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Alternate Valuation Methods in the Era of COVID-19

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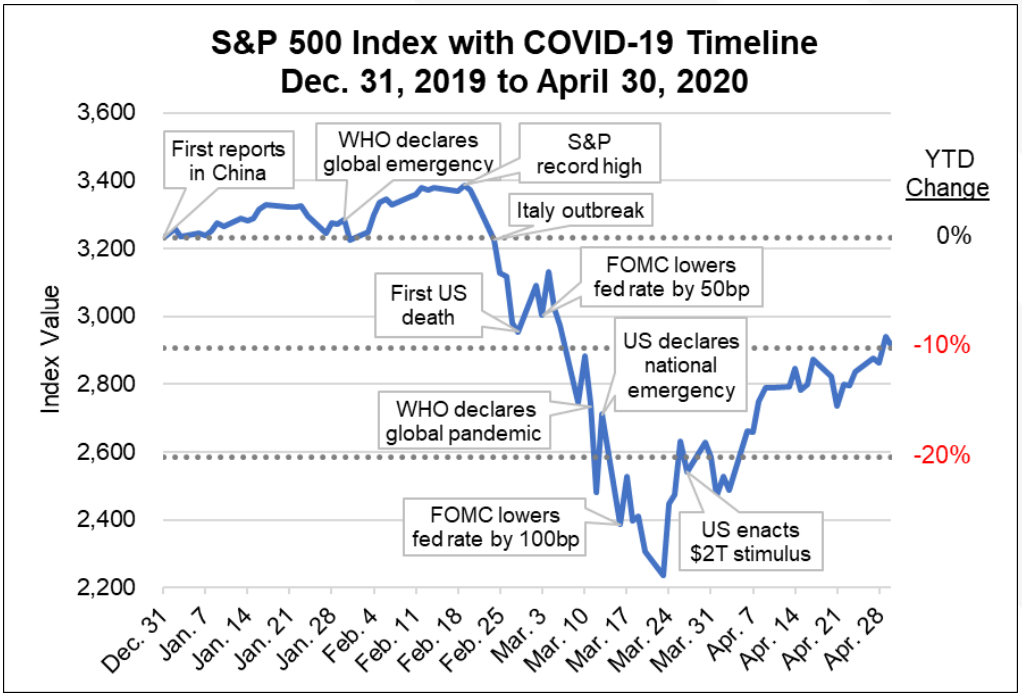
Overview

In recent months, COVID-19 has grown from an unidentified flu-like illness in Wuhan, China to a global pandemic causing social and economic disruption, a significant downturn in capital markets, and increased market volatility. In this environment, the mechanical application of traditional valuation approaches and methods may produce business values that lack credibility and reliability. Accordingly, it is important that analysts think "outside-the-box" when conducting current business valuations. In this article, we address the impact of COVID-19 on the capital markets and offer alternate valuation methods that should be considered in these turbulent times.

Impact of COVID-19 on Capital Markets

The following Chart 1 highlights major COVID-19 events and the performance of the S&P 500 Index from December 31, 2019 through April 30, 2020.

Chart 1



Despite the increasing severity of the outbreak in China and the first confirmed case in the U.S. on January 21, the S&P 500 Index continued a generally positive trend during the January through mid-February period, reaching a record-high closing value of 3,386 on February 19. As the disease spread through Europe and became more prevalent in the U.S., the index declined during 19 of the next 29 trading days, resulting in an overall decline of 34% to a March 23 low of 2,237. Since that date, the index has increased over 30% to 2,912 as of April 30.

Have the values of closely held businesses experienced similar volatility? Analysts attempting to answer this question should consider whether the typical application of valuation approaches and methods is appropriate in this evolving landscape.

MARKET-BASED VALUATION METHODS

Market-based valuation methods typically include the merger & acquisition (M&A) method and the guideline public company (GPC) method. In many situations, the impact of COVID-19 may affect the application of these methods for valuation dates occurring after mid-February. Accordingly, adjustments to these methods may be appropriate in order to conclude credible and reasonable indications of value.

Mergers & Acquisitions (M&A) Method

Prices paid in M&A transactions that were negotiated prior to mid-February may not contemplate the impact of COVID-19. In addition, economic uncertainty, risk aversion, and the tightening of corporate debt markets have reduced M&A deal activity that could serve as relevant data points for contemporaneous valuations.

Even if comparable transaction(s) can be identified, it may be problematic to apply M&A multiples unaffected by COVID-19 to the earnings of a subject company that have been affected by COVID-19. In addition, M&A multiples based on forward earnings (e.g., 2020 EBITDA) that were projected prior to mid-February may not contemplate the current economic environment.

