

# Adjusting for COVID-19 in valuations

Insights as at 31 March 2020

*The insights in this paper are based on analysis of the Australian market and reflect the views of the PwC Australia firm. These insights may not be applicable in other territories given differences in local practice and as the analysis is predominantly focused on observations of Australian companies and financial exchanges.*

The sharp decline in global equity markets over the past few weeks demonstrates the potential value impacts of COVID-19, as travel bans, quarantining, consumer uncertainty, supply chain disruption translates into stock volatility and asset devaluations. However the impact has been mixed with some sectors hardly being impacted and others heavily impacted.

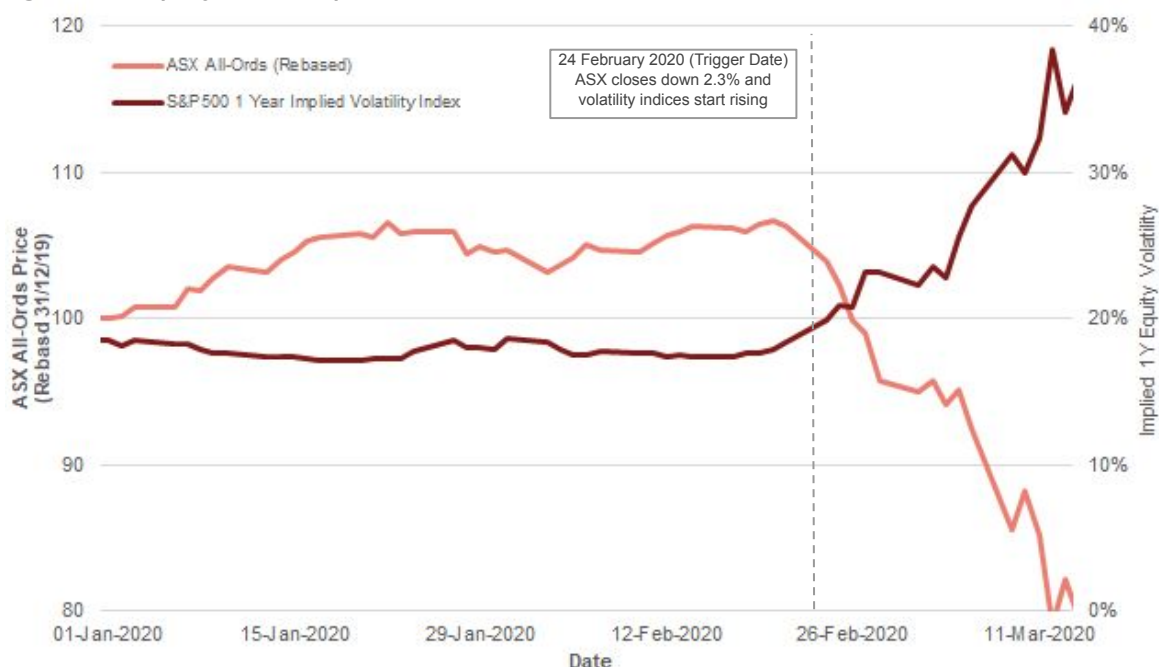
Whilst the consequences are still evolving and the final impact is not yet known, we have set out below our initial thoughts on how you might approach adjusting valuations in the short term. We have broken this down into:

- When do you need to adjust from?
- How do you adjust?
- How much is the adjustment?

## When do you need to adjust from?

With hindsight it is perhaps surprising that markets remained subdued for so long, with the ASX All-Ords actually rising by ~5% in the first month of 2020 despite the rising number of COVID-19 cases in China. The trigger for a reversal in this sentiment appears to have been over the weekend of 22/23 February when news broke of whole towns being quarantined in northern Italy as well as a substantial rise in cases in Iran and South Korea. Stock markets started to fall and volatility indices started to increase from 24 February 2020 onwards (the Trigger Date for adjustment) as hopes that the virus could be contained quickly evaporated.

