than two times the benchmark's cumulative performance.

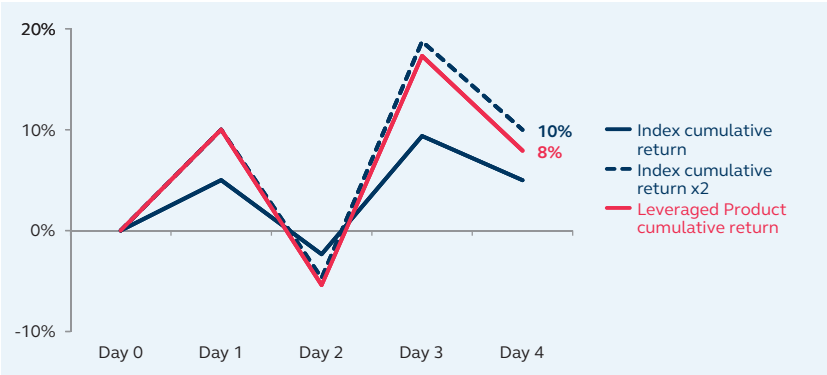
Day	1	2	3	4
Index:				
Daily return	10%	-10%	11%	-9%
Cumulative return	10%	-1%	10%	0%
Cumulative return x2	20%	-2%	20%	0%
Leveraged Product (2x):				
Daily return	20%	-20%	22%	-18%
Cumulative return	20%	-4%	17%	-4%



Scenario 4: Volatile upward trend

When held for periods longer than one trading day, a Leveraged Product's performance tends to be **worse** than two times the benchmark's cumulative performance.

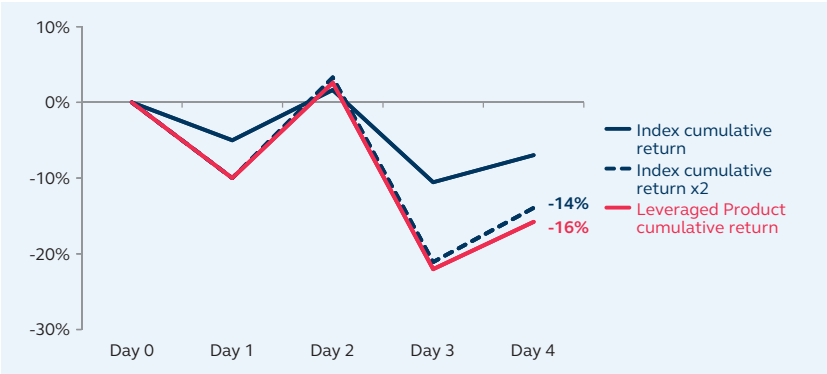
Day	1	2	3	4
Index:				
Daily return	5%	-7%	12%	-4%
Cumulative return	5%	-2.4%	9%	5%
Cumulative return x2	10%	-4.7%	19%	10%
Leveraged Product (2x):				
Daily return	10%	-14%	24%	-8%
Cumulative return	10%	-5.4%	17%	8%



Scenario 5: Volatile downward trend

When held for periods longer than one trading day, a Leveraged Product's performance tends to be **worse** than two times the benchmark's cumulative performance.

Day	1	2	3	4
Index:				
Daily return	-5%	7%	-12%	4%
Cumulative return	-5%	1.7%	-11%	-7%
Cumulative return x2	-10%	3.3%	-21%	-14%
Leveraged Product (2x):				
Daily return	-10%	14%	-24%	8%
Cumulative return	-10%	2.6%	-22%	-16%



(II) PRICE PERFORMANCE OF INVERSE PRODUCTS

Inverse Products seek to provide the inverse (up to -2x) **daily** performance of their benchmark, before fees and expenses. When held for periods longer than one trading day, Inverse Products' performance is likely to deviate from the inverse of the benchmark's cumulative performance because of the compounding effects of daily returns.

