

October 2020

DWS Long View – Q3 2020 update

Authors: Francesco Curto, Sarvesh Agrawal, Jason Chen, Martin Moryson

Within this report, we present the DWS long-term capital market assumptions¹ as of the end of September 2020 for major asset classes.

The COVID-19 crisis sent the global economy into its deepest post-war recession. Because of the uncertainties that existed about the depth and duration of the crisis, DWS developed, back in March, three scenarios to assess its impact on long-run return forecasts. Given the increased clarity on the economic and fundamental outlook for financial markets—dividend cuts and credit default losses have reflected in market pricing—we, now, feel comfortable forecasting and presenting just 1 scenario for our 10-year return outlook.

The initial economic shock from the pandemic was quite severe but the recovery has also been swift. At the global level the economic output is expected to shrink by 4.4% this year and grow by 5.2% next year. In the US the loss of output is roughly comparable to that of the Global Financial Crisis (“GFC”). In Europe the impact is more severe but the output loss is likely to be smaller than during the financial and the subsequent Euro crisis. This in large part is because of the timely actions from central banks and national governments.

This rescue has come at a high cost, however, with its impact likely to be felt for years to come. **Our models now suggest a return of 5% from the MSCI All Country World Index (“ACWI”) annually for the next decade, about half of what investors have received over the past decade². A diversified portfolio of assets is now likely to return 4.2%, down 70 bps from the level at the end of the second-quarter and 150 bps from the level in March this year.** Still, attractive opportunities exist within equities and alternative asset classes. Developed Market REITs and Global Infrastructure are expected to return 6.5% annually over the coming decade providing the necessary diversification and a favorable income stream to investors.

FIGURE 1. DWS TEN YEARS ANNUAL FORECASTED RETURNS

	As of 30 Sep. 2020	Δ since June 2020
S&P 500	5.3%	-0.2%
MSCI Europe	4.5%	0.0%
MSCI UK	5.9%	-0.9%
MSCI Germany	4.1%	+0.1%
MSCI Japan	3.5%	0.0%
MSCI World	4.9%	-0.1%
MSCI EM	5.6%	-0.3%
MSCI ACWI	5.0%	-0.1%
US Treasuries	0.6%	-0.1%
Euro Agg Treasuries	-0.3%	-0.2%
US Corporates	1.5%	-0.1%
Euro Agg Corporates	0.2%	-0.3%
US High Yield	3.6%	-0.9%
Pan-Euro High Yield	2.8%	-0.6%
EM Sovereigns	4.5%	-1.1%
Developed REITs	6.5%	0.0%
US REITs	6.9%	-0.9%
Global Infrastructure	6.5%	+0.3%
Americas Infrastructure	7.0%	+0.2%

Source: DWS Investments UK Limited. Forecasts from 30 September 2020 to 30 September 2030. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered may differ materially from those described.

¹ Long-term forecasts are based on 10-year models and should not be compared with 12-month forecasts published in the DWS CIO View

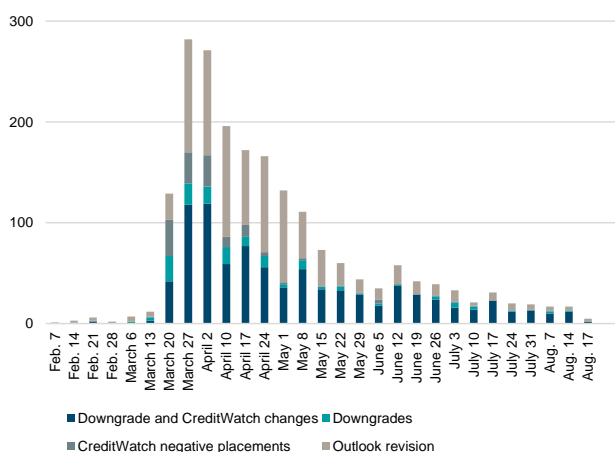
² MSCI ACWI generated an annualized 9.62% total return from 9/30/2010 to 9/30/2020

Asset fundamentals have recovered

Asset fundamentals continue to evolve but have adjusted down from the highly stressed levels they were at earlier this year. The expectations of credit default rates and negative rating actions from credit rating agencies illustrates this. In March and April, both climbed to levels not seen since the GFC but have moderated since then as visibility about monetary and fiscal stimulus and the ability of companies to adjust in stressed environments became clear.

In the past 2 quarters, the outlook for companies has been not nearly as bad as previously feared. This has been reflected in the steady decline in the number of ratings downgrades issued by the agencies as shown in Figure 2.

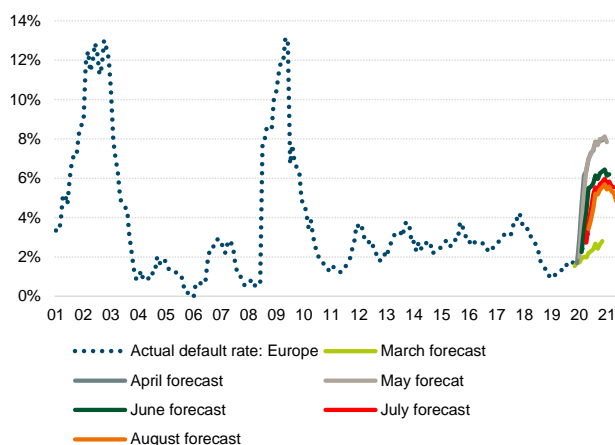
FIGURE 2. NUMBER OF NEGATIVE RATINGS ACTIONS DUE TO COVID-19



Source: DWS Investments UK Limited, Moody's S&P. Data as of 25 September 2020.