Figure 1: Equity market performance rebased 31 December 2019



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## How do you adjust?

Over the next few months, we would expect earnings forecasts to be revised downwards as companies accumulate more information and have time to quantify the impact of COVID-19 on their businesses. This should provide greater clarity on the extent to which the falls have been driven by reduced earnings expectations and/or an increase in equity discount rates.

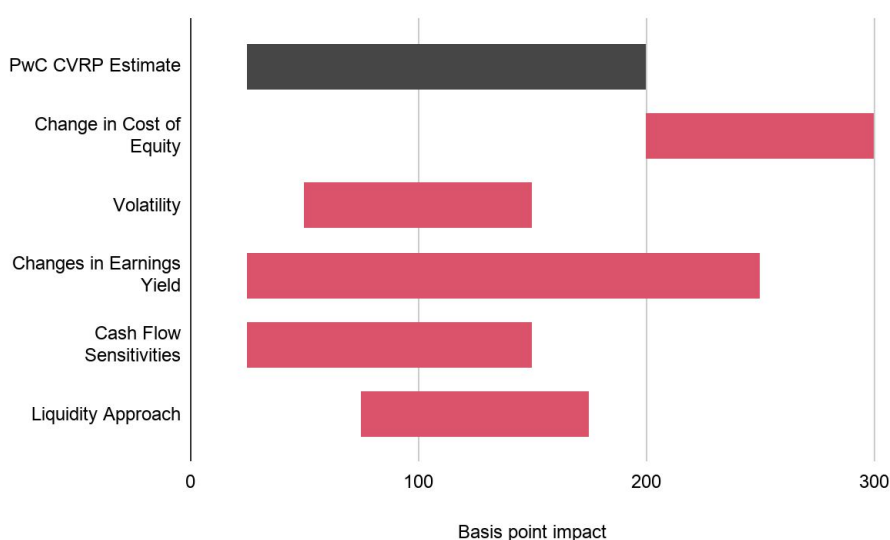
However, in the short term, including 31 March valuations, it is challenging for businesses to meaningfully adjust down their cash flow forecasts. For example, Air New Zealand withdrew their revised earnings guidance just 2 weeks after issuing it as bookings declined faster than expected. As an alternative, one possible approach is for companies to continue to use their prior forecasts but apply a temporary adjustment to the cost of equity.

## How much is the adjustment?

To help assess the temporary adjustment to the cost of equity, we've taken a look at market evidence to help estimate a generic 'COVID-19 risk premium' (CVRP) that could be applied to the cost of equity. We've adopted 5 approaches to infer a CVRP, including assessing:

1. Changes in the implied Cost of Equity since 31 December 2019 (CoE)
2. Impact of market volatility on the Market Risk Premium (Volatility)
3. Changes in earnings yields (Earnings Yield Approach)
4. Risk premiums derived from cash flow sensitivities (Cash Flow Approach)
5. Premiums implied by liquidity/marketability discounts (Liquidity Approach)

Figure 2: Estimated risk premia



Based on our analysis, at this point in time, a risk premium of **between 25 bps to 200 bps** should be added to discount rates, to factor in the uncertainty inherent in unadjusted cash flows. Where an asset/business lies in this range will depend on the industry it operates in and the level of operating and financial leverage.

Obviously the above is a starting point only and assumes that companies have the financial capacity to trade through the current shock. For any companies where this may not be the case (e.g. highly leveraged companies) or for companies who have a greater exposure a different approach will be required.

