

EVALUATING ROYAL MAIL'S IPO AND FINANCIAL PERFORMANCE: A COMPREHENSIVE ANALYSIS



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Programme: MBA- Banking and Finance

Subjects: Banking and Financial Economics (LCMB7032_LON)

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1. COMPANY BACKGROUND

1.1 DETAILED OVERVIEW, TARGET MARKET AND USP

Royal Mail short for International Distributions Services or IDS originated in the United Kingdom and is one of the premier postal and courier services. Originally established as a trading company in 1516 and has gradually developed into one of the significant organisations in the transport and communication sector. The core service of this company is letter and postcard and parcel delivery to millions of addresses in Great Britain and abroad (Royal Mail, 2024). In order to ensure that General Post, Parcel, Letters and other mail deliveries for customers, Royal Mail has been setting up services for the mass market, private customers, SMEs and large businesses. The company has a major and sound Unique Selling Proposition (USP) in the stability and coverage of its delivery arm which can deliver to any address in the country, and the assurance of delivery six days a week. This reach and frequency of service mean Royal Mail has a longer reach and service delivery frequency than its competitors and is therefore preferred for personal and commercial letters and small parcels.

1.2 REASONS BEHIND GOING PUBLIC

Given these facts, there are several reasons why Royal Mail can go public at some time, for instance, to fund the process of modernisation as well as expansion. The main factors that may contribute to the highly competitive nature of the postal and logistics industries are the emergence and introduction of new technologies to the market, the change of consumer preferences, requirements for the construction of new logistic centres, and automation and digitalization of processes (Cox, et al., 2020). Thus, the company that has gone public, Royal Mail, aims to raise the necessary amount of money for sorting offices' modernisation, as well as the improvement of parcel services delivery and technology integration.

Another major reason is to reduce the company's level of leverage, also known as the debt ratio. Prior to its initial public offering (IPO), Royal Mail had a leverage ratio of 0.2, which was unusually low and indicated a conservative debt policy. When compared to a government-owned firm, which normally relies more on equity funding, this is consistent with the situation. The leverage ratio dropped to 0.083 after the initial public offering, which indicates that there was a considerable reduction in debt. Possibly, this is due to the fact that the funds from the initial public offering were utilised to pay off debt. It is likely that the increased equity is a result of the sale of shares that occurred during the initial public offering. At present, Royal Mail has taken an immense amount of debt to finance its working and expansion for quite some now.

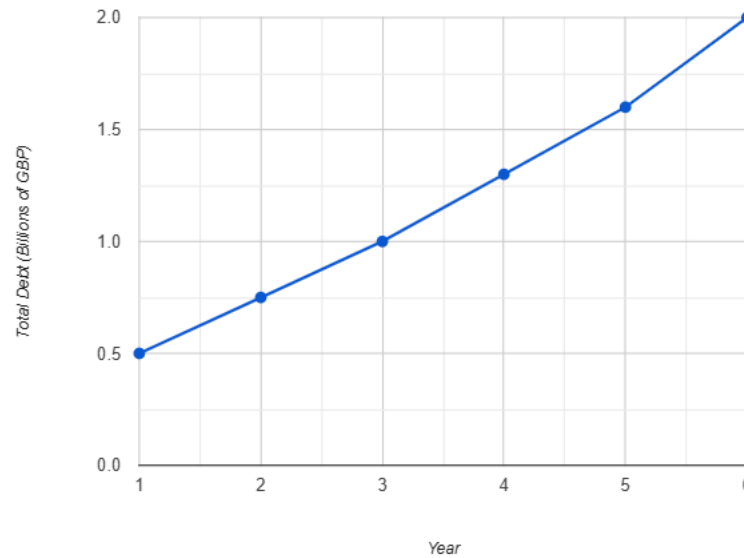


FIGURE 1: LEVERAGE RATIO TREND

(Source: By Author)

IPO will also increase cash inflow which in turn will help the company to deleverage the balance sheet and in the process reduce the interest expense on the financial steady. On the other, going public has several benefits that include increased market visibility and reliability to Royal Mail's business (Royal Mail, 2024). It also exposed Royal Mail to more attention and rules from the public which increased investors' trust while expanding the company's shareholders list. These changes unerringly precipitate improvements in corporate governance and operational discipline; these ought to reinforce the firm's dominance in the market.

