



**BERLIN SCHOOL OF
BUSINESS & INNOVATION**

Essay / Assignment Title: Understanding Derivatives: Asset Classes, Distinctions, and Comparative Analysis

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INTRODUCTION

This text delves into meaning of derivatives and alternative investments, its relevance, main concepts, critical evaluation of its strategies with practical scenarios in the financial market.

Derivatives are financial instruments that obtain their worth from an underlying asset, index, or reference rate. Various types of derivatives exist, including futures contracts, options contracts, swaps, and forward contracts. These instruments serve multiple purposes, including hedging against price changes, speculating on future price movements, accessing different markets or assets, and managing risk. Derivatives provide leverage, enabling investors to gain exposure to larger positions than they could achieve through direct investment in the underlying asset. (Srivastav, 2019). Derivatives is more like insurance in the financial market.

An alternative investment refers to a financial asset that does not belong to traditional asset categories such as stocks, bonds, and cash. Alternative investments encompass a range of assets, including private equity, venture capital, hedge funds, managed futures, and collectibles like art and antiques. Commodities and real estate can also be categorized as alternative investments. (What Are Alternative Investments? – Forbes Advisor, 2023)

CHAPTER ONE

Exploring the Meaning, Importance, and Comparative Analysis of Different Asset Classes in Derivatives

Derivatives are financial instruments that derive their value from an underlying asset or benchmark. They are instrumental in financial markets as they enable participants to manage risk, engage in speculation on price movements, and enhance investment returns. The value of a derivative is dependent on changes in the value of the underlying asset. Derivatives are utilized by various market participants, including institutional investors, banks, and corporations, to achieve their financial objectives. Some common types of derivatives include:

Options contracts: Provide the right, but not the obligation, to buy (call option) or sell (put option) an asset at a specific price within a particular timeframe. Options give investors the right, but not the obligation, to buy (call option) or sell (put option) an underlying asset at a specified price within a given period. Call options are used when investors anticipate a rise in the market, while put options are employed when they expect a decline. For instance, purchasing a put option for a stock priced at \$126 allows the investor to sell the stock at that price if they anticipate it falling to \$120.

Swaps: Involve the exchange of cash flows or liabilities between parties based on predetermined terms. Common examples are interest rate swaps and currency swaps. For example, A vanilla interest rate swap involves two parties exchanging payment terms based on interest rates. In this case, Sara & Co offers Winrar & Co a fixed annual rate of 4% in exchange for the LIBOR rate plus 1%. If the LIBOR rate remains at 3% at the end of the year, Sara & Co pays \$400,000, but if the rate increases to 3.5%, Winrar & Co pays \$450,000. The value of the swap is the difference between the interest payments received and paid.

Futures contracts: Agreements to buy or sell an asset at a predetermined price and date in the future. In this case, ABC Inc can purchase corn futures contracts with an expiry date six months in the future at the current price of \$40 per contract. If heavy rainfall occurs and corn prices rise to \$60 per contract, ABC Inc gains \$20,000. Conversely, if the rainfall prediction is incorrect and corn prices decline, ABC Inc may purchase more futures contracts to offset potential losses.

A forward contract is a contractual agreement to purchase or sell an asset at a predetermined price at a designated date in the future. A company called ABC Inc needs to purchase corn from a supplier named Bruce Corns. To protect themselves from potential price increases due to heavy rainfall, ABC Inc and Bruce Corns agree to fix the price of corn at \$10 per quintal for six months. This forward contract ensures that ABC Inc pays a predetermined price regardless of market fluctuations. If the price of corn increases, ABC Inc benefits from the fixed price, but if the price falls, Bruce Corns benefits.

The functions and applications of derivatives

The functions and applications of derivatives are diverse and offer practical benefits in financial markets. Here, I will explain these functions and provide practical examples to illustrate their applications.

Risk Management and Hedging: Derivatives play a crucial role in risk management by allowing market participants to hedge against various types of risks. For example, a multinational corporation that receives payment in a foreign currency can use currency derivatives, such as forward contracts or options, to hedge against exchange rate fluctuations. By locking in a specific exchange rate, the company can protect its profits and cash flows from adverse currency movements.

Speculation and Trading: Derivatives provide opportunities for speculation and trading, allowing investors to profit from price movements without owning the underlying assets. For instance, a trader who expects the price of gold to rise can purchase gold futures contracts. If the price increases as predicted, the trader can sell the futures contracts at a higher price and make a profit.

Price Discovery and Market Efficiency: Derivatives contribute to price discovery by reflecting market sentiment and expectations about future asset prices. For example, options on stocks are used by investors to express their views on the future direction of stock prices. The prices of these options are influenced by factors such as market demand, volatility expectations, and the underlying stock's performance. By trading options, investors provide valuable information that helps in price discovery and improves overall market efficiency.

