Newsletter
Fundamental Growth and Core Equity

January 2022

Investing in Sustainable Growth

STATE STREET GLOBAL ADVISORS

Contents

3 Ready For 2022

5 Central Banks Eye Digital Currencies

9 Fintech: Disruption and Innovation in Key Emerging Markets

Ready For 2022

Michael Solecki, CFA
Chief Investment Officer, Fundamental Growth and Core Equity

Global equity markets recorded a strong year in 2021, with a rally in December that pared losses from November's sell-off ensuring healthy final quarter returns. US equities carried global markets, with the S&P 500 index recording its strongest quarter for the year against the backdrop of robust consumer spending, a rebounding labor market, and monetary policy that remained accommodative.

The market overcame a litany of concerns through 2021, including uncertainties around resurgent COVID-19 case numbers, accelerating inflation and hawkish comments from central banks that tapering of bond purchases was on the horizon, most notably from the US Federal Reserve. In addition, Chinese market volatility and persistent global supply chain disruption continued to ripple through global economic activity.

On the positive side, equity investors found strength in focusing on corporate profitability, where earnings reported for the third quarter broadly beat market expectations, especially in the United States and Europe. Earnings surprises to the upside were a key catalyst for outperformance in 2021 and, in effect, allowed consensus forward valuations to fall despite the market's rise — this reflected the "benign derating" we spoke of earlier in the year.

The reopening trade faltered with the rise of the Delta and Omicron variants, and while some of the Fundamental Growth and Core strategies underperformed in the fourth quarter, China Equity Select, Global Equity Select, and Canadian Equity showed resilience in delivering positive relative performance for the year. The three and five year track records remain strong with the majority of the platform outperforming over both periods.

Looking forward, our primary considerations for 2022 revolve around interest rates and inflation, COVID-19 infection waves/economic reopening, and continued progression of corporate earnings. The market three-way tug of war between reopening cyclical, risk-off, and long-duration growth continues, with the leading performers shifting frequently. In this environment, our positioning is balanced with exposure to quality, sustainable growth companies trading at reasonable valuations that we believe will perform well in this environment.

In this edition of our newsletter, our first article provides an overview of Central Bank Digital Currencies (CBDC). We discuss why central banks are focused on them and their potential impact. In the second article, we examine the impact fintech is having on developing economies in Latin America and EMEA.

Central Banks Eye Digital Currencies

Viki Farmaki, CFA
Research Analyst

Eric Greenshields, CFA
Research Analyst

Prescott Owusu
Research Analyst

Digital currencies are increasingly in demand across the globe. Central banks have taken notice and are investigating the creation of their own Central Bank Digital Currencies. In this article, we explain what CBDCs are, why central banks are focused on launching them, and the threats and opportunities that this development poses for players within the current financial system.

Understanding CBDCs

At the outset, it is important to understand what a Central Bank Digital Currency ("CBDC") is and what it is not. A CBDC is a digital payment instrument, denominated in the national unit of account, which is *a direct liability of the central bank*, like cash[1] — so there is a backstop and this differentiates CBDCs from cryptocurrencies. CBDCs are effectively a digital form of money that is issued and backed by central banks. Currently, only financial institutions have access to electronic central bank money in the form of reserves, while a CBDC could be used by *households* and *businesses* to make payments and store value.[2] The architecture of CBDCs can differ in how they are set up and how the public and private sectors work together, but the quintessential feature is that there is direct settlement in central bank money. The core features of any CBDC instrument and its underlying system include: ease of use; low cost; convertibility; instant settlement; continuous availability; and a high degree of security, resilience, flexibility and safety.[3]

What CBDCs are *not* are cryptocurrencies. The fundamental difference is that CBDCs are backed by central bank reserves whereas crypto assets are privately issued and not backed by any central party. They are not considered a currency or money as they are too volatile to be a reliable medium of exchange. A CBDC is designed to be a risk-free form of a currency issued by a central bank that would serve to deliver all the key functions of money.[2]

Figure 1
CBDCs are a New Type of Central Bank Liability

Central Bank Balance Sheet

ASSETS	LIABILITIES
Foreign Reserves	Banknotes and Coins
Securities	Reserves (Commercial Bank Deposits)
Others	CBDC

Possible Representations

1. Accounts at the Central Bank	Individuals (Retail)
	Intermediary (Wholesale)
2. Tokens	Retail
	Wholesale

CBDCs are a technologically advanced representation of central bank money

Current Electronic Central Bank Money

Source: Bank for International Settlements (BIS). For illustrative purposes only.

