# Infrastructure

## Private markets education

Authors: Karim Cherif, Head Alternative Investments, UBS Switzerland AG; Antoinette Zuidweg, Strategist, UBS Switzerland AG

- Infrastructure strategies target investments in utilities, transportation, energy, communication, and social infrastructure sectors.
- Infrastructure managers leverage their expertise in deal sourcing, repositioning, development, and operational execution to identify, value, and monetize on infrastructure assets.
- Infrastructure strategies can add diversification, stable yields, and inflation protection to investor portfolios.

Source:UBS

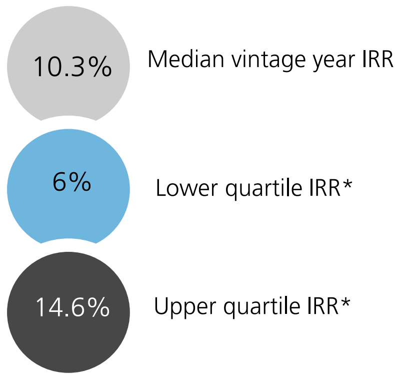
## Summary

- There is 69 trillion USD of aggregate spending required to support global infrastructure through 2035. This funding gap presents opportunities for private capital to step in to fulfill these financing needs.
- Infrastructure funds can invest across utilities, transportation, energy, communication and social infrastructure sectors. The three main infrastructure strategies available to investors include core, value-add, and opportunistic.
- Core strategies aim to generate recurring income through regulated or contracted revenues from monopolistic assets. Value-add strategies focuses on properties that require some level of capital expenditure to improve or expand services, with returns derived from a mix of income and capital appreciation. Opportunistic strategies target greenfield projects or assets that require substantial capital expenditures.
- When observing infrastructure performance, median vintage year net IRR was 10.3% from 2005–2018.
- Infrastructure funds can improve portfolio diversification by expanding investors' universe to real assets that tend to be less correlated with traditional equity and fixed income investments.
- Core infrastructure strategies can provide a stable source of yield for investors requiring ongoing payouts from their portfolios. These investments can also help hedge against inflation given revenue streams are often tied to CPI.
- With significant differences in manager performance, key risks to private infrastructure investing include leverage, political/regulatory, weather, development, and commodity risk.

*This report is part of a series of short primers on specific private market strategies. You will find more information on the client portal. You can also contact your advisor for assistance.*

This report has been prepared by UBS Switzerland AG. Please see important disclaimers and disclosures at the end of the document.

## Key statistics for Infrastructure



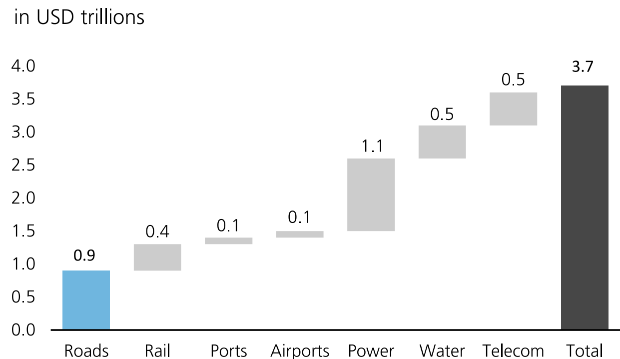

Source: Preqin, UBS estimates based on historical data as of August 2022, 2006-2018 for vintage year IRR's.
*Quartile IRR's reflect Preqin median values for 25th and 75th percentile IRR's, respectively.

# Infrastructure needs are increasing

- Infrastructure assets play a key role in the economic productivity of a society by facilitating the movement of goods, people, or ideas.
- Demographics and urbanization are key secular demand drivers. According to the UN, the global population is expected to reach near 10 billion by 2050, a 25% increase over today's levels.
- Meanwhile, aging assets are requiring more investment into the asset class. According to the McKinsey report "Bridging infrastructure gaps: Has the world made progress?", 69 trillion USD of aggregate global spending (nearly 4 tr USD per year) is required through 2035 to support roads, railways, ports, airports, power, water, and telecommunications.
- Regional differences exist. According to the same report, while Australia, China, and Japan have met infrastructure spending requirements, countries such as Germany, UK and the US have significant funding gaps. In the US, the American Society of Civil Engineers estimates that the US will have a 2.6 trillion USD funding gap over 10 years to meet infrastructure needs.
- With high amount of public debt and less appetite for governments to raise taxes to fund infrastructure projects, this funding gap presents opportunities for private capital to step in to fulfill financing needs.