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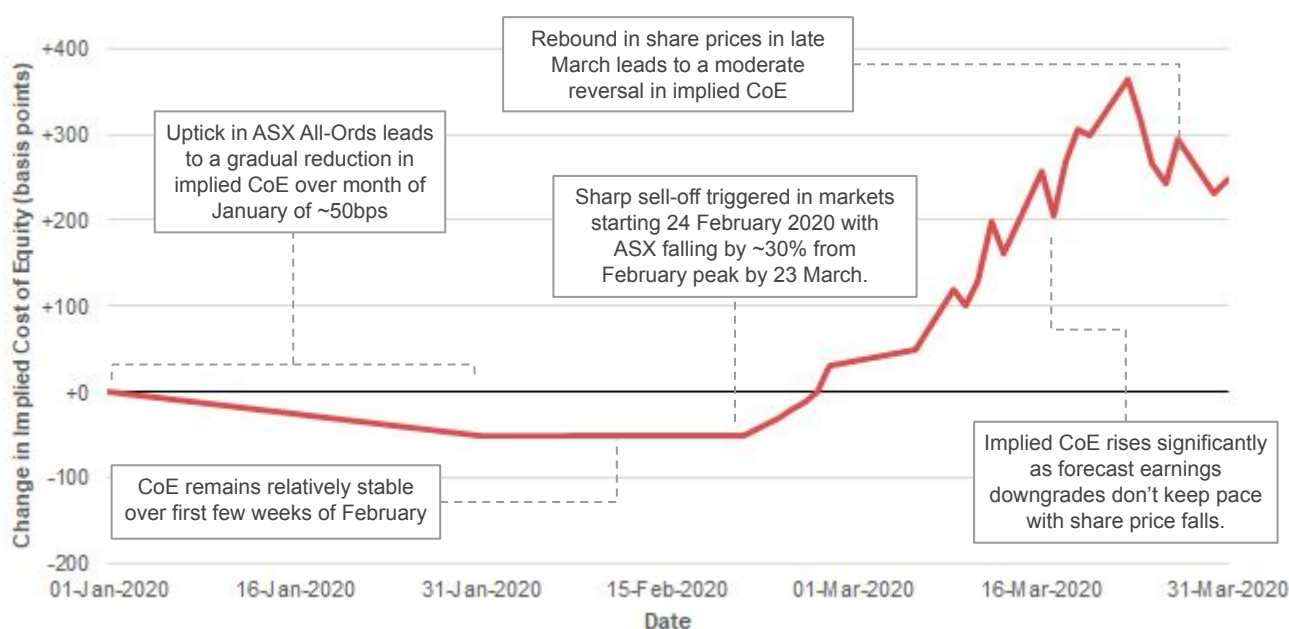
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## Assessing the adjustment

### 1. Change in Cost of Equity since 31 December 2019

We have estimated a CVRP through changes in the implied Cost of Equity of the ASX All-Ords. Since 31 December 2019, we estimate the Cost of Equity has increased by **c.200 bps to 300 bps**.

Figure 3: Chart to show implied change in cost of equity 31 December 2019 - 31 March 2020



Source: CapIQ, earnings forecasts at 31 December 2019

### 2. Volatility

Since 31 December 2019, the level of volatility observed in the market (measured by the VIX1Y index) has doubled. Whilst not a perfect science, to translate this into a risk premium, we assumed these higher levels of volatility have a short term impact on the cost of equity.

Assuming that COVID-19 impacts volatility for say, 6-18 months, we estimate the knock on impact on equity IRRs is approximately **50 bps - 150 bps** based on a 10 year time frame.