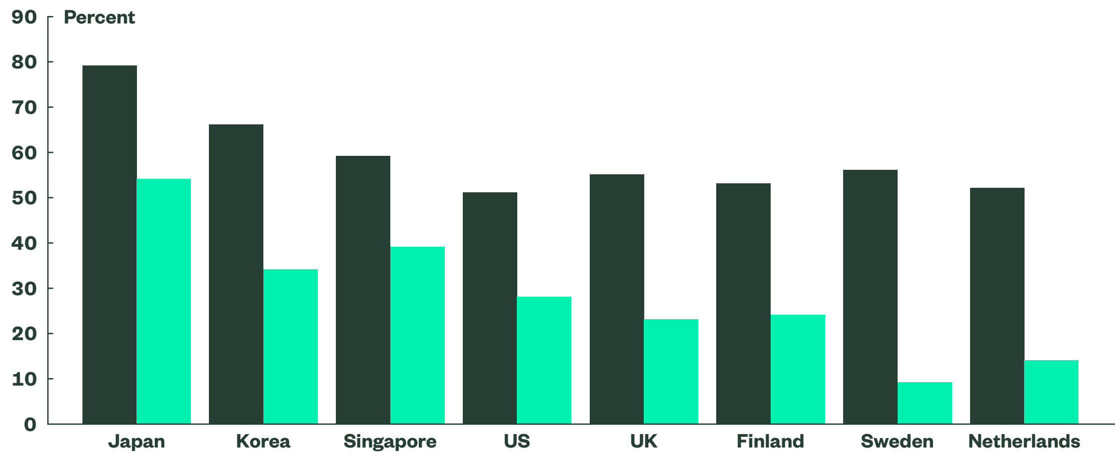
Why Central Banks Are Going Digital

If CBDCs are just another form of cash, it is logical to question why central banks require them at all. In fact, up until recently central banks themselves did not see the need for CBDCs, but the tone has now clearly changed. A recent survey found that 80% of central banks are investigating the potential of CBDC and about half have progressed beyond conceptual research to experimenting and running pilots.[3] The key reasons driving increased central bank interest in digital currencies include:

To Preserve Financial Stability and Central Banks' Status CBDCs offer many of the benefits that are already present in the current cash-based system, but the increasing popularity of stablecoins (digital assets designed to have a stable price, such as Facebook's Diem) has helped incentivise central banks to develop their own digital assets. A stablecoin that goes mainstream is a potential threat to major central banks as an alternative method of payment. If a stablecoin was to take significant market share, the central banks would have diminished ability to influence their national money supply since they would not control the total supply of currency operating within their borders. In addition, private digital assets would take market share away from global payment systems, creating financial stability risks if it develops outside of a regulated global banking system.

As Replacement for Cash The pandemic has accelerated the decline in the use of cash and central banks consider CBDCs as a suitable substitute. Over time, physical cash has been losing popularity as the shift to credit and debit cards, as well as electronic payments, continued unabated — the COVID-19 pandemic has simply accelerated this trend. From a practical standpoint, cash is costly to make, to store, and is easily lost; in contrast, a CBDC would be cheap to make and have a system that records the location of the digital asset. Digital transactions that take place today are all claims on physical cash, but the same transactions via CBDC would be claims to digital assets that are backed by a central bank and offer the same kind of safety as cash.

Figure 2
Consumers Are Using Less Cash
Percent of Cash Used in Total Transactions (%)



Source: McKinsey & Company. The 2020 McKinsey Global Payments Report.

Improved Access CBDCs are useful in improving access to central bank money for those who are on low incomes, are non-banked, and for those who live in jurisdictions where physical cash is in decline. CBDC transfers across borders offer several benefits over the current system, including settlement recording and increased liquidity, which leads to a more open and safe global monetary system. For the low income or non-banked groups, the benefit is clear: a CBDC would facilitate an almost immediate form of payment to individuals instead of sending checks via mail to low income or rural families.