## Fig. 1: Infrastructure spending requirements

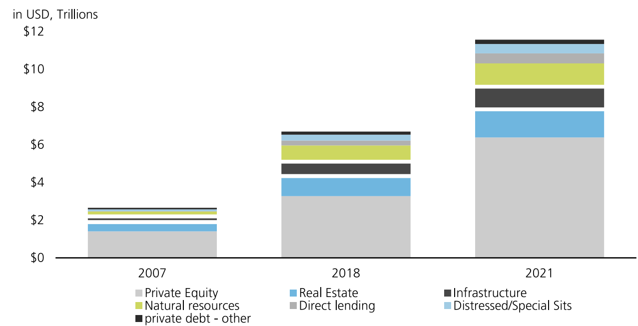
Nearly 4 trillion USD/year of global spending needed to support infrastructure through 2035




Source: McKinsey. Note: numbers may not sum due to rounding. Figures stated in constant 2017 dollars.

## Fig. 2: The private market industry has grown rapidly in the last decade

With over USD 1tn, infrastructure represents 10% of private markets AUM




Source: Pitchbook, UBS. AUM as of year-end, data as of August 2022.

# What does the infrastructure strategy do?

Infrastructure strategies represent USD 1tn, or 10%, of global private markets AUM. While there are many sectors comprising the infrastructure universe, infrastructure assets often exhibit the following common characteristics- high barriers to entry, low price elasticity of demand, stable and inflation linked cash flows.

Broadly, infrastructure encompasses the following sectors:

- **Regulated utilities:** Involved in electric/gas/water distribution and transmission.
- **Transportation:** Toll roads, airports, bridges, tunnels, seaports, and rail.

- **Energy:** Power generation, oil & gas processing, transportation and storage facilities, liquefied natural gas (LNG) facilities, and renewable energy.
- **Communication:** Data centers, fiber optic networks, wireless and broadcast towers, satellites.
- **Social infrastructure:** Government buildings such as schools, hospitals, courthouses.

In addition to the sector breakdown and similar to private real estate, there are three main infrastructure investment strategies including core, value-add, and opportunistic.

**Core/Core-plus**

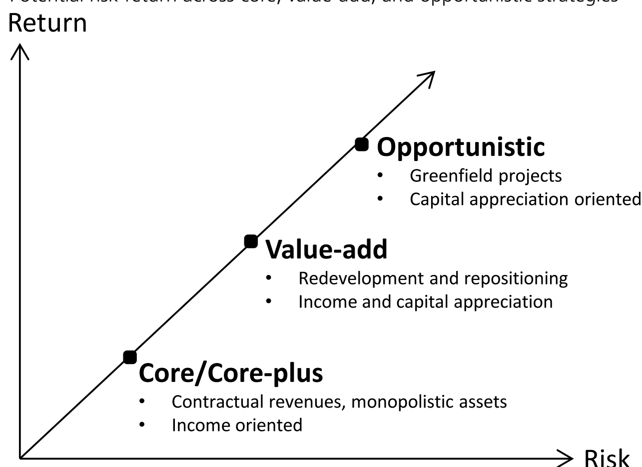
- The core strategy focuses on brownfield assets (investment in existing assets) with minimal capital expenditure requirements and low operational complexity.
- Income tends to be predictable through contracted or regulated revenues. Therefore, core assets can typically tolerate higher debt levels.
- Core assets tend to be monopolistic and GDP resilient, with returns correlated with inflation.
- Core-plus assets may be more sensitive to economic activity or require modest developmental improvements for higher return potential.
- Sample projects include investments in utilities, contracted/regulated toll roads and pipelines, and social infrastructure.
- Target returns typically range between 5-10% IRR net of fees, with a high income component.

