GLOBAL PUBLIC INVESTOR 2022

OMFIF

MANAGING RESERVES IN A WORLD TURNED UPSIDE DOWN

Amundi ASSET MANAGEMENT
DZ BANK Bank on Germany
E Fund
NEUBERGER | BERMAN

To meet our clients evolving needs, Amundi offers industry-leading investment solutions, the strength and scale of a global leader and a firm commitment to responsible investment.

- More than €2 trillion in assets under management(2)
- A presence in more than 35 countries with 6 investment hubs
- Active, passive and real assets investment solutions

Because that's what you expect from a trusted partner.

amundi.com

FOR PROFESSIONAL CLIENTS ONLY.
(1) Source IPE "Top 500 asset managers" published in June 2022 and based on AUM as of end December 2021. (2) Amundi data including Lyxor as at 31/03/2022. In the UK, this promotion is issued by Amundi (UK) Limited, registered office: 77 Coleman Street, London, EC2R 5BJ, United Kingdom. Amundi (UK) Limited is authorised and regulated by the Financial Conduct Authority under number 114503. This document is not intended for any citizens or residents of the United States of America or any "U.S. Person" as defined by "Regulation S" of under the US Securities Act of 1933. The content of this advertisement is for information purposes only and does not constitute a recommendation to buy or sell. amundi.com. June 2022.

CONTENTS

5
Foreword
All change for reserves managers.

7
Executive summary
Managing reserves in a world turned upside down

10
Key findings

20
Chapter 1: Macro environment
Reserves managers face tough new paradigm.

26
Chapter 2: Asset allocation
Time to get more active?

38
Chapter 3: External managers
Knowledge is key as reserves managers lean on their advisers.

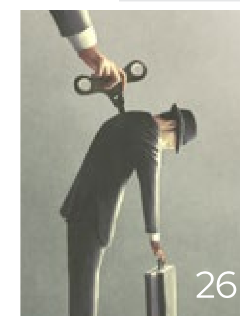
44
Chapter 4: Sustainable bonds
Barriers to entry hamper sustainability progress.

52
Chapter 5: Global flows
Caution and flight in global currency flows.

62
Chapter 6: Managing communications
Central banks under pressure over transparency.

66
Regional spotlights
Key data from survey and rankings by region.

75
Databank
The world's institutions ranked.



GLOBAL PUBLIC INVESTOR 2022
OMFIF

44

GLOBAL PUBLIC INVESTOR 2022
OMFIF

Official Monetary and Financial Institutions Forum
6-9 Snow Hill, London, EC1A 2AY
T: +44 (0)20 700 27898

enquiries@omfif.org

omfif.org

ABOUT OMFIF

With a presence in London, Washington and New York, OMFIF is an independent forum for central banking, economic policy and public investment — a neutral platform for best practice in worldwide public-private sector exchanges.

ACKNOWLEDGMENTS

OMFIF thanks officials from the co-operating countries and cities for this publication, which will be joining us in launch partnerships around the world. We are grateful to many other associates and colleagues for their assistance and guidance.

AUTHORS

Clive Horwood
Managing Editor and Deputy CEO

Neil Williams
Chief Economist

Taylor Pearce
Economist

Julian Jacobs
Economist

Edward Maling
Research Assistant

ADDITIONAL RESEARCH

Mausi Owolabani
Policy Analyst

EDITORIAL AND PRODUCTION

Simon Hadley
Director, Production

William Coningsby-Brown
Production Manager

Sarah Moloney
Subeditor

Fergus McKeown
Subeditor

MARKETING

Ben Rands
Director of Events and Marketing

James Fitzgerald
Deputy Head of Events and Marketing

Henna Rattu
Marketing and Events Coordinator

Amy Holder
Events and Marketing Coordinator

BOARD

David Marsh
Chairman

Philip Middleton
Deputy Chairman

John Orchard
Chief Executive Officer

Jai Arya, Maggie Mills , Mark Burgess

ADVISORY COUNCIL

Meghnad Desai
Chairman
Mark Sobel
US Chairman
Marsha Vande Berg
Deputy Chairman
Hani Kablawi
Deputy Chairman
Frank Scheidig
Deputy Chairman

Ben Shenglin, Chair, OMFIF Economists Network**, Michael Cole-Fontayn, Otaviano Canuto, Aslihan Gedik, Prakash Kannan, Yougesh Khatri, John Kornblum, Norman Lamont, Rudi Lang, Oscar Lewisohn, Dennis Lockhart, Leslie Maasdorp, Nicolas Mackel, Timothy Massad, Brent McIntosh, Sheila M'Mbijjewe, Kingsley Moghalu, Rakesh Mohan, Célestin Monga, Nora Müller, Ila Patnaik, Oystein Olsen, Danny Quah, Ludger Schuknecht, Anne Simpson, Christopher Smart, Marc-Olivier Strauss-Kahn, Niels Thygesen, Natacha Valla, William White, Andrew Wold, Janine von Wolfersdorff, Zhongxia Jin**