> **"We think it is important that any potential CBDC could serve as a complement to, and not a replacement of, cash and current private-sector digital forms of the dollar, such as deposits at commercial banks"**
>
> — U.S. Federal Reserve Chair Jerome E. Powell, May 20, 2021

Potential to Expose Illegal Activity Finally, CBDCs could potentially evolve to expose illegality as it would allow for greater transparency relative to the use of banknotes. Studies have found that about a third of all US dollars in circulation are used for criminal activities and tax evasion.[4] By implementing capital controls, such as limiting the amounts of cash withdrawal, electronic payments would inevitably increase — Greece's experience serves as a good example of this when they implemented capital controls 2015. The Bank for International Settlements (BIS) has also stated that cryptocurrencies have been used to facilitate financial crimes, so offering a CBDC in place of cryptocurrency should help stem the flow of illegal money.

CBDCS and the Financial System
Threats and Opportunities

The principal concern for the existing system is that the banks and payment networks could theoretically be disintermediated by the central banks. The central banks could take deposits directly and allow for electronic payments between merchants and individuals, thus diverting revenues from banks and payment networks. However, central banks have clearly communicated that they are looking for a public-private partnership, which makes sense when one considers the cost and complexity of the distribution function of the current system. For example, central banks are unlikely to be eager to take on the burden of customer on-boarding and account maintenance; providing technology support; offering bundled services around checking and banking deposits; or creating from scratch networks of merchants willing to accept CBDCs. Commercial banks are better at client facing, account opening, and at offering more sophisticated financial products to customers.

Central banks would likely want to augment, not replace, existing hard currency, so a scenario in which central banks completely bypass the existing structures would imply that they would have to take over the running of bank branches and/or ATM networks. Furthermore, banks have historically been the most effective underwriter and distributors of credit, which is the cornerstone of creating the multiplier effect in the monetary system. In addition, bank profits fund deposit insurance and reserves for credit losses, while payment companies' profits absorb fraud losses and fund systems for fraud prevention — both of which create an important buffer for the economy in bad times. Finally, central banks are keenly aware that they need to design a system that does not create incentives that would exacerbate stress in the economy. If everyone sought to move their money out of risky investments into CBDCs at the first sign of stress, it would result in a "bank run" of epic proportions. It seems unlikely that central banks, which in most cases have spent centuries developing well-oiled national banking and payments systems, will be motivated to disintermediate existing players.

We would argue that CBDCs could represent more of an opportunity than a threat for the existing players. A widely-adopted digital currency would certainly make some banking and payment functions cheaper to operate, and this should result in overall lower costs to the current players. A nationally-sponsored digital currency could bring people who were previously "unbanked", into the electronic banking system and make it possible for banks to serve them profitably — this would increase the total addressable market for both banks and payments. The potential reduction in fraud and theft would also accrue benefits to the banking system. CBDCs will also likely foster continued innovation in the banking system and support fintech, which in turn should make the whole system more efficient.

In Conclusion — CBDCs Are Coming

We believe that CBDCs are not just likely, but a foregone conclusion — the efficiencies and benefits of digital currencies are just too great for central banks to ignore. However, we envision a world where the current banking system works in partnership with the central banks, and the benefits of CBDCs accrue to both. Private capital in conjunction with government regulatory support will be critical, as it has always been, to support a well-functioning national banking system. In this world, high-quality financial and payments companies will have the ability to generate sustainable growth — from an investment perspective, we believe these companies will provide good return opportunities when purchased at reasonable valuations.

Fintech: Disruption and Innovation in Key Emerging Markets

Michelle Middleton
Research Analyst

Vera Rossi
Research Analyst

Significant advances in technology have taken place across industries over the past 20 years, and financial services are no different even though the sector's adoption of technology has been relatively slow. This has been largely due to heavy regulatory burdens, as well as bureaucracy and resistance from consumers, merchants, governments, and institutions. But this is changing.

The COVID-19 pandemic has been a strong catalyst for adoption of technology in financial services, helping the industry move away from traditional in-person banking. Customers are more willing to try online banking and financial institutions are finding new ways of selling to customers and providing financial services through digital platforms. As a result, banks with strong digital platforms generally performed extremely well during the pandemic-driven lockdowns. Large traditional banks have been incorporating and launching new digital products to keep up with market trends but have faced intense competition from new challengers who are nimble, efficient, and less burdened by bureaucracy.

The Fintech Revolution

Fintech, or financial technology, is defined as computer programs, software and other technology that supports, facilitates or delivers both banking and financial services. Fintech merges technology and financial services and is being adopted not only by startups but also by large established institutions for the creation, management and delivery of financial services. Progress has differed by geography and in this article we will introduce and explore the state of fintech in the developing regions of Latin America and EMEA (Europe, Middle East, and Africa), focusing on the large incumbent financial institutions and their biggest challengers.