**Value-add**

- The value-add strategy focuses on mostly brownfield assets that require some capital expenditures to improve or expand services.
- Income tends to be less predictable than core strategies given investments in more complex assets. Cash flow may be re-invested and not paid out until enhancements are complete
- Value-add assets tend to be more correlated to GDP versus core assets, with some degree of inflation sensitivity.
- Sample projects include investments in railways, airports, unregulated pipelines, and power generation.
- Target returns are typically between 10-14% IRR net of fees, with a mix of income and capital appreciation

Fig. 3: Illustration of infrastructure strategies

Potential risk-return across core, value-add, and opportunistic strategies




Source: UBS

**Opportunistic**

- The opportunistic strategy focuses on generating returns through greenfield projects (investments in new facilities) or assets that require substantial capital expenditures.
- Opportunistic investments exhibit high demand uncertainty and returns tend to be more correlated to market cycles. Therefore, opportunistic assets tend to incur lower debt levels.
- Sample projects include investments in merchant power plants, telecommunication and unregulated waste sectors.
- Target returns typically are 14%+ IRR net of fees, with a high proportion derived from capital appreciation.

**Infrastructure equity vs debt**

- Infrastructure debt can be characterized as loans collateralized by an underlying infrastructure asset. This differs from equity investments, which represents ownership of a company or asset.
- Due to regulations that increased capital requirements, traditional bank lenders have been exiting the space, creating a gap in borrower needs for liquidity. This has created an opportunity for private lenders to provide funding.
- Interest costs may be fixed or floating rate and are typically serviced by the cash flows generated by the financed asset.
- Maturities typically range between 5-7 years, but can last longer for higher quality assets that have a superior degree of visibility to cash flows.

- While drivers for both infrastructure debt and equity investors are similar (based on pricing and usage of the underlying asset), debt ownership typically generates lower return than equity ownership but entails less operating risk and is senior to equity investors in the event of a default.
- Infrastructure debt returns can vary based on the seniority within the capital structure as well as asset exposure. As per Cambridge Associates, investments towards more senior positions and conservative assets (investment grade and/or monopolistic assets) typically targets 3-5% gross IRR (internal rate of return), while on the other side of the spectrum, more macro sensitive, lower credit quality, and/or junior debt with equity type exposure targets 6-10%+ gross IRR.
- Risks for infrastructure debt investors include, but are not limited to, illiquidity, default, and duration risk.

## Sources of value add

Infrastructure assets have various characteristics that differentiate themselves from traditional assets. Given information asymmetry and local segmentation, assets often require significant managerial attention, regulatory knowledge, and sector expertise.

- **Deal sourcing:** Access to a pipeline of high-quality and hard-to-find deals is key. To gain an advantage against other buyers and potentially avoid competitive bidding processes, managers rely on a strong network of developers, construction companies, and government agencies to source deals.
- **Profitability assessment:** Assessing the return potential of an infrastructure asset can be challenging, especially when value needs to be created. Industry expertise and accurate deal underwriting is also required to forge a clear deal thesis. While for core assets, managers aim for attractive entry values, non-core assets typically require a detailed cost analysis on how to improve services, revenues, and operating profitability.
- **Value creation through repositioning and improving assets:** Core managers can help improve or de-risk assets (sale of non-core assets, improved governance, etc) to drive value. For managers following value-add/opportunistic strategies, successful repositioning and developing new capabilities and service areas are the key factors to unlocking value to underlying assets.
- **Integrating add–on acquisition strategies**: Managers can purchase platform companies and add-on complementary acquisitions to drive value through synergies and margin expansion, which can in turn improve cash flows.
- **Implementing strong governance structures:** Given that infrastructure assets typically play a central role in society, maintaining good relations with stakeholders is of high importance. In addition, highly regulated assets require strict compliance with government authorities. Overall, having control over environmental, social, and governance impacts can help optimize revenues and operations while mitigating risks.
- **Exit process:** managers need to be adept at assessing the timing and exit method to maximize realized gains. Planning multiple exit strategies can help diversify and mitigate against adverse scenarios.

## Listed, private, and open-ended infrastructure

**Private versus listed funds**

- Listed infrastructure funds purchase a basket of publicly listed infrastructure stocks, while private funds own and operate unlisted infrastructure assets.
- Private fund managers are direct owner/operators of infrastructure assets. Therefore, investing through these structures can benefit from more active ownership and value creation derived from manager skill. Listed funds in contrast, take more of an indirect/passive approach as managers typically own a minority share in their investments.
- While listed funds offer daily liquidity, they experience mark to market volatility. Adverse market environments may drive forced selling of underlying positions to redeem cash for investors looking to exit.
- Private funds are structured in a way that requires long term commitment of 12 + years or more, with investors encountering capital calls, then distributions across this time frame. However, investors are shielded from mark to market volatility experienced by listed funds.
- Listed funds are typically more diversified and incur less concentration/asset risk versus closed-ended private funds.
- Private funds can invest more in value-add or opportunistic strategies with higher return potential that derive returns more through capital appreciation versus income.