Portfolio Management and Diversification: Derivatives offer portfolio managers and investors tools to enhance portfolio performance and diversify risk. For instance, a portfolio manager seeking to reduce the risk of a stock portfolio can use stock index futures contracts to hedge against broad market declines. By taking a short position in index futures, the manager can offset potential losses in the stock portfolio if the overall market declines. This hedging strategy helps manage portfolio risk and protect against systemic market downturns.

Arbitrage Opportunities: Derivatives create opportunities for arbitrage, where investors can profit from price discrepancies between related assets. For example, if the price of a stock index futures contract deviates from the theoretical fair value based on the underlying stocks, arbitrageurs can buy the undervalued contract and sell the overvalued stocks (or vice versa) to capture the price difference. This helps align prices across markets and contributes to market efficiency.

Capital Efficiency and Leverage: Derivatives allow market participants to gain exposure to a larger value of underlying assets with a smaller initial investment, enabling leverage and capital efficiency. For example, instead of purchasing the actual shares of a company, an investor can buy call options on the company's stock, which requires a fraction of the capital outlay. If the stock price rises significantly, the investor can exercise the options and benefit from the price increase.

Various types of asset classes for derivatives, practical examples and distinctions

Derivatives can be based on a wide range of underlying assets, such as stocks, bonds, commodities, currencies, interest rates, and market indices. Here are some common examples of asset classes for derivatives:

Equity derivatives: These derivatives derive their value from individual stocks or stock indices. They include instruments like stock options, equity futures, and equity swaps. They provide exposure to the equity market and offer opportunities for risk management and speculation. Let's consider an example of an equity derivatives contract:

Scenario: An investor wishes to gain exposure to the performance of a specific technology company's stock without directly owning the shares.

Solution: The investor can purchase a call option on the technology company's stock. If the stock price rises above the option's strike price before the expiration date, the investor can exercise the option and profit from the price appreciation.

Equity derivatives, such as options and futures contracts on individual stocks or stock indices, allow investors to tailor their exposure to specific companies or market segments, providing flexibility and targeted investment opportunities.

Fixed income derivatives: These derivatives are tied to fixed income securities like bonds or interest rates. Examples include interest rate swaps, Treasury bond futures, and credit default swaps. They offer opportunities for risk management, speculation, and hedging in the fixed income market. Let's consider an example of a fixed income derivatives contract:

Scenario: An investor wishes to hedge against potential interest rate fluctuations that could negatively impact the value of their bond portfolio.

Solution: The investor can enter into an interest rate swap, agreeing to exchange fixed interest rate payments for floating interest rate payments with a counterparty. This swap allows the investor to hedge against changes in interest rates and stabilize their cash flows.

Fixed income derivatives, such as interest rate swaps, bond futures, or options on fixed income securities, provide market participants with tools to manage interest rate risk, speculate on interest rate movements, and enhance portfolio performance.

Commodity derivatives: Commodity derivatives derive their value from underlying physical commodities such as oil, natural gas, agricultural products, metals, and more. These derivatives serve as risk management tools, allowing market participants to hedge against price volatility in the commodity markets. Let's consider an example of a commodity derivatives contract:

Scenario: A coffee producer wants to protect against potential losses resulting from a decline in coffee prices.

Solution: The producer can enter into a futures contract for coffee, agreeing to sell a specified quantity of coffee at a predetermined price and future date. By doing so, the producer hedges against potential price declines, ensuring a stable income regardless of market fluctuations.

Commodity derivatives, including futures contracts, options, and swaps on commodities, provide market participants with instruments to manage price risk, speculate on commodity price movements, and facilitate efficient price discovery in the commodities market.

Currency derivatives: Currency derivatives are a distinct asset class within the derivatives market, providing market participants with instruments to manage currency risk, speculate on exchange rate movements, and facilitate international trade.

Currency derivatives derive their value from underlying exchange rates between different currencies. They offer exposure to the foreign exchange (forex) market and allow market participants to hedge against currency risk or speculate on currency movements. Let's consider an example of a currency derivatives contract:

Scenario: A multinational corporation expects to receive a significant amount of revenue in euros in six months but wants to protect against potential depreciation of the euro against their home currency.

Solution: The corporation can enter into a currency forward contract, agreeing to sell euros and buy their home currency at a predetermined exchange rate in six months. By doing so, they hedge against potential losses resulting from unfavorable currency movements.

Currency derivatives include instruments such as currency forwards, options, and futures contracts. They provide market participants with tools to manage currency risk in international transactions, hedge foreign investments, and engage in speculative trading based on exchange rate forecasts.

Distinguishing between asset classes:

Each asset class for derivatives possesses unique characteristics and may be suitable for different investment objectives or risk profiles. It is challenging to definitively state that one asset class is superior to another, as their performance and suitability depend on factors like market conditions, investor preferences, and specific investment goals.