Latin America and the EMEA regions are excellent places to enter the fintech business as the market characteristics and demographics appear very favorable for potential success. These include:

- Markets with a high concentration of large banks with low service quality and high fees
- Large unbanked populations, creating opportunities to explore new market segments
- High internet penetration and/or high smartphone usage

Figure 3
Fintech Market Exposure and Penetration Rates by Region in 2020

	Internet Penetration, % Population	Mobile Penetration, % Population	Financial Penetration, % Population*	Payments Over Internet, % of Total Payments
Brazil	74	97	70	59
Mexico	72	93	38	32
Russia	85	164	76	26
South Africa	68	162	70	39
China	65	118	80	86
US	89	134	93	50
World	57	108	68	53

* Account ownership at a financial institution or with a mobile-money- service provider (% of the population ages 15+).
Source: World Bank.

Latin America

Brazil — Fintechs Disrupt Traditional Banking

Brazil's financial services penetration is 70%, slightly above the world average of 68%, according to The World Bank. In terms of percentage of payments over the internet, Brazil is at 59%, which is above the world average of 53%. In Latin America, Brazil has the most developed fintech industry, with 771 fintech companies operating in the country as of 2020.[5] Approximately 35% of those firms were operating for less than a year.

In the Brazilian fintech ecosystem, payments are the largest vertical with 190 companies, or 25% of the total. Financial advice moved into second position in 2020 with 122 (16% of total), overtaking lending with 114 (15%).

The largest fintech players with well-established operations are PagSeguro (payments), XP (investments), Stone (digital banking, payments, lending), Nubank (lending) and Banco Inter (digital bank). Mercado Pago, the fintech arm of ecommerce player Mercado Libre, is among the largest — it is mainly focused on payments but is quickly expanding into lending and investments. However, the majority of the other fintech players are still in early-stage development with relatively small operations.

The success of fintech in Brazil was driven by a highly-concentrated banking system, expensive fees, and product and service offerings with limited client segmentation. This environment, combined with the development of new technologies and changing regulation, created an opportunity for new entrants to disrupt the incumbents' business. The legacy banks in Brazil have reacted to the competition in the last three years, investing heavily in technology, improving client segmentation with product and service offerings, and diversifying revenues. In addition, the increase in digitalization created cost-saving opportunities, with headcount reductions, traditional branch closures, and the creation of digital branches.

Looking forward, 2022 will likely be challenging for fintech in Brazil due to a deterioration in the macro environment. Execution risk will be higher as most of the fintech players are still in the early stages of operations, with the exception of the large and well-established firms. Their gains in market share are likely to be more limited from here due to the increase in funding costs, higher delinquency rates and more limited access to capital. The quality of clients and potential monetization have not been tested, increasing the uncertainty in a weaker economy.

Mexico — Fintechs Target Unbanked Population

Fintech plays a very different role in Mexico compared to Brazil. Fintech is expanding financial services in Mexico, while it is disrupting the industry in Brazil. Mexico's financial services penetration rate of 38% is well below the Latin America average of 54% and the world average of 68%. In terms of payments over the internet, Mexico is at 32% versus the Latin America average of 48% and the world average of 53%. Informal systems are widely used in the country and the population has an overall negative perception of financial institutions in general. Smartphones and internet penetration are at similar levels to Brazil and other countries in Latin America, so the environment is favorable for technology access to increase financial services penetration.

There are about 450 fintechs in Mexico, with the number of companies growing at an average rate of 23% in the last four years.[6] The players have been focused on the unbanked population, filling the large gap left by the traditional banks, with better market segmentation and innovative and low-cost products and services. Fintech is present in several verticals with payments and remittances companies leading the services and products offerings, followed by consumer lending, digital banking and, recently, insurance.

In contrast to Brazil, the traditional financial institutions in Mexico already have competitive fees. As a result, fintechs focus more on product and services innovation. Fintech players are gaining share by improving market segmentation with more client-tailored products for diverse demographics and better customer service. Traditional banks and fintechs have been targeting different market segments in terms of demographics and risk level, with fintech players focusing on lower income, especially in lending. As fintech companies gain scale, they expand to other demographic segments, potentially cannibalizing the business of traditional banks. Venture capital has played a big role in funding Fintech startups in Mexico, where approximately 60% of the companies are receiving funding.