Generally:

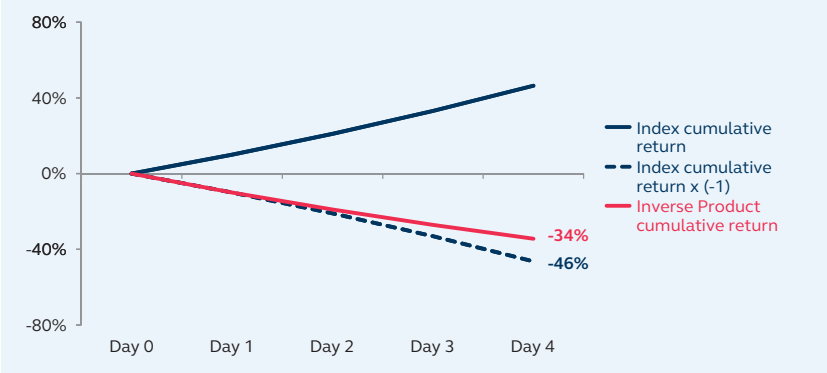
- In continuous trending markets, Inverse Products tend to perform **better** than the inverse of the benchmarks' cumulative performance; and
- In volatile markets, Inverse Products tend to perform **worse** than the inverse of the benchmarks' cumulative performance.

ILLUSTRATION[2]

Scenario 1: Continuous upward trend (-1x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **better** than the inverse of the benchmark's cumulative performance.

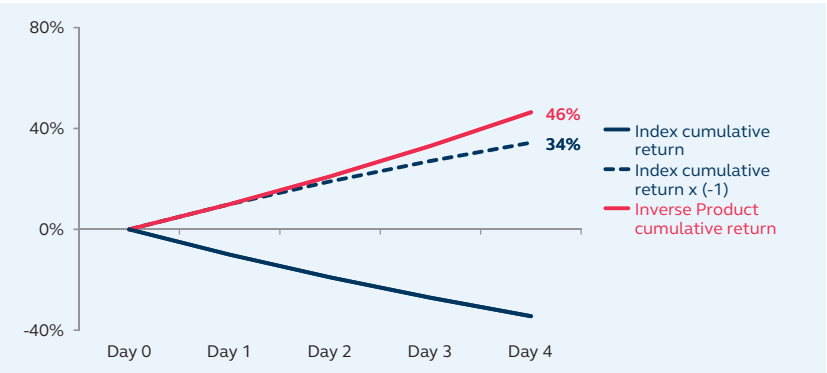
Day	1	2	3	4
Index:				
Daily return	10%	10%	10%	10%
Cumulative return	10%	21%	33%	46%
Cumulative return x (-1)	-10%	-21%	-33%	-46%
Inverse Product (-1x):				
Daily return	-10%	-10%	-10%	-10%
Cumulative return	-10%	-19%	-27%	-34%



Scenario 2: Continuous downward trend (-1x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **better** than the inverse of the benchmark's cumulative performance.

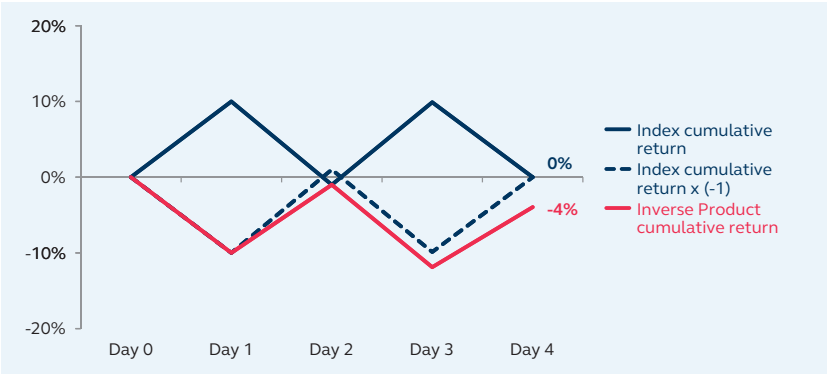
Day	1	2	3	4
Index:				
Daily return	-10%	-10%	-10%	-10%
Cumulative return	-10%	-19%	-27%	-34%
Cumulative return x (-1)	10%	19%	27%	34%
Inverse Product (-1x):				
Daily return	10%	10%	10%	10%
Cumulative return	10%	21%	33%	46%



Scenario 3: Volatile but flat market (-1x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **worse** than the inverse of the benchmark's cumulative performance.