© 2022 OMFIF Limited. All Rights Reserved.
Strictly no photocopying is permitted. It is illegal to reproduce, store in a central retrieval system or transmit, electronically or otherwise, any of the content of this publication without the prior consent of the publisher. While every care is taken to provide accurate information, the publisher cannot accept liability for any errors or omissions. No responsibility will be accepted for any loss occurred by any individual due to acting or not acting as a result of any content in this publication. On any specific matter reference should be made to an appropriate adviser.
Company Number: 7032533. ISSN: 2398-4236

FOREWORD

ALL CHANGE FOR RESERVES MANAGERS

Inflation and geopolitics bring a paradigm shift for central banks' investment operations, explains Clive Horwood, managing editor and deputy CEO, OMFIF.

GLOBAL PUBLIC INVESTOR has been the cornerstone of OMFIF's research portfolio since it was launched in 2013. Then, as now, the aim of the GPI was to shine a light on the investment approaches of some of the world's most influential institutions, whose firepower and official status give them the ability to underpin, or move, global markets.

This latest iteration of the GPI is a new step forward as we aim to improve the scope and utility of the research we gather and analyse. This edition focuses solely on central bank reserves managers – how much they manage and how they manage it today – but also their views on the macroeconomic outlook, likely future approaches to asset allocations and what is driving those decisions. The GPI's traditional research on global public pension funds and sovereign funds will now be published in November, allowing us to focus in more depth on the specific issues facing those official institutions, while still providing a view of the entire universe of global public investors.

We began our survey of central banks in mid-March, just as the true extent of the resurgence of global inflation was becoming clear. And it was shortly after Russia had invaded Ukraine, exacerbating many of the supply chain issues that were already driving prices higher and heightening geopolitical tensions to new levels. As such, our research, based on survey responses from more than 70 central banks globally, is the first of its kind to reveal how reserves managers are reacting to a generational shift in the investment environment.

Reserves managers are inherently conservative and long-term investors. For almost 15 years, after the 2008 financial crisis, they faced a relatively benign environment, in which fixed income – their core holdings – performed in a stable manner, underpinned in many regions by huge central bank support in the form of quantitative easing. Returns were low, however, prompting a growing proportion of central banks to seek extra returns through diversification into higher-yielding fixed income, as well as equities and exchange-traded funds.

As we prepared our survey at the beginning of 2022, it seemed that the main factor affecting reserves managers would be how they, and the markets, managed the transition to quantitative tightening. In the event, major central banks ending their asset purchasing programmes is just the third most important factor in how they manage reserves, behind inflation and geopolitics.

The clear majority of reserves managers does not expect to make fundamental shifts in their strategic asset allocations, at least in the short term. For long-term managers, this seems a sensible approach. Constrained as many are in their ability to buy other inflation-hedging assets – such as infrastructure – perhaps it is the only approach. One leading adviser to reserves managers told us that many central banks consider 'that things have been great since 2008, and now we must suffer.' He says many of his clients view the next few years of difficult markets as cyclical and inevitable, almost in a fatalistic way. But with just 20% of respondents to the survey believing inflation will prove transitory, more fundamental shifts could become apparent next year.

All of this is taking place in the shadow of the decision by a large part of the international community to freeze many of Russia's foreign assets following the invasion of Ukraine. However appropriate the motive, this move upends the pact that a central bank has sovereignty over its assets, wherever they are held. Future editions of the GPI will no doubt reveal if this leads some central banks to consider what reserves they hold, and where. •

OUR RESEARCH, BASED ON SURVEY RESPONSES FROM MORE THAN 70 CENTRAL BANKS GLOBALLY, IS THE FIRST OF ITS KIND TO REVEAL HOW RESERVES MANAGERS ARE REACTING TO A GENERATIONAL SHIFT IN THE INVESTMENT ENVIRONMENT.

Neuberger Berman, founded in 1939, is a private, independent, employee-owned investment manager. The firm manages $447 billion in client assets as of March 31, 2022 across a range of strategies—including equity, fixed income, quantitative and multi-asset class, private equity, real estate and hedge funds. With offices in 25 countries, Neuberger Berman's diverse team has over 2,500 professionals. The company has been named first or second in *Pensions & Investments'* Best Places to Work in Money Management survey since 2014 (among those with 1,000 employees or more).

Visit us at www.nb.com

All information is as of 31 December 2021 unless otherwise indicated.

