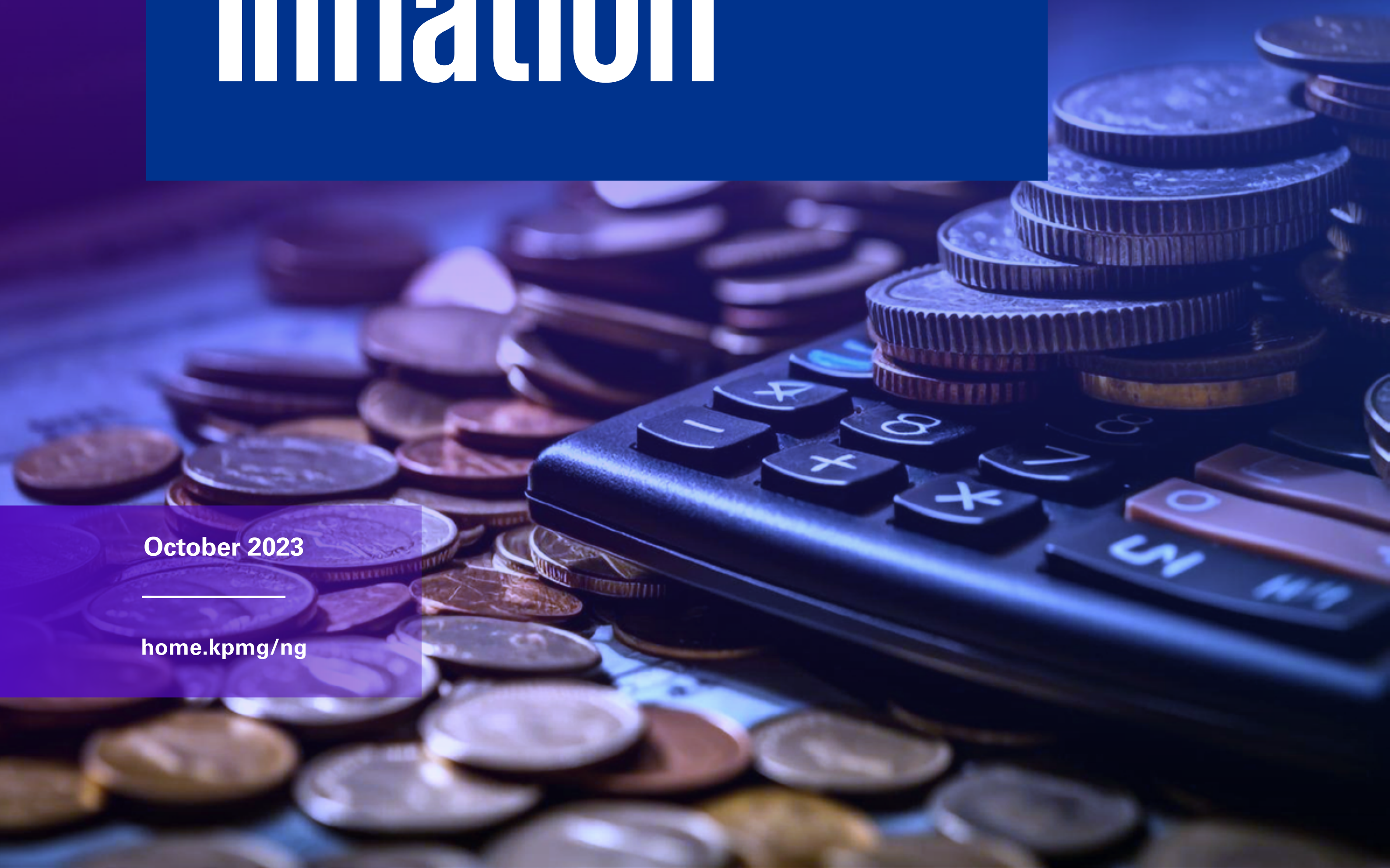
Equity Valuation in a Period of Inflation