Day	1	2	3	4
Index:				
Daily return	10%	-10%	11%	-9%
Cumulative return	10%	-1%	10%	0%
Cumulative return x (-1)	-10%	1%	-10%	0%
Inverse Product (-1x):				
Daily return	-10%	10%	-11%	9%
Cumulative return	-10%	-1%	-12%	-4%

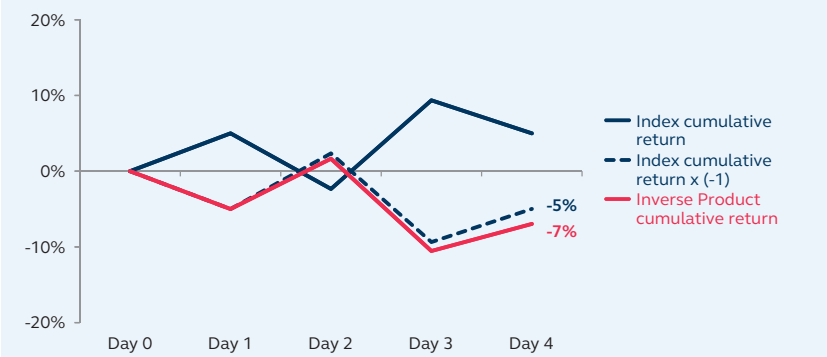


[2] The illustrations use extreme benchmark movement to demonstrate the effects of compounding over time. The illustrations do not include fees and expenses.

Scenario 4: Volatile upward trend (-1x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **worse** than the inverse of the benchmark's cumulative performance.

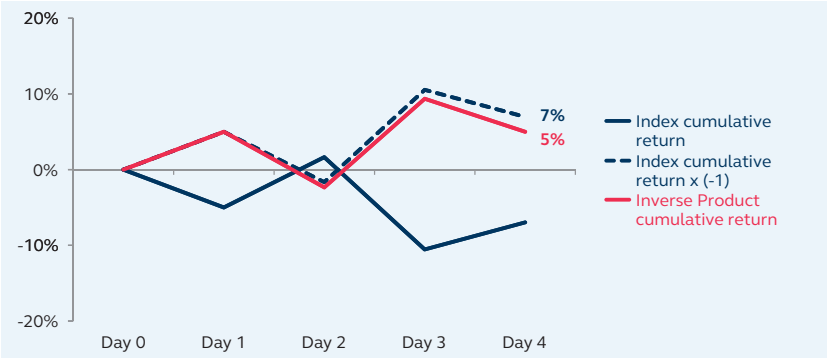
Day	1	2	3	4
Index:				
Daily return	5%	-7%	12%	-4%
Cumulative return	5%	-2.4%	9%	5%
Cumulative return x (-1)	-5%	2.4%	-9%	-5%
Inverse Product (-1x):				
Daily return	-5%	7%	-12%	4%
Cumulative return	-5%	1.7%	-11%	-7%



Scenario 5: Volatile downward trend (-1x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **worse** than the inverse of the benchmark's cumulative performance.

