Infrastructure valuations in times of market uncertainty: The impact of COVID-19

May 2020
COVID-19 has introduced unprecedented market volatility

The COVID-19 pandemic has increased the focus on valuation; equity and debt holders are keen to understand their risks and returns, management teams and investors wish to take informed actions, and organisations still need reliable estimates of value to fulfil their regulatory responsibilities. But the extraordinary volatility in global equities and debt yields, have made the process of valuing illiquid assets, including infrastructure, much more challenging. As a result, we have seen a steady stream of questions raised by infrastructure investors as they try to address these valuation issues for their investment portfolios.

During February and March 2020, the equity and debt markets experienced significant sell-offs due to the COVID-19 outbreak. Investors around the globe flocked to safety as credit spreads rose sharply, volatility in equity markets increased and stock market gains achieved at the start of the year got more than wiped out. Equity markets experienced a sharp decline starting the last week of February 2020 and the level of volatility in equity markets surpassed levels observed at the start of the global financial crisis in 2008. Further, credit spreads on corporate bonds increased significantly given the expectations of a rise in defaults.

Following several weeks of losses, markets were somewhat boosted and recovered some of the losses towards the end of March 2020 as governments announced fiscal packages and central banks reduced policy rates amidst an already low interest rate environment. Consequently, the debt markets also witnessed partial reversal in spreads starting late March 2020.

Equity market performance rebased 1 January 2020

Government yield and corporate spread* – GBP

*Corporate spread for non-financials
Source: S&P Capital IQ, PwC Analysis

Infrastructure valuations in times of market uncertainty: The impact of COVID-19
PwC

19 May 2020
Since the outbreak of the COVID-19 pandemic, we have seen varying stock market performance across sectors and between different infrastructure asset classes. This is not surprising as infrastructure assets often provide essential services (e.g. water companies) thereby resembling the characteristics exhibited by consumer staples and healthcare sectors as the pandemic unfolds and have therefore been more resilient to the COVID-19 crisis. On the contrary, demand based infrastructure assets (e.g. transport) have performed either in line or worse than the market due to the steep reduction in traffic following social distancing measures and travel restrictions enforced around the globe.

This article takes a deep dive into how various infrastructure asset classes have been impacted by the COVID-19 outbreak and the implications on valuations of illiquid assets in the current environment. While assessing the impact on valuation, we have had regard to the nature of the underlying asset, revenue structure (availability vs. demand based) and their correlation with the economic recovery profile. As discussed in our latest economic update, the UK GDP could contract by c.5-10% in 2020 (largest impact likely to be felt in Q2 2020 – c.12-16%) based on the intensity and the duration of lockdown measures over the coming months. This is expected to impact infrastructure asset classes to varying degrees.

At one end of the spectrum, regulated assets such as water companies have historically exhibited resilience to economic downturns and their valuations may see limited impact due to COVID-19. At the other end of the spectrum, valuations of demand based assets such as airports and toll roads are likely to be affected considerably due to steep reduction in traffic and the extent of recovery will ultimately depend on the timing and shape of the economic recovery.

Regulated utilities and renewables have considerably outperformed the FTSE All-Share Index since COVID-19 pandemic whereas European airports have underperformed over the same period due to travel restrictions following the outbreak.
Our valuation approach during COVID-19

Since the COVID-19 outbreak, we have independently valued or reviewed valuations of ca. 100 unlisted infrastructure investments for financial reporting purposes and our valuation insights set out in the remainder of this article are based on our observations on how fund managers and external valuers are assessing fair value in the current climate. Given the level of volatility observed in equity and bond markets in recent weeks, we are currently placing an even greater reliance on income approach, cross-checked against public markets, when forming a view on the valuation of privately held infrastructure assets. We have published our general valuation guidance to deal with current market uncertainty based on which the following considerations apply.

Revisions to projections – Questions to ask

• Are the projections adjusted for lower growth rates in the short to medium term to reflect a higher probability of a weak economy?
• Have Management revised the working capital assumptions in the forecast to reflect slower cash collection and potential counterparty default?
• Are there any implications of the delay in non-essential capex on the growth trajectory of the business in medium to long term?
• Does the dividend distribution profile seem reasonable in the forecast given potential liquidity constraints?

Scenarios analysis: The above revisions to projections should be based on latest estimates by businesses. Where adequate information is not available, it will be key to run multiple scenarios to understand the impact of the current economic slowdown. These would be particularly important for infrastructure asset classes with a direct link to economic growth and travel volumes e.g. for airports and toll roads.

