

# Valuation News Special Edition

**Deal Advisory**

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## Editorial

Dear Readers,

The spread of Covid-19 has grown to become a global risk, endangering the health and livelihoods of people worldwide. Immediate consequences for our health, the repercussions of personal restrictions and behavioral shifts will have tremendous economic impacts. The extreme economic uncertainty can be seen in the collapse of stock markets worldwide.

(Business) valuations need to critically evaluate short-, mid- and long-term effects of the Covid-19 crisis on the underlying business model and carefully assess adequacy and the extent to which effects will influence business planning. Commonly accepted approaches for this evaluation unfortunately do not exist. Even in pre-crisis times those were applicable only at highly aggregated levels due to the multitude of unique business models. As a result, there is no one-size-fits-all method. However, a thorough understanding of the business model, its value drivers, market and competitive environment is indispensable. Scenario and simulation analyses provide a meaningful

tool to help understand how Covid-19 might impact business planning.

The fundamental approach to estimate the cost of capital remains unchanged. Nonetheless, we expect individual parameters to be impacted differently. Parameters derived directly from capital markets might be insufficiently reliable due to the high volatility currently observed in the market. Lessons from past crises of 2008/2009 as well as 2012 might provide valuable insights.

Regards,

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## Content

**Value and price**  
*page 2*

**Cash flows in value-based calculations**  
*page 2*

**Cost of capital in value-based calculations**  
*page 3*

**Price-based calculations**  
*page 4*

**Impairment test**  
*page 5*

**Implications for baseline and valuation date**  
*page 5*

# Covid-19 implications for valuation

The Covid-19 crisis immediately influences directly observable prices, such as stock prices. Model-based business valuations often rely on market-based input parameters, such as cost of capital, and will be corroborated by means of observable prices. The underlying premise of such validation assumes the range of calculated business values to largely overlap with observable prices. In times of crisis, this underlying premise has to be scrutinized, as observable market prices might be vastly over- or understated and therefore – depending on the reason for the business valuation – no longer provide a reliable benchmark for calculated business values. In the following sections, we provide recommendations on how to address the current crisis within the business valuation model and outline implications for impairment testing as well as valuation date considerations.

## Value and price

Purely model-based business values, such as objectified or subjective business values according to IDW S1 or Value in Use according to IAS 36, focus exclusively on the future financial benefits, and as such, the business' long-term ability to generate positive cashflows and distributable returns to its shareholders. As value is defined as the ability to generate future cashflows, these approaches are commonly referred to as value-based calculations.

In contrast fair values according to IFRS 13, or common values ("gemeine Werte") according to BewG, are based on observable market prices. In general, prices represent the intersection of supply and demand. In a first step, fair values and common values look at quoted (market) prices or observable market-based input parameters, provided these prices are reliable. In cases where quoted (market) prices are not reliable or market-based inputs are not available, model-based calculations are used as a proxy to estimate such (market) prices.

In general, stock prices reflect the business' ability to generate positive cashflows for its shareholders. However, investor trading behavior often leads to a disconnect between this principle and observable prices, such that observable prices generally fluctuate around a

more stable value determined by a value-based calculation. The volatility of this fluctuation is attributable to many factors, among others, central bank monetary policy, liquidity needs, or information efficiency. Times of great uncertainty often generate a larger range of investor expectations about future development of firms and markets. As a result, the magnitude to which prices fluctuate around the stable value increases.

## Cash flows in value-based calculations

In the process of valuing a business, risk and uncertainty have to be considered on two corresponding occasions. On the one hand regarding the expectation of the business's ability to generate future returns. On the other hand, regarding the equivalent risk premium to reimburse investors for bearing the underlying risk for investing in these cash flows (risk equivalence principle).

Expected cash flow planning should consider the **short-term** implications of the pandemic as well as the unprecedented measures taken to mitigate its effects. Those measures often include drastic reductions in business operations and closures of business altogether, e.g. due to breaks in the international supply chain, staffing shortages caused

by employee illness or precautionary quarantining. On top of this, demand from countries affected by the virus has crumbled, while mandatory business closures and travel restrictions have drastically reduced domestic demand. Household disposable income and therefore consumer demand is further hit by employers' attempts to cut fixed costs via layoffs and temporary reduction of work hours.