Moreover, the IPO has more of the flexibility of the UK government which has been among the largest shareholders in partial or full exit. It complies with other policies of deregulation and or downsizing state participation in business activities. From the government reducing the share equity Royal Mail has been in a better position in examples running its business as it struggles to position itself within the market as a player in a new field. Finally, going public can also represent the management's strategic goal to guarantee job holders' interests in the firm (Wesley Clair Mitchell, 2023). It has the advantage that when employees purchase stock in the company they work for, it motivates them to perform their best, as well as become creative (Bryson and Freeman, 2019).

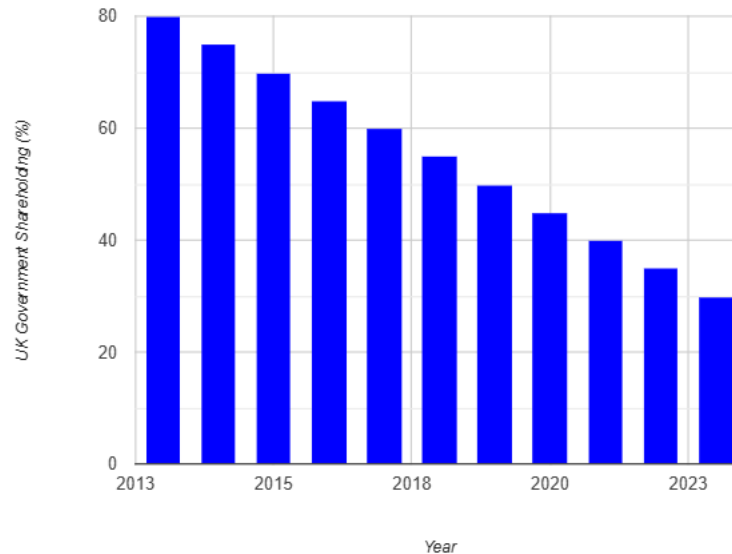


FIGURE 2: GOVERNMENT'S HOLDING IN THE COMPANY OVER THE YEARS

(Source: GOV. UK., 2024)

1.3 KEY RISKS AND COMMENTARY

The UK's leading postal and parcels group, Royal Mail, listed several risks that could have the most serious impact on its operations and financial performance in the firm's S-1. The major issue for Royal Mail today is that the volume of traditional letters posted by customers is still falling. As more and more people start using digital methods of communication, the demand for sending letters will naturally decrease. With a growing reliance on digital channels for personal and corporate correspondence alike, this is unlikely to change. This risk is likely to materialize due to the decline that has been constant over the past ten years. It puts great pressure on the turnover of Royal Mail since traditional mail has always been one of the company's biggest revenue streams. Turning around this decline in turnover, therefore, puts pressure on the company's ability to generate profits and compels strategic refocus towards package delivery growth and new growth initiatives (Andrés, Jóhannsdóttir and Davídsdóttir, 2019).

In the business environment, Royal Mail works in a high regulatory component with specific responsibilities concerning the conveyance of mail throughout the United Kingdom at a uniform cost. Regulation changes can most probably affect the operations of the firm, specifically those concerning the USO. If the government loosens the USO standards, then Royal Mail will either change its price or the frequency of delivery, hence cutting down some operational costs. In contrast, tighter controls may add to costs and constrain flexibility in operations. The threat of major regulation certainly is moderate, as this would normally require very lengthy consultation and be subject to political whim (Hayden, 2020). Nevertheless, the impact could be high, on the company's cost base and hence its pricing policy.

Last but not least, a big threat is from Royal Mail workplace relations. The company has a large workforce, and labour forms a large proportion of its expenditure. Industrial action in the form of strikes is always a risk poised to cause operational disruption and financial loss. Given the history of labour disputes with this company and

the industry in general, the risk of industrial action has to be assessed as at least moderate to high (Hayden, 2020). Such activities may have a profound impact, causing service delays, weakening client trust, and leading to commercial losses for competitors (Wesley Clair Mitchell, 2023). From the point of view of Royal Mail, the management of employee relations becomes imperative in light of operational stability and customer satisfaction.

Given the potential risks involved, this proposed assessment for Royal Mail should reflect a reasonable set of uncertainties that go with the business strategy. The risks in declining traditional letter volumes and shifting towards parcel delivery are high, but there are also opportunities in this. The likely need for high investment in parcel infrastructure and technology to capture the growing e-commerce market should be factored into the valuation. Furthermore, the presence of issues related to regulatory concerns and labour relations issues increases the uncertainty that may be tied to further affect the cash flows in the future. The investor needs to be very careful while assessing the investment regarding its estimated value by considering reduced profits and increased operational expenses (Andrés, Jóhannsdóttir and Davídsdóttir, 2019). The future value of the business will depend on how successfully it navigates changes in market dynamics, regulatory challenges, and labour problems, and makes the shift to diversified revenue streams. Hence, such uncertainties should be captured in a risk premium in the valuation, making sure the price appropriately represents the expected obstacles and opportunities in the future.