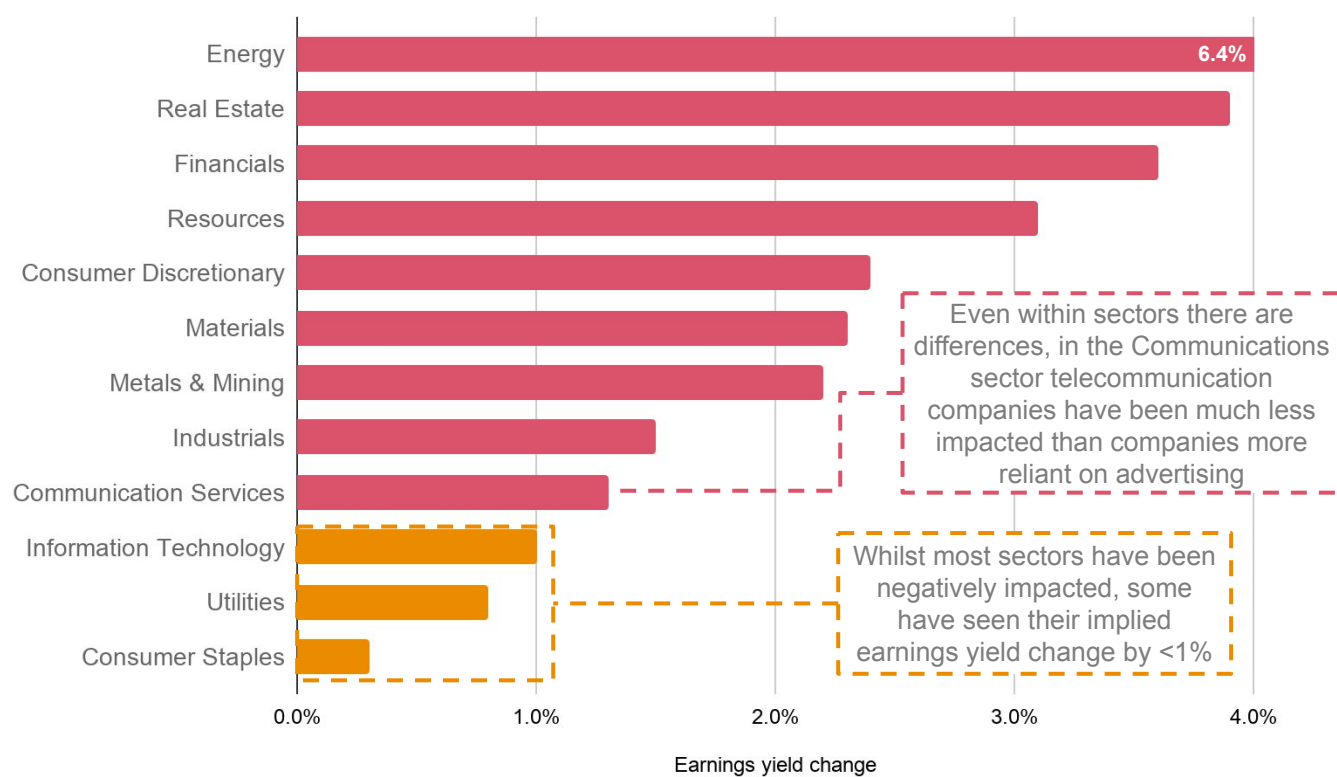
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## 3. Changes to earnings yield

Observing changes in the earnings yield gives an indication of the cost of equity across the different market sectors. The chart below sets out the impact on cost of equity by sector across the ASX. This implies a broad range of **25bps to 250bps**, but with some industry segments above and below this.

Figure 4: Chart to show implied change in earnings yield 31 December 2019 - 31 March 2020



Source: CapIQ, earnings forecasts at 31 December 2019

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## 4. Cash flow sensitivities

By applying 'shocks' to specific cash flow forecasts, we are able to quantify the impact on the value of a business of an unplanned event and then convert this into an equity premium. To assess the impact of COVID-19 three assumptions need to be made: how deep will the shock be (**quantum**), how long will the shock last (**duration**) and how frequently do shocks occur (**frequency**)