**Open-ended private funds**

- Relative to the finite terms attributed to the closed-ended private funds described above, open-ended private funds aim to maintain a perpetual structure.
- Open-ended private funds typically offer softer lock-ups versus closed-ended funds. While periodic liquidity exists for investors in open-ended private funds, they may be

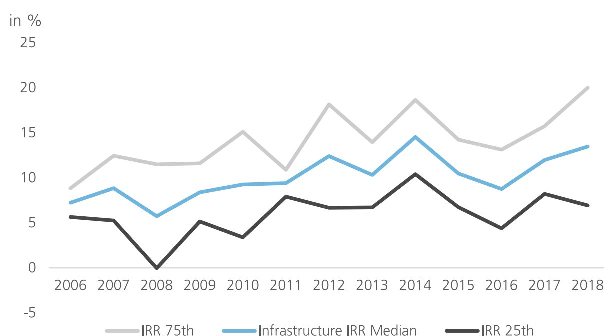
subject to risk of large scale redemptions from other investors. Investor and fund level gates can help alleviate this risk.

- Open-ended private funds incur less blind pool risk given that underlying investments are known at time of fund investment.
- Given the evergreen nature of open-ended private funds, there is higher emphasis on buy and hold versus private fund structures, which have defined exit periods
- Private closed-ended funds tend to have a higher risk/return profile versus that of open-ended private funds given exposure to more value-added/opportunistic strategies, whereas open-ended private funds often focus on core/core-plus strategies.

# Performance analysis

## Fig. 4: Infrastructure vintage year net IRR between 2006–2018

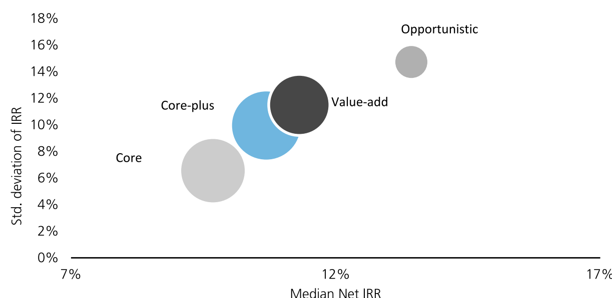
High level of dispersion within each vintage year shows importance of manager selection




Source: Pitchbook, UBS as of August 2022. Note: Given most funds take a few years for performance to settle, performance of recent vintage years may be less meaningful.

- When observing vintage year IRR performance from Preqin (a widely followed data provider in the private market industry), median vintage year net IRR was 10.3% from 2006–2018.
- We observe a wide range of IRRs for each vintage year, highlighting the importance of manager selection when considering infrastructure strategies.
- The standard deviation of median vintage year IRR was 3.4% over the 2006–2018 period
- When analyzing historical infrastructure equity vintage year IRR's, we observe a higher risk/return profile when going from Core/Core-plus, Value-add, to Opportunistic strategies.

## Fig. 5: Infrastructure risk/return by strategy




Source: Pitchbook, UBS as of August 2022. Note: Reflects returns from 2007-2018 vintages. The size of each circle represents the % of AUM for each strategy.

# Infrastructure and the business cycle

- Infrastructure returns are modestly linked to economic cycles, with GDP growth and rising PMI/inflation supporting infrastructure dynamics.
- When observing private infrastructure median vintage year IRR, returns were typically lowest a few years ('06 vintage) before the global financial crisis, given elevated valuations and a higher interest rate environment. On the other hand, returns generally improved and were highest right after the crisis ('10-'14 vintages) as managers were able to purchase assets at attractive valuations at a lower cost of capital.
- We note that the range of historical infrastructure median vintage year returns is relatively narrower versus private equity and private real estate strategies.
- However, dynamics can vary by geography, fund strategy (core, value-add, opportunistic) and sub-sector (utilities, transportation, energy, communications, social infrastructure), with local demographics also influencing each infrastructure market.
- Social infrastructure tends to be the most stable, but lowest returning infrastructure subsector. These projects are often commissioned by governments through public private partnerships (PPP) and revenues are earned on an availability basis, which are contractually mandated regardless of utilization.
- Utilities tend to be resilient during economic downturns. The demand profile tends to be inelastic, and revenues are largely regulated. Utility assets are often permitted to earn a set return on invested capital as higher costs of operation and additional capital expenditures can be passed on to the end user.
- Similar to utilities, investing in core renewable energy assets can provide consistent yield given they tend be regulated/contracted. Through long term power

