

Guidance Note: Impact of COVID 19 on Valuation

(Note: The report has been jointly prepared by the team of 7 RVOs viz. ICAI RVO, ICSI RVO, ICAI RVO, CVSRTA RVO, Divya Jyoti Foundation RVO, RVO Estate Managers & Appraisers Foundation and CEV IAF RVO. However, neither the RVOs nor the IBBI undertake any responsibility and liability for the views expressed in this report. It urges the readers to do their own research and / or seek professional guidance as may be considered necessary to take any action or decision, commercial or otherwise, by using this report.)

1. Background

- 1.1 The COVID 19 crisis continues to hugely affect the humanity including global economic, social, and political perspectives. These are uniquely testing times for us all. The speed at which COVID-19 has spread across the world is unprecedented and the characteristics, dimensions and severity of the disruption to the global economy, is yet unknown.
- 1.2 The recent Covid-19 outbreak and subsequent lockdowns have significantly impacted global markets with increased volatility and business disruption worldwide. When it comes to valuation, concerns have been raised about the fair value of companies, resulting in increased regulator and stakeholder scrutiny. These times are very demanding specially in respect of valuations as in order to value assets, there are limited to no comparable data and all markets, sectors and firms are facing an uneven / uncertain future.
- 1.3 While it is difficult to predict the overall social and economic impact of the crisis with any degree of certainty, performing a valuation in these market conditions is quite challenging, in particular when significant unobservable / unknown inputs are to be considered, relied upon and factored into valuation.

2. Economic Impact of COVID

2.1 Economic Impact on the Indian market / economy

- 2.1.1 Between 31 March 2020 and April 2020, the S&P BSE Sensex index fell by somewhere between 30% and 45%. While the stock market's passive reaction to the destructive Covid-19 waves has been puzzling, the Indian government has encouraged state / local governments to adopt more localized and targeted containment measures to avoid too big an economic impact.
- 2.1.2 The Nomura India Business Resumption Index (NIBRI) fell to 60 for the week ended May 23, 2020 down from 63 a week earlier. The index, which tracks high-frequency economic indicators such as mobility, power demand and unemployment, is down to levels seen in June last year after a full recovery in February.
- 2.1.3 The Indian economy is unlikely to take a hit as bad as last year's, especially as much of the country's industrial activity has not shut down. In early April, when the surge in Covid cases was apparent, IMF had decided to revise India's output growth forecast for next year upwards from 11.5% to 12.5%.

2.2 Sector wise Economic impact

- 2.2.1 The Indian economy exited its contractionary phase in the quarter ended December 2020, after two consecutive quarters of fall, according to the data released by the National Statistical Office (NSO). Its real gross domestic product (GDP) grew by a marginal 0.4 per cent, while real gross value added (GVA) reported one per cent expansion.

- 2.2.2 The agricultural sector, which remained unbattered by the Covid-19 induced lockdown, grew by 3.9 per cent in the December 2020 quarter. Utilities, which were quick to recover from the shock in the September quarter itself, reported a smart 7.3 per cent expansion in the December 2020 quarter. The manufacturing sector returned to growth, buoyed by release of pent-up demand and fresh festive spending. It clocked 1.7 per cent growth in GVA. The IIP data shows that this growth, however, was skewed in favor of infrastructural goods, electronic goods and home appliances. Labor intensive industries such as textile, leather, beverages, tobacco and paper were missing from the festive frenzy.
- 2.2.3 The mining sector continued to languish, but construction sprung a pleasant surprise. Construction recorded a 6.2 per cent growth in the December 2020 quarter, possibly driven by aggressive capital spending by the central government. This shows up in capital formation which grew by 2.6 per cent, after two quarters of fall.
- 2.2.4 The services sector continued its y-o-y contraction for the third consecutive quarter, albeit at a much slower rate of one per cent than the 21.4 per cent and 11.4 per cent contraction seen in the June 2020 quarter and the September 2020 quarter, respectively. The financial, professional services & real estate sector did well, growing by 6.6 per cent in the December 2020 quarter. The growth was driven by profits made by financial services companies. The trade, hotels, transport, storage & communications segment continued to contract (-7.7 per cent) and so did the public administration segment (-1.5 per cent).
- 2.2.5 On the demand side, the growth was driven by capital formation alone. Private final consumption expenditure did narrow its contraction to 2.4 per cent in the December 2020 quarter, but failed to return to growth. Consumption demand seems to have been driven by middle and higher-income groups, a majority of whom have not taken a hit on their incomes amid the pandemic. Final consumption expenditure by the government too declined by 1.1 per cent and so did imports and exports, which fell by 4.6 per cent each. Capital formation, the sole driver of growth from the demand side in the December 2020 quarter seems to have grown on increased capital outlay by the Centre. Central Government's capital expenditure more-than-doubled compared to its level in the December 2019 quarter. Participation of private corporates seems to have been absent in capital formation recovery.
- 2.2.6 Covid has brought change in pattern of consumption of goods & services. Many goods which considered to be essentials in physical format e.g. printed books, appeals, Fuel etc. are being substituted by virtual services like eBooks, good internet connectivity, software, Apps etc. Infect the corporates who sensed this change early emerged as winners and the financial performance has seen positive upside.
- 2.2.7 COVID brought substantial amount of reduction especially on Administration & Selling and Distribution costs. Suddenly corporates are finding many recurring costs as redundant and have taken policy decisions for dispensing with the same. Hence although there were constraints on Top line, the bottom line remained unaffected relatively.