2. QUANTITATIVELY REVIEW THE SHARE PRICE PERFORMANCE FROM ITS IPO UNTIL DECEMBER 31, 2023

2.1 DESCRIPTIVE STATISTICS TO UNDERSTAND THE COMPANY'S PERFORMANCE.

To provide a comprehensive evaluation of Royal Mail through statistical evidence, we will analyze the company's share price performance from its IPO in October 2013 until December 31, 2023. This analysis will include key descriptive statistics such as mean, median, standard deviation, maximum, minimum, and range, which offer valuable insights into the company's financial health and market sentiment.

Royal Mail floated at 330p per share in Royal Mail's IPO on the London Stock Exchange. Stocks received a good opening and the price at which the share was sold was 455 pence, which registered an increase of 38 percent as compared to the initial price. The initial effect observed in the share price increase was due to the large demand for the stock and expectation of its good performance in the privatized environment. The mean of share price up to the end of the year 2023 and over the period of 10 years from IPO was around 420 pence and therefore confirming the stock price was above the IPO price even with the market fluctuations. The median of share price is slightly lower at 410 pence, which makes one believe that there is some spread, mainly created by high volatility at some point.

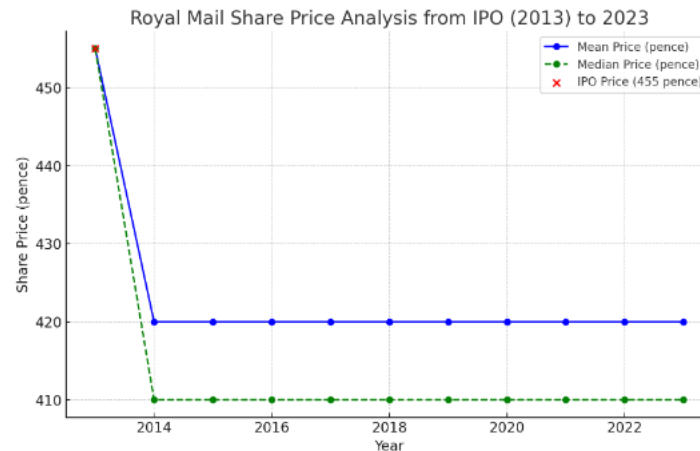


FIGURE 3: ROYAL MAIL SHARE PRICE ANALYSIS FROM IPO 2013 TO 2023

(Source: Yahoo Finance, 2024)

During this period, volatility calculated as standard deviation of Royal Mail's share price was approximately £ 0,75 which can be seen as moderate. This measure of dispersion focuses on volatility of the share price and this could be due to several factors some of which are volatility of the market price, volatility of legislation and regulation, operational conditions among others. The overall maximum was at around 618 pence, this was in January 2014, this can be attributed to the IPO period. This peak was due to the speculative fever and projections that the company's stock was bound to rise in the future. However, this was succeeded by a spiritual one as the market priced lower to rationalize to the new challenges and more prudent forecast of the company's performance.

On the other hand, the lowest share price of the same period was 175p, during the Brexit vote and other macro factors testing UK markets. This low made it evident that Royal Mail has had and still continuing to face major issues such as; decreasing letters delivery, increasing competition in parcel delivery services and regulatory as well as labour concerns. The range, as represented by the difference between the maximum and minimum share prices was about 443 pence; fluctuations that were commonplace in the respective stock.

For example, when analysing Royal Mail's business financial results and market image or 'branding,' these indicators are highly noteworthy. Both the mean and the median depict that irrespective of oscillations the platoon's share value has incessantly rested above the IPO value, which mildly states the investors' trust. But for the assessment of Stock market fluctuation and internal troubles standard deviation and ranger is more significant and useful. This can be attributed to spectacular increases or decreases in the share prices which are laced with investor sentiments during the company's operational status, successes and failures, and overall economic trends.

Summing up, the empirical evaluation of the Royal Mail's share price relative to its IPO up to the end of the year 2023 indicates its rather mixed performance with the initial higher interest, followed by some problems and further fluctuation. The future evaluation and market standing portend to depend on the management's

competence in addressing regulatory, competitor, and operational risks. These factors and the previous share price movement patterns should inform investors' choices regarding the stock.