purchasing agreements (PPAs), power generated from assets such as wind and solar can be sold to the grid at a set price, with revenues varying based on electricity usage and weather patterns.

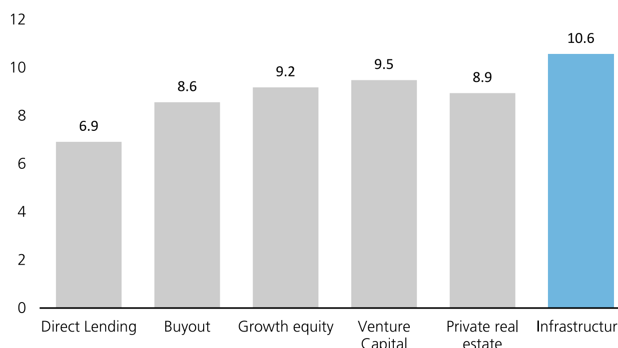
- Communication assets are currently benefiting from secular trends within digitization and e-commerce. Data consumption is less correlated with GDP or traditional economic indicators, leading to potentially resilient long term demand for wireless, fiber, and data center infrastructure assets.
- Transportation assets are tied to macro activity given traffic across roads, airports, and seaport activity can vary based on miles driven, business/leisure travel, and trade activity. Contractual stipulations may offset some of this cyclicality through minimum volume agreements and built in mechanisms to pass on higher costs to the end consumer.
- Energy assets in the midstream sector focus on transporting, processing, or storage of oil and natural gas, whereas upstream assets focus on extracting raw materials. The midstream sector is tied to economic activity as volumes can fluctuate with end user demand. Similar to transportation assets, inflation escalators and minimum volume agreements can help stabilize cash flow volatility.
- Within energy assets, merchant power generation revenues can be relatively unpredictable as services can be uncontracted. Revenues and profits can fluctuate based on market rates and prices of underlying commodities (used as input to fuel power).

# Infrastructure in your portfolio

- Infrastructure funds can improve portfolio diversification by expanding investors' universe to real assets that tend to be less correlated with traditional equity and fixed income investments.
- Core infrastructure strategies can provide a stable source of yield for investors requiring ongoing payouts from their portfolios. When observing historical performance of lower risk, core infrastructure strategies, more than 50% of total returns were derived from income.
- Infrastructure investments can help hedge against inflation given revenue streams are often tied to CPI, particularly for core strategies operating in regulated or contracted assets.
- High barriers to entry, monopolistic positioning, ownership of tangible assets, and contractual nature of core infrastructure investments can help mitigate against economic uncertainty.
- For investors with long term liabilities, owning infrastructure can help offset duration risk in the portfolio by aligning the long term nature of infrastructure cash flows to these liabilities.

## Fig. 6: Years to break even, by private market strategy

Infrastructure funds typically took longest to break even across private equity, debt, and real estate strategies




Source: Pitchbook, UBS as of August 2022. Note: Chart reflects the amount of time each strategy took to break even on a cash flow basis, or when the amount of distributions equals contributions.

- Overall, infrastructure investments are well suited for investors with longer time horizons given the lengthier nature of underlying projects and contracts. Indeed, infrastructure funds took about 10 years to break even on cash flows, higher versus other private market strategies.

# Risks

- Risks of investing in infrastructure include leverage, potential for defaults, sector concentration, and deal timing.
- Changes in general business conditions can impact end user demand for infrastructure assets, particularly for more GDP sensitive sectors such as transportation and energy. Therefore, it is important to diversify across sectors.
- There are different political and regulatory policies across countries/regions. Policy changes can have material adverse effect to infrastructure asset values as contracted revenues may go unprotected, driving uncertainty to future cash flows. Investing in managers with local resources and in countries with well established rule of law/property rights can help mitigate these risks.
- Investing in infrastructure (greenfield projects in particular) may encounter challenges from higher than expected licensing or construction costs.