EMEA (Europe, Middle East, Africa)

Over the past 10 years, financial services' penetration in the EMEA region has grown substantially and is now in line with the world average of 68%. Turkey and Greece are growing the fastest, increasing seven-fold since 2010. The Czech Republic has the highest penetration rate, followed by Poland and Hungary. The fintech industry across the Middle East and Africa is still in its infancy and offers significant upside potential. Africa has limited penetration of financial products and internet, while Middle East banking consumers are seeking better digital products as the offerings are still relatively limited even after investments in recent years. In the UAE, where the population is young and smartphone and internet penetration is over 90%, digital-only banks are growing much faster than elsewhere in the wider region. Traditional banks will need to step up their pace of investment in technology to counter the growing threats.

Russia — Incumbents in Strong Position

Russia's pace of digital banking adoption has been one of the fastest in the region. With a large population of 145 million people and internet penetration of 85% — the largest internet audience in Europe — and a supportive regulatory environment, it's an attractive place to do business with a long runway of potential growth. Furthermore, Russia's financial services' penetration rate of 76% is well ahead of the world average of 68%, and the share of credit card payments in Russia increased from 30% to 70% in the five years to 2020.

With 373 banks, Russia's banking system is fragmented, but the top five banks account for approximately 65% market share in consumer loans.[7] There is a strong state influence in the banking sector with the clear leaders being Sberbank, 50% owned by the central bank, and VTB, 61% owned by the Russian government. Tinkoff Bank (TCS) started off as a digital monoline bank, specializing in credit cards, and has never had a physical franchise. It has now expanded into conventional banking and is a strong challenger to Sberbank and VTB. However, Sberbank

was an early adopter of digitalization and has continued to focus and build out its digital platform, which has allowed it to stay very competitive against the newcomers. Sberbank has spent RUB 150 billion (~$2 billion) over the past six years on non-financial M&A.[8] Its digital customer base increased from 27 million in 2014 to 75 million in 2020.

The industry continues to be in flux as a number of local non-financial internet companies have acquired banking licenses recently including Yandex, Ozon and Wildberries. Competition will remain an issue for the foreseeable future, but with the largest IT staff in Russia, and the largest customer base by a significant amount, Sberbank continues to take a leading role in the country's technological transformation.

South Africa — New Challengers Emerge

South Africa has a relatively concentrated banking market with a high risk of disruption by fintechs and challenger banks. Internet penetration in South Africa is at 68%, slightly behind the world average. However, banking penetration is at 70% while smartphone penetration is more than 90%.

In the early 2000s, incumbents Firstrand and Standard Bank were dismissive of the digital threat and were relatively slow to act, leaving them at a disadvantage as challengers emerged. Capitec launched in 2001 as a microlender, but within a few years garnered more than a 20% market share, and this continues to grow in key retail and SME products. Capitec has several advantages over incumbents, including their early adoption of a digital platform as well as having products and services that are simple, affordable, and accessible to people of all income levels. New challengers have emerged recently — these include digital bank TymeBank, which is a mass-market, low-cost player with 4% market share; and Discovery Bank, which has picked up a 0.7% market share, targeting the middle to higher income population with a full-service banking offering with a generous reward program.

Competition in South Africa is intense with not just banks and financial institutions adopting digital platforms, but also mobile operators such as MTN, Vodacom, and Telkom. Although these mobile companies have not found much success in the mobile money business so far in South Africa, they continue to represent a threat. The top three traditional banks, with 57% client share, have spent large amounts of money building out their digital offering, and they will need to continue to do so to maintain leadership. With so many different types of fintech players in South Africa, it remains to be seen who will achieve the most success.

In Conclusion

Our approach is focused on quality and long-term sustainable growth. We prefer companies with established and sustainable competitive advantages over more speculative early-stage startups. We also believe companies with product and service offerings in a multitude of verticals will be more successful in the long term. While many of the startups may offer significant investment gains in the short- to-medium-term, we prefer to invest in established banks such as Russia's Sberbank, that are investing in technology and adopting fintech, or well-established disruptors from other industries, such as Latin America's Mercado Libre, that have the scale to become a fintech leader in the region.

This information should not be considered a recommendation to invest in a particular security or to buy or sell any security shown. It is not known whether the securities shown will be profitable in the future.