2.3 Industry wise economic impact

COVID-19 affected industries differently and in general the industry wise impact is as under:

- Minimal — consumer staples, technology and utilities;
- Moderate — financials, health care, industrials and real estate; and
- Significant — consumer discretionary, energy, retail and tourism and hospitality.

3 Valuation Considerations

Valuation during Covid-19 brings a new set of challenges for the valuers and analysts. While assessing the value of businesses, the valuers must keep in mind that while most businesses have been hit negatively, some businesses have benefitted from the pandemic as well. Some of the key factors impacting business value includes, dependence of business on macro-economic factors; company's product/service demand; level of technology enablement; the current impact of pandemic on business and the management's plan towards recovery. Valuers would also need to assess if the management plans towards recovery are plausible.

Unaffected businesses: In case of businesses who have not been impacted by the pandemic and have shown resilience, their valuation should be done as is. In some cases, valuers may assign a higher value for better resilience.

Improved businesses (short term): Think of hospitals, companies that made masks and hand sanitizers. Their businesses skyrocketed in the short run, but they are expected to come down in near future when the pandemic subsides, and these incomes are really extraordinary gains for them. It may be built into valuation as one-time gains. Valuers should be careful while using revenue growth forecasts beyond the next couple of years. Using a high base to calculate revenue forecasts may be dangerous. The likely future cash flow will, at worst, remain where it was pre-pandemic, and possibly increased post pandemic. These companies as a whole have increased in value, albeit marginally.

Improved businesses (long term): Technology enabled companies like Zoom, EdTech companies like Byju's, e-commerce companies and food delivery companies have really benefitted from the pandemic and expected to continue to sustain the advantages in the medium term. However, valuers must also consider the fact that in the long run, more and more companies may join the party and the margins and revenues of these companies will also come down eventually – normal economics.

Badly affected businesses: Businesses in travel, tourism, restaurants, entertainment businesses have been badly hit and some of them may never recover completely at all. If the company has been severely impacted, assess the going concern impact and assign a probability of the company shutting operations.

In this Vulnerable, uncertain, complex and ambiguous economic environment, Valuers may consider and keep in mind the following guidance notes:

3.1 Price vs. Value – Whilst it is always important to remember the distinction between the two, it is even more critical in the current market conditions to ensure that it is possible to separate fundamental value changes from potential ‘noise’ in the pricing of public securities and valuation of assets.

3.2 Recognize the volatility – Periods of increased volatility should not be ignored. While heightened volatility reflects increased uncertainty and makes valuations more challenging, it is still possible to perform robust valuations that reflect market conditions at the valuation date. It is recommended to take projections for a longer period, to see through the pandemic uncertainty.

3.3 What’s the story underpinning the valuation – Valuations begin with numbers but closing a valuation requires telling a story that fits together. Valuations can make little sense when various pieces of data are brought together without ensuring that they work in unison. This is a particular risk in the current environment given the fact that there have been significant fluctuations in several fundamental valuation inputs. An important consideration would be to form an opinion in the context of the sector/industry in which the valuation is being conducted. Whether the disruption in market conditions is short term, like it happened in case of real estate and financial services or is it going to have medium to long term impact like in case of travel and hospitality.

3.4 Gearing position and timing of refinancing events can increase risk.

Government has taken various steps to maintain liquidity in credit markets. However, consideration will need to be given to the funding position of each investment, particularly if there are indications that the credit markets may be constricted. Of particular interest will be:

- those investments with refinancing events in the short-term, which will be most at risk given the potential uncertainties in the amount of debt that can be raised and the cost of new debt
- the medium-term margin assumptions adopted, which may need to be reassessed if credit spreads widen for lower rated investments
- the extent of refinancing assumed in the medium-term that primarily provide an equity release, which may not be available in a dislocated credit environment
- the covenant headroom available, with those investments with limited headroom being at most risk, potentially amplified by any lingering uncertainty in relation to the impact on covenants of recently introduced accounting measures for right of use assets

3.5 Valuation Date

In determining if the impact of COVID -19 was known or knowable as on the valuation date, a valuation professional needs to understand the timeline of COVID-19. In India Most valuation experts believe that as of December 31, 2019, COVID-19’s impact was not known or knowable. However, for valuation dates through the first part of 2020, valuers will have to make an assessment based on the specific valuation date, the information that was known and available as of that date, and to what extent it should be taken into account in the valuation.

3.6 Events between Valuation Date & Report Date:

ICAI Valuation Standards – “The valuation date is the specific date at which a valuer estimates the value of the asset. An event that occurs subsequent to the valuation date could affect the value; such an occurrence is referred to as a subsequent event. Subsequent events are indicative of the conditions that were not known or knowable at the valuation *date, including* conditions that arose subsequent to the valuation date. Generally, a valuer would consider only circumstances existing at the valuation date and events occurring up to the valuation date.

However, events and circumstances occurring subsequent to the valuation date, may be relevant to the valuation depending upon, inter alia, the basis, premise and purpose of valuation. Hence the valuer should apply its professional judgement, to consider any of such circumstances / events which are relevant for the valuation. Such circumstances / events could be relating to, but not limited to, the asset being valued, comparables and valuation parameters used. In the event such circumstances / events are considered by the valuer the same should be explicitly disclosed in the valuation report”.