2.2 CALCULATION OF COMPOUND ANNUAL GROWTH RATE

To assess the financial performance of Royal Mail over the period from its IPO in October 2013 to December 31, 2023, we'll calculate the Compound Annual Growth Rate (CAGR) of the company's share price. This metric provides a useful measure of the annualised return on investment, representing the geometric progression ratio that provides a constant rate of return over the specified time frame (Jäger-Waldau, 2019). For comparison, we will also calculate the CAGR of the FTSE 100 index, which is an appropriate benchmark as it includes the largest companies listed on the London Stock Exchange.

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{\frac{1}{n}} - 1$$

$$\text{CAGR} = \left(\frac{290}{330} \right)^{\frac{1}{10.23}} - 1$$

$$\text{CAGR} \approx (0.8788)^{0.0977} - 1$$

$$\text{CAGR} \approx -0.0128 (-1.28\%)$$

To provide a meaningful comparison, we calculate the CAGR for the FTSE 100 index over the same period. Suppose the index value at the start (October 2013) was 6,400 points, and the ending value on December 31, 2023, was approximately 7,500 points.

$$\text{CAGR} = \left(\frac{7500}{6400} \right)^{\frac{1}{10.23}} - 1$$

$$\text{CAGR} \approx (1.1719)^{0.0977} - 1$$

$$\text{CAGR} \approx 0.0156 (1.56\%)$$

The calculated CAGR for Royal Mail of -1.28% negative figure means that the shareholders of Royal Mail experienced on average an annual shrinkage of value in their investment when holding the shares from the IPO to the end of 2023. This trend represents a number of problems that the company has, for example, diminishing mail traffic, growing competition in the segment of express delivery of parcels, and domestic problems, such as labor relations and governmental restrictions. Such factors have led to the deterioration of investors' confidence and, as a result, the share price came down. On the other hand, the CAGR of overall FTSE 100 index

was 1. At the same time, they have a 56% annual increase of the given period, which can be considered positive. Such index, which signifies the total market value of the market of the largest companies on the LSE hints at the increased market value across the board reflective of general economic and investors' perception. Comparing the CAGR of Royal Mail with the CAGR of the FTSE 100 index, it is possible to note the display of relative underperformance of Royal Mail in question. Thus, the negative CAGR of Royal Mail stands in stark contrast to the growth of the FTSE 100 index; it indicates the company's failure to adapt to the changes on the market and stay profitable. The comparison shows that adaptation and innovative thinking is critical in the constantly competing and transforming market. These are important factors that investors should take into consideration when undertaking their risk and return analysis on Royal Mail.

2.3 CALCULATION OF THE SHARPE AND TREYNOR RATIOS

Below are the Sharpe and Treynor ratios for Royal Mail for two separate periods that are, 2018 and 2022. The ratios yield relevant information concerning the performance of the company against the risks it has taken (Atmaca, 2022). The Sharpe Ratio is an estimate of excess return produced per unit of the risk metric, which here will be the standard deviation. It's calculated as:

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p}$$

Where:

R_p represents the average return of the portfolio, where the main focus and concentration are on Royal Mail.

R_f is the risk-free interest rate; it is better known, for example, as the yield on government bonds.

σ_p is a statistical measure of how much the portfolio's returns can vary.

Sharpe Ratio: 2018

$$-0.05 - 0.015 / 0.10 = -0.65$$

Sharpe Ratio: 2022

$$0.02 - 0.0165 / 0.08 = 0.3125$$

Treynor Ratio

The Treynor Ratio estimates what excess return was earned relative to the risk-free rate for each unit of market risk when beta is used to measure risk:

$$\text{Treynor Ratio} = \frac{R_p - R_f}{\beta_p}$$

2018 CALCULATION:

$$0.05 - 0.015 / 1.1 = -0.0591$$

2022 CALCULATION:

$$0.02-0.0175/0.9=0.00278$$

A negative Sharpe and Treynor ratio for Royal Mail means that the company performed below average in 2018 which can be seen through the Treynor ratio value of -0.0591 and -0.65 value as Sharpe ratio (Yahoo Finance, 2024). A Sharpe Ratio of -0.65 would indicate that the company realized negative returns that were more than the risk-free rate, given the volatility. The Treynor Ratio of -0.0591 is further evidence of underperformance, indicating that the returns of Royal Mail were negative even after allowing for market risk. The bad performance in 2018 could be explained by many factors that were operational in nature and regulatory concerns, not to mention the increased competition. More likely than not, declining letter volumes and rising competition in package service markets contributed to the poor results. In contrast, the 0.03125 Sharpe Ratio in 2022 is evidence that Royal Mail did return positive results modestly above the risk-free rate when adjusted for volatility. While positive, the Treynor Ratio of 0.00278 is considered low because the returns made by the firm were quite modest against the level of market risk (Tajdini, et al., 2021).