Contributor

Nicholas Trager
Portfolio Specialist, Fundamental Equities

Endnotes

1 BIS speech by Agustin Carstens, General Manager.

2 BOE "Discussion Paper: Central Bank Digital Currency" March 2020.

3 BIS "Central bank digital currencies: foundation principles and core futures" October 2020.

4 Rogoff, Kenneth S. 2016, The Curse of Cash, Princeton University Press.

5 Fintech labs Fintech Lab: Report Radar FintechLab — August 2020: http://fintechlab.com.br/index.php/2020/08/25/edicao-2020-do-radar-fintechlab-detecta-270-novas-fintechs-em-um-ano/.

6 Finnovista: Report Radar — March 2020 https://finnovista.com/en/radar/the-number-of-fintech-startups-in-mexico-grows-14-in-one-year-to-441/.

7 Central Bank of Russia: Review of the Banking Sector of the Russian Federation https://cbr.ru/eng/statistics/bank_sector/review/.

8 Company Accounts: Sberbank.

About State Street Global Advisors

For four decades, State Street Global Advisors has served the world's governments, institutions and financial advisors. With a rigorous, risk-aware approach built on research, analysis and market-tested experience, we build from a breadth of active and index strategies to create cost-effective solutions. As stewards, we help portfolio companies see that what is fair for people and sustainable for the planet can deliver long-term performance. And, as pioneers in index, ETF, and ESG investing, we are always inventing new ways to invest. As a result, we have become the world's fourth-largest asset manager* with US $4.14 trillion† under our care.

* Pensions & Investments Research Center, as of December 31, 2020.
† This figure is presented as of December 31, 2021 and includes approximately $61.43 billion of assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.

ssga.com

Information Classification: General Access

Marketing communication

State Street Global Advisors Worldwide Entities

Abu Dhabi: State Street Global Advisors Limited, ADGM Branch, Al Khatem Tower, Suite 42801, Level 28, ADGM Square, Al Maryah Island, P.O Box 76404, Abu Dhabi, United Arab Emirates. Regulated by the ADGM Financial Services Regulatory Authority. T: +971 2 245 9000. **Australia:** State Street Global Advisors, Australia, Limited (ABN 42 003 914 225) is the holder of an Australian Financial Services License (AFSL Number 238276). Registered office: Level 14, 420 George Street, Sydney, NSW 2000, Australia. T: +612 9240-7600. F: +612 9240-7611. **Belgium:** State Street Global Advisors Belgium, Chaussée de La Hulpe 185, 1170 Brussels, Belgium. T: +32 2 663 2036. State Street Global Advisors Belgium is a branch office of State Street Global Advisors Europe Limited, registered in Ireland with company number 49934, authorized and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. **Canada:** State Street Global Advisors, Ltd., 1981 McGill College Avenue, Suite 500, Montreal, Qc, H3A 3A8, T: +514 282 2400 and 30 Adelaide Street East Suite 800, Toronto, Ontario M5C 3G6. T: +647 775 5900. **France:** State Street Global Advisors Europe Limited, France Branch ("State Street Global Advisors France") is a branch of State Street Global Advisors Europe Limited, registered in Ireland with company number 49934, authorized and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. State Street Global Advisors France is registered in France with company number RCS Nanterre 899 183 289, and its office is located at Coeur Défense – Tour A – La Défense 4, 33e étage, 100, Esplanade du Général de Gaulle, 92 932 Paris La Défense Cedex, France. T: +33 1 44 45 40 00. F: +33 1 44 45 41 92. **Germany:** State Street Global Advisors Europe Limited, Branch in Germany, Brienner Strasse 59, D-80333 Munich, Germany ("State Street Global Advisors Germany"). T: +49 (0)89 55878 400. State Street Global Advisors Germany is a branch of State Street Global Advisors Europe Limited, registered in Ireland with company number 49934, authorized and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. **Hong Kong:** State Street Global Advisors Asia Limited, 68/F, Two International Finance Centre, 8 Finance Street, Central, Hong Kong. T: +852 2103-0288. F: +852 2103-0200. **Ireland:** State Street Global Advisors Europe Limited is regulated by the Central Bank of Ireland. Registered office address 78 Sir John Rogerson's Quay, Dublin 2. Registered Number: 49934. T: +353 (0)1 776 3000. F: +353 (0)1 776 3300. **Italy:** State Street Global Advisors Europe Limited, Italy Branch ("State Street Global Advisors Italy") is a branch of State Street Global Advisors Europe Limited, registered in Ireland with company number 49934, authorized and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. State Street Global Advisors Italy is registered in Italy with company number 11871450968 – REA: 2628603 and VAT number 11871450968, and its office is located at Via Ferrante Aporti, 10 - 20125 Milan, Italy. T: +39 02 32066 100. F: +39 02 32066 155. **Japan:** State Street Global Advisors (Japan) Co., Ltd., Toranomon Hills Mori Tower 25F 1-23-1 Toranomon, Minato-ku, Tokyo 105-6325 Japan. T: +81-3-4530-7380. Financial Instruments Business Operator, Kanto Local Financial Bureau (Kinsho #345), Membership: Japan Investment Advisers Association, The Investment Trust Association, Japan, Japan Securities Dealers' Association. **Netherlands:** State Street Global Advisors Netherlands, Apollo Building 7th floor, Herikerbergweg 29, 1101 CN Amsterdam, Netherlands. T: +31 20 7181 000. State Street Global Advisors Netherlands is a branch office of State Street Global Advisors Europe Limited, registered in Ireland with company number 49934, authorized and regulated by the Central Bank of Ireland, and whose registered office is at 78 Sir John Rogerson's Quay, Dublin 2. **Singapore:** State Street Global Advisors Singapore Limited, 168, Robinson Road, #33-01 Capital Tower, Singapore 068912 (Company Reg. No: 200002719D, regulated by the Monetary Authority of Singapore). T: +65 6826-7555. F: +65 6826-7501. **Switzerland:** State Street Global Advisors AG, Beethovenstr. 19, CH-8027 Zurich. Registered with the Register of Commerce Zurich CHE-105.078.458. T: +41 (0)44 245 70 00. F: +41 (0)44 245 70 16. **United Kingdom:** State Street Global Advisors Limited. Authorized and regulated by the Financial Conduct Authority. Registered in England. Registered No. 2509928. VAT No. 5776591 81. Registered office: 20 Churchill Place, Canary Wharf, London, E14 5HJ. T: 020 3395 6000. F: 020 3395 6350. **United States:** State Street Global Advisors, 1 Iron Street, Boston, MA 02210-1641. T: +1 617 786 3000.