International Valuation Standards – Bases of Valuation:

“The assumed date of a transaction will influence what information and data a valuer considers in a valuation. Most bases of value prohibit the consideration of information or market sentiment that would not be known or knowable with reasonable due diligence on the measurement/valuation date by participants.”

Therefore, a valuer may include additional analysis and disclosures explaining the impact of the subsequent event (COVID-19) on the performance and value of the subject company. As with many other valuation decisions, whether to account for the COVID-19 pandemic in a valuation will be based on specific facts and circumstances of the Business/ Asset being Valued including the Purpose, Basis , Premise and Approach followed in performing the Valuation exercise. Events affecting Valuation in between Valuation date & Valuation Report date may be captured and quantified in footnote in the Valuation Report in order to bring clarity for intended user of Valuation report.

It is important to have a month-on-month review of events to formulate an opinion on how much impact of Covid need to be internalized in the valuations even when the valuation date is post Covid spread, as different waves have stuck at different time periods. Vaccination started at different points of time and their progress has also varied. This becomes even more critical, when adopting Discounted Cash Flow method of valuation where there is a gap between valuation date and date of report.

3.7 Starting Point of Valuation

A careful examination of the total business landscape specially in the current dynamic environment will be very helpful for a valuer to assess the impact of the pandemic on the subject business:

1. **The business plan** – how was it updated, who was involved, was it stress tested?
2. **Customers and suppliers** – evaluate health, pipeline, and various risks and opportunities, in particular impact of single or few large customers’ own health, on the target assets value.

3. **Products and services (availability, volumes, price)** – consider supply chain disruption or dislocation, impact on pricing, demand.
4. **Operations** – changes to key overhead costs, impact of government assistance programs availability of reduced skilled resources
5. **Liquidity** – cash crunch, covenants, collateral assessment, working capital requirements.
6. **Profitability** – when is the company expected to return to the pre-COVID-19 level of profitability? What is the expected impact on long-term profitability?
7. **Customer Behavior**- Impact on short, medium and long term of the customer behavior patterns and hence subsequent impact on the different types of businesses should be evaluated. In some cases, it could be a favorable change of customer behavior for instance in Telemedicine, Remote services related to medical diagnostics, medical insurance related services, home shopping delivery services.
8. **Going Concern Assumption** – Testing the ability of the company to generate sustainable cash flows and outcompete the crisis is critical to consider and incorporate in valuation

The outcome of the above analysis will help determine the appropriate valuation approach

Some companies will have businesses that thrive in the COVID-19 environment because of their ability to take advantage of opportunities. Grocery & Food delivery services, manufacturers of PPE, and those who have retooled or reinvented themselves, may find that their business thrives and does better than in pre-COVID-19 periods. As the economy and consumer behavior changes, there will be companies who can capitalize on this moment in time and do better than was originally anticipated. Valuers should consider the unpredictability of the current environment and evaluate key factors that require more emphasis than in a typical valuation. When reviewing valuations prepared during this period, the reader should assess how the valuer addressed these issues in their analysis.

4 Valuation Approaches

4.1 Income Approach

The Income Approach establishes a projection of the future value a buyer might expect to receive as a result of acquiring the asset / business. This value is determined by capitalizing the future cashflows at the required rate of return for investing the business. This offset of future revenue against immediate risk is inverse to the value of the business.

Cash flow has always been a focus when it comes to valuations and the business's ability to continue operations. COVID-19 has made cash flow that much more important. A valuer should consider the subject company's cash balance and cash usage rate in assessing the company's ability to continue operations. This also includes assessing changes the company has made to preserve capital during this time period as well as going forward. Doing so will give the valuer a good idea of how long the company may survive under the current situation. Some of the issues that the company may face and for which adjustment would be required are the following:

- Changing customer behavior
- Short-term and long-term impact on revenue
- Labor shortages
- Increased cost of production
- Increase in working capital days
- Cost of restart in case of a continuous process plant
- Impact on short term liquidity
- Difficulty in meeting debt obligation
- Adjustment to Discount for Lack of Marketability
- Valuations using DCF will be given more weightage in the current scenario as this can capture a limited downside period more accurately, albeit with a lot more diligence on business projections.

Therefore, valuers may have to be acutely aware of the need to make normalizing adjustments to both revenue and expenses as part of their models & in case the cash flows are already adjusted with the effects of COVID 19, no further adjustments would be required in the discounted rate. Further detailed deliberations are required on below parameters impacting income approach directly:

Value of the Company = Probability_{Failure} x Liquidation Value + Probability_{Success} x Going Concern Value

Liquidation Value = Current Book Value of the company – Shut Down costs

Attention must be given to potential loss of Sales, unrecoverable debt, forced sale of inventory or fixed assets and severance pay to employees.

4.1.1 Going Concern Value

Going Concern Value may be arrived at using scenario analysis. While Scenario analysis is not new and is often used in valuation given the uncertainty around future, this is more relevant during these times

- **Base Case:** Revenues and Operations may be impacted for 1-2 years and will after that period return to normal level of operations.
- **Bear Case:** Revenues and Operations may be impacted for the next 3-5 years and will take time to recover. In such cases, long term projections would be required (say 10 years).
- **Bull Case:** Revenues and Operations would return to normal level of operations within the same / next year.