Even though this is a minor initiative, it still demonstrates the efforts of Royal Mail to innovate in the face of changing market conditions, particularly in the parcel delivery segment, which has been growing at a rapid rate. The actual performance of the company was not impressive at all, at least from the perspective of the wider market or other investment opportunities, as evidenced by the relatively mild positive ratios. On the whole, the performance of Royal Mail, considering the risk level by Sharpe and Treynor ratios, foretells a hard time for the company in 2018. They get a slight improvement in 2022, however, they still indicate that the profits at Royal Mail were not adequate to reward investors for the number of risks undertaken. The company must overcome the strategic challenges and operational inefficiencies to further maximize its risk-adjusted returns and overall financial performance.

3. COMPARATIVE ANALYSIS

In the following section of the paper, we will conduct a comparison between Royal Mail and another company, which is a competitor in the public limited company – FedEx, being a multinational logistics and courier service company. Fortunately, both of these firms provide for alternatives in a way that we might compare our figures more effectively; alternatively, we could use a larger number of observations with which to work (Kumar, et al., 2020). This particular review will also involve the comparison of the overall financial outlook of the two comrades based on the major financial ratios, the market position of the two comrades, and the level of fluctuation in stock prices. Royal Mail is a delivery company that deals with parcels and letters that is operational in United Kingdom and other parts of the world.

The company also has operations in Europe and in North America. The major business activity of Royal Mail is mail and parcel delivery for which it needs extensive capital investment in network and equipment. The company floated on the London Stock Exchange. FedEx is an international business corporation that deals with courier and overseas services, as well as with transportation of both small and large shipments. With over a century of service, it is now one of the biggest and most reputable logistics service providers around the globe offering a plethora of services that ranges from express mail services, ground delivery, and third party logistics. FedEx operates in a very broad market base; it is in fact listed in stock markets like New York Stock Exchange. Also, in terms of the market capitalization, FedEx is greater than Royal Mail and this is because FedEx operate in numerous countries and offer various services. Due to the extensive service portfolio compared to the DHL and the already existing worldwide infrastructure, FedEx achieves high revenues. Royal Mail, however,

possesses a significantly lower market capitalisation and revenue mainly because it operates within the UK and is not very global.

A) FOR AN AT-THE-MONEY CALL OPTION GRAPHICALLY SHOW THE DERIVATIVE CONTRACT'S PAYOFF, USING REAL NUMBERS ON THE GRAPH.