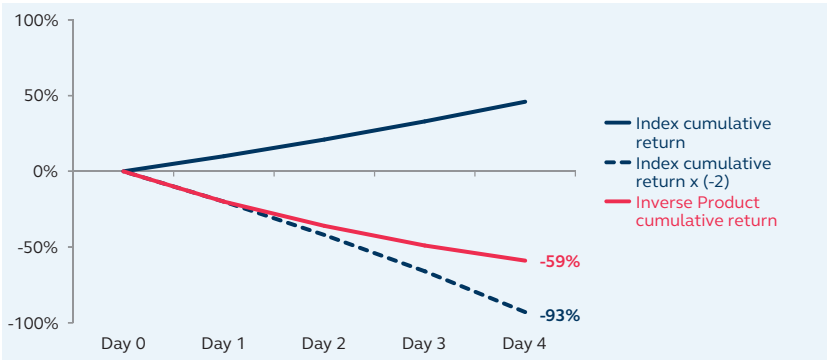
Day	1	2	3	4
Index:				
Daily return	-5%	7%	-12%	4%
Cumulative return	-5%	1.7%	-11%	-7%
Cumulative return x (-1)	5%	-1.7%	11%	7%
Inverse Product (-1x):				
Daily return	5%	-7%	12%	-4%
Cumulative return	5%	-2.4%	9%	5%



Scenario 6: Continuous upward trend (-2x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **better** than the inverse of the benchmark's cumulative performance.

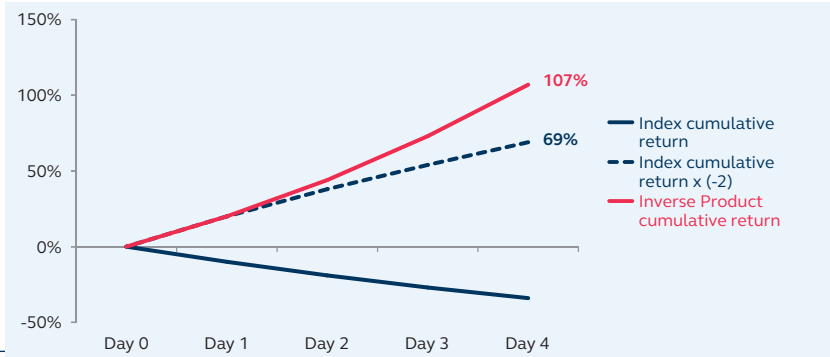
Day	1	2	3	4
Index:				
Daily return	10%	10%	10%	10%
Cumulative return	10%	21%	33%	46%
Cumulative return x (-2)	-20%	-42%	-66%	-93%
Inverse Product (-2x):				
Daily return	-20%	-20%	-20%	-20%
Cumulative return	-20%	-36%	-49%	-59%



Scenario 7: Continuous downward trend (-2x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **better** than the inverse of the benchmark's cumulative performance.

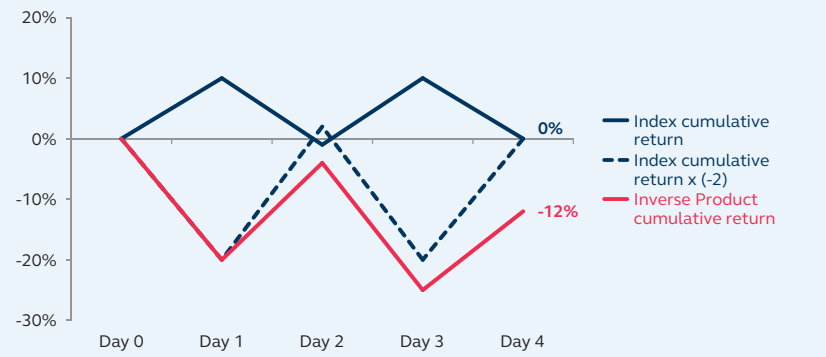
Day	1	2	3	4
Index:				
Daily return	-10%	-10%	-10%	-10%
Cumulative return	-10%	-19%	-27%	-34%
Cumulative return x (-2)	20%	38%	54%	69%
Inverse Product (-2x):				
Daily return	20%	20%	20%	20%
Cumulative return	20%	44%	73%	107%



Scenario 8: Volatile but flat market (-2x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **worse** than the inverse of the benchmark's cumulative performance.