This more optimistic outlook for corporate credit ratings is also reflected in the gradual moderation of expected default rates as shown in Figure 3.

FIGURE 3. SPECULATIVE DEFAULT RATES AND MOODY'S BASELINE FORECAST FOR EUROPE



Source: DWS Investments UK Limited, Moody's S&P. Data as of 25 September 2020.

DWS Research Institute argued this in *History Lesson II: Estimating the dilution from a COVID-19 recession for equity investors* published in April this year. The paper used the

analogy of 'bricks' and 'sponges' arguing that although equities are perceived as 'bricks', falling badly (even breaking) during the times of crises, the bulk of the large-cap equities actually are 'sponges' with great ability to adapt and recover from crises. This is evident from their free-cash-flow to sales ratio that over the past three decades improved from the trough of one recession to the next. This shows that the large-cap companies have become more resilient with greater flexibility in managing their costs and cash flows than in the previous crises. The Research Institute estimated that most companies would manage by cutting their dividends and even though leverage may increase, large-scale share issuances that some had feared would not be necessary.

FIGURE 4. FCF-TO-SALES



Source: DWS, CROCI. The chart shows after tax-free cash flow to sales of companies for which CROCI has comparable data going back to 1989. Data as available on 9 April 2020. For illustrative purposes only.

Dividend yields have converged to levels estimated under our '2009-repeat' scenario

FIGURE 5. TRAILING 12-MONTH DIVIDEND YIELD VERSUS DIVIDEND YIELD UNDER 2009-REPEAT SCENARIO

	30 June	30 September	
	Trailing 12M	2009-Repeat	Trailing 12M
S&P 500 Index	2.0%	1.9%	1.8%
MSCI Europe	3.0%	2.7%	2.6%
MSCI Swiss	2.8%	2.7%	2.8%
MSCI Japan	2.5%	2.3%	2.2%
MSCI Germany	2.9%	2.7%	2.6%
MSCI World	2.3%	2.1%	2.0%
MSCI Emerging Markets	2.6%	2.4%	2.2%
MSCI ACWI	2.3%	2.2%	2.1%

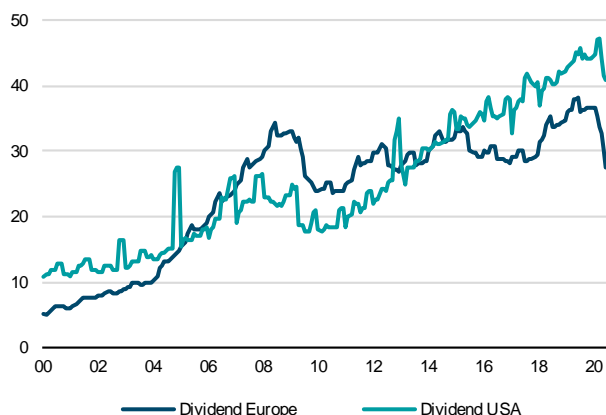
Source: DWS Investments UK Limited, MSCI Inc, S&P Dow Jones Indices, Factset. Data as of 30 September 2020. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered may differ materially from those described.

The experience over the past two quarters confirms our view. Dividends have been cut, substantially in some cases, for

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

example, Energy. The spot measure of dividend yield has largely converged to the levels we had previously estimated in our '2009-repeat' scenario. Figure 5 shows our expectations of dividend yield in the '2009-repeat' scenario and the experience over the past quarter.

FIGURE 6. SUBSTANTIAL DIVIDEND CUTS IN EUROPE AND THE US (FIGURES IN USD BILLIONS)



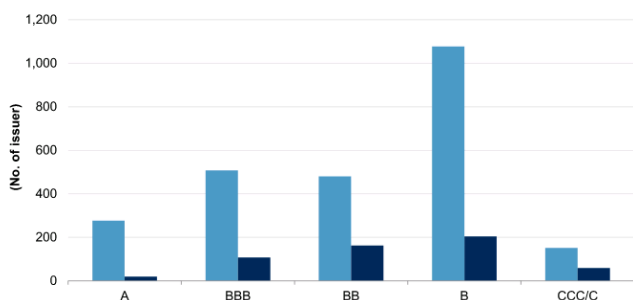
Source: DWS Investments GmbH, Bloomberg Finance L.P. The chart shows rolling twelve months dividends of the S&P 500 and STOXX 600 indices in USD billion. Data as of 25 September 2020.

Liquidity concerns for corporations have eased

This more positive outlook for corporate fundamentals can be attributed to quick and decisive actions by companies and a very supportive technical market environment. This has alleviated liquidity concerns quickly allowing companies to tap into various liquidity channels over recent months. These channels fall into 3 main categories:

- Short-term bank facilities, especially used by non-investment grade companies
- Fiscal and monetary support via programs directed at small and medium-sized enterprises ("SMEs")
- Bond markets where investment grade companies were able to source significant liquidity via new issuance