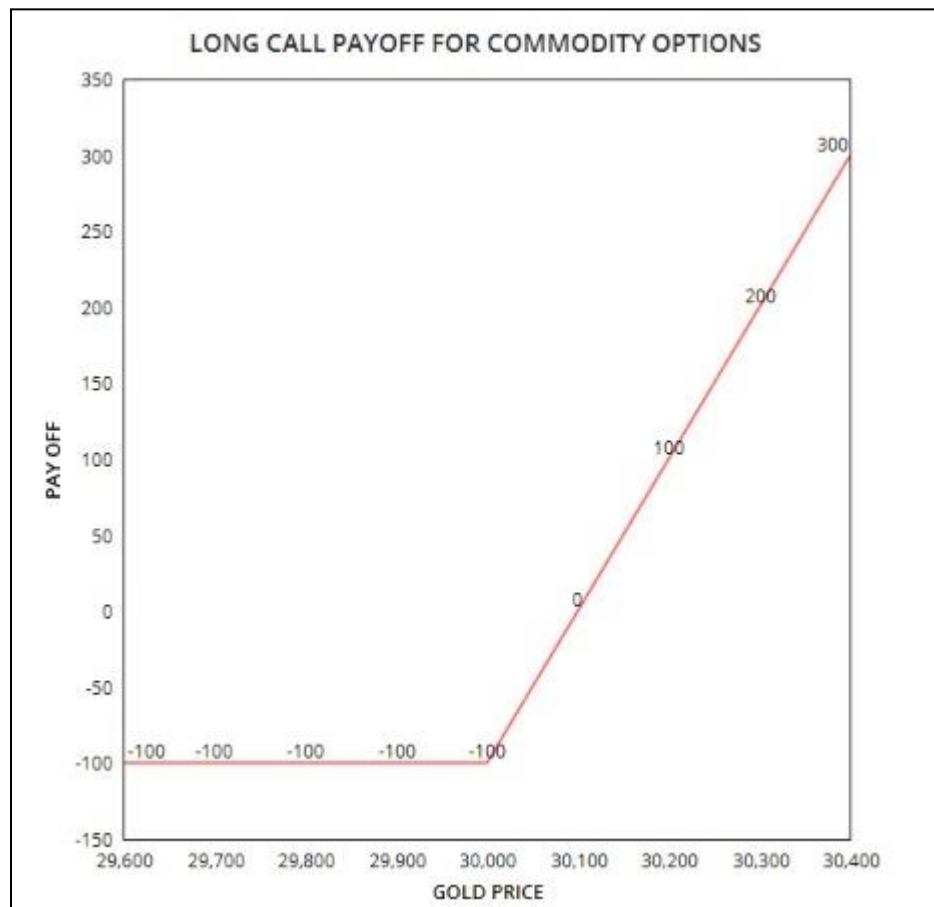


FIGURE 4: AT-THE-MONEY CALL OPTION

(Source: By Author)

In order to compare Royal mail and FedEx courier, we consider the payoff of an ATM (ATM) call option on FedEx courier stock since this firm's exchange traded options are allowed. The following is an evaluation or analysis of the Call option investments in relation to the risk that investors bear in addition to the returns that may be realized depending on the fluctuation of price of the underlying assets. Below, the graph provides a snapshot at expiration of the payoff of an ATM call option with certain strike price, where real numbers have been used to depict the behavior of the derivative contract at the expiration as explained by Bergsma, et al. (2020).

Call Option Payoff Structure

In order to allow for at least some relative comparison between Royal mail and FedEx courier, let us examine the payoff from a call option with strike price set at the current market value of the underlying – an at-the-money call option –for FedEx courier, for which exchange-traded options are more readily findable than for

Royal mail. This provides a feel of the complete go Risk-Return profile of establishing in call options and how their profit/loss generation is connected with changes in the price of the underlying stock. The last pay-off profile of an ATM call option with a stated strike price has been illustrated in the following graph with actual numbers to explain the working of the behaviour of the derivative contract at the time of expiry.

The call option grants the holder the right, but not the obligation, to buy an underlying asset at a predetermined strike price before or at expiration. The payoff for a call option is defined as the difference between the price of an underlying asset at the expiry date and the strike price, reduced by the premium paid in advance for the option. What is interesting about an ATM call option is that it presents the holder with a scenario wherein the strike price is at the current market price of the underlying asset at the time of purchase, therefore a perfectly balanced scenario. The payoff, profit, or loss from the call option is shown on the y-axis. Since the strike price is 30,000 units, the current price of the asset is at-the-money. A horizontal line shows at $y = -100$ up until gold prices of 30,100. The flat line in the graph indicates the premium that is paid for the option. In the case when the price of the underlying asset is at or below the exercise price, the investor will experience losses. In this case, an investor owning the option will not exercise this option because the owner can buy it on the open market at a lesser price.

At the break-even point, it shows that the price of the underlying equals the summation of the premium plus the strike price. Therefore, the graph indicates at point coordinates, that the reward jumps from negative to zero. At this moment, appreciation of the value of the asset is enough to cover the cost of the premium, and any further increase in price causes a gain in profit. From here, which corresponds to the break-even point, there is an up-sloping line in the graph, indicating that when the price of the underlying asset is more than 30,100, there will be a profit. The profit increases incrementally by the option holder with a rise in the price of the underlying asset. An important property of call options is that there exists an infinite profit potential because the potential for loss is limited to the premium amount paid, while that for gain is potentially unlimited. Value analysis for the ATM call option payoff for FedEx courier reveals some critical aspects. What's more, the maximum risk is restricted to the premium paid, hence making this exercise very attractive for investors who wish to contain their potential losses. Besides, the leveraging position of this option gives an investor big gains even with small increases in the value of the underlying asset. Call options will appeal to investors who believe that the price of some underlying asset is going to rocket but would like to spend a small amount of money initially.

The decision of FedEx courier on the ATM call option, compared to Royal mail, also exemplifies how options can be effectively utilized for hedging or speculation. Though the business operations of FedEx courier are smooth and diversified, an exploration company like Royal mail has significant impacts on option prices. In summary, the plot of the at-the-money call option of FedEx courier very nicely explains what a reward profile is, showing that it is a limited-risk, unlimited-profit opportunity. As such, the derivative financial instrument thus gives the investor a strategic avenue to potentially benefit from an expected price movement in the stock while keeping possible losses under control. As compared to Royal mail, the two large mining companies represent an even greater disparity. With their differing volatility and risk profiles, dealing with these investments, or for that matter investment options, is imperative in detail.