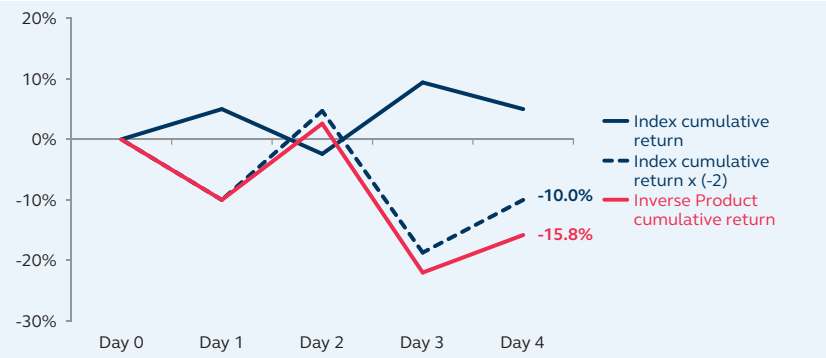
Day	1	2	3	4
Index:				
Daily return	10%	-10%	11%	-9%
Cumulative return	10%	-1%	10%	0%
Cumulative return x (-2)	-20%	2%	-20%	0%
Inverse Product (-2x):				
Daily return	-20%	20%	-22%	18%
Cumulative return	-20%	-4%	-25%	-12%



Scenario 9: Volatile upward trend (-2x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **worse** than the inverse of the benchmark's cumulative performance.

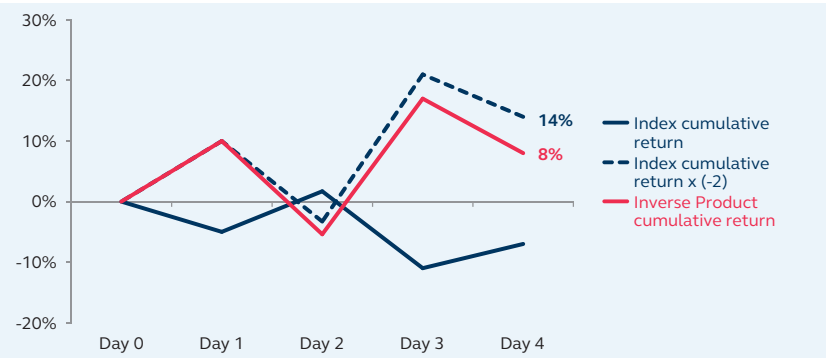
Day	1	2	3	4
Index:				
Daily return	5%	-7%	12%	-4%
Cumulative return	5%	-2.4%	9.4%	5.0%
Cumulative return x (-2)	-10%	4.7%	-18.7%	-10.0%
Inverse Product (-2x):				
Daily return	-10%	14%	-24%	8%
Cumulative return	-10%	2.6%	-22.0%	-15.8%



Scenario 10: Volatile downward trend (-2x)

When held for periods longer than one trading day, an Inverse Product's performance tends to be **worse** than the inverse of the benchmark's cumulative performance.

Day	1	2	3	4
Index:				
Daily return	-5%	7%	-12%	4%
Cumulative return	-5%	1.7%	-11%	-7%
Cumulative return x (-2)	10%	-3.3%	21%	14%
Inverse Product (-2x):				
Daily return	10%	-14%	24%	-8%
Cumulative return	10%	-5.4%	17%	8%



INVESTOR SUITABILITY

Leveraged and Inverse Products (L&I Products) are not intended for long term investment and investors should understand the nature and risks of L&I Products (including the compounding effects) before investing.

Leveraged Products are designed for active investors that seek to:

- magnify daily returns;
- obtain a target level of exposure using less cash; and/or
- overweight a market segment without committing additional cash.

Inverse Products are designed for active investors that seek to:

- profit from a market decline;
- hedge against an expected decline; and/or
- underweight exposure to a market segment.

USEFUL WEBSITES

Visit HKEX website: www.hkex.com.hk/ETP for details of L&I Products

The Chin Family website (www.thechinfamily.hk), a financial education platform, managed by the Investor Education Centre, introduces L&I Products: www.thechinfamily.hk/liproducts

ENQUIRY

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