Guideline Public Company (GPC) Method

GPC multiples are typically calculated using valuation date stock prices and historical or projected earnings of the GPCs. If these multiples are calculated based on stock prices affected by COVID-19 and earnings that do not reflect COVID-19, the application of these multiples to the historical or projected earnings of a subject company affected by COVID-19 may be problematic.

In addition, GPC multiples calculated based on market value of invested capital (MVIC) or enterprise value (EV) may be distorted when the public company reports debt in its capital structure. Given recent increases in corporate bond yields due to the “flight-to-quality” and market uncertainty, there is an increased likelihood that the market value of debt may be lower than its reported book value. This could distort MVIC and EV multiples

when using stock prices impacted by COVID-19 and the reported book value of debt derived from financial statements.

Alternative Market-Based Methods

It is arguable that the impact of COVID-19 was not fully reflected in the capital markets prior to mid-February. Accordingly, when the valuation date occurs prior to mid-February, it may be appropriate to conduct the analysis in a manner consistent with the ordinary application of market-based valuation methods. However, when the valuation date occurs after mid-February, analysts may wish to consider whether adjustments to the analysis are appropriate. With this in mind, we offer the following alternative market-based methods to consider for valuation dates occurring after mid-February.

Alternative M&A Method 1

If the purchase price and earnings of the merged or acquired target company ("Target") reflect the impact of COVID-19, it may be appropriate to use this information in a manner consistent with the ordinary application of the M&A method. However, if the purchase price of the Target reflects the impact of COVID-19 ("Affected Purchase Price") but the earnings used in the calculation of multiples do not ("Unaffected Earnings"), the following procedures may be appropriate:

1. Calculate the multiples based on the Affected Purchase Price and Unaffected Earnings of the Target. This calculation will provide the "Affected M&A Multiples".
2. If COVID-19 has affected the earnings of the subject company ("Affected Earnings"), adjust the Affected Earnings to quantify the Unaffected Earnings of the subject company.
3. Apply the Affected M&A Multiples to the Unaffected Earnings of the subject company to estimate the value of the subject company as affected by COVID-19 ("COVID-19 Value").

Alternative M&A Method 2

If COVID-19 has not affected the purchase price of the Target ("Unaffected Purchase Price") and the Unaffected Earnings of the Target are used in the calculation of the multiples, the following procedures may be appropriate:

1. Calculate the multiples based on the Unaffected Purchase Price and Unaffected Earnings of the Target. This calculation will provide the "Unaffected M&A Multiples".
2. If the earnings of the subject company are the Affected Earnings, adjust the Affected Earnings to quantify the Unaffected Earnings.
3. Apply the Unaffected M&A Multiples to the Unaffected Earnings of the subject company to estimate the value of the subject company as unaffected by COVID-19 ("Unaffected Value").

4. Conduct an income approach analysis to estimate the economic damages attributable to COVID-19 for the subject company over a relevant period of time ("COVID-19 Damages").
5. Subtract the COVID-19 Damages from the Unaffected Value of the subject company to estimate the COVID-19 Value of the subject company.

Alternative GPC Method 1

If the valuation date stock price and reported earnings of the GPC reflect the impact of COVID-19, it may be appropriate to conduct the analysis in a manner consistent with the ordinary application of the GPC method. However, if the valuation date stock price reflects the impact of COVID-19 ("Affected Stock Price") but the reported earnings used in the calculation of multiples are the Unaffected Earnings (e.g., provided by December 31, 2019 financial statements), the following procedures may be appropriate:

1. Calculate the multiples using the Affected Stock Price and Unaffected Earnings of the GPC. This calculation will provide the "Affected GPC Multiples".
2. Determine if the earnings of the subject company are the Affected Earnings. If so, adjust the Affected Earnings to quantify the Unaffected Earnings.
3. Apply the Affected GPC Multiples to the Unaffected Earnings of the subject company to estimate the COVID-19 Value of the subject company.

Alternative GPC Method 2

An alternative to GPC Method 1 is conducted using the following procedures:

1. Calculate the multiples using the GPC stock price unaffected by COVID-19 ("Unaffected Stock Price") and the Unaffected Earnings of the GPC. This calculation will provide the "Unaffected GPC Multiples".
2. In order to quantify the Unaffected GPC Multiples, you will need to select the date of the Unaffected Stock Price to use in the analysis. This date should be different than the valuation date because the valuation date stock price presumably reflects the impact of COVID-19. Potential dates may include (1) the Unaffected Stock Price date closest to the valuation date, (2) the date of the financial statements of the GPCs used in the calculation of multiples (under the assumption that the financial information is known or knowable), or (3) the first trading day after the financial statements are publicly disclosed by the SEC.
3. Determine if the earnings of the subject company are the Affected Earnings. If so, adjust the Affected Earnings to quantify the Unaffected Earnings.
4. Apply the Unaffected GPC Multiples to the Unaffected Earnings of the subject company to estimate the Unaffected Value of the subject company.