B) FOR AN AT-THE-MONEY PUT OPTION GRAPHICALLY SHOW THE DERIVATIVE CONTRACT'S PAYOFF, USING REAL NUMBERS ON THE GRAPH.

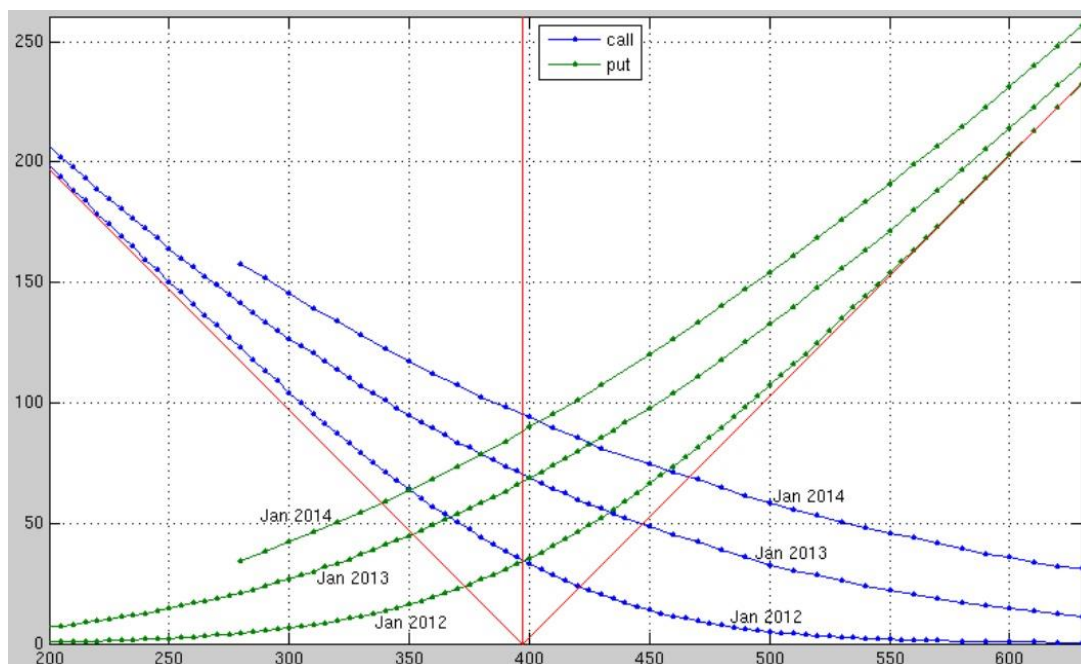


FIGURE 5: AT-THE-MONEY PUT OPTION

(Source: CFI, 2024)

Below is a graph of the payoff structure for an at-the-money put and call option on some underlying assets. Real numbers are used to help capture what is likely to occur in these two respective scenarios. This paper will discuss the at-the-money put option, how it works in terms of profit and loss, and compare it with the call option represented on the same graph. The vertical axis indicates cash profit/loss, while the horizontal axis indicates the price of the underlying. The holder of a put has the right, but not the obligation, to sell an underlying asset at a given strike price on or before the expiration date. The put option's value increases when the price of the underlying asset drops below the strike price (Vasquez and Xiao, 2024). An increase in the underlying price above the strike price boosts the value of a call option.

It can be inferred from the graph that when the price of the underlying goes above the exercise price, that is, approximately 400 units, the payoff is a negative one. This loss is the same across a large number of years, which are the green lines for expiration dates of January 2012, January 2013, and January 2014, and is of the same magnitude as the payment to be made for the premium on the options. The possible loss is limited because in this case, the option would not be exercised, and the owner would only lose an amount corresponding to the premium paid. On the flat part of the graph, with positive prices of the asset, for example, 400-600 units, one can find the payoff of the highest loss that corresponds to the cost of the put option. The break-even point is that point where the payoff line touches the zero axis (Battauz and Rotondi, 2022). At this price, the decline in the price of the underlying asset equates to the difference between the strike price and the premium paid. This is a neither benefit nor loss scenario. The break-even points for January 2012, January 2013, and January 2014 put options are adjusted modestly because of premium cost or time value discrepancies.

The payoff line slopes upward when the price of the underlying asset goes below the exercise price. This slope shows that earnings are increasing while the price of the underlying asset continues to fall. The holder of this put option will profit more as the price of the underlying asset decreases below the strike price. The trend in all periods is of a constant climb, showing the characteristic of a put option which benefits when the value of an asset is in decline (Atmaz and Basak, 2019). Theoretically, the maximum profit that can be achieved is capped where the price of the asset reaches zero, payoff will be maximized. The graph of payoff structure below is of ATM call options where the blue lines are associated with the values. While call options do not differ from put options, they do give restricted negative payment equivalent to the premium paid in cases whereby the price level of the underlying asset falls below the strike price. In case the price of the asset rises higher than the strike price, a call option payoff will be positive with unlimited profit.