October 2023

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Content

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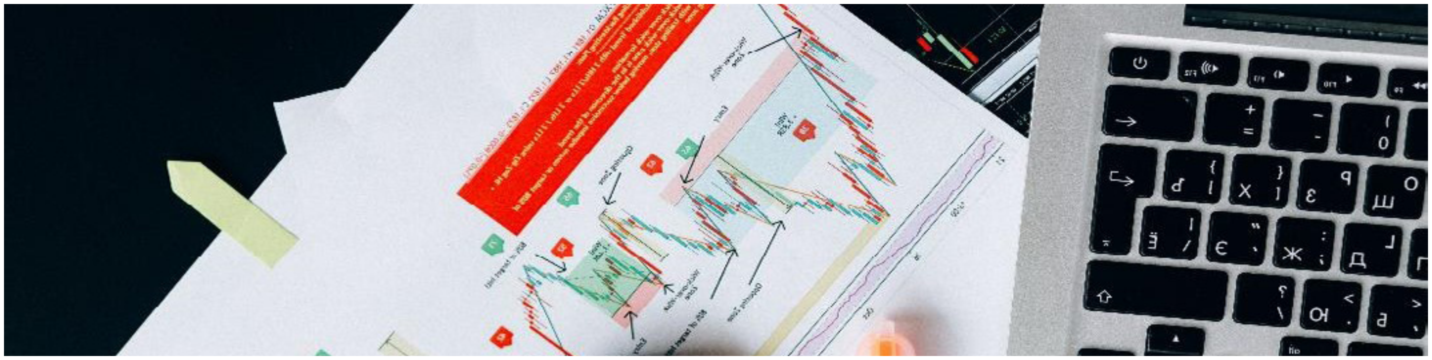


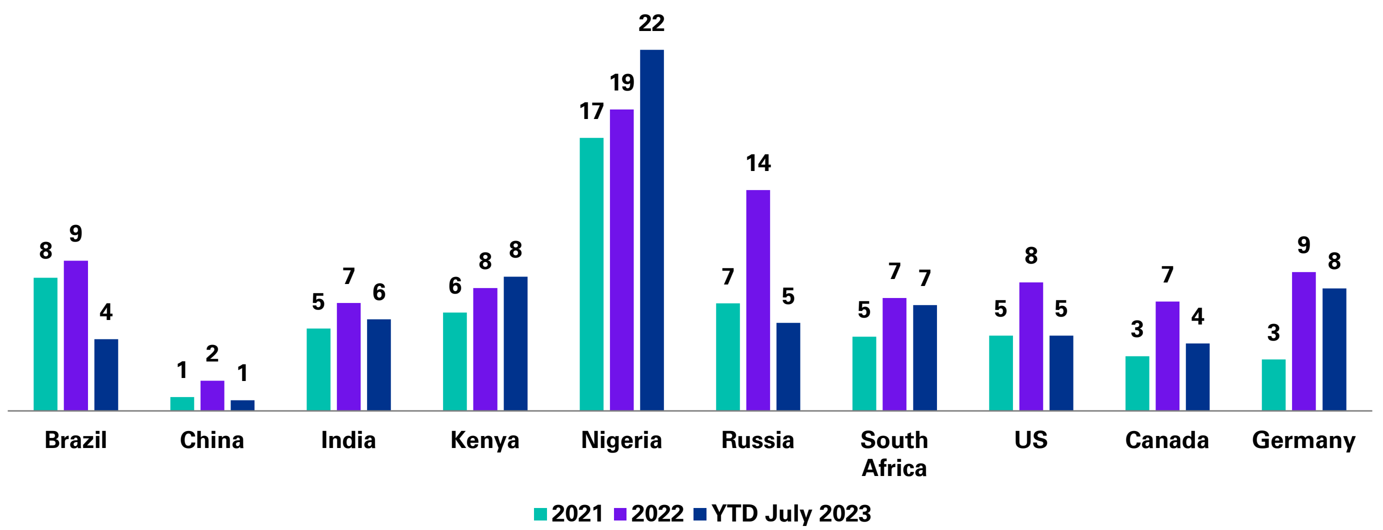
Global Inflation is showing signs of easing in most parts of the world, particularly in the largest developed economies. Monetary and fiscal policy measures to tame inflation appear to have yielded results as global inflation that reached decades high in 2022, has let off some steam. In the United States, inflation fell to 3.2% in July 2023 compared to 9% in June 2022. Eurozone inflation stood at 5.3% in July 2023 from 8.6% in June 2022. In South America, inflation in Brazil declined from 12% in June 2022 to 3.5% in July 2023.

Interestingly, series of interest rate hikes in 2022 and the first half of 2023 were targeted at price stability and curtailing inflation to, at best, pre-pandemic levels. Inflationary pressures had stemmed from the supply-chain disruptions and pent up demand from the pandemic as well as economic dislocations from the Russia-Ukraine crisis in early 2022.