FIGURE 7. NUMBER OF NON-INVESTMENT GRADE ISSUERS: TOTAL AND NUMBER THAT HAVE DRAWN ON REVOLVERS



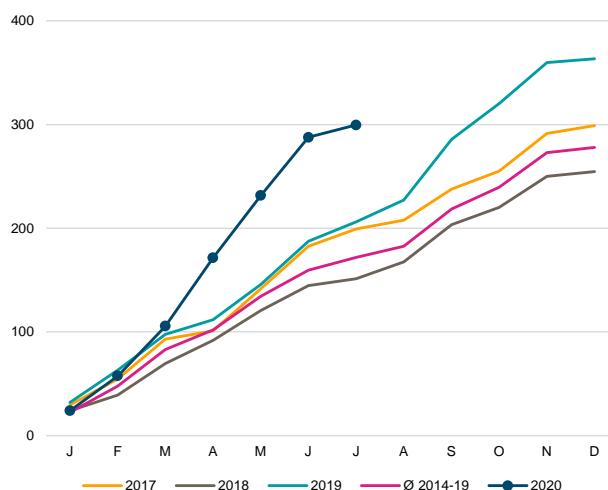
Source: DWS Investments UK Limited, Moody's S&P. Data as of 25 September 2020.

Figure 7 illustrates the number of non-investment grade corporate bond issuers who have drawn on short-term revolvers. While this activity has been spread across rating

cohorts, it's clear that, proportionate to the total number of issuers, CCC/C-rated firms have the highest proportion of issuers having drawn on these short-term borrowing facilities.

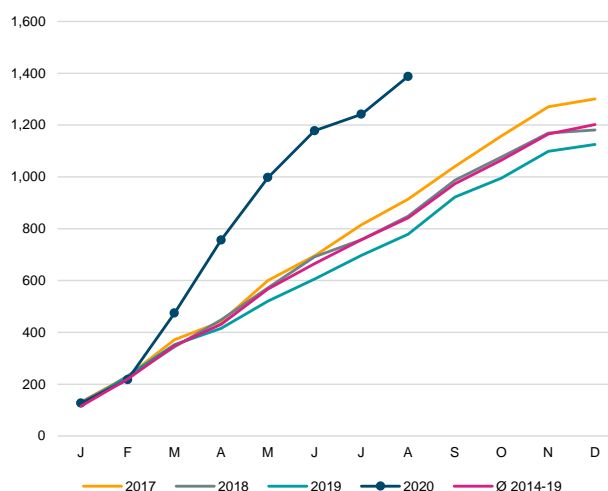
As a result of this supportive activity, corporate bond buyers have flooded back into the market, providing an additional strong liquidity valve for corporations across both US and European markets. Strong uptake for new corporate issuance has resulted in record-high issuance volumes thus far this year, as shown in Figure 8 and Figure 9.

FIGURE 8. PRIMARY BOND ISSUANCE VOLUMES OF INVESTMENT GRADE NON-FINANCIALS: EUR (IN EUR BN)



Source: DWS Investments UK Limited, Moody's S&P. Data as of 25 September 2020.

FIGURE 9. PRIMARY BOND ISSUANCE VOLUMES OF INVESTMENT GRADE NON-FINANCIALS: USD (IN USD BN)



Source: DWS Investments UK Limited, Moody's S&P. Data as of 25 September 2020.

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

Hard recession, fast recovery

The COVID-19 crisis has been with us for nearly three-quarters now. Even though economic conditions have improved, uncertainty remains elevated but is clustered around one single base path.

The pandemic has sent the world economy into its severest recession since the end of World War II. By IMF estimates, the global economy will shrink by 4.4% this year. However, by the same token, the recovery is likely to be swift. DWS estimates the world economy will grow by 5.2% in 2021. In the U.S., the COVID-19 crisis would lead to a loss in GDP roughly comparable to the GFC. The initial drop in GDP was much greater but there is one fundamental difference: the rebound happened almost instantaneously. Therefore, we assume that the long term economic fallout will be smaller this time. We expect the major part of the recovery is already behind us with future growth likely to be much slower.

The economic damage in Europe will be slightly larger than that in the U.S. Still, it will likely be much smaller than during the financial and subsequent Euro crisis. The much faster recovery is mainly due to the much more decisive fiscal response to the crisis. In an unprecedented manner, states stepped in and pushed large rescue packages through its parliaments. According to the IMF, in the U.S. the debt to GDP level is expected to increase from 109% to 132%; in the Euro area it will increase from 84% to 101%. All this is made possible by central banks cutting interest rates to virtually zero and starting various bond buying programs. We expect central banks to keep policy rates very low for an extended period to alleviate the debt burden for states (“financial repression”). Hence, we expect very low or even negative real interest shall prevail over the next few years.

How COVID-19 has impacted long term return potential

To estimate the impact of such a crisis on asset classes, the DWS Research Institute has published several research papers since March (see bibliography). In April we published a report *DWS Long View: Q2 2020 update*, which, at the time, modeled three different scenarios, with our base case focusing on a *2009-repeat* scenario.

As economic uncertainty has faded to an extent and fundamental market conditions have materialized (e.g. dividend cuts), we have merged our scenarios into one set of 10-year return forecasts for the main asset classes as shown in the following pages.