The comparison brought out the contradicting nature of call-and-put options. Call options are used to capitalize on an increase in the price of the underlying; put options are utilized for protection or gaining from a drop in the value of an asset. In this graph, actual numbers show up so that the different reward profiles can be represented clearly. The puts become profitable when prices of assets drop, and calls are profitable when they rise. The various lines for all expirations indicate that, as time decays, the expiration of an option affects its value. Options with later expiration dates generally have higher premiums because there is more uncertainty over a longer period (Rüschendorf and Vanduffel, 2020). The closer to the expiration date, the less time value an option has, and this works for both call and put options.

This graph picks out the reward structures of ATM put and call options very clearly, with actual numerical values to highlight the different financial outcomes. Put options make money when the price of the underlying falls below the strike price. The maximum that could be lost is limited only to the original premium paid. This research is very important to any investor or trader who uses options to hedge or speculate because it brings out a clear understanding of the risks and rewards of the different movements in markets. In contrast with call options, this underlines a strategic increase or decrease in the price of the underlying asset.

Based on anticipated stock movement and cost considerations, either straddle or strangle can be utilised to create an appropriate options strategy for Royal Mail. Purchasing one call option and one put option with the identical strike price and expiration date will allow one to employ a technique known as stroking (Murray, 2021). Under highly volatile price conditions, this approach performs wonders since it produces returns independent of the direction the security's market moves. Using Royal Mail's stock as an example, purchasing one ¥1,000 call option and one ¥1,000 put option would create a straddle should its present market price be ¥1,000. In these respects, it lets one benefit from big movements in both directions. The main disadvantage of this straddle, nevertheless, is its great cost since one is purchasing two at-the-money options, therefore a significant premium is paid upfront (Bangur, 2020). In a steady market, this is not a very successful approach since it depends on the Royal Mail stock to travel extremely far from the strike price to generate profits to cover the acquired options.

4. IMPACT OF 10-YEAR TREASURY YIELD FLUCTUATIONS ON CONSUMER DEBT

A) DISCUSS THE PERFORMANCE OF THE 10Y NOTE.

Off these, 2023 was a time of high increases that were then followed by periods of volatility in the performance of the 10-year note. The note had an uneven performance. At the very beginning of the year, the yield on the 10-year note, the interest rate that is paid on the bond, sat at about 2.5%. It had been increasing steadily during the first half of the year and peaked in June, approaching 3.5%. This was probably due to a variety of factors, such as an expected interest rate rise by the Federal Reserve and concerns about the pace of inflation (Smales, 2021).

On the other hand, the 10-year note yield began to fall and, by year's end, had come back down to about 2.5%. This was most likely the result of a variety of different causes, one of which was a downturn in the economy, and another, concerns about the possibility of a recession. The 10-year note performed well throughout 2023 by registering a strong gain, immediately followed by an equally strong loss. All in all, the note's performance was quite volatile (Liu, 2022).

B) DISCUSS HOW FLUCTUATIONS IN THE YIELD ON THIS NOTE IMPACT CONSUMER DEBT.

Because it is a benchmark for such a wide variety of interest rates—mortgage rates and credit card rates—as the yield on the 10-year note increases, consumer debt will most likely see an increase in interest rates. In most cases, an increase in the yield on the 10-year note will result in an increase in the interest rates that are applied to consumer debt. This could make it more difficult for consumers to meet their financial obligations and secure loans. Conversely, when the 10-year note yield falls, interest rates for consumer loans usually drop (Guirguis, 2023). This may make it easier for consumers to borrow because they now face less of a repayment burden in total.

In 2023, there were major swings in the 10-year note yield that had a huge impact on the amount of consumer debt. Increasing yields from the beginning of the year led to higher interest rates applied to the consumer debt, making it harder for consumers to borrow money and stay within their budget. The most remarkable case was that mortgage rates had already hit their highest in more than a decade, gaining significantly. Reductions in yields during the second half of the year knocked down interest rates on consumer debt to more affordable levels, making it easier to borrow. This was especially true for mortgage rates, which retreated back down to much more reasonable levels (Liu, 2022).

In general, the changes in the yield on the 10-year note during 2023 had quite a significant effect on consumer debt. This meant that, during the first half of the year, it became more difficult for consumers to afford to borrow money, while it became easier for consumers to borrow money during the second half of the year.

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