Alpha adjustment: Where the projections cannot be updated in a timely manner (e.g. March 2020 valuations) or if the projections have not been adjusted adequately, an ‘alpha’ factor to the discount rate may need to be applied to reflect company and industry specific factors. Under these circumstances, we recommend conducting scenario analysis to support the quantum of alpha adjustment to the overall discount rate. Based on our experience, the implied ‘alpha factor’ varies significantly depending on the subsector the asset belongs to e.g. valuation of airports may require an alpha premium due to heightened uncertainty in demand while valuation of regulated utilities may not.

Illiquidity adjustment: An illiquidity adjustment may be required to the discount rate if we observe that the marketplace for buying and selling assets has frozen up or its efficiency has diminished to some degree. There may be some frictional transaction costs that translate to a higher required rate of return. This is distinct from the alpha adjustment which captures the impact of cash flow projections used not being reflective of ‘expected’ cash flows. The illiquidity adjustment may not always be applicable and among other factors would depend upon the purpose of the valuation (financial reporting vs. strategic) and the underlying stake valued (controlling vs. minority), etc. In addition, the illiquidity adjustment may not be applicable for certain infrastructure assets given the demand and dry powder of institutional infrastructure investors and limited availability of infrastructure assets in the market.

In the current environment, we consider adopting a wider valuation range to account for heightened uncertainty in projections, which is continuously evolving as new information becomes available on the impact of COVID-19 over time.

We would generally expect valuations of privately held infrastructure assets to be impacted less severely by COVID-19 than the decline in share prices for listed comparable companies indicates. Listed share prices are influenced by short term market sentiment and can include an element of “fear factor” in crisis situations. However, the valuation impact due to COVID-19 can vary significantly between different infrastructure asset classes which is the focus of our discussion in this paper.
Regulated utilities

The valuation impact of COVID-19 on UK regulated utilities has been relatively small given their regulated nature. This is also evidenced by the share price movement of listed regulated utilities in comparison with the wider market.

The COVID-19 outbreak appears to have impacted regulated utilities less severely than the broader market given the essential nature of the businesses and the stable revenue and regulated earnings generated by these assets thereby largely insulating them from the economic downturn. The cash flow impact of COVID-19 on regulated businesses could include the following:

- Reduction in short term earnings stemming from low inflation expectations and widening of credit spreads partly offset by the recent cut in base rates given the high leverage in this sector;
- Impact on achievability of operational outperformance; and
- Increase in bad debts and deterioration of working capital profile as a result of lower cash collections from customers.

The share prices of listed regulated utilities have reduced by c.2% on average since start of the year and c.12% on average since the COVID-19 outbreak. We view the valuation of privately owned regulated utilities to be affected less severely by COVID-19 due to its limited impact on the fundamentals of regulated businesses. In addition, historically during uncertain times of 2008-09 global financial crisis as well as post EU Referendum results (June 2016), the discount between listed share prices and the pricing of private transactions became more pronounced, suggesting an implied increase in control premium over the listed share prices rather than a decline in the intrinsic value of the businesses (see adjacent chart).

*In our experience, we have observed a marginal decline (less than 10% on average) in the valuation of unlisted regulated utilities since the COVID-19 outbreak. This is supported by the strong fundamentals of this sector for long term investors as well as the essential nature of services provided to customers.*

Infrastructure valuations in times of market uncertainty: The impact of COVID-19

PwC
Integrated power utilities and renewables

The renewables sector in the UK appears to be one of the most resilient to the COVID-19 outbreak due to the often fixed contracted offtake prices in the short and medium term and regulatory support in place. In contrast, share prices of integrated power utilities have reduced more than the movement in the wider market.

We generally see the power generation sector adversely impacted by the decline in power prices and lower industrial and commercial demand on the back of reduced economic activity resulting from the COVID-19 pandemic. However, we are observing varying degrees of valuation impact of COVID-19 across the subsectors of conventional power generation and supply (integrated power utilities) and renewable assets as discussed below.

