1] What is leverage?

>> Leverage is the use of borrowed money to invest in a security, to increase profits from the Investment Transaction. Leverage Investment will be in profit if cost of borrowed capital is less than the returns generated from the underlying security. Investing in a security with borrowed funds (leverage) always adds risk for the investor.

2] How is a leverage investment executed?

>> Investor brings in contribution known as investor contribution or client equity. Financial institution (e.g. Bank, the Asset Management Company or Investment Bank etc. commonly referred to as leverage provider) provides loan as per agreed terms. This loan value is not same for all types of securities. Leverage Provider will always do due diligence on the underlying security to decide the permissible loan on a captioned security. Finally, Total Value (Investor Contribution + Borrowed Money i.e. Loan) will be invested in a financial instrument.

3] How does a leverage investment work? Please explain with an illustration.

>> Suppose an investor wants to invest USD 100,000 in debt instrument for a year where financial institution is willing to provide 3 times leverage i.e. loan at investor's discretion.

Scenario 1: Positive return

Consider below illustration (All figures are for illustration purpose only)

Client contribution / Client equity = USD 100,000
Leverage amount (3 times) = USD 300,000
Total investment value = USD 400,000
Leverage cost (Interest on leverage amount) = 3% p.a.
Interest to be paid by the investor = USD 9000 (USD 300,000*3%) Expected
annual return on stand-alone investment = 5% p.a.

Basis above considerations,

Investor's investment return with own funds would have been USD 5000 (USD 100,000*5%)

Investor's leveraged return will be USD 11000 (USD 400,000*5% - USD 9000 [interest on loan amount])

As illustrated above, the investor gets **11%** return on leveraged investment against **5%** on standalone investment.

Scenario 2: Negative return

Consider below illustration (All figures are illustration purpose only)

Client contribution / Client equity = USD 100,000
Leverage amount (3 times) = USD 300,000
Total investment value = USD 400,000

Leverage cost (Interest on leverage amount) = 3% pa
Interest to be paid by the investor = USD 9000 (USD 300,000*3%)

Suppose after one year there is **fall** in market value of investment by 5%

Basis above considerations,

Investor's investment return with own funds would have been USD -5000 (USD 100,000*(-5%))

Investor's leveraged return will be USD -29000 (USD 400,000*(-5%) - USD 9000 [interest on loan amount])

As illustrated above, the investor's return would be **negative 29% (-29%)** on leveraged investment against **negative 5% (-5%)** on stand-alone investment.

4] What are the risks involved in leverage?

>> Higher the leverage, the greater returns can be, but the losses could also be significant in volatile markets or in case of underlying credit defaults. Some of the risks associated with leveraged investments are explained below. It is important to note, in a leveraged investment client can potentially have full or partial loss of investment.

1) Market risk: Leverage investments are subject to market risk. If markets fall significantly, then financial institution (leverage provider) may forcefully liquidate the investment.

2) Credit risk: In case of leveraged investment in debt instrument or debt funds, the investment is subject to the credit risk of the Issuer/s. If the underlying bond or instrument defaults then investor is personally liable to pay the leverage provider. For example, in the above example, if the bond defaults, then client will lose client contribution of USD 100,000 and will have to pay USD 300,000 loan plus accrued interest on loan to the leverage provider.

3) Interest rate risk: In case of leveraged investment in debt instruments/ debt funds, the investment is subject to interest rate risk. Increase in interest rates negatively impacts the value of the investment.

4) Margin call: Leveraged investments are subject to margin calls from the leverage provider to continue the loan at agreed levels. Mark to Market calculations are done on daily basis to ask for additional funds from the investor who has availed a loan, if the value of the underlying investment drops below margin call trigger level. In such a scenario, leverage provider will ask investor to bring in additional funds or collateral as per leverage terms. If investor does not get additional funds or collateral as per margin call notice, leverage provider reserves the right to liquidate the underlying collateral and recover the loan which may result in full or partial loss of investment for the investor.

Illustration for Margin call:

Considering that the leverage provider agreed to provide leverage 3 times (75%) with Margin call trigger at 85% & fire sale at 90%

Investor contribution assumed as USD 100,000. Hence, Leverage = USD 300,000

Margin Call / Fire sale trigger Table: (Margin call trigger is highlighted in yellow & Fire sale is highlighted in red)

Fall in Market value	Investor contribution	Initial Loan/Leverage (I)	Market value of the investment	Loan to value (LTV)	Loan @ 75% LTV (L)	Margin call amount = (I-L)
0%	$1,00,000.00	$3,00,000.00	$4,00,000.00	75%	$3,00,000.00	-
-1%	$96,000.00	$3,00,000.00	$3,96,000.00	76%	$2,97,000.00	-
-2%	$92,000.00	$3,00,000.00	$3,92,000.00	77%	$2,94,000.00	-
-3%	$88,000.00	$3,00,000.00	$3,88,000.00	77%	$2,91,000.00	-
-4%	$84,000.00	$3,00,000.00	$3,84,000.00	78%	$2,88,000.00	-
-5%	$80,000.00	$3,00,000.00	$3,80,000.00	79%	$2,85,000.00	-
-6%	$76,000.00	$3,00,000.00	$3,76,000.00	80%	$2,82,000.00	-
-7%	$72,000.00	$3,00,000.00	$3,72,000.00	81%	$2,79,000.00	-
-8%	$68,000.00	$3,00,000.00	$3,68,000.00	82%	$2,76,000.00	-
-9%	$64,000.00	$3,00,000.00	$3,64,000.00	82%	$2,73,000.00	-
-10%	$60,000.00	$3,00,000.00	$3,60,000.00	83%	$2,70,000.00	-
-11%	$56,000.00	$3,00,000.00	$3,56,000.00	84%	$2,67,000.00	-
-12%	$52,000.00	$3,00,000.00	$3,52,000.00	85%	$2,64,000.00	$36,000.00
-13%	$48,000.00	$3,00,000.00	$3,48,000.00	86%	$2,61,000.00	$39,000.00
-14%	$44,000.00	$3,00,000.00	$3,44,000.00	87%	$2,58,000.00	$42,000.00
-15%	$40,000.00	$3,00,000.00	$3,40,000.00	88%	$2,55,000.00	$45,000.00
-16%	$36,000.00	$3,00,000.00	$3,36,000.00	89%	$2,52,000.00	$48,000.00
-17%	$32,000.00	$3,00,000.00	$3,32,000.00	90%	$2,49,000.00	$51,000.00