Francesco Curto

Head, DWS Research House

Additional contributors:

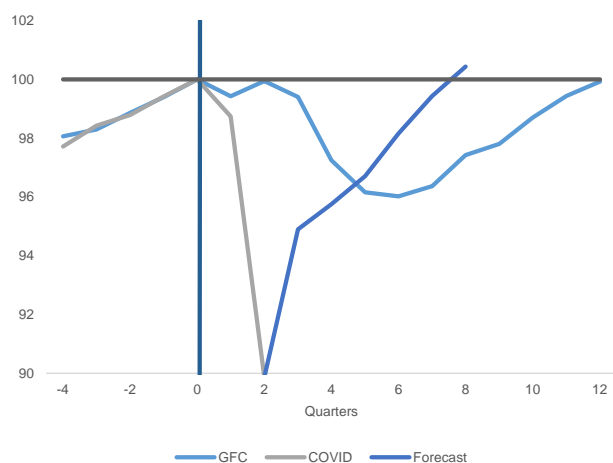
Mital Parekh

Dirk Schlueter

Bhavesh Warlyani

Vivek Dinni

FIGURE 10. US REAL GDP: COMPARISON OF GLOBAL FINANCIAL CRISIS AND COVID-19 CRISIS

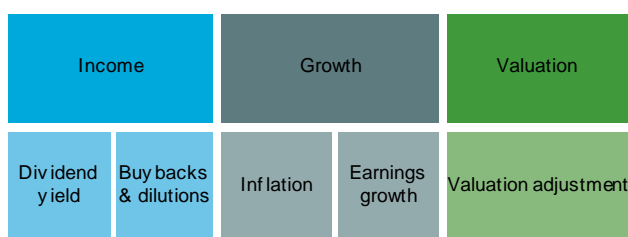


Source: DWS Investments UK Limited. Data as of 20 September 2020.

Equity Forecasts

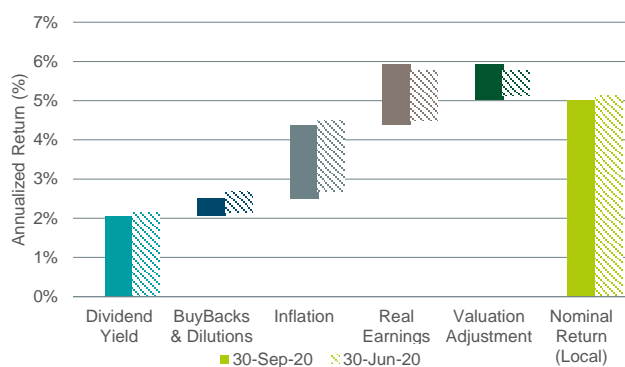
For our equity return forecasts, Figure 12 illustrates the changes to our return pillars for 1-year MSCI All Country World forecast. The return has declined marginally to 5.0% from the 5.1% level at the end of the second quarter. This decline is from a slightly larger valuation adjustment reducing the 10-year expected annual return by another 27 bps (0.9% vs 0.6% in June) partly offset by a more constructive outlook for earnings growth and inflation. These two have increased the return by 32 bps from the June 30 level. The dividend yield also fell by 10 bps.

FIGURE 11. PILLAR DECOMPOSITION FOR EQUITIES



Source: DWS Investments UK Limited. Data as of 30 September 2020.

FIGURE 12. MSCI ALL COUNTRY WORLD: CONTRIBUTION TO 10 YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS

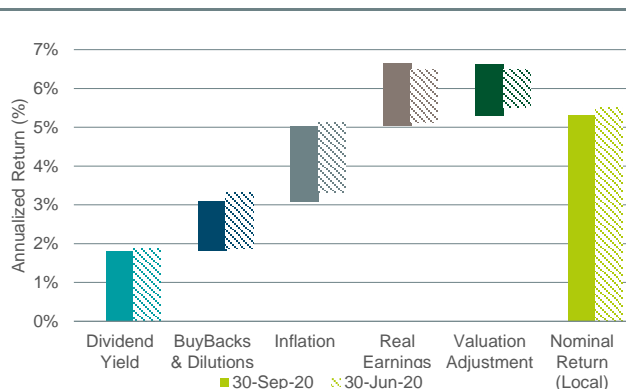


Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

European returns are lower mainly because of additional dividend cuts

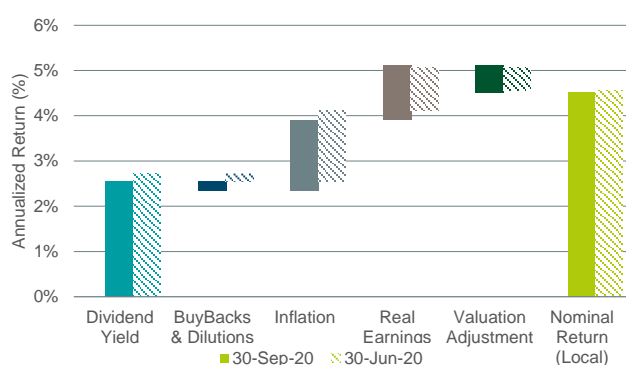
At the regional level, the valuation adjustment and income pillars have affected the returns differently. While valuation adjustment had a bigger role in the US (Figure 13), reducing the forecasted return from the S&P 500 by 35bps (versus MSCI Europe 10bps as shown in Figure 14), the lower returns in Europe are mainly due to additional dividend cuts. This has reduced the MSCI Europe return by 16 bps. Both the US and Europe benefitted from a more constructive outlook for real earnings growth increasing returns by 25 bps and 26 bps respectively.

FIGURE 13. S&P 500: CONTRIBUTION TO 10 YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS



Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

FIGURE 14. MSCI EUROPE: CONTRIBUTION TO 10 YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS



Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

Liquid Real Assets Forecasts

While REITs and Infrastructure both leverage very similar pillars to equities (see Figure 15), returns are derived largely from income via dividend distributions as shown in Figure 16 and Figure 17.