**Conventional power generation and supply (integrated power utilities)** – The share prices of integrated power utilities in the UK have declined by c.27% since the pandemic. While the domestic consumption has increased since lockdown, power utilities with high exposure to industrial and commercial customers are subject to demand uncertainty in the immediate term. We note that some of the integrated power utilities have hedged majority of their output for 2020 which could mitigate the impact of lower power prices. However, this could have a knock-on effect on cash flows upon renewal of power purchase agreements once these hedges roll-off. Moreover, companies could face short term working capital issues due to lower cash collections from customers. In addition, integrated power utilities with exposure to E&P businesses are also likely to be negatively impacted by plummeting oil prices.

**Renewable power generation** – The share prices of renewable assets owners appear to be more resilient to COVID-19 pandemic, having declined by only c.6% since the Covid-19 outbreak. This is a function of regulatory support vis-à-vis fixed contracted prices for wind and solar assets providing insulation from the downward trend in power prices, favourable weather in Q1 2020 resulting in higher contribution towards the overall energy generation in the UK and ability to monitor and operate the assets remotely. Having said that, reduced power price forecasts, and supply chain disruptions due to COVID-19 are likely to cause potential delays in deployment of new wind farm and solar projects thereby impeding growth in the short term.

In assessing the valuation of power generation assets in the current environment, consideration needs to be given to offtake volumes and commodity pricing structures (merchant vs contracted).

For subsidised / contracted operational renewable power generation assets we currently observe a minor negative valuation impact (between zero and minus 5% on average) due to COVID-19. For conventional power generation assets and integrated utilities, the impact of power price and demand reduction tends to be more significant but the extent of the negative valuation impact is driven by asset specific considerations.
Airports

The COVID-19 outbreak and global travel restrictions implemented by governments have caused unprecedented disruption to the airport and broader aviation sector.

The COVID-19 outbreak and unprecedented global travel bans, have had a sudden and severe impact on airports as well as the broader aviation market. The Airport Council International (ACI) estimates that Q1 2020 traffic at European airports is c.30% lower than pre-COVID expectations and as of mid May 2020, airlines globally have already reported lost revenues of c.$315bn for the year.

The main unknown that airport operators are currently trying to assess, is the duration of the outbreak and resulting travel restrictions. Tentative signs of domestic air traffic recovery in the Chinese market suggest a 3 month period for containment for reduction of infections. This has led to a base case assumption for many European airports of close to zero traffic for at least May and June. However, it may still be too early to predict the duration given that different regions are in different stages of the cycle. It is also likely that in the short term, average trip lengths will fall sharply with domestic traffic recovering before international and short haul before long haul.

The immediate sector impetus will be the relaxation of lockdown measures, but the longer term outlook is inextricably linked to the wider economy and the ability and confidence of business and leisure passengers to start spending on travel again. Airlines are also facing an immediate and critical liquidity challenge with carriers having announced redundancies, furloughed staff or sought government funding in response to the crisis. The level and nature of government support provided will also shape the ultimate aviation sector recovery. Airport operators’ primary focus is now maintaining cash and liquidity. Discretionary opex is being cut back and any non-essential capex is being delayed. Airports are also running downside recovery scenarios to assess the liquidity buffer before covenants are breached or shareholder injections are required.

• Air traffic has historically demonstrated a high degree of resilience, typically recovering from major political, financial and other shocks in a fairly short period of time (1-2 years)
• Key differences between historical shocks and the current COVID-19 situation are the unprecedented level of global travel restrictions now in place, the financial strain being put on airlines and the higher uncertainty around the duration and severity of the global recession which has been triggered and resultant unemployment.

World air traffic and GDP growth (pre COVID-19)

Source: World Bank, IMF, PwC Analysis

- Air traffic has historically demonstrated a high degree of resilience, typically recovering from major political, financial and other shocks in a fairly short period of time (1-2 years)
- Key differences between historical shocks and the current COVID-19 situation are the unprecedented level of global travel restrictions now in place, the financial strain being put on airlines and the higher uncertainty around the duration and severity of the global recession which has been triggered and resultant unemployment.
Airports (continued)

Listed airport share prices have seen a sharp decease since the beginning of the year. We consider this overstates the value decrease at Q1 2020 relative to Q4 2019.

Between 21 February 2020 and 14 May 2020, average share prices of listed airports dropped by c.47%. We consider the recent sharp decline in share prices likely overstates the value reduction in privately held airports, particularly those with a stable financial position, in the current environment.

We note that share prices reflect value of minority holdings in the free float of shares and are therefore impacted to a large degree by short term market sentiment as well as portfolio rebalancing to reduce exposure to the travel sector.