In case valuers choose to value the company using scenarios, value of going concern may be:

GC Value = Value_{base} x Probability_{base} + Value_{bear} x Probability_{bear} + Value_{bull} x Probability_{bull}

4.1.2 Cash Flow Projections

There is a fundamental understanding that valuation is forward-looking. Valuers use their training and experience to put forth cash flow projections that reflect what is “known or knowable” at the time of the valuation. The change that is occurring around the world is

material, significant and rapid. Therefore, the valuation of an entity as of December 31, 2019, will look dramatically different than the valuation of the same entity as of March 31, 2020 or March 31, 2021. Additionally, 2020 & 2021 revenue and expenses will assuredly reflect significant fluctuations from historical trends and will not reflect a normalized level of operations for the basis of forecasting a subject entity's cash flow. Therefore, valuers will have to be acutely aware of the need to make normalizing adjustments to both revenue and expenses as part of their forecast models.

'Alpha' adjustments should not be confused with illiquidity adjustments to discount rates, Alpha is a specific risk premium because the set of cash flow projections being used may not be 'expected' cash flows. There may be some 'downside' scenarios missing from the 'probability weighted average' set of projections

4.1.3 Cash flow considerations

While preparing the projections, care must be taken to duly take into account the following considerations:

- Revenue and Profit Margin levels may be very volatile over the next few years
- Interest rates are likely to be lower in the next few years
- The company's working capital may change significantly in the short period given the receivables may be delayed and accordingly, the working capital requirements may increase in short run.
- The company's expansion plans may also be affected significantly during covid. Usually, companies would like to defer their capex plans. However, for those looking to pivot their businesses in a new direction or those positively affected by the pandemic may increase their capex immediately.
- Borrowings may go up in case companies are planning to expand. However, given the lower interest rates, interest expenses are likely to go down.

Depending on the specific entity type, these adjustments will be more or less material. Furthermore, there is significant uncertainty surrounding how long the pandemic will continue, meaning the development of cash flow projections will require substantial judgment based on the facts known at the time of the valuation. The increased uncertainty, and risk associated with the cash flow projections, will need to be accounted for within the selected discount rate used within the valuation. Different cash flow scenarios could be a useful way of understanding the range of potential outcomes for a business and its attached risks. For example, a business-as-usual scenario, a scenario with short/medium term disruption and a scenario with a broader and longer economic downturn.

4.1.4 Long term growth rates:

Long term growth rate assumptions should reflect market participants' long-term estimates for inflation and real economic growth, adjusted to reflect the outlook for the sector that a company is operating in as well as company specific factors. Typically, the effects of new industries and technologies and the impact of competition within industries may limit company specific long term growth rates to a lower level than for the economy as a whole to at least some degree. However, the long-term sector and company specific outlook may well have changed as a result of Covid-19, with some sectors demonstrating stronger growth and more resilience and others

being relatively weaker than previously expected. The overall drop-in risk-free rates, and indeed discount rates more broadly, is also arguably consistent with a reduction in long term economy wide nominal growth expectations to at least some degree, due to changing expectations of inflation and/or real economic growth. It is therefore important that the discount rate and long-term growth rate assumptions used within a valuation are internally consistent, otherwise the capitalization rates / multiples implied within terminal values may not be realistic or reconcilable with market data.

4.1.5 Cost of capital

At the current time the Capital Asset Pricing Model (CAPM) and other established methods for calculating the cost of capital should continue to be used. As these approaches rest upon a theoretical basis which should hold good in general – including in times of an economic downturn – there is no reason to adjust the general approach for calculating the cost of capital. However, a review of each input factor seems appropriate and assessment of the overall result is certainly required. For instance, the use of a normalized or smoothed risk-free rate may be advisable if a particular daily spot risk-free rate appears out of line with other days as a result of market volatility. Given the overall decline in risk-free rates and stock markets at the start of the pandemic, even if a spot risk-free rate was being used, it may be necessary to consider an increase in the equity market risk premium from previous levels. However, equity markets have since staged significant recoveries with a number of global indices at or even exceeding pre-pandemic levels. This suggests that broader market discount rate inputs may actually be indicating lower discount rates than those seen prior to the start of the pandemic.

4.1.6 Cost of debt/gearing

Other components of the cost of capital may need to be adjusted to take into account industry, geographic or company specific risks arising out of current market conditions. Therefore, valuers must consider (on a case-by-case basis) whether the actual, current debt margins should be applied (or not) in order to estimate an appropriate cost of debt (e.g., depending on whether a company is funded short-term or long-term, the necessity of future (re)financing, promised vs. expected yield, assumption whether observed spreads persist indefinitely, etc.). The same principle holds for the appropriate target debt/equity ratio which, in general, might be expected to be lower relative to equivalent historical ratios in certain sectors due to the constraints on current debt financing packages.

4.1.7 Discount Rates

The selection of a discount rate is meant to align the relative risk associated with an entity's operations, or an investment in the subject entity, compared to alternate investment options and their associated rates of return. In times of crisis, and with extraordinary market volatility, it becomes paramount for valuers to view market data through a different lens. Valuers must take care not to operate mechanically but to be consciously aware of the data and assumptions relied-upon. Principally, whether through a risk-free rate adjustment or within the valuers determination of the company-specific risk premium, the discount rate selected must match the inherent risk of achieving the cash flow projection of the subject entity. The discount rate must also be derived based on what is "known or knowable" as of the valuation date. One needs to be careful regarding adoption of relevant discount rate by adjusting for any risks. If the risks are

internalized in future projections of cash flows, in terms of revenues or costs, then adding any further risk premium on discount rate would be erroneous. Since the interest rates are reduced, it calls for a lower cost of capital. Further, investors' expectations are reduced when it comes to investing given the slowdown in business activity. Since the cost of capital is expected to change considerably over time, valuers may use varying discount rates over time.