Across liquid real assets, our return forecasts indicate a somewhat more constructive outlook. While valuations remain stretched in traditional equities, REIT dividend yields remain modestly above longer term averages. This provides both advantageous levels on income contribution but also indicates a potential tailwind in terms of compression in valuations. Similarly, infrastructure returns embed a favorable income stream.

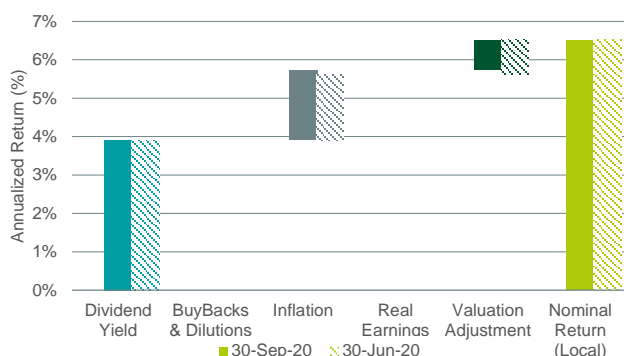
FIGURE 15. PILLAR DECOMPOSITION FOR REITS AND INFRASTRUCTURE

Asset Class	Income	Growth	Valuation
Listed real estate equity	Dividend yield	Inflation	Earnings growth
Listed infrastructure	Dividend yield	Inflation	Earnings growth
			Valuation adjustment

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

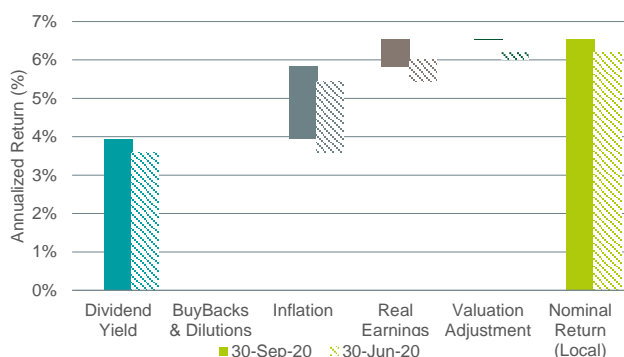
Source: DWS Investments UK Limited. Data as of 30 June 2020.

FIGURE 16. GLOBAL REITS: CONTRIBUTION TO 10 YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS



Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

FIGURE 17. GLOBAL INFRASTRUCTURE: CONTRIBUTION TO 10 YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS

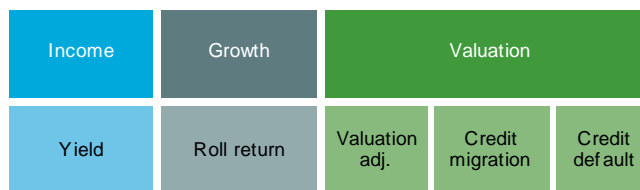


Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

Fixed Income Forecasts

The fundamental return outlook across fixed income looks challenged for the next 10 years. The combination of low starting yields, increasing government deficits, and persistent fundamental risk across corporates detract from the pillars of return contribution we utilize in Figure 18.

FIGURE 18. PILLAR DECOMPOSITION FOR FIXED INCOME



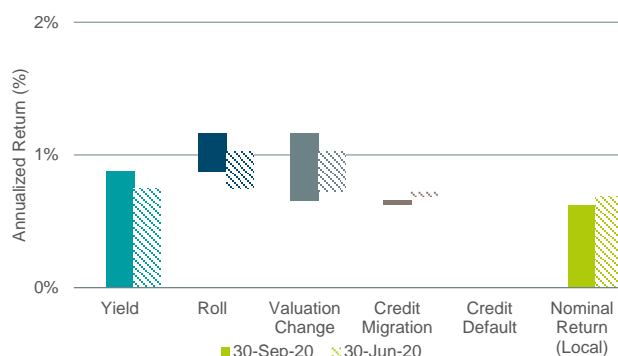
Source: DWS Investments UK Limited. Data as of 30 June 2020.

Low expected returns in government securities

Yields on government bonds and other safe-haven fixed income assets remain subdued as guidance from global

central banks indicates a more dovish behavior in the short and perhaps medium term. The yield on the Barclays Global Agg Treasury Index was largely unchanged in Q3, ending September at 0.48%. Coincidentally, the yield on the Barclays US Agg Treasury Index also ended the quarter with a yield of 0.48%. Spreads for other traditionally low-risk fixed income such as agency MBS and high quality investment grade corporates continued their significant rally from technical wide levels at the end of Q1. This leaves a continued challenging outlook for core fixed income investors who must deal with the reality of potentially low nominal and real returns for the next decade.

FIGURE 19. US TREASURY BOND INDEX: CONTRIBUTION TO 10 YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS



Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

Strong technical credit backdrop

Following significant economic stress in Q1, market expectations for corporate defaults painted a rather morbid fundamental outlook for credit default loss potential. Extreme weakness in energy prices and strong technical selling pressures exacerbates the draw down in spread markets ranging from money market securities to high yield corporate bonds.