Furthermore, historically the discount between listed share prices and the pricing observed for private transactions tends to become more pronounced during periods of economic uncertainty suggesting an increase in the implied control premium of privately held assets.

Buyers of unquoted airports are mainly sophisticated investors with a longer term investment horizon that invest through the market cycles. They will likely continue to assess the fundamental value of unquoted airport assets based on long term cash flow projections, adjusted for their assessment of the short term impact of COVID-19 and any potential economic slowdown.

In assessing privately held airport valuations in the current environment, we are running a range short term downside cash flow sensitives as illustrated opposite to assess the value impact. As discussed previously, where longer term projections are unadjusted we consider applying an alpha premium adjustment to the discount rate to account for risks relating to achieving pre-COVID 19 forecasts given current uncertainty around the economic impact of the pandemic.

Based on the airport asset we also consider applying a illiquidity discount given that it may take longer to sell the asset in the current climate. The valuation impact will also likely vary between regulated and unregulated airports.

Infrastructure valuations in times of market uncertainty: The impact of COVID-19

PwC
Most toll roads have been severely impacted by the economic downturn in the short term (2020 / 2021) due to steep reduction in traffic flows following lockdown of varying degrees enforced by governments across Europe. This is further evidenced by the share prices of listed toll road operators that have declined by c.29% since the COVID-19 outbreak.

In the current environment, businesses would need to revisit traffic growth assumption in their short term forecast. In addition, low traffic flows will not only impact toll revenues but are likely to have a knock on effect on non-toll revenue. The depressed revenue profile in the short run could also put pressure on businesses to meet debt covenants and service debt obligations. In particular, businesses due for refinancing in the near term could be adversely impacted by the widening of credit spreads which has been pronounced within the transport sector due to direct impact from social distancing measures.

In the medium term, traffic demand is expected to rebound however the extent of recovery will be driven by the speed of lockdown measures being lifted as well as the trajectory of the economic recovery curve. A structural shift in the curve could alter GDP growth and inflation expectations thereby adversely impacting traffic volumes and revenues.

Similar to airports, when valuing privately held toll roads in the current environment, it is important to perform sensitivity analysis on key value drivers such as traffic growth, the duration of ongoing economic inactivity, concession renewal assumption and debt margins upon refinancing to assess the overall valuation impact. Another key consideration for valuation would be the revenue structure (availability vs. demand based) as toll roads subject to availability based revenue are likely to be more resilient amidst the current economic downturn.

In the current environment, we observe the valuations of privately held toll roads to be impacted less severely than airports as toll roads primarily serve domestic traffic which is likely to rebound more quickly than international traffic. Overall we have observed a value reduction of c.10-20% on average for unlisted toll roads. The valuation impact for shadow toll roads tends to be less pronounced due to their limited demand risk stemming from capacity payment structures or revenue floor and cap mechanisms.
Ports

Ports tend to lag any shocks in GDP and therefore we expect the financial impact of COVID-19 to flow through in Q2 and Q3 2020.

Given the disruption in global supply chains due to COVID-19, we expect ports to be severely affected although the impact is likely to flow through in Q2 and Q3 2020 as ports tend to lag any shocks in GDP. This has been reflected in the trend observed for share prices of listed ports that have declined by c.20% on average since the COVID-19 outbreak and c.22% since start of the year.

We note that the impact could be short-lived due to the recovery in economic activity in China. In the short term, the impact due to COVID-19 could result in the following:

- Reduction in earnings due to softening of cargo volumes as a result of uncertain trading environment and lower passenger revenue due to travel restrictions;
- Delay in non-essential capex to maintain adequate liquidity for short term commitments. This could potentially alter the growth trajectory in the medium term; and
- Higher funding costs upon near term refinancing (if applicable) due to widening of credit spreads particularly within the transport sector.

That said, diversified revenue streams and long-term contracts involving counterparties with a stable financial position are expected to partly insulate port revenues in the short term. Other factors driving the valuation impact include the nature of products (commodities vs. discretionary products) handled by ports and geographic diversification of asset portfolio.

In assessing privately held ports valuation in the current environment, consideration should be given to future growth in trade volumes with a potential adjustment for volumes in short run to reflect low GDP forecasts, the duration of ongoing economic inactivity, debt margins, capex and working capital profile.