According to the International Monetary Fund (IMF), global inflation is expected to fall from 8.7% in 2022 to 7.0% in 2023 and 4.9% in 2024. In developing economies, inflation is expected to persist in 2023 as a result of macroeconomic and fiscal headwinds and currency depreciation for economies that are import-dependent.

The horizon for inflation signals steady improvement on the back of improved supply chain economics, sustained monetary tightening and stable commodity prices. However, since inflation levels are still far from target in key markets, consumer purchasing power will remain impacted by high prices. China's economic rebound could push demand, and volatility in the energy market could resurface. These factors may keep prices high and global economic prospects lukewarm.

Average inflation rate (%), 2021- July 2023



Source: Economist Intelligence Unit (EIU), Organisation of Petroleum Exporting Countries (OPEC) Monthly Oil Market Report

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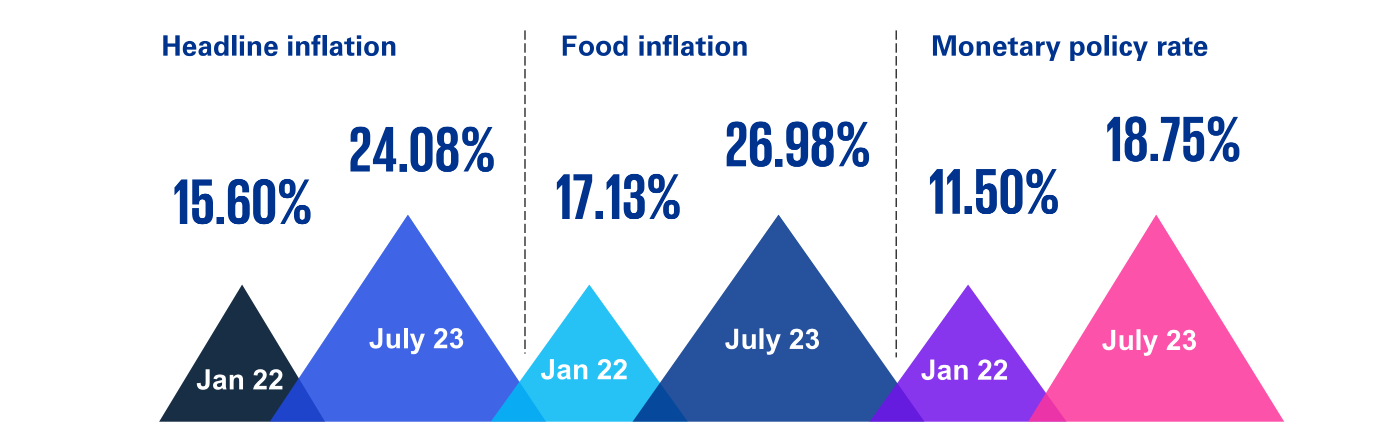
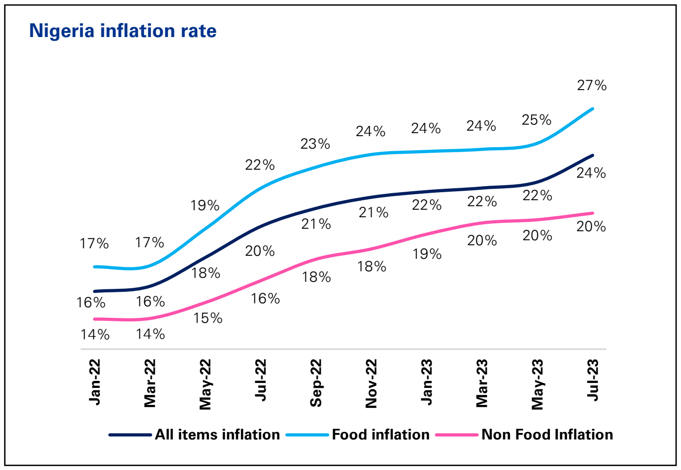


Source: NBS

Headline inflation in Nigeria has remained at double-digit levels since February 2016 when it hit 11.38% from 9.62% in January 2016, according to National Bureau of Statistics (NBS), driven by structural issues and cost-push factors. Between January 2022 and March 2023, inflation soared, from 15.60% to 22.04% in March 2023, due to post-pandemic market mismatch and geopolitical tensions in Europe.