The discount rate should be adjusted for Covid only if the valuer is unable to make realistic adjustments in cash flows. Adjusting both cash flows and discount rate may lead to double counting the pandemic effect.

It has been observed that some valuers have followed an approach of adding a discount for distress. Distressed entities generally have higher risk profiles and lower profitability levels compared to their healthy competitors, and a discount for distress, usually at least 20%, is built into the valuation. However, this is not a preferred approach and It's better to build the risk into the cash flows and discount rate.

4.1.8 The COVID-19 marketability discount.

It may make sense to use a separate COVID-19 marketability discount because it clearly shows the valuers' thought process and the actual discount being applied for the current high level of uncertainty. Clearly, this is a method that would be applied depending on the situation. The logic to develop a COVID-19 marketability discount can be applied to directly adjusting the multiplier, discount, or capitalization rate or applied as a separate discount for marketability. As with any discount, care must be exercised to not apply a discount for a risk that has already been fully accounted for.

When applying a COVID-19 marketability discount, Valuers must value the subject company similar to how they would have done prior to COVID-19-related issues becoming prevalent. Valuers may adjust future cash flows to what is most likely. The marketability discount accounts for that increased risk from possible but not predictable economic or governmental action that could change those cash flows. Since February 2020, in general, marketability discounts have increased as a result of the factors below – albeit partially offset by a lower risk-free rate of interest:

- Decreased access to financing for the underlying business and the purchase of the minority position itself.
- Decreased M+A activity and a reduced pool of willing buyers.
- Increased supply side of secondary investments as institutions seek to divest to rebalance and/or meet regulatory requirements.
- Reduced expected profitability, cash flow and longer realization timelines.
- Increased perceived risk and demand of higher returns

If the value of any business is the sum of its future cash flows, then valuation fundamentally depends on predicting the future. The uncertainty created by the coronavirus pandemic has made this prediction even more difficult than before in this environment. The onus is on the valuers to duly consider the parts of the future which are known, and which can be predicted, to build a more detailed picture and make valuation more achievable. For industries that are expected to be resilient through the crisis, a business case must be made that explains this in detail. At the level of the individual business there will be many things that can be predicted, and data should be used to highlight these. Specific measures taken by businesses to reduce losses, or to take advantage of growth opportunities in specific profit centres, must be

quantified, tracked and highlighted. The objective is to reduce the generalized cloud that surrounds the future by making certain parts of it clearer and more predictable.

4.1.9 Illiquidity adjustments to discount rates

In the immediate aftermath of Covid-19, illiquidity adjustments might be required to discount rates for assets in sectors where it is observed that the marketplace had frozen up or its efficiency had diminished to some degree. Any such adjustments ideally should be incorporated in operating parameters rather than discount rates as these conditions are most likely to be temporary/short term whereas discount rates are applied for the entire period of projections which are medium to long term.

4.1.10 Beta

Applying increased scrutiny to previously assessed betas will be appropriate to ensure that expected sector volatility is appropriately incorporated within the discount rate. Due to the extreme volatility experienced due to the spread of the COVID period there can be a disproportionately large impact from the data in certain months on the beta calculations, in some cases causing betas to double or halve from previous levels. It may be appropriate to exclude the data from these particularly volatile months in certain circumstances to ensure the beta isn't disproportionately weighted towards data from this highly volatile period. Whilst changes in beta may well be justified given the shifting patterns in sector performance, these changes should also be grounded in general expectations for the expected performance and relative volatility in the sector going forward, rather than just mechanically applied from historical data.

4.1.11 Increased volatility in betas

In addition to financial forecasts being affected by the COVID-19 pandemic, the discount rates used in a DCF analysis to discount future cash flows are affected as well. One input typically used to estimate the discount rate is a company's beta. Beta is often estimated by comparing a stock's historical returns to those of the market, and can be estimated using different estimation windows (e.g., the previous one, two, or five years of returns) and return frequencies (e.g., daily, weekly, or monthly).

Estimating betas using weekly returns over the past two years shows that, on average, betas have increased substantially since the COVID-19 pandemic began in March 2020. An increase in beta, all else equal, implies an increase in discount rate and a corresponding reduction in valuation. The increase in betas varies broadly across industries. The COVID-19 pandemic has also resulted in an additional element of uncertainty regarding the most appropriate way to calculate beta. It is well established that the estimation period may impact betas. Because the COVID-19 pandemic unfolded quickly, betas calculated using short-term lookback windows are more likely to be affected than betas calculated from longer-term data. Again, the sector to which the company belongs should determine whether the long-term price movements should be given higher weightage in Beta estimations or short term. For the sectors, which have had moderate to low impact beta may be estimated using long term price movements, and sectors which have had high impact with lingering after effects, would require higher weightage to short term price movements for beta estimations.