Overall we have observed a reduction of c.10-20% on average on the valuation of privately held ports. We consider adopting a wider valuation range in the current environment to account for heightened uncertainty in projections, which is continuously evolving as new information becomes available on the impact of COVID-19 over time.
Other infrastructure sub-sectors

Rolling stock companies ("ROSCOs")

Any negative valuation impact of the COVID-19 pandemic on ROSCOs is expected to be relatively limited given the fixed monthly capital rent received from train operating companies ("TOCs"). However, TOCs are experiencing a liquidity crunch following steep reduction in passenger volume due to which the UK Government has temporarily suspended rail franchises for the next 6 months and implemented emergency measures to support and sustain essential rail services. The level of government support provided together with the financial position of counterparties will ultimately determine whether this would have any knock-on effect on ROSCOs. The valuation of privately held ROSCOs in the current environment may warrant an adjustment to cash flows in the short term as ROSCOs may experience a delay or could receive a reduced capital rent from TOCs. We currently do not observe ROSCOs making adjustments to longer term new build volume or rent assumptions in the forecasts as a result of COVID-19.

Telecom infrastructure

Telecom towers, fibre to the home ("FTTH") and fibre to the cabinet ("FTTC") businesses with fully rolled out networks are expected to have a limited valuation impact due to COVID-19 given the mission-critical infrastructure provided by these businesses. However, FTTH and FTTC may experience temporary delays in rolling out new network due to prolonged construction on the back of lockdown and social distancing measures introduced across Europe. A slowdown in new housing sales could also impede growth in active connections. In the current environment, it would therefore be key to revisit assumptions around growth in number of connections and construction duration assumed on planned network roll-outs in the forecast.

District heating

District heating ("DH") businesses are associated with long term contractual cash flows and are expected to experience only a modest negative impact from COVID-19 given the essential nature of services provided. DH businesses with exposure to industrial and commercial customers may experience lower consumption volumes in the short term due to economic inactivity. In this case, the revenue structure of existing contracts is a key value driver as contracts with a higher proportion of fixed fee are likely to insulate DH businesses against lower industrial demand.

Storage terminals / mid-stream

Storage terminals are currently benefitting from contango in the oil market (spot prices are lower than future prices). As a result, this is creating strong demand for oil storage and increasing utilisation rates. The valuation impact due to COVID-19 on storage terminals can vary significantly depending upon the contracting structure of the asset. Storage terminals with ‘take-or-pay contracts’ or availability based throughput agreements are unlikely to experience any material reduction in revenue due to COVID-19. In contrast, terminals with volume exposure could be affected by the significantly reduced demand for crude oil due to the ongoing economic inactivity.
Where do we go from here ...

Our views on financial reporting valuations of privately held infrastructure assets in the current environment are likely to remain relevant beyond the 31 March reporting date.

Valuations will continue to evolve in the current climate as new information becomes available on the impact of COVID-19 on infrastructure assets.

The duration of COVID-19 outbreak and recovery profile of the economic curve remain unknown which is likely to result in continued uncertainty leading to wider valuation ranges for certain asset classes.

Extreme volatility in share prices is reflective of broader market sentiment and therefore may not offer a direct read-across to the fair value of privately held infrastructure investments.

Similar to their response to previous economic crises, certain types of infrastructure assets such as regulated utilities and renewables have so far been resilient to COVID-19 pandemic.

Early learnings from the impact of COVID-19 suggest that certain sectors such as telecom fibre may attract funding from private investors leading to higher valuations.
Infrastructure valuations in times of market uncertainty: The impact of COVID-19

PwC

19 May 2020

Contacts

Thomas Romberg
Partner, Valuations
Energy, Utilities, Mining & Infrastructure
E: thomas.romberg@uk.pwc.com
M: +44 (0) 7730 733 809

Constantinos Orphanides
Director, Valuations
Energy, Utilities, Mining & Infrastructure
E: constantinos.orphanides@pwc.com
M: +44 (0) 7843 331 624

Pragya Jain
Director, Valuations
Energy, Utilities, Mining & Infrastructure
E: pragya.x.jain@pwc.com
M: +44 (0) 7540 288 606

Waleed Agha
Manager, Valuations
Energy, Utilities, Mining & Infrastructure
E: waleed.w.agha@pwc.com
M: +44 (0) 7483 440 130

Ivan Poon
Senior Manager, Valuations
Energy, Utilities, Mining & Infrastructure
E: ivan.poon@pwc.com
M: +44 (0) 7780 712 672
Thank you