While the Central Bank of Nigeria (CBN) has increased the Monetary Policy Rate (MPR) as a tool to reduce inflation, inflationary pressures have remained elevated, generally rising, and above the apex bank's target rate of 6-9%. This trend casts doubt on the effectiveness of the traditional monetary measures, aimed at controlling spending, to curb the current inflationary pressures.

In June 2023, the new administration introduced two policy reforms, foreign exchange rate harmonisation and removal of fuel subsidy. The exchange rate harmonisation has seen the Naira to the dollar devalue from about N460 to over N700 while fuel subsidy removal has seen the pump price of petrol rise from N185 to over N500 to a litre. Consequently, inflation inched further from 22.41% in May to 24.08% in July. According to Fitch, inflation is expected to average over 25% by the end of the year. With this backdrop, it is likely that inflation will persist before base effects kick in, by 2024.



Source: NBS

Inflation data for July 2023 - Divisional level	Contribution y-o-y (%)
Food and non-alcoholic beverages	12.47
Housing water, electricity, gas & other fuel	4.03
Clothing & footwear	1.84
Transport	1.57
Furnishings & household equipment & maintenance	1.21
Education	0.95
Health	0.72
Miscellaneous goods & services	0.40
Restaurant & hotels	0.29
Alcoholic beverage, tobacco & kola	0.26
Recreation & culture	0.17
Communication	0.16

Source: NBS

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How inflation affects value

To understand how inflation affects value, it is important to understand the source of value and its key drivers. Business value is influenced by the following key drivers:

1. Future cash flows from existing assets.
2. Growth in future cash flows due to:
   - Improved efficiencies in utilising existing assets; and
   - Investments in additional assets.
3. Cost of financing, which is the rate at which future cash flows are discounted to the present to arrive at an estimate of present value. This is also known as the Weighted Average Cost of Capital (WACC) for a business.

From the above, we see that inflation impacts value through cash flows and the cost of financing as follows:

Cash flows

Inflation exerts a downward pressure on future cash flows by increasing operating costs for businesses, due to the increase in prices of key production and operating inputs. Inflation also gives rise to a downward trend in demand, due to a decline in consumer purchasing power, impacting the revenue and cash flow-generating ability of businesses.

Cost of financing

Inflation negatively impacts the cost of financing for businesses, otherwise known as the WACC. This reduces the present value of future cash flows, which is discounted by the WACC.

WACC represents the rate of return that a rational, informed investor would require as compensation for investing in a particular business. It also represents the opportunity cost, in percentage terms, to an investor of not investing in similar assets or businesses available in the market. One of the core components of expected return is compensation for inflation, as rational investors prioritise growth in real terms over nominal terms.

The WACC of a business is primarily influenced by the following key drivers:

- General macroeconomic conditions, reflected in the risk-free rate, cost of debt and the long-term growth rate;
- Market perception of the level of risk in the business, reflected in the company beta and credit spread; and
- The mix of debt and equity used to finance the business.

As previously noted, periods of high inflation often result in eventual increases in interest rates within the economy, influenced by monetary policies of the CBN aimed at curbing inflation. This has a direct effect on WACC for a business through an increase in the risk-free rate.

Inflation also affects WACC through its influence on the market perception of risk inherent in a business. As earlier noted, high inflation leads to a decline in the purchasing power of consumers, which exerts downward pressure on revenue and cash for businesses. Declining revenue and cash increase the likelihood that a business would not be able to meet its obligations in a timely manner. As a result, this leads to an increase in the cost of borrowing for businesses.

Valuation in periods of high inflation

Nigeria's current period of high inflation has presented a conundrum for business leaders and valuation professionals in terms of understanding what it means for asset values and how valuations should adapt to the realities of the current environment. In this section, we briefly discuss what the current period of high inflation means for asset values and adapting valuations in periods of high inflation.

The right approach

Although periods of high inflation often see a significant decline in asset prices, for the reasons discussed in the previous section, they should not affect asset values. This is because periods of high inflation are often caused by market and operating conditions that are unlikely to persist in the long term. Value, unlike price, is a long-term view of the worth of a business or asset that is unaffected by short-term market conditions and is influenced solely by the key value drivers specific to the business or asset being valued. Unfortunately, periods of high inflation often lead to an increase in misvaluations due to a likely misunderstanding of the relationship between inflation and value on the part of valuation professionals, and this often leads to misunderstandings with clients.