5. Conduct an income approach analysis to estimate the COVID-19 Damages of the subject company. Subtract the COVID-19 Damages from the Unaffected Value of the subject company to estimate the COVID-19 Value of the subject company.

INCOME-BASED VALUATION METHODS

When using an income-based approach, analysts should consider how COVID-19 will impact the projected financial and operational performance of the subject company. There are a multitude of issues that may be addressed, including the following:

- When will social and economic conditions return to a more normal level at the national and international level?
- What is the cash burn rate and is the company sufficiently capitalized to survive?
- Will the company return to normal financial and operational performance after COVID-19 subsides or will the "new-normal" look materially different?
- How will new regulations, social behavior, buying patterns, micro-economic conditions, etc. reshape the outlook for the company and its industry?
- What types of financial adjustments are appropriate? Are these adjustments temporary or permanent in nature? If temporary, how should they be reflected in the analysis?
- What impact will government loans, stimulus payments, and other support have on the financial performance of the company? How should these payments be reflected in future cash flows?
- How will these changes impact cash flow adjustments such as depreciation, capital expenditures, and incremental working capital requirements?

There is no silver bullet answer to these questions. Each company will have its own specific set of facts and circumstances. However, it is reasonable to assume that financial projections prepared during 2019 will be materially different than projections prepared after mid-February.

In addition to the issues discussed above, there are significant new challenges in estimating the cost of capital used as the discount rate in income-based valuation methods. Some of these issues are discussed below.

Cost of Capital Analysis

Treasury Yields

The discount rate used in the income approach is typically based on the costs of debt and equity capital derived from empirical market studies. The yields on U.S. Treasury securities are often used to estimate the risk-free rate used in the calculation of the cost of equity capital. During market downturns, the flight-to-quality increases demand for

safer investments such as Treasuries, which tends to drive Treasury security prices up and yields down.

When mechanically incorporated into a cost of equity capital analysis, lower Treasury yields can result in a lower cost of equity capital and give the impression that companies are worth more in times of increased risk and uncertainty. Analysts who simplistically use the current lower Treasury yields in their analysis may calculate an understated cost of equity, implying that companies are less risky (and more valuable) than they were prior to COVID-19.

The following Chart 2 illustrates the potential problems associated with the simplistic use of current Treasury yields in a cost of equity analysis.