According to current knowledge, the ramifications of the virus and the related emergency efforts will be temporary in nature. How long these regional emergency measures will remain in place and how large the financial burden will prove to be, remains to be seen. Based on publicly available forecasts (as of March 31, 2020), the situation is expected to remain serious for a period of between four weeks and six months. Central guidance on an approximate timeline is desirable but does not constitute a robust basis for reliable decision making. Although some initial indications in China show a gradual ramp-up of normal processes two months post-shut-down, it must be asked how easily China's experiences can be applied to other countries, while the potential threat of a secondary wave of the pandemic should not be neglected. The length of time a valuation object will be impacted by the crisis is strongly correlated

with the region and industry it operates in.

Ideally, such impacts of the crisis are already reflected in the existing financial forecasts. In cases where this is not true, effects of the crisis need to be incorporated in a complete and reasonable manner. Scenario and sensitivity analyses can validate such planning. Liquidity considerations should play a fundamental role in the analysis. Various government and non-governmental measures set in place to avoid liquidity shortages and to mitigate damage from the crisis need to be incorporated. Following these considerations, the **mid-term** implications should be carefully evaluated, i.e. once companies begin to gradually resume regular business activities. The key question is how quickly recovery will take place. A recovery can occur almost instantaneously (“V-shape”), but also with some delay (“U-shape”). In the worst-case scenario, a recovery might drag on indefinitely (“L-shape”). Furthermore, a recovery may also result in temporary catch-up effects. Current understanding suggests a V- to U-shaped recovery in general but cautions to consider impacts on a case-by-case basis given that effects are felt differently across industries and business models. Also, permanent changes to customer and product portfolios need to be analyzed. For example, customer behavior and habits might have changed over the course of the Covid-19 crisis, products might have been substituted by similar products from competitors able to supply or substituted entirely by other products and services. It is possible that lost market share can be regained.

An equally important consideration is that the Covid-19 crisis might accelerate, halt or even reverse previous trends, such as in digitalization or globalization. The crisis might also reveal both mid-term and long-term changes in the supply and value chain. For example,

suppliers might need to be replaced entirely or distributed more broadly, leading to potential changes in the cost structure and margins. Commonly accepted approaches which, in pre-crisis times, due to the multitude of unique business models, held true only at highly aggregated levels unfortunately do not exist. As a result, there is no one-size-fits-all method. However, a thorough understanding of the business model, its value drivers, the market and competitive environment is indispensable. Scenario and simulation analyses provide a meaningful tool to help understand how Covid-19 might impact business planning.

Building on the analyses of short-term and mid-term impacts, the calculation model also needs to include possible changes due to Covid-19 in the sustainable **long-term**. Even though many different business models will not be permanently impacted by the crisis, a standard approach to perpetuity assumptions might be misleading. Naturally and once again, scenario and simulation analyses warrant valuable insights and increase transparency for decision making.

Businesses worried about continuity even prior to the Covid-19 crisis need to be evaluated critically, especially considering short-term implications, appropriateness of additional financing support and suspending potential insolvency proceedings. It is important to remember that not all businesses are negatively impacted by the crisis. Some businesses, such as e-commerce or businesses offering medical supplies, are prospering. The thoughts laid out above apply here as well, but conversely.

### Cost of capital in value-based calculations

In addition to the discussed effects on planning and thus expected cash flows of the valuation objects, the crisis also impacts the cost of

capital. Notwithstanding, the fundamental approach to estimate parameters remains unchanged for now.

Because of the “flight to safe havens”, we expect the **risk-free** rate for Germany to further decrease to negative values along its term structure. Applying negative risk-free rates for infinite lived cash flows might no longer be unrealistic. In terms of methodology, we see no argument against applying a negative risk-free rate provided that its cash flow equivalent application lies within KPMG’s followed total return framework. Following a historically declining trend and driven by currently falling stock prices, implied total returns are on the rise again. However, we also expect occasional exaggerations in the capital markets. In fact, some capital market experts believe the time immediately leading up to the crisis to have been reflective of an exaggeration to the “high end”; i.e. with prices significantly above the expected value range, making Covid-19 “merely” a catalyst for correction. Note, however, that actual analyst estimates including Covid-19 impacts are only gradually becoming available.

The long-term bias of model-based valuation allows, indeed requires, capital market data to be evaluated on a long-run basis. Short-term anomalies and potential stock market exaggerations might be current in nature and not necessarily an indication of long-run sentiment. As a result, there is no reason to deviate from the corridor for the total return recently communicated by the FAUB ranging from approximately 7 to 9%. Therefore, while the risk-free rate decreases, we expect market risk premia to increase simultaneously. Currently, the FAUB recommendation caps the market risk premium at 8% (before personal tax). Consistent with prior years, the FAUB will validate its recommendation considering the market risk premium on an ongoing basis.