As such, high inflation periods often require increased transparency in the valuation process and the need for valuations to be adapted in a way that minimises the influence of short-term market conditions and keeps the focus on the key value drivers of the business or asset being valued, in order to prevent misvaluations.

The valuation approach that best meets these needs is the discounted cash flow approach (DCF). This is due to the following reasons:

- The DCF approach allows for the incorporation of an explicit inflation assumption and shows a clear link between inflation and value that businesses and valuation professionals can reconcile in order to understand the relationship between inflation and the value of their business or asset.

- The DCF approach offers the level of flexibility required to adapt valuations in periods of uncertainty, as compared with the other valuation approaches.

This section of our report focuses on recommended approaches to treating the key value drivers in DCF valuations – cash flows, discount rate and long-term growth rate – in periods of high inflation.

Recommended approaches to adapt in periods of high inflation

Cash flows

Two approaches can be adopted to appropriately treat forecast cash flows in periods of high inflation:

- Forecasting cash flows in real terms based on real growth rates. This approach aligns with baseline investor expectations of returns in excess of inflation, allows valuers to avoid most complexities associated with explicitly incorporating inflation into the valuation and allows valuers to focus on the key value drivers.

- Incorporating the term structure of inflation expectations over the forecast period into the cash flow forecast. The term structure of inflation expectations refers to the periodic forecast for inflation.

The most appropriate information source on inflation expectations in the economy is the public market due to the following reasons:

- The public market provide real-time information on inflation expectations, while other sources typically release their forecasts with significant time lags and revisions to previous estimates, increasing the uncertainty associated with those forecasts.

- Public market information closely aligns with valuation fundamentals. The public market reflect investor expectations of the future direction of inflation in the economy, which has a direct impact on asset values.

Market-implied expected inflation for a time period can be derived from the spread between the yield on a country's Eurobond and the yield on a locally-issued bond of the same maturity. Long-term inflation forecasts from macroeconomic forecasting services such as Economist Intelligence Unit (EIU) and the IMF, can be relied on as alternative sources.

Risk-free rate

The risk-free rate can be derived using two approaches:

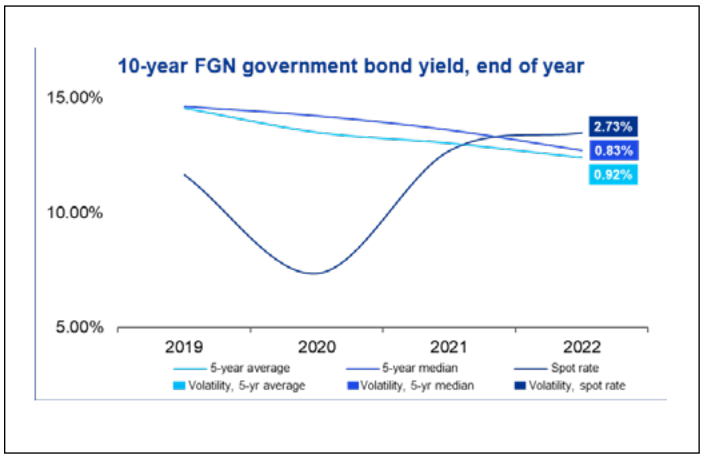
- **Local bond approach:** This approach uses the yield on a locally-issued government bond with a maturity equal to the length of the forecast period of the valuation as the risk-free rate.

- **Build-up approach:** This approach derives the risk-free rate as the sum of a base mature-market risk-free rate and the inflation differential between the home country and the mature market country.

Due to the significant uncertainty that accompanies periods of high inflation, it is important that the risk-free rate reflects normalised levels to reduce the impact of short-term market conditions on the value estimate.

Normalised risk-free rates can be derived by looking at historical government bond rates or inflation differentials over a period long enough to cover two business cycles (average of 10-20 years). This is due to the tendency for inflation to be mean-reverting in the long term. Using a case study of Nigeria, we illustrate the potential value impact of using a point estimate versus using a 10-year historical approach.

The case study assumes that the same business was valued at the end of each year between 2019 and 2022 with the local bond approach being used to estimate the risk-free rate. Compared to the 5-year average and 5-year median estimates, the yield on the 10-year government bond was three times more volatile than the 10-year median and the 10-year average. Assuming all other parameters are unchanged, this illustrates the potential volatility in the value estimate from year to year as a result of using a point estimate approach rather than a historical approach.