For instance, during periods of economic uncertainty, investors might gravitate towards the relative stability of fixed income derivatives, such as government bond futures, to hedge against potential market volatility. Conversely, in a bullish market environment, equity derivatives like stock options may offer greater upside potential.

CHAPTER TWO

Utilizing Future Markets for Hedging and Speculation: A Practical Analysis

Future markets play a crucial role in financial markets, offering opportunities for both hedging and speculation. In this section, we will explore how future markets can be effectively used for these purposes. To demonstrate their application, we will consider the example of equity futures and analyze relevant data from a stock exchange. Our discussion will draw on theories and analyses from the field of future derivatives.

Hedging: Hedging involves using futures contracts to mitigate price risk and protect against adverse price movements. By taking offsetting positions in futures contracts, market participants can secure a predetermined price for an underlying asset, thereby safeguarding their financial positions. Let's consider an example of hedging using equity futures:

Scenario: An investor holds a portfolio of technology stocks and is concerned about a potential market downturn that could negatively impact their investments.

Solution: The investor can employ equity index futures to hedge their portfolio. By taking a short position in the futures contract, they can offset potential losses in their stock portfolio if the market declines. This allows them to lock in a future selling price, providing a level of protection against adverse market movements.

To validate the effectiveness of hedging, we can analyze historical data from a stock exchange, such as the closing prices of the equity index futures and the corresponding index values. By comparing the performance of the hedged portfolio with the unhedged portfolio during periods of market volatility, we can assess the effectiveness of the hedge in mitigating losses.

Speculation: Speculation involves taking positions in futures contracts with the aim of profiting from anticipated price movements. Traders who speculate in futures markets seek to capitalize on price fluctuations without the need to own the underlying asset. Let's consider an example of speculation using equity futures:

Scenario: A trader expects a positive earnings report from a particular technology company and anticipates that it will lead to an increase in the company's stock price.

Solution: The trader can take a long position in the equity futures contract for that company's stock. If the anticipated positive earnings report is released, resulting in a rise in the stock price, the trader can profit from the price increase in the futures contract.

To support the concept of speculation, we can analyze historical data from the chosen stock exchange, focusing on the relationship between earnings announcements and subsequent price movements. By comparing the performance of speculative trades based on anticipated events with the overall market performance, we can evaluate the profitability of speculation in equity futures.

CHAPTER THREE

Understanding Call and Put Options: Theory, Graphs, and Practical Examples

Call and put options are types of financial derivatives that give the holder the right, but not the obligation, to buy (call option) or sell (put option) an underlying asset at a predetermined price within a specified period.

Theory of Call and Put Options:

Call Option: A call option provides the holder with the right to buy the underlying asset at the strike price on or before the expiration date. The buyer of a call option anticipates an increase in the price of the underlying asset. They profit if the market price of the asset exceeds the strike price by an amount greater than the premium paid for the option.

Put Option: A put option gives the holder the right to sell the underlying asset at the strike price on or before the expiration date. The buyer of a put option expects the price of the underlying asset to decrease. They make a profit if the market price of the asset falls below the strike price by an amount greater than the premium paid.

Graphs of Options: Let's consider an example using hypothetical data to illustrate the four possible combinations of long and short positions for call and put options.

Underlying Stock: XYZ Corporation Current Stock Price: \$100 Strike Price: \$100 Option Premium: \$5
Expiration Date: 30 days

Long Put: In a long put position, the investor buys a put option with the expectation that the stock price will decrease. The graph shows the payoff of a long put option at expiration:

markdownCopy code

Stock Price	X
	X
	X
	X
	X
	X
	X
	X

| X

| X

|X_____

Profit/Loss

Short Put: In a short put position, the investor sells a put option, taking the obligation to buy the stock if the option is exercised. The graph represents the payoff of a short put option at expiration:

markdownCopy code

Stock Price |_____X

|X

| X

| X

| X

| X

| X

| X

| X

| X

| X

Profit/Loss

Short Call: In a short call position, the investor sells a call option, obligating themselves to sell the stock if the option is exercised. The graph shows the payoff of a short call option at expiration:

