# LM02 Types of Financial Returns

## Types of Returns for Financial Assets, Instruments, and Indicators

### Types of Returns

Price return: Many financial assets and instruments generate returns primarily through price changes.

Fixed capital distribution return: This is the most common type of return for debt (e.g., fixed coupon-paying bonds).

Variable capital distribution return: This is the most common type of return for equity (e.g., dividend-paying stocks).

### Financial Assets

The main financial assets are cash, equity, debt, and hybrids.

Cash: Cash includes coins, bank notes, currency, and non-interest-bearing bank deposits. Having cash available is an important cash management strategy.

Equities: Equities generate return through two sources:

- Price return: Typically, price appreciation accounts for a significant portion of equity returns. Equity prices are influenced by multiple factors, such as company-specific fundamental factors, broader economic indicators (e.g., GDP growth rates, inflation, etc.), market sentiment (optimistic, pessimistic, or neutral), and global events (e.g., wars.)
- Capital distribution: Equities may distribute capital to investors in the form of dividends. A company can pay dividends on a quarterly, semiannual, or annual basis. There may also be special one-off dividends tied to corporate actions.

Bonds: Bonds generate return through two sources:

- Price return: Bond values are influenced by multiple factors, such as the creditworthiness of the issuer, interest rates, and the maturity of the bond.
- Capital distributions: Typically, capital distributions account for a significant portion of bond returns.

Hybrids: Hybrids are financial assets that blend equity (potential for appreciation) and debt (fixed returns) characteristics, e.g., preferred stock and convertible bonds.

### Financial Instruments

Financial instruments are the means through which financial assets are standardized, packaged, and traded in financial markets. E.g., stocks and bonds.

Derivatives are financial instruments whose value is derived from the performance of an underlying financial asset or financial indicator, such as exchange rate, interest rate, or

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market index. E.g., call and put options.

**Financial Indicators**

Financial indicators are observable but not directly tradable indicators of value. Important financial indicators include: interest rates, exchange rates, and market indexes.

Interest rates: Interest rates are normally traded through risk-free government bonds, whose prices reflect the current interest rate environment. Bond prices are inversely related to interest rates. If you believe interest rates will fall (rise), you can purchase (sell) bonds.

Exchange rate: A foreign exchange rate is the price or cost of one currency expressed in terms of another currency. Consider an exchange rate quote of 1.4500 USD/EUR. The numerator currency (USD) is called the price currency, and the denominator currency (EUR) is called the base currency. It implies that one EUR is exchangeable for 1.45 USD.

When investing in a foreign asset, an investor's return is determined not only by the asset's return but also by the movement of the exchange rate.

**Example:**
(*This is based on the case study from the curriculum.*)

On the final trading day of 2020, a US investor bought USD1 million worth of a European company's bonds. The bonds were priced at EUR112.54 for every EUR100 of face value. At this time, the USD/EUR exchange rate was 1.2216.

By the end of 2021, these bonds were trading at EUR107.769 per EUR100 face value, and the USD/EUR exchange rate had moved to 1.1373. The bonds also paid a coupon of EUR1.5 per EUR100 face value.

Calculate the return on this investment in USD terms.

**Solution**:

The annual return on the bond in EUR is:

$$r_{EUR} = \frac{P_1 - P_0 + Inc}{P_0} = \frac{107.769 - 112.54 + 1.5}{112.54} = -2.91\%$$

Through this investment, the US investor has also indirectly invested in EUR, and by looking at the change in the exchange rate, we can see that EUR (the base currency) has depreciated. The depreciation of EUR can be calculated as:

$$r_{\text{exchange rate}} = \frac{\text{new exchange rate} - \text{old exchange rate}}{\text{old exchange rate}} = \frac{1.1373 - 1.2216}{1.2216} = -6.90\%$$

Therefore, the overall USD return is:

$$r_{USD} = (1 + r_{EUR})\left(1 + r_{\text{exchange rate}}\right) - 1 = (1 - 0.0291)(1 - 0.0691) - 1 = -9.61\%$$

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Thus, the investor suffered a double loss, a loss on the investment and a loss on the exchange rate movement.

Market indexes: A market index reflects the aggregated value of stocks, bonds, or other asset classes traded in a market and indicates the overall performance of a specific market or the entire market. Market indexes are often used as a benchmark to assess performance, e.g., S&P 500 Index.

**Long-Term Financial Asset Returns**

Equities provide higher average returns over time than bonds. However, they are riskier than bonds and show more volatility of returns.

**Risks and Returns**

Risk can be defined as the uncertainty between the expected returns on an investment and the actual, realized returns. Risk can be categorized into:

- Macro risks or systematic risks: These are broad economy-wide risks that affect the entire market. Systematic risk cannot be mitigated and is therefore also called non-diversifiable risk. Examples of macro risk include:
  - Inflation risk: Risk that the investment return will deviate from expectations solely due to the effects of inflation.
  - Interest rate risk: Refers to the uncertainty of returns due to interest rate fluctuations.
  - Market risk: Refers to the possibility that market forces will affect financial assets in an unexpected manner.
- Micro risks or unsystematic risks: These are factors specific to the individual issuer or sector. Unsystematic risk can be mitigated through diversification and is therefore also called diversifiable risk. Examples of micro risks include:
  - Business risk: Risk inherent in the nature of the firm's operation.
  - Financial risk: Risk that arises from the use of financial leverage (debt).
  - Credit risk: Refers to a firm's ability to meet its promised payments (interest and principal payments).
  - Sector risk or industry risk: This is similar to market risk. It represents the possibility that forces particular to a sector will affect assets within that sector in an unexpected manner. E.g., a sudden spike in the prices of a key raw material.

According to the 'risk-return trade-off', higher-risk investments generally provide higher potential returns, and lower-risk investments generally provide lower potential returns.

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