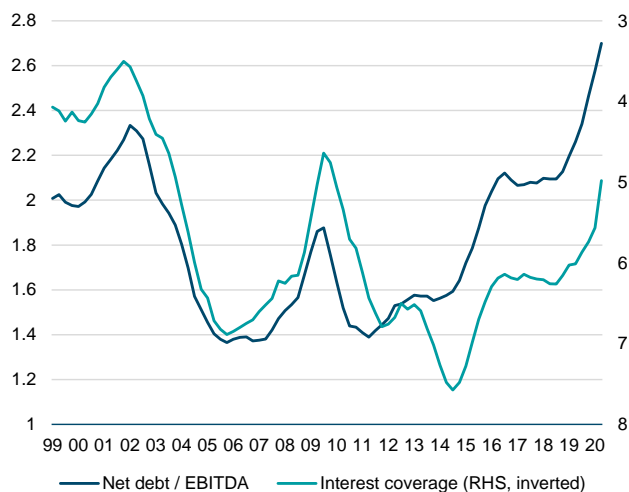
As markets have calmed over the past two quarters, corporate borrowers have been able to tap into the primary issuance market to source significant amounts of liquidity from strong domestic and international demand. As a result, the primary issuance of non-financial investment grade corporates in the US in the first 8 months alone exceeded the total issuance volume in any of the prior three years (see Figure 9). In Europe, primary issuance volumes through July are also significantly outpaced any of the prior three years (see Figure 8). As a result of this more sanguine outlook, starting yields on High Yield bonds and other speculative credit asset classes have fallen since the end of June. For the Barclays US High Yield Index, starting yield levels fell from 6.28% to 5.77%, primarily as a result of further compression in credit spreads.

Mixed bag for credit fundamentals

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

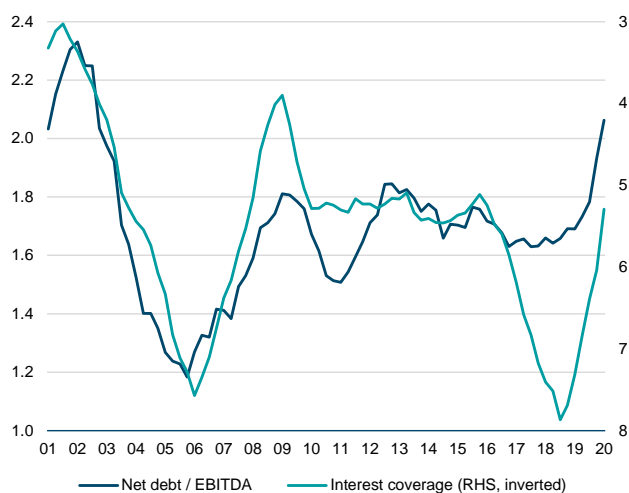
Despite rapid response from corporates and a supportive technical environment, corporate balance sheets still reflect significantly higher levels of leverage. Figure 20 and Figure 21 show the deterioration in interest coverage across US and European investment grade-rated companies, respectively.

FIGURE 20. US INVESTMENT GRADE LEVERAGE 4-QUARTER MOVING AVERAGE



Source: DWS Investments UK Limited. Data as of 24 September 2020.

FIGURE 21. EUROPEAN INVESTMENT GRADE LEVERAGE 4-QUARTER MOVING AVERAGE

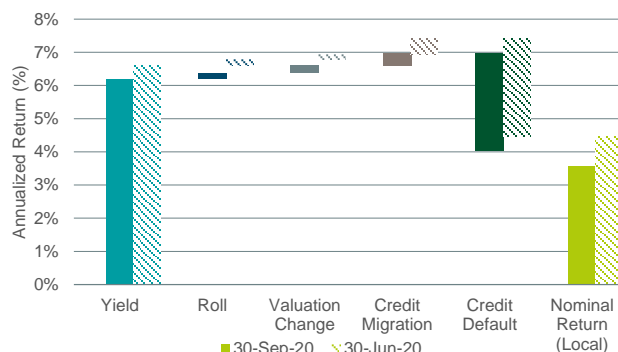


Source: DWS Investments UK Limited. Data as of 24 September 2020.

In summary, a supportive technical environment, the aid of fiscal stimulus, and unprecedented corporate bond buying from the Federal Reserve were all contributing factors for a strong rally in corporate credit spreads. This supportive technical environment has helped companies navigate this challenging business environment through short term lending facilities, through government stimulus programs aimed at smaller enterprises, and ultimately through a strong market demand for new corporate bond issuance. Despite these strong technical factors, credit default loss forecasts remain

at nearly -3%, signifying continued fundamental risk against the strong technical backdrop. Figure 22 illustrates the components of the expected return for the Barclays US High Yield Index.

FIGURE 22. US HIGH YIELD BOND INDEX: CONTRIBUTION TO 10 YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS

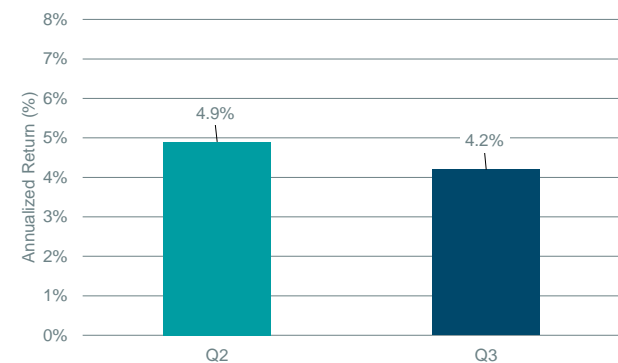


Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

Conclusion

As market prices have remained resilient amid a clearer economic picture and a strong technical market environment, our 10-year forecasts for returns across asset classes remain low in both nominal and real terms. Figure 23 shows how richer equity valuations, tighter credit spreads, and comparable starting levels of developed market sovereign yields impact a moderate strategic asset allocation. The result leaves a challenging return outlook for investors as risk premia have compressed to correspond with historically dovish central policy. And while economic fundamentals have recovery rather quickly, the potential for persistent economic drag and credit risk resulting from the COVID-19 crisis further dampen return potential.