This material is provided for informational purposes only and nothing herein constitutes investment, legal, accounting or tax advice, or a recommendation to buy, sell or hold a security. Information is obtained from sources deemed reliable, but there is no representation or warranty as to its accuracy, completeness or reliability.

This material is being issued on a limited basis through various global subsidiaries and affiliates of Neuberger Berman Group LLC.

Please visit www.nb.com/disclosureglobal-communications for the specific entities and jurisdictional limitations and restrictions.

X0197 06/22 1077933 ©2022 The "Neuberger Berman" name and logo are registered service marks of Neuberger Berman Group LLC. All rights reserved.

EXECUTIVE SUMMARY

MANAGING RESERVES IN A WORLD TURNED UPSIDE DOWN

Faced with a rapidly changing environment, most central banks plan to sit tight – at least for now.

FOR the past year or so, monetary policy-makers have been trying to convince markets that the return of inflation is transitory. It's not a line that their central bank counterparts in the reserves management divisions are buying any more, if they ever did.

More than 75% of central bank reserves managers surveyed by OMFIF for the 2022 edition of Global Public Investor believe inflation will either remain sustainably higher or at least be more volatile. Just 20% think it will relatively quickly return to the low 2010-19 average.

Coming alongside the rise in concerns about geopolitics, largely (but not exclusively) driven by Russia's invasion of Ukraine, the investment world has been turned on its head. And this presents a wide set of challenges for the people running the reserves of the world's central banks.

It's worth remembering that many investors (and policy-makers) have little experience of coping with inflation, which was last an issue in most developed economies 30 years ago. And that most reserves managers have mandates that restrict their ability to invest in a broad array of asset classes which could help them hedge against inflation.

Government and quasi-government bonds make up close to 50% of overall portfolios. Cash (which includes short-term money market instruments) is the next highest component, at 17%, although 25% of respondents plan to reduce their cash holdings over the next 12-24 months. Gold – a potential hedge against inflation – is at just under 10%.

THERE IS NO DOUBT THINGS HAVE MOVED FAST: IN LAST YEAR'S GPI, INFLATION WASN'T EVEN CONSIDERED A FACTOR IN THEIR DECISION MAKING.

IT'S WORTH REMEMBERING THAT MANY INVESTORS (AND POLICY-MAKERS) HAVE LITTLE EXPERIENCE OF COPING WITH INFLATION, WHICH WAS LAST AN ISSUE IN MOST DEVELOPED ECONOMIES 30 YEARS AGO.

Equities, to which a small but growing number of central banks began allocating in an effort to boost returns in the lower-for-longer rate environment, remains at just 3% of overall portfolios.

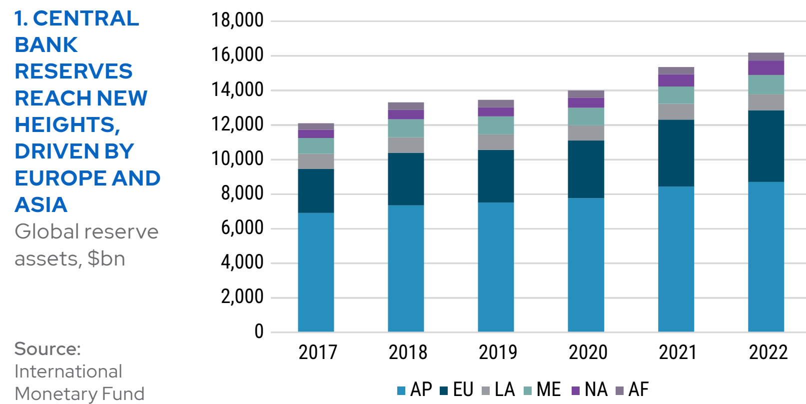
Now, of course, lower is no longer. Inflation is rising, although hikes in interest rates so far have been relatively contained. The issue for many reserves managers is the level of real interest rates, which are now running as low as -7% in some markets. Those with exposure to equities are also absorbing losses as stock markets take fright at the prospect of stagflation.

Reserves management is a slow-moving business. It can take up to two years to effect a fundamental change in investment approach, such as incorporating a new asset class. That makes it harder still to adapt to sudden changes in the market environment. And there is no doubt things have moved fast: in last year's GPI, inflation wasn't even considered a factor in their decision-making.

Most reserves managers are sitting tight, preserving capital and increasing liquidity in their portfolios. Just over half of the 73 central banks that completed our survey say the macro environment will prompt them to become more active, albeit mostly around the edges – for example, shortening duration of fixed-income holdings or moving into slightly higher-yielding safe assets, such as supranational bonds or asset-backed securities.