The views expressed in this material are the views of the Fundamental Growth and Core Equity Team through the period 31 December 2021 and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected. The whole or any part of this work may not be reproduced, copied or transmitted or any of its contents disclosed to third parties without SSGA's express written consent.
The information provided does not constitute investment advice and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell a security. It does not take into account any investor's particular investment objectives, strategies, tax status or investment horizon. You should consult your tax and financial advisor.
All information is from SSGA unless otherwise noted and has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such.
The information provided does not constitute investment advice as such term is defined under the Markets in Financial Instruments Directive (2014/65/EU) and it should not be relied on as such. It should not be considered a solicitation to buy or an offer to sell any investment. It does not take into account any investor's or potential investor's particular investment objectives, strategies, tax status, risk appetite or investment horizon. If you require investment advice you should consult your tax and financial or other professional advisor.
Investing in foreign domiciled securities may involve risk of capital loss from unfavorable fluctuation in currency values, withholding taxes, from differences in generally accepted accounting principles or from economic or political instability in other nations. Investments in emerging or developing markets may be more volatile and less liquid than investing in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries.
The information contained in this communication is not a research recommendation or 'investment research' and is classified as a 'Marketing Communication' in accordance with the Markets in Financial Instruments Directive (2014/65/EU) or applicable Swiss regulation. This means that this marketing communication (a) has not been prepared in accordance with legal requirements designed to promote the independence of investment research (b) is not subject to any prohibition on dealing ahead of the dissemination of investment research.
Emerging or developing markets may be more volatile and less liquid than investing in developed markets and may involve exposure to economic structures that are generally less diverse and mature and to political systems which have less stability than those of more developed countries.
Past performance is not a guarantee of future results.
Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions.
The trademarks and service marks referenced herein are the property of their respective owners. Third party data providers make no warranties or representations of any kind relating to the accuracy, completeness or timeliness of the data and have no liability for damages of any kind relating to the use of such data.

© 2022 State Street Corporation.
All Rights Reserved.

ID891310-4238073.2.1.GBL.RTL 0122
Exp. Date: 02/28/2023