Source: FMDQ and KPMG analysis

Note: Volatility is computed as the standard deviation of observations

Long-term growth rate

The long-term growth rate is one of the most important parameters in a DCF valuation as it plays a key role in estimating the terminal value which constitutes the bulk of the value of a going-concern business. In periods of high inflation, it is important that the long-term growth estimate is fully aligned with fundamental valuation principles due to its outsized influence on the final value estimate.

The long-term growth rate represents the expected growth rate of cash flows for a business once it has reached its steady state. In the steady state, it is assumed that all opportunities to achieve excess growth have been exhausted and the business can only grow at a rate that allows it to maintain its existing state. Based on this understanding, we recommend the following approaches to estimating the long-term growth rate:

Market-implied long-term inflation approach: This approach estimates the long-term growth rate as long-term expected inflation implied in the public market for the location of the business being valued. This approach is aligned with fundamental valuation principles because in the steady state, it is assumed that the minimum rate at which a business will be able to grow in order to remain a going concern is the long-term inflation rate. This makes it a more conservative approach to estimating the long-term growth rate because it assumes that the business will not have access to any excess growth opportunities into perpetuity.

GDP growth rate approach: This approach estimates the long-term growth rate as the long-term GDP growth rate of the country in which the business being valued is located. It is a more optimistic approach to estimating the long-term growth rate because it represents the maximum growth rate that a business will be able to achieve in its steady state. This approach is suited for situations where market-implied long-term inflation rates are not available due to the lack of a liquid bond market. GDP growth rate forecasts can be sourced from reputable forecasting services such as EIU, IMF and the World Bank. In adopting this approach, it is important to make sure that the long-term growth rate forecast aligns with the price basis of the valuation. This means that if a cash flow forecast is nominal, then the GDP growth rate estimate should also be nominal and if the cash flow forecast is done in real terms, then the relevant long-term GDP growth estimate would be the long-term real GDP growth rate.

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Valuations

Our Valuations team offers technically sound and commercially focused independent valuations for specific client needs. We apply excellent business judgment and sector/industry expertise in conducting valuations and we present valuation reports that are clear, credible, and transparently set out reasons which back up our conclusions. Our valuations team serves different needs which are not limited to the following:

- Providing independent professional advice to Boards, shareholders and management on transactions, acquisitions, or evaluations in preparation for a divestment.
- Determining the right price to pay or accept for a business or other asset.
- Calculating the value of equity to be issued to existing shareholders or new equity investors.
- Valuing private equity portfolio companies and unlisted investments for financial reporting and pricing purposes.
- Undertaking valuations for tax purposes (including tax consolidation).
- Providing valuations for accounting and reporting purposes (including valuations required under IFRS).

Buy- and sell- side advisory

Our Deal Advisory professionals are forward-looking specialists with a broad range of skills, deep industry expertise, and a view of the future, to help you stay in front of the issues.

When considering an acquisition, our buy-side advisory team can help identify key risks and rewards, areas where value can be harnessed at integration, and potential upside opportunities e.g. possible synergies from financial, legal, taxation, human capital, and technology business areas.

The team can support throughout the acquisition lifecycle, in planning and executing each deal in the following work flow:

- **Deal strategy:** How do I maximise shareholder value and returns?
- **Option identification:** What businesses can I acquire in my target markets?
- **Evaluation:** What is the asset worth to me?
- **Deal execution:** How do I get the deal done at the right price?
- **Pre-close:** How do I plan for a successful Day 1?
- **100 days:** What is my plan for delivering the deal value?
- **Value realisation:** How do I maximise value?

Likewise, we can support your divestiture mandates by identifying potential risks and rewards, minimising value leakage, supporting your negotiation position and ensuring that the deal is executed with minimal disruption to the post-deal business operations.

The team can help your business in planning and execution of divestiture deals with respect to:

- Portfolio strategy: How do I maximise shareholder value?
- Exit options: What are my strategic exit options to maximise shareholder value?
- Preparing for exit: How do I prepare the business for exit?
- Deal execution: How do I get the deal done at the right price?
- Pre-close: Am I ready to close?
- Post-close: How do I capture the value created?

"The Deal Advisory team at KPMG Nigeria comprises subject matter experts with deep industry experience, who work with cross-functional teams across the firm to support clients pre and during the deal, as well as post-deal value creation journey."

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Publication name: Equity Valuation in a Period of Inflation

Publication date: October 2023