4.1.12 EBITDAC

The overly simplistic principle of just excluding the period affected by coronavirus, and employing the same metrics for valuation but using the time period immediately before the pandemic took hold (the so called EBITDAC approach), will not yield a meaningful valuation on its own. Each industry and each business is different, but in most cases people do not reasonably expect conditions to return to exactly as they were in 2019, and a simplified valuation with this approach is obviously flawed. Each business will have some elements that are more profitable than before, some that are less profitable, some business units that have completely changed or have been eliminated, and new profit centres that may not have existed before. Businesses that cannot reduce the uncertainty around their future at all will face valuations that are significantly discounted compared to pre-COVID levels, whereas those that can show at least a degree of predictability will be discounted far less

The main principles of business valuation still apply. The question is how much of a discount from the pre-COVID valuation is reasonable for businesses that have been negatively affected, or how much of a premium can be justified for businesses that are performing better than ever. The key to each answer is building a reasonable business case, using those pieces of data or insights that are available, to reduce the uncertainty around the data that is not available.

4.2 Market Approach

Market-based valuations determine the value of a company by comparing it to similar business transactions. The Market Method already includes the challenge of sufficient access to market data on sufficiently comparable competitors; Now it carries the distinct challenge of using pre-COVID-19 transactions in post-COVID-19 valuations. This means expert analysis and adjustments will be required in order to produce useful financial metrics. Simply gathering a group of transactions from the past three years and calculating an average multiple will not suffice. Valuer should

- Evaluate maintainable revenue and earnings, keeping in view the market participants' perspective.
- Assess whether recent transactions are still comparable- A multiple reported even a month ago might materially misrepresent the risk associated with a comparable transaction today.
- Assess whether current market prices reflecting long term fair value – “unaffected” metrics vs. “affected” market prices, it is important to document the nature of the selected multiples (actual vs. normalized)
- Look at Forward Multiples.
- Understand that Transaction Multiples could gain more traction but in the current scenario will still need to be adjusted downwards; the degree of this adjustment will need to be assessed on a case-to-case basis depending upon the industry, level of stress.
- An important part of any appraisal assignment is analysis of market conditions. The coronavirus threat may be impacting market conditions. However, in most markets it is not yet clear to what extent, if any, market conditions are affected. Related, complicating factors include fluctuations in the stock market and changes in mortgage interest rates.

- Market analysis includes observing market reactions. This analysis becomes more complicated when market participants themselves are facing uncertainty.
- Appraisal reports should include a discussion of market conditions, and so mention the Coronavirus outbreak and its possible impact. However, it is not appropriate to include a disclaimer or extraordinary assumption that suggests the appraiser is not taking responsibility for analysis of market conditions.
- In Plant and Machinery valuations a down fall of rates ranging from 5% to 50% - depending upon the type of asset has been noticed. Lowest was in personal mobility – that is cars etc. Max was in construction equipment

Thus, the valuation professional needs to carefully use the multiples associated with the transactions that occurred during this crisis. While multiple valuation methods should always be used to value a business, some will be more appropriate in the time of COVID-19 and should be weighted accordingly.

4.2.1 Use of Ranges

- Valuation ranges will need to be wider than normal, and these ranges may well be subject to volatility as valuations are updated over time.
 - In terms of financial reporting valuations, disclosures may need to be more detailed and make clear that valuations could change quickly over a relatively short time frame, particularly if the businesses are highly leveraged.

4.3 The Asset Cost Approach

The asset Cost approach is often used for valuation of businesses where their liquidation value is greater than the value of the business in operation as determined under the income, and market approaches. It is useable all the same as cost of substitution is meaningful even alongside the income or cash flow approach. As Professor John Bon bright puts it so clearly in his book “The Valuation of Property “that replacement cost approach is one that cannot be done away with, a paragraph from his book is reproduced here to illustrate this principle that still holds its meaning:

“It is doubtless true as Mr George O May testified in litigation of the proposed Bethlehem-Youngstown Steel merger that modern financial practice and appraisal theory accord much less significance than formerly to “physical valuations” and much more significance to reported and estimated earnings. But it would be utterly disastrous to ignore replacement costs; for they have a significance not possessed by any other data in setting the upper value beyond which a replaceable property may not be valued. An industrial plant, “can’t be worth more than it would cost to reproduce it; neither can it be worth less than its salvage value if it were destroyed.” Indeed, there is much evidence that within the last few years that professional appraisers and security analysts have gone far too much in belittling the importance of replacement - cost data. Their very proper reactions against the popular assumption that property is normally worth its replacement cost, minus conventional deductions of depreciation, has led some of them to the equally untenable position that replacement costs can be safely ignored.”

This approach requires applying the cost method and factors in both functional and economic obsolescence in determining the value of asset. The macro-economic impact of Covid 19 both mid-term or long-term impact related to customer behavior, impact on supply chain or even excess capital costs will be reflected in these adjustments required to be made to assets value. In some ways this value adjustment mirrors reduced net cash flows in an Income approach due to similar macroeconomic or specific industry factors. Economic obsolescence used in the cost approach gets also expressed through an increased denominator, the equivalent discount rate in the Income approach reflecting increased uncertainty in some ways, ultimately both the cost approach and income approach express reduced value on account of the same underlying external or specific industry factors. In fact, depreciation of operating and functional obsolescence quite often uses capitalized earning method to evaluate depreciation or the differential in the income is used to determine depreciation.

Typically, in the cost approach, excess capital outlay can be determined using cost to capacity principles applying known cost to capacity factors, and functional obsolescence caused by increased costs or reduced yield can be determined applying differential cash flow analysis and economic obsolescence resulting from reduced demand, regulatory changes can also be determined using the similar analysis or simply taking effect of capital additions in the future based on its present value. While using the replaceable physical assets method one must bear in mind that they do not constitute the entire property in question. The entire property comprises of tangible and intangible assets, the goodwill too, thus value of an entity can only be fully determined when you add determined value of current and intangible assets to the new replaceable costs after deducting depreciation.