FIGURE 23. 10-YEAR FORECASTED HYPOTHETICAL ANNUALIZED RETURNS OF MODERATE STRATEGIC ASSET ALLOCATION



Source: DWS Investments UK Limited. Data as of 30 June 2020. Hypothetical performance is not an indicator of future actual results. Hypothetical performance results have many inherent limitations. No representation is made that actual profits or losses will be similar to those shown.

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

Bibliography

Curto, Agarwal, Chen, & Bush (2020). *DWS Long View: The impact of COVID-19 pandemic on long-term return forecasts.*

Curto, Francesco and Agarwal, Sarvesh (2020). *History Lessons – why do markets sell-off and then rebound.*

Curto, Francesco and Agarwal, Sarvesh (2020). *History lesson II: Estimating the dilution from a COVID -19 recession for equity investors*

Curto, Francesco and Agarwal, Sarvesh (2020). *Dilution Risk in the US Banks.*

Appendix

Representative indices

TABLE 1: EACH ASSET CLASS IN THIS PUBLICATION IS FORECASTED AS PER ITS CORRESPONDING REPRESENTATIVE INDEX*

Broad Asset Class	Asset Class	Representative Index
Equities	S&P 500	S&P 500
Equities	Euro Stoxx 50	Euro Stoxx 50
Equities	MSCI Europe	MSCI Europe
Equities	MSCI UK	MSCI United Kingdom
Equities	MSCI Germany	MSCI Germany
Equities	MSCI Switzerland	MSCI Switzerland
Equities	MSCI Japan	MSCI Japan
Equities	MSCI World	MSCI World
Equities	MSCI EM	MSCI Emerging Markets
Equities	MSCI ACWI	MSCI All Country World Index
Fixed Income	US Treasuries	Bbg Barclays US Treasury
Fixed Income	Euro Agg Treasuries	Bbg Barclays Euro Treasury
Fixed Income	Sterling Gilts	Bbg Barclays Sterling Gilts
Fixed Income	US Corporate	Bbg Barclays US Corporate
Fixed Income	Euro Agg Corporates	Bbg Barclays Euro Aggregate Corporate
Fixed Income	US High Yield	Bbg Barclays US High Yield
Fixed Income	EM Sovereigns	Bbg Barclays Emerging Markets USD Sovereign

Source: Bloomberg Finance L.P., DWS Investments UK Limited. As 30 September 2020.

For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution.

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

APPENDIX 1. PERFORMANCE OVER THE PAST FIVE YEARS (12-MONTH PERIODS)

	9/15-9/16	9/16-9/17	9/17-9/18	9/18-9/19	9/19-9/20
S&P 500	15.4%	18.6%	17.9%	4.2%	15.1%
MSCI Europe	2.4%	16.9%	2.0%	6.4%	-7.2%
MSCI UK	18.4%	11.0%	5.8%	2.7%	-19.7%
MSCI Germany	9.1%	20.6%	-3.0%	-0.3%	2.9%
MSCI Japan	-4.9%	27.3%	11.6%	-9.0%	4.6%
MSCI World	12.1%	18.9%	11.9%	2.5%	11.0%
MSCI EM	17.4%	22.9%	-0.5%	-1.7%	10.8%
MSCI ACWI	12.6%	19.3%	10.4%	2.0%	11.0%
US Treasuries	4.1%	-1.7%	-1.6%	10.5%	8.0%
Euro Agg Treasuries	6.9%	-3.4%	0.1%	11.6%	0.6%
Sterling Gilts	13.2%	-3.7%	0.6%	14.2%	3.7%
US Corporates	8.6%	2.2%	-1.2%	13.0%	7.9%
Euro Agg Corporates	7.4%	0.5%	0.0%	6.1%	0.3%
US High Yield	12.7%	8.9%	3.0%	6.4%	3.3%
EM Sovereigns	8.5%	8.2%	0.6%	5.4%	-1.0%
Developed REITs	15.8%	3.8%	-2.8%	10.1%	2.4%
US REITs	18.5%	0.0%	4.5%	16.8%	-17.3%
Global Infrastructure	19.6%	-0.1%	3.8%	17.8%	-17.7%
Americas Infrastructure	15.3%	9.2%	-1.6%	16.5%	-9.8%

Source: DWS Investments UK Limited. Forecasts from 30 September 2015 to 30 September 2020. Past performance is not a reliable indicator of future returns.

For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution.

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

DWS is the brand name of DWS Group GmbH & Co. KGaA and its subsidiaries under which they operate their business activities. The respective legal entities offering products or services under the DWS brand are specified in the respective contracts, sales materials and other product information documents. DWS, through DWS Group GmbH & Co. KGaA, its affiliated companies and its officers and employees (collectively "DWS") are communicating this document in good faith and on the following basis.

This document has been prepared without consideration of the investment needs, objectives or financial circumstances of any investor. Before making an investment decision, investors need to consider, with or without the assistance of an investment adviser, whether the investments and strategies described or provided by DWS Group, are appropriate, in light of their particular investment needs, objectives and financial circumstances. Furthermore, this document is for information/discussion purposes only and does not constitute an offer, recommendation or solicitation to conclude a transaction and should not be treated as giving investment advice.