- Adverse weather conditions can damage infrastructure assets, or inhibit the ability for these assets to provide services (cloudy conditions for solar energy, for example).
- Commodity price fluctuations may negatively impact infrastructure assets given the impact it has on input prices and end user demand.
- End users of infrastructure assets may not be able to pay for services. Therefore, it is important to evaluate the creditworthiness of these counterparts.
- Other, more general private market risks also apply, including significant illiquidity of fund vehicles, limited control, disclosure, and transparency on underlying holdings, and high fees. These risks cannot be fully eliminated, but can be reduced through extensive institutional due diligence and rigorous investment and monitoring processes.

## Non-Traditional Assets

**Non-traditional asset classes are alternative investments that include hedge funds, private equity, real estate, and managed futures (collectively, alternative investments).** Interests of alternative investment funds are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of alternative investment funds, and which clients are urged to read carefully before subscribing and retain. An investment in an alternative investment fund is speculative and involves significant risks. Specifically, these investments (1) are not mutual funds and are not subject to the same regulatory requirements as mutual funds; (2) may have performance that is volatile, and investors may lose all or a substantial amount of their investment; (3) may engage in leverage and other speculative investment practices that may increase the risk of investment loss; (4) are long-term, illiquid investments, there is generally no secondary market for the interests of a fund, and none is expected to develop; (5) interests of alternative investment funds typically will be illiquid and subject to restrictions on transfer; (6) may not be required to provide periodic pricing or valuation information to investors; (7) generally involve complex tax strategies and there may be delays in distributing tax information to investors; (8) are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits.

Interests in alternative investment funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in an alternative investment fund and should consider an alternative investment fund as a supplement to an overall investment program.

In addition to the risks that apply to alternative investments generally, the following are additional risks related to an investment in these strategies:

- Hedge Fund Risk: There are risks specifically associated with investing in hedge funds, which may include risks associated with investing in short sales, options, small-cap stocks, "junk bonds," derivatives, distressed securities, non-U.S. securities and illiquid investments.
- Managed Futures: There are risks specifically associated with investing in managed futures programs. For example, not all managers focus on all strategies at all times, and managed futures strategies may have material directional elements.
- Real Estate: There are risks specifically associated with investing in real estate products and real estate investment trusts. They involve risks associated with debt, adverse changes in general economic or local market conditions, changes in governmental, tax, real estate and zoning laws or regulations, risks associated with capital calls and, for some real estate products, the risks associated with the ability to qualify for favorable treatment under the federal tax laws.
- Private Equity: There are risks specifically associated with investing in private equity. Capital calls can be made on short notice, and the failure to meet capital calls can result in significant adverse consequences including, but not limited to, a total loss of investment.
- Foreign Exchange/Currency Risk: Investors in securities of issuers located outside of the United States should be aware that even for securities denominated in U.S. dollars, changes in the exchange rate between the U.S. dollar and the issuer's "home" currency can have unexpected effects on the market value and liquidity of those securities. Those securities may also be affected by other risks (such as political, economic or regulatory changes) that may not be readily known to a U.S. investor.