This approach is also suggested in the context of assets where the going concern status is doubtful or where buyer can expect a greater Value if they liquidate the business' physical assets after settling liabilities and closing up shop than they would by continuing business operations. Given the uncertainty with respect to the duration and severity of COVID-19 and its related economic impacts, it is likely that companies will need to employ even more careful scrutiny and judgment as they work through impairment assessments pertaining to assets such as goodwill, PP&E, and equity method investments. Management should apply informed judgment as it relates to these impacts on financial reporting matters. Asset Approach often relies on historical data which may be outdated. Further, use caution with reliance on reports qualified due to the pandemic and related matters.

Site inspection- Ideally valuer should conduct such enquiry personally at the site or through an employee or associate or local valuer at the site however it is needless to again say that the ultimate responsibility of valuation report in either case shall lie on the shoulders of the person signing the report.

In circumstances such as Lockdowns due to pandemic, site inspections become challenging and unachievable. In such scenario, the valuer must emphasis on conducting site inspections virtually, through various modes / technologies available, including live virtual site inspection through online real-time basis video conference platform, rather than carrying out valuation on desktop analysis basis. For residual life, the maintenance records of the assets may be seen. Good maintenance means a good residual life. Regarding all the other data – like calculating the Replacement cost, internet data mining might be used.

5. Valuation Disclosures

Companies around the world are experiencing severe business disruption as a result of the COVID. Restrictions in production and trade are interrupting supply chains, and demand for certain products is falling, or increasing, as consumer needs and anxieties evolve. Such changes in circumstance may require additional or revised disclosures in current and future Valuation reports. Disclosures should include information that is material and relevant for end users as of the date of the valuation:

- Valuation is therefore reported on the basis of ‘material valuation uncertainty’ prevailing as on the date of this Report. Consequently, less certainty – and a higher degree of caution – should be attached to valuation than would normally be the case.
- Values may change more rapidly and significantly than during standard market conditions.
- For the avoidance of doubt, the inclusion of the ‘material valuation uncertainty’ declaration above does not mean that the valuation cannot be relied upon. Rather, the declaration has been included to ensure transparency of the fact that – in the current extraordinary circumstances – less certainty can be attached to the valuation than would otherwise be the case. The material uncertainty clause is to serve as a precaution and does not invalidate the valuation.

6. VSC Guidance

- 6.1 The emergence towards the end of 2019 of the novel coronavirus, also known as Covid-19, and the resulting global pandemic, has created a huge amount of uncertainty around the world. Among the many manifestations; this has led to enormous market volatility. These times have been made even more interesting in respect of valuation as valuers are having to value assets, when there are limited to no comparable evidence and all markets are facing an uncertain future.
- 6.2 It should be noted that this Guidance does not deal with uncertainty caused by limitations imposed under the terms of engagement on the extent of investigations or information, though this topic is also relevant for these challenging times and may be dealt with in a future IVSC perspectives paper.
- 6.3 One of the main issues when dealing with valuation uncertainty is that a valuation is not a fact, but it is an estimate of the most probable of a range of possible outcomes based on the assumptions made in the valuation process. Market valuations are estimates of the most probable price that would be paid in a transaction on the valuation date. However, even where assets are identical and exchanged in contemporaneous transactions, fluctuations in the prices agreed between different transactions can often be observed. These fluctuations can be caused by factors such as differences in the objectives, knowledge or motivation of the parties. Consequently, an element of uncertainty is inherent in most market valuations as there is rarely a single price with which the valuation can be compared.
- 6.4 Valuation uncertainty should not be confused with risk. Risk is the exposure that the owner of an asset has to potential future gains or losses. Risk can be caused by various factors affecting either the asset itself or the market in which it trades.

Examples include:

- for tangible assets reduction in market prices after the date of acquisition or valuation,
- a deterioration in the projected future income of a security,
- a loss of liquidity compared with other assets,
- costs for maintaining or developing an asset being higher than currently anticipated,
- the rate of an asset's technical or physical obsolescence being higher than currently anticipated.

- 6.5 Such risks are taken into account by informed buyers/sellers when considering a bid for an asset and are balanced against the perceived advantages of ownership. Risk is therefore normally reflected in market prices. Risk can often be quantified. For example, market risk can be measured by applying statistical techniques to previous patterns of price fluctuation, or by assuming different market scenarios to model different outcomes. Techniques for identifying risks and quantifying them are central to the various methods used to determine discount rates used in valuation.
- 6.6 Valuation uncertainty should not be confused with stress testing, i.e. measuring the impact on a current price or value of a specified event or series of events. Valuation uncertainty can be caused by various factors. These can be broadly divided into the following categories: • market disruption, • input availability, • choice of method or model. These causes of valuation uncertainty are not mutually exclusive. For example, market disruption may affect the availability of relevant data which, in turn, may create uncertainty as to the most appropriate method or model to use. Interdependence and correlation between the causes of uncertainty are therefore likely to exist and account should be taken of this during the valuation process.
- 6.7 **Market Disruption** Valuation uncertainty can arise when a market is disrupted at the valuation date by current, or very recent events, for example through panic buying or selling, or a loss of liquidity due to a disinclination of market participants to trade. The events causing market disruption may be macroeconomic such as the 2009 financial crisis or recent disruptions in the UK markets due to Brexit, or microeconomic for example an unexpected change in the law or a natural disaster disrupting a sector of the market or causing disruption to the supply chain of an industry. In respect of the coronavirus, the market disruption could be seen as microeconomic, but in future this could also have some macroeconomic implications.
- 6.8 **Input Availability** A lack of relevant input data will cause valuation uncertainty. This may be due to market disruption as described above, but may also be due to the assets being unique or because the market for the asset is normally illiquid. Where there is a lack of relevant market data, there may be a need to extrapolate inputs from directly observable prices for similar assets, or to rely on unobservable inputs. These are inputs for which market data are not available but that can be developed using the best information available about the assumptions that market participants would use when pricing the asset. The use of extrapolation or unobservable inputs can be a source of uncertainty because of the difficulty of finding objective evidence to support either the adjustments or the assumptions made.
- 6.9 **Choice of Method or Model** For many asset types, more than one method or model may be commonly used to estimate value. However, those methods or models may not always produce the same outcome and therefore the selection of the most appropriate method may itself be a source of valuation uncertainty.