The document was not produced, reviewed or edited by any research department within DWS and is not investment research. Therefore, laws and regulations relating to investment research do not apply to it. Any opinions expressed herein may differ from the opinions expressed by other legal entities of DWS or their departments including research departments.

The information contained in this document does not constitute a financial analysis but qualifies as marketing communication. This marketing communication is neither subject to all legal provisions ensuring the impartiality of financial analysis nor to any prohibition on trading prior to the publication of financial analyses.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. The forward looking statements expressed constitute the author's judgment as of the date of this document. Forward looking statements involve significant elements of subjective judgments and analyses and changes thereto and/or consideration of different or additional factors could have a material impact on the results indicated. Therefore, actual results may vary, perhaps materially, from the results contained herein. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements or to any other financial information contained in this document. Past performance is not guarantee of future results.

We have gathered the information contained in this document from sources we believe to be reliable; but we do not guarantee the accuracy, completeness or fairness of such information. All third party data are copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks, including market fluctuations, regulatory change, possible delays in repayment and loss of income and principal invested. The value of investments can fall as well as rise and you might not get back the amount originally invested at any point in time. Furthermore, substantial fluctuations of the value of any investment are possible even over short periods of time. The terms of any investment will be exclusively subject to the detailed provisions, including risk considerations, contained in the offering documents. When making an investment decision, you should rely on the final documentation relating to any transaction.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid. DWS or persons associated with it may (i) maintain a long or short position in securities referred to herein, or in related futures or options, and (ii) purchase or sell, make a market in, or engage in any other transaction involving such securities, and earn brokerage or other compensation.

DWS does not give taxation or legal advice. Prospective investors should seek advice from their own taxation agents and lawyers regarding the tax consequences on the purchase, ownership, disposal, redemption or transfer of the investments and strategies suggested by DWS. The relevant tax laws or regulations of the tax authorities may change at any time. DWS is not responsible for and has no obligation with respect to any tax implications on the investment suggested.

This document may not be reproduced or circulated without DWS written authority. The manner of circulation and distribution of this document may be restricted by law or regulation in certain countries, including the United States.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

© 2020 DWS International GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated by the Financial Conduct Authority (Reference number 429806). © 2020 DWS Investments UK Limited

In Hong Kong, this document is issued by DWS Investments Hong Kong Limited and the content of this document has not been reviewed by the Securities and Futures Commission. © 2020 DWS Investments Hong Kong Limited

In Singapore, this document is issued by DWS Investments Singapore Limited and the content of this document has not been reviewed by the Monetary Authority of Singapore. © 2020 DWS Investments Singapore Limited

In Australia, this document is issued by DWS Investments Australia Limited (ABN: 52 074 599 401) (AFSL 499640) and the content of this document has not been reviewed by the Australian Securities Investment Commission. © 2020 DWS Investments Australia Limited

For Investors in the United States:

War, terrorism, economic uncertainty, trade disputes, public health crises (including the recent pandemic spread of the novel coronavirus) and related geopolitical events could lead to increased market volatility, disruption to US and world economies and markets and may have significant adverse effects on the fund and its investments.

This document is intended for discussion purposes only and does not create any legally binding obligations on the part of DWS Group. Without limitation, this document does not constitute an offer, an invitation to offer or a recommendation to enter into any transaction. When making an investment decision, you should rely solely on the final documentation relating to the transaction and not the summary contained herein. DWS Group is not acting as your financial adviser or in any other fiduciary capacity with respect to this proposed transaction. The transaction(s) or product(s) mentioned herein may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand the transaction and have made an independent assessment of the appropriateness of the transaction in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with DWS Group you do so in reliance on your own judgment.

The information contained in this document is based on material we believe to be reliable; however, we do not represent that it is accurate, current, complete, or error free. Assumptions, estimates and opinions contained in this document constitute our judgment as of the date of the document and are subject to change without notice. Any projections are based on a number of assumptions as to market conditions and there can be no guarantee that any projected results will be achieved. Past performance is not a guarantee of future results. The distribution of this document and availability of these products and services in certain jurisdictions may be restricted by law. You may not distribute this document, in whole or in part, without our express written permission.

For Institutional Use and Registered Rep Use Only. Not for Public Viewing or Distribution.

No assurance can be given that any forecast, target or opinion will materialise. Past performance is not a reliable indicator of future returns. For institutional investors only. In the U.S. and Canada for Institutional Client and Registered Representative Use Only. Not for public viewing or distribution. Any hypothetical results presented in this report may have inherent limitations. Among them are the sharp differences which may exist between hypothetical and actual results which may be achieved through investment in a particular product or strategy. Hypothetical results are generally prepared with the benefit of hindsight and typically do not account for financial risk and other factors which may adversely affect actual results of a particular product or strategy. Any forward looking statements (forecasts) are based on but not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. All of which are subject to change at any time, based upon economic, market and other considerations and should not be construed as a recommendation. For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. Not for public distribution.

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services.

Investment products: No bank guarantee Not FDIC insured. May lose value

DWS Distributors, Inc.
222 South Riverside Plaza,
Chicago, IL 60606-5808
www.dws.com | rep@dws.com
Tel (800) 621-1148

© 2020 DWS Group GmbH & Co. KGaA. All rights reserved. I- 079229-1 (11/20)