Covid-19 effects also need to be evaluated when deriving **beta factors**. Based on observations made during the financial crisis of 2008/2009 and the sovereign debt crisis of 2012, high levels of volatility can be expected, which will render certain parameters less suitable for valuation purposes. Nevertheless, the fundamental premise remains unchanged: Which measure most suitably estimates the operational risk of a business? Provided the risk profile of a business doesn't change significantly, observable beta factors continue to provide a robust starting point to measure such operational business risk.

However, current capital market volatility needs to be evaluated critically in this context. Beta factor distortions resulting from current observable price volatilities reflect temporary crisis-related effects and are not indicative of significant future changes to the underlying business model. In order to assess the effects of such crisis-driven market volatility on derived beta factors, beta factors calculated for valuation dates as of 2020 might also be compared to beta factors estimated as of December 31, 2019, a time when markets were largely unaffected by the Covid-19 crisis. Further rolling betas will also provide valuable insights and should be analyzed. Possible differences need to be bifurcated into whether distortions are of temporary nature or symptomatic of permanent structural changes. Given the scant amount of datapoints, beta factors observed prior to the crisis are fundamentally more meaningful than those observable since the start of the crisis. As mentioned earlier, in cases where the underlying business model undergoes structural shifts, deviations are possible and explainable. This is also the case in times of no crisis. It is difficult to estimate the extent to which businesses with unchanged business models will be subjected to additional crisis-induced operational risks, such as higher volatility of results or higher

correlations compared to the overall market, in the short term. It is therefore even more important to derive the appropriate (i.e. compared to the "no crisis scenario" mostly downward adjusted) expected value of the financial forecast of a business. Also, potential default scenarios need to be considered over the respective time horizon. Given that crisis-driven effects are likely short-term in nature, beta factors should be aligned with the sustainable business risk and thus rely on market data as observed in times prior to the crisis. Arbitrary and generalized adjustments of beta factors are therefore not acceptable.

Generally, **country risk premiums** are expected to increase. Instead of relying on a two-year average to estimate the country risk premium, a shorter time period to calculate the country risk premium might be reasonable. This might especially be the case for countries experiencing significant effects of the Covid-19 pandemic with severe economic consequences (e.g. Italy). We recommend a similar approach amidst the sovereign debt crisis for countries particularly impacted by the crisis (e.g. Greece).

Prevailing recommendations about the **sustainable growth rate** continue to be valid, highlighting the importance of consistent inflationary assumptions. The current risk-free rate continues to represent a low inflationary environment. As a result, derivations of a company-specific sustainable growth rate should not inherently reflect a high inflation scenario. Alongside general considerations on consumer-based inflation (within the cost of capital), the company-specific inflation rate remains the relevant measure to estimate the sustainable growth rate.

Conventional plausibility checks are still valid approaches to corroborate model-based values with value and price benchmarks.

Nonetheless, there might be increasing reasons to believe that prices (e.g. on the basis of currently observable multiples) lie below the estimated value range.

### Price-based calculations

As a general rule and irrespective of the current situation, level hierarchies regarding the applied input factors have to be considered (see IFRS 13). Fundamentally, we expect the decrease in the capital markets to be reflected in the price-based calculations.

The planning approach to estimate cash flows for value-based calculations also applies to price-based calculations. However, price-based calculations are predicated on the perspective of the typical market participant. Analyst reports that already include analyses on the Covid-19 crisis might provide valuable insights. Under normal circumstances, it is generally reasonable to assume identical cost of capital assumptions for value in use and fair value purposes. It is questionable whether this premise continues to hold true in the current time of crisis. As the fair value aims to adequately capture (also) short-term observable prices, the cost of capital has to be benchmarked against current (implied) capital returns in times of observed high market volatility. Whereas no additional adjustments to the risk-free rate are necessary, the market risk premium – based on current implied market risk premia – might even exceed current bandwidths, such as the FAUB bandwidth. As a result, risk premia might diverge between price-based calculations and value-based calculations. Provided there are no foreseen significant shifts in the operating business model, beta factors derived based on pre-crisis market data might be used. In contrast, country risk premia might consider short-term averages instead.