6.10 Significant Uncertainty

- 6.10.1 Most valuations contain an element of uncertainty but IVS 103 only requires this to be disclosed when it is “significant”. A requirement to disclose uncertainty when it is of no or limited consequence would be an unnecessary complication in the reporting of many valuations and could breach the principle that reports should provide the intended reader with a clear understanding of the valuation.
- 6.10.2 However, the existence of significant uncertainty does not mean a valuation cannot be undertaken, but it does mean that significant assumptions within the valuation approach and methodology should be disclosed within the valuation report. Factors that it may be helpful to consider in order to determine whether valuation uncertainty is significant for tangible asset and business valuations include:
- 6.10.3 whether the valuation is required for internal purposes by the commissioning party or whether it will be disclosed to and relied upon by third parties (the threshold of materiality is likely to be lower if the valuation is to be relied on by third parties);
- 6.10.4 the extent to which the value of a total portfolio is affected if the valuation uncertainty affects only certain assets within the portfolio (this may also involve considering correlation and interdependence between the individual assets);
- 6.10.5 whether the cause of the uncertainty was known to the commissioning party or to a third party relying on it when the valuation was commissioned;
- 6.10.6 whether the effect of the uncertainty could expose the commissioning party or a third party relying on the valuation to significant risk of loss

6.11 Measuring Valuation Uncertainty

- 6.11.1 Notwithstanding the general caution required in presenting any quantitative estimate of uncertainty, there may be valuation purposes where it is required. As discussed, uncertainty stemming either from the choice of model or method, or from a lack or inconsistency of input data, may be estimated by observing the effect on the valuation of using an alternative model or input. Quantification of valuation uncertainty can be more relevant for some classes of asset than others. Where two or more alternative scenarios are possible the valuation should be based on the most likely scenario.
- 6.11.2 A quantitative measure should always be accompanied with a narrative describing the cause and nature of the uncertainty.
- 6.11.3 A purely numeric illustration will only confirm uncertainty, not explain it. There is no useful purpose served by providing such a quantitative expression of uncertainty if this will not result in a better understanding of the valuation conclusion by the user.
- 6.11.4 Quantifying valuation uncertainty does not involve forecasting a worst-case scenario. The objective is not to stress test a valuation to an extreme case. Any test of valuation uncertainty should address the impact on the reported value of reasonable and likely alternative assumptions. When choosing alternative assumptions to measure uncertainty within a business or tangible asset valuation, a selection needs to be made among possibilities that are not

located in the tail of the distributions (where events are very unlikely to happen), but rather in their central areas (where events are likely to occur).

- 6.11.5 The objective of any uncertainty analysis is not to provide a forecast of possible fluctuations in the reported value at future dates, but to provide information about the variability of the value at the specific valuation date.
- 6.11.6 When quantifying the impact of uncertainty, the interdependence or correlation between significant inputs needs to be considered when it is practical to do so. Correlation analysis is an extremely important part of this process and when uncertainty is measured without proper correlation of interdependent inputs, the degree of uncertainty may be overestimated.

7. Conclusion

- 7.1 There is no set approach to account for market uncertainties as the COVID impact might be different for different business in different region. Thus, the businesses which were valued as on 31st March 2020 or 31st March 2021 would may reflect a different picture as against valued on or before 31st December 2020. It will be important to discuss and assess any near- or long-term effects in operational and financial performance with the management. The Valuer need to apply their professional judgement on case-to-case basis.
- 7.2 If you value companies in a period like this, you are facing exactly the same kinds of uncertainties you face during any other period. The only thing is, you are more likely to be wrong—and guess what, everybody is facing the same scenario. You are just as uncertain as everybody else and you have to make your best judgment The traditional approaches to valuation need to be carefully reconsidered in the current environment. Valuers will need to conduct a more rigorous due diligence on the quality of financial forecasts provided to them and what adjustments, if any, should be made to earnings, multiples or discount rates. Thus, implication and challenges to the valuation would be unique and the and negotiating the valuation to close a deal would remain a challenge. A useful test for considering whether valuation uncertainty is significant is to consider whether failure to disclose the uncertainty would lead a reasonable person to take action that relies on the reported valuation that they may not have taken if the uncertainty had been disclosed. Valuers must consider giving a range of value for the engagements with a disclaimer that valuations may change significantly and frequently given the changes in circumstances and as situations unfold.