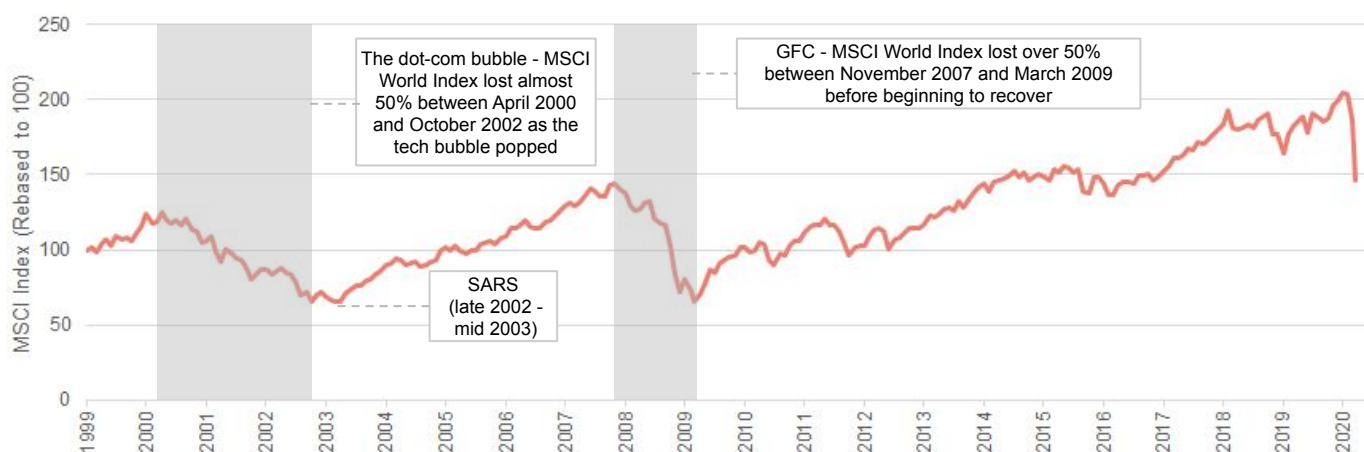
**Quantum** | the quantum of a cash flow shock for any business will depend on a business' dependency on international trade, nature of the supply chain, goods/services provided (essential vs discretionary), rate of recovery of consumer confidence, etc.

Our analysis of prior epidemics (e.g. SARS) suggests a quantum impact of between 10-15% could be used. However, the current market expectation appears to be that the impact for this event may well be larger given the differences between COVID-19 and SARS. We have adopted a broad range of 25%-50% for our analysis to reflect this.

**Duration** | market commentary suggests that COVID-19 may have an impact of between 3 and 18 months, (but at this stage is highly difficult to predict). Based on our analysis of this and prior shocks we have assumed 6-18 months.

**Frequency** | events with this level of impact on the market are thankfully relatively rare. Looking back over the last 20 years as an approximation, there have been two other significant market events. We have, therefore, adopted an occurrence rate of every 10 years.

Figure 5: Impact on MSCI World for certain one off events



This modelling suggested **25bps to 150bps** for well capitalised companies. This analysis is most applicable for assets with strong operational and financial gearing, and in industries where volumes are expected to return to previous levels in the near future. When considering businesses that have higher leverage and which operate in less resilient industries, this approach may not be appropriate and a higher premium would likely apply.



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## 5. Liquidity Approach

Liquidity or 'marketability' discounts are included in the valuation of unlisted equities on occasions where it is deemed that the investment would take a period of time to sell, or would otherwise require a discount to be applied to its fundamental value, in order to attract a willing buyer.

Given the current levels of uncertainty and volatility in the global market, it may be reasonable to assume that a potential asset buyer would be hesitant to pay a "full" price to acquire an asset or that assets would take longer to dispose of. The buyer would likely apply some form of discount to reflect this.

There are a number of academic studies on this topic. The size of a liquidity discount is impacted by the time over which the asset becomes illiquid, payment of dividends over that period (i.e. provision of some liquidity), and the level of volatility of the underlying equity.

Based on our analysis, we estimate a CVRP based on discounts for lack of marketability to be in the region of **75 bps to 175 bps**.

## Conclusion

Based on the 5 approaches set out above, in the absence of re-forecasting cash flows and an alternative approach to estimating the impact of COVID-19 on equity valuations, we **suggest applying a CVRP of between 25 bps and 200 bps to the assessed cost of equity**. This range is a starting point only based on the broad averages of well capitalised companies.

Where an asset lies in this range (or above or below) will depend on:

- The industry it operates in
- Level of financial and operational leverage
- Ability to mitigate the impacts (e.g. through deferral of capital expenditures, etc)

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