Chart 2

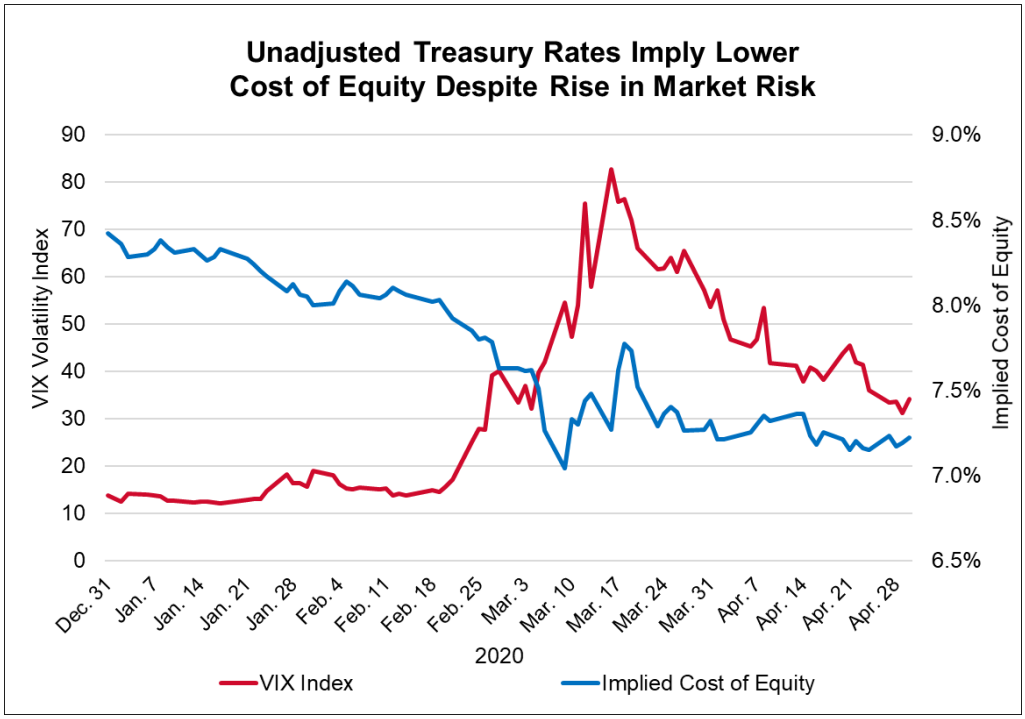


Chart notes: Cost of equity calculated using the Capital Asset Pricing Model with the following inputs: 20-year Treasury yield for the risk-free rate, the supply-side equity risk premium (source: Duff & Phelps' Cost of Capital Navigator), a beta of 1.0, and no addition of a size premium.

As demonstrated in Chart 2, the cost of equity capital implied by the unadjusted 20-year Treasury yield declined from 8.4% on December 31, 2019 to 7.2% as of April 30. During this same period, the Chicago Board Options Exchange Volatility Index (VIX) increased from 14 on December 31, 2019 to 83 in mid-March before declining to 34 as of April 30.

The VIX is a barometer of risk that measures market participants' expectation of forward-looking volatility and is commonly referred to as the "Fear Index." It is generally understood that market expectation of increased volatility will typically increase the cost

of equity capital. Accordingly, the concept that the actual cost of equity capital would decline while the VIX increases significantly (as demonstrated in Chart 2) is questionable.

In view of the disconnect between the movement of Treasury yields and the VIX, analysts should consider whether the unadjusted Treasury yield is appropriate to use in the calculation of the cost of equity capital in this current environment. It may be appropriate to consider the use of a "normalized" or expected long-term Treasury yield in the cost of equity capital analysis if the valuation date occurs after mid-February.

Beta Look-Back Periods

Betas for public companies are calculated by analyzing company stock prices and market returns over a "look-back" period. The length of time for this look-back period is often between two and five years.

Beta analyses that have look-back periods which capture a portion of the COVID-19 market decline will reflect a mix of higher volatility COVID-19-affected data and lower volatility pre-COVID-19 data. Consequently, it is possible that beta calculations may be distorted in the current environment. Therefore, analysts should consider the extent to which COVID-19 has affected the subject company and its industry to determine whether the beta is reflective of the current volatility environment for the subject company.

Debt Capital and the Weighted Average Cost of Capital

When the weighted average cost of capital (WACC) is used as the discount rate, the analysis can be distorted if the assumed capital structure does not reflect the market values of debt and equity.

Given the recent increase in yields on corporate debt, the assumption that the book value of a company's debt is consistent with its market value is questionable. In addition, yields on corporate debt are increasing due to the flight-to-quality. Consequently, debt balances and interest rates reported in financial statements may require further analysis. Care should be exercised when estimating the relevant components of debt capital used in the calculation of the WACC.

LIQUIDITY AND SOLVENCY ANALYSES

Given the current environment, insolvency is a realistic possibility for many companies. When this is the case, analysts should consider whether the subject company has (1) adequate cash reserves and/or debt capacity, (2) is adequately capitalized, (3) is able to meet its obligations as they become due, and (4) is expected to remain solvent while the COVID-19 pandemic runs its course. Such an analysis may include:

- Estimating the cash burn rate and determining the number of months the company can continue with current cash reserves given various levels of potential financial losses.

- Modeling various scenarios and estimating the timing and costs associated with recovery.
- Considering the availability and impact of government-funded stimulus payments, loans, and other support.
- Analyzing potential short-term financing options such as lines of credit, revolvers, and equity infusions.
- Projecting the timing and amount of near-term debt payments and the company's ability to maintain compliance with debt covenants.
- Determining the possibility that the market value of a subject company's assets may be less than its liabilities.

If the company is determined to be insolvent, the application of an asset-based approach may be appropriate. In doing so, exercise caution when using the reported book value of assets and liabilities on the subject company's financial statements. The value of a subject company's assets and liabilities in the current environment may be materially different than their respective book values.

SUMMARY AND CONCLUSION

COVID-19 is reshaping the valuation landscape. Some aspects of these changes may be temporary and others more permanent. Accordingly, the mechanical application of traditional valuation methods in this environment may produce values that lack credibility and reliability. It is important for analysts to consider whether modifications to commonly used valuation methods are necessary. If modifications are made, be prepared to provide supportable reasoning for those changes.

Analysts may want to revisit some of the valuation distortions that occurred during the Great Recession of 2008. It appears that the initial economic impact of COVID-19 may be at least as severe as the Great Recession. However, it also appears that the duration of the damage period may be shorter. Let's hope so.