**Multiples approaches** continue to be an important, albeit currently limited, tool for price-based calculations. Conceptually, a multiple based approach resembles a terminal value calculation. Depending on the comparability of the peer group and the valuation object, in particular regarding the underlying detailed planning period, results might be highly volatile. Even in times of no crisis, the reliability of results might be questionable in cases where large differences between the valuation object and the peer group during the detailed planning period exist, e.g. due to restructuring activities. Correspondingly, a multiple based analysis might also be less reliable when applied to valuing start-ups.

Similar thoughts can be applied to the current situation. Trading multiples continue to be based on their respective valuation date. It must be considered whether Covid-19-related adjustments are already reflected in revenue and profitability multiples. Such multiples might be less suitable if crisis-related adjustments in the peer group and the valuation object are not comparable. Fundamentally, multiples need to be based on either crisis-adjusted or crisis-unadjusted revenue, as well as on profitability measures depending on whether the underlying metrics of the valuation object are adjusted or unadjusted. In line with the current derivation of the implied market risk premium based on unadjusted analyst estimates and unadjusted terminal value assumptions, multiples will be similarly derived based on unadjusted financial forecasts.

At this point, it remains unclear whether analyst estimates already reflect Covid-19 crisis effects. As a result, it appears reasonable for now to use only analyst estimates for the peer group issued prior to the broad consideration of the Covid-19 crisis (around February 24, 2020) – and therefore free of any potential crisis effects – and correspondingly unaltered results

of the valuation object. This is because it is difficult to clearly distinguish between analyst estimates including Covid-19 effects and those excluding Covid-19 effects for some time. Going forward, we expect all analyst estimates to include Covid-19 crisis effects. The reliability of such estimates for valuation purposes based on multiples has to be critically evaluated.

Correspondingly, transaction multiples based on transactions concluded in pre-crisis times need to also be carefully assessed as to their application in a current price-based calculation.

#### Impairment test

The current situation predominantly constitutes a triggering event for the impairment test (see IDW, “Auswirkungen der Ausbreitung des Coronavirus auf die Rechnungslegung und deren Prüfung”, Teil 2). Previous recommendations to reconcile market capitalization etc. are still applicable. The same applies for the impairment test according to IDW RS HFA 10, given that the Covid-19 crisis will lead to critical evaluation of carrying amounts as of the next balance sheet date. Significant differences might arise in foreign country participations given that the degree and extent of Covid-19 effects can vary significantly.

Internationally, a (weak) preference was expressed in favor of the “expected cash flow approach”. We believe a differentiation between “traditional approach”, “expected cashflow approach” and “certainty equivalent approach” currently under discussion is primarily based on practical applications. Conceptually, a fundamental distinction needs to be made first between market price equilibrium and individual marginal price calculations, and second – to ensure mathematical accuracy – between certainty equivalence and the risk premium method. (A market-based certainty equivalence method necessarily applies the same valuation-relevant parameters as the

commonly used risk premium method.)

The traditional approach which is commonly accepted in the international valuation context relies on single-cashflow estimates for financial forecasts. As these estimates do not necessarily represent expected values (in a statistical sense), risk equivalence adjustments in the denominator via so called “alpha” factors must be applied. The commonly used approach in Germany to directly derive expected values for the financial forecast can be aligned with the “expected value approach”. The aforementioned recommendation to consider probability-based scenario analysis supports KPMG’s preferred approach to estimate expected values via simulation-based methods, e.g. by use of Monte Carlo analyses. We have the necessary know-how and tools to do so. The recommendation to replace generalized risk premia with dedicated cashflow analyses, corresponds with our valuation expertise as well as IDW recommendations.

#### Implications for baseline and valuation date

Past valuation dates need to be critically assessed to establish when the effects of the Covid-19 crisis become relevant for valuation. An exact effective date differentiation will be difficult to determine. Nonetheless, we can delineate – valuation dates up to December 31, 2019, should not consider effects of the Covid-19 crisis as part of the valuation (see IDW „Auswirkungen der Ausbreitung des Coronavirus auf die Rechnungslegung zum Stichtag 31.12.2019 und deren Prüfung“, though this points out that certain reporting requirements might already be relevant for December 31, 2019 reporting dates). Even though first signs of the Covid-19 crisis became apparent in China around Christmas 2019, the consequences were not foreseeable

and potentially reversible at that point. When looking at the development of capital markets, it appears reasonable for valuation calculations with valuation dates post February 24, 2020 (stock market crash) to consider impacts of the Covid-19 crisis. Valuation dates between December 31, 2019 and February 24, 2020 need to be evaluated on a case by case basis.

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