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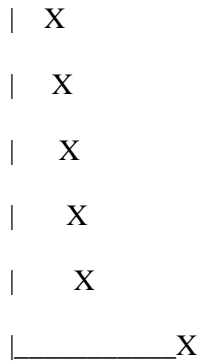
Stock Price | X

|X

| X

| X

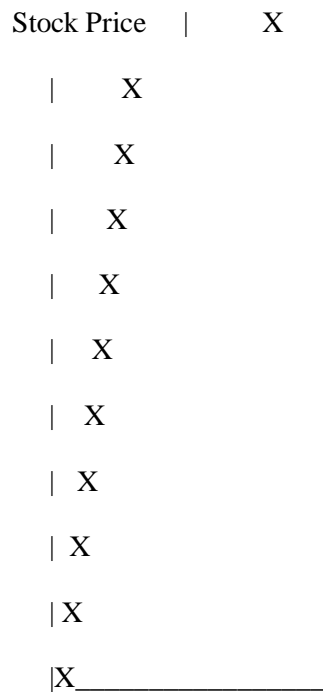
| X



Profit/Loss

Long Call: In a long call position, the investor buys a call option, expecting the stock price to rise. The graph represents the payoff of a long call option at expiration:

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Profit/Loss

Note: The graphs above assume that the option is held until expiration and do not account for transaction costs or changes in the underlying asset's price or volatility.

CHAPTER FOUR

Exploring a Prominent Private Equity Firm and its Noteworthy Acquisition: A Case Study Analysis

In this section, we delve into the operations of a renowned private equity firm, examining its objectives, key investments, and notable achievements. Additionally, we conduct a case study on one of the firm's prominent acquisitions, drawing insights from various articles to provide a comprehensive analysis.

The Blackstone Group: A Case Study on Key Investments and Achievements

Introduction: This case study explores The Blackstone Group, a prominent private equity firm, focusing on its objectives, key investments, and notable achievements. Additionally, it highlights a specific acquisition made by The Blackstone Group, analyzing the case using various articles and sources.

Objectives of The Blackstone Group: The Blackstone Group aims to generate attractive investment returns for its investors through a diversified range of asset classes, including private equity, real estate, credit, and hedge fund solutions. Their objectives revolve around delivering superior risk-adjusted returns, driving value creation in portfolio companies, and providing innovative investment strategies to their clients.

Key Investments: The Blackstone Group has an extensive portfolio of investments across various sectors. Some of their notable investments include:

- a. **Real Estate:** The Blackstone Group has made significant investments in the real estate sector, acquiring high-profile properties and portfolios globally. For example, they purchased the Willis Tower in Chicago, the largest office building in the United States, and acquired the Strategic Hotels & Resorts portfolio, comprising luxury hotel properties.
- b. **Private Equity:** The firm has invested in numerous private equity transactions, partnering with companies across industries. One notable investment is their acquisition of Refinitiv, a financial data and analytics provider, in collaboration with Thomson Reuters. This transaction valued Refinitiv at \$20 billion.
- c. **Infrastructure:** The Blackstone Group has also focused on infrastructure investments, such as the acquisition of Tallgrass Energy, a leading midstream energy infrastructure company. This investment allowed The Blackstone Group to expand its presence in the energy sector.

Key Achievements: The Blackstone Group has achieved significant milestones in the financial industry. Some key achievements include:

- a. **Fundraising Success:** The Blackstone Group has raised substantial capital from institutional investors worldwide, demonstrating their ability to attract significant commitments for their investment strategies. For instance, they raised \$26 billion for their flagship private equity fund, Blackstone Capital Partners VIII.

b. **Successful Exits:** The firm has achieved successful exits from several investments, generating substantial returns for their investors. Notable examples include the IPOs of Hilton Worldwide Holdings and Invitation Homes, both of which were owned by The Blackstone Group.

c. **Industry Recognition:** The Blackstone Group has been recognized as a leader in the private equity industry. They have received numerous accolades, including being named the "Private Equity Firm of the Year" by industry publications and ranking high on lists of top-performing private equity firms.

Case Study: Acquisition by The Blackstone Group

One significant acquisition by The Blackstone Group was the purchase of Ancestry.com in 2020. Ancestry.com is a leading online platform offering genealogical research and DNA testing services. The acquisition was valued at approximately \$4.7 billion, making it one of the largest deals in the consumer technology sector.

This case study analyzes the acquisition by examining various articles and sources. It explores the rationale behind The Blackstone Group's investment in Ancestry.com, the potential synergies, and the strategic implications for both companies. It also delves into the financial aspects of the deal, including the valuation, financing structure, and expected returns.

The case study provides insights into The Blackstone Group's investment approach, their ability to identify opportunities in the technology and consumer sectors, and their track record in executing large-scale acquisitions. It highlights the strategic vision of The Blackstone Group in expanding its portfolio and leveraging market trends.

CONCLUDING



Derivatives and alternative investments are important components of the financial landscape, offering unique opportunities for risk management, speculation, and portfolio diversification. Derivatives allow market participants to hedge against price fluctuations and stabilize their investments, while alternative investments provide access to non-traditional asset classes and potential higher returns. Both derivatives and alternative investments require careful consideration, risk management, and understanding of individual investment objectives. By utilizing these financial instruments appropriately, investors can enhance their portfolios and achieve their financial goals.

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