# Appendix

UBS Chief Investment Office's ("CIO") investment views are prepared and published by the Global Wealth Management business of UBS Switzerland AG (regulated by FINMA in Switzerland) or its affiliates ("UBS").
The investment views have been prepared in accordance with legal requirements designed to promote the **independence of investment research**.
**Generic investment research – Risk information:**
This publication is **for your information only** and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. The analysis contained herein does not constitute a personal recommendation or take into account the particular investment objectives, investment strategies, financial situation and needs of any specific recipient. It is based on numerous assumptions. Different assumptions could result in materially different results. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS). All information and opinions as well as any forecasts, estimates and market prices indicated are current as of the date of this report, and are subject to change without notice. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria.
In no circumstances may this document or any of the information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes (i) valuation or accounting purposes; (ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or (iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees. By receiving this document and the information you will be deemed to represent and warrant to UBS that you will not use this document or otherwise rely on any of the information for any of the above purposes. UBS and any of its directors or employees may be entitled at any time to hold long or short positions in investment instruments referred to herein, carry out transactions involving relevant investment instruments in the capacity of principal or agent, or provide any other services or have officers, who serve as directors, either to/for the issuer, the investment instrument itself or to/for any company commercially or financially affiliated to such issuers. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is not suitable for every investor as there is a substantial risk of loss, and losses in excess of an initial investment may occur. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information.
Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific client's circumstances and needs. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein.
This material may not be reproduced or copies circulated without prior authority of UBS. Unless otherwise agreed in writing UBS expressly prohibits the distribution and transfer of this material to third parties for any reason. UBS accepts no liability whatsoever for any claims or lawsuits from any third parties arising from the use or distribution of this material. This report is for distribution only under such circumstances as may be permitted by applicable law. For information on the ways in which CIO manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit www.ubs.com/research. Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copies of any past reports on this topic; are available upon request from your client advisor.
Options and futures are not suitable for all investors, and trading in these instruments is considered risky and may be appropriate only for sophisticated investors. Prior to buying or selling an option, and for the complete risks relating to options, you must receive a copy of "Characteristics and Risks of Standardized Options". You may read the document at https://www.theocc.com/about/publications/character-risks.jsp or ask your financial advisor for a copy.
Investing in structured investments involves significant risks. For a detailed discussion of the risks involved in investing in any particular structured investment, you must read the relevant offering materials for that investment. Structured investments are unsecured obligations of a particular issuer with returns linked to the performance of an underlying asset. Depending on the terms of the investment, investors could lose all or a substantial portion of their investment based on the performance of the underlying asset. Investors could also lose their entire investment if the issuer becomes insolvent. UBS Financial Services Inc. does not guarantee in any way the obligations or the financial condition of any issuer or the accuracy of any financial information provided by any issuer. Structured investments are not traditional investments and investing in a structured investment is not equivalent to investing directly in the underlying asset. Structured investments may have limited or no liquidity, and investors should be prepared to hold their investment to maturity. The return of structured investments may be limited by a maximum gain, participation rate or other feature. Structured investments may include call features and, if a structured investment is called early, investors would not earn any further return and may not be able to reinvest in similar investments with similar terms. Structured investments include costs and fees which are generally embedded in the price of the investment. The tax treatment of a structured investment may be complex and may differ from a direct investment in the underlying asset. UBS Financial Services Inc. and its employees do not provide tax advice. Investors should consult their own tax advisor about their own tax situation before investing in any securities.
**Important Information About Sustainable Investing Strategies**: Sustainable investing strategies aim to consider and incorporate environmental, social and governance (ESG) factors into investment process and portfolio construction. Strategies across geographies and styles approach ESG analysis and incorporate the findings in a variety of ways. Incorporating ESG factors or Sustainable Investing considerations may inhibit the portfolio manager’s ability to participate in certain investment opportunities that otherwise would be consistent with its investment objective and other principal investment strategies. The returns on a portfolio consisting primarily of sustainable investments may be lower or

higher than portfolios where ESG factors, exclusions, or other sustainability issues are not considered by the portfolio manager, and the investment opportunities available to such portfolios may differ. Companies may not necessarily meet high performance standards on all aspects of ESG or sustainable investing issues; there is also no guarantee that any company will meet expectations in connection with corporate responsibility, sustainability, and/or impact performance.

**External Asset Managers / External Financial Consultants:** In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties.

**USA**: Distributed to US persons by UBS Financial Services Inc., UBS Securities LLC or UBS Swiss Financial Advisers AG, subsidiaries of UBS AG. UBS Switzerland AG, UBS Europe SE, UBS Bank, S.A., UBS Brasil Administradora de Valores Mobiliarios Ltda, UBS Asesores Mexico, S.A. de C.V., UBS SuMi TRUST Wealth Management Co., Ltd., UBS Wealth Management Israel Ltd and UBS Menkul Degerler AS are affiliates of UBS AG. **UBS Financial Services Inc. accepts responsibility for the content of a report prepared by a non-US affiliate when it distributes reports to US persons. All transactions by a US person in the securities mentioned in this report should be effected through a US-registered broker dealer affiliated with UBS, and not through a non-US affiliate. The contents of this report have not been and will not be approved by any securities or investment authority in the United States or elsewhere. UBS Financial Services Inc. is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.For country information, please visit ubs.com/cio-country-disclaimer-gr or ask your client advisor for the full disclaimer.**

Version B/2022. CIO82652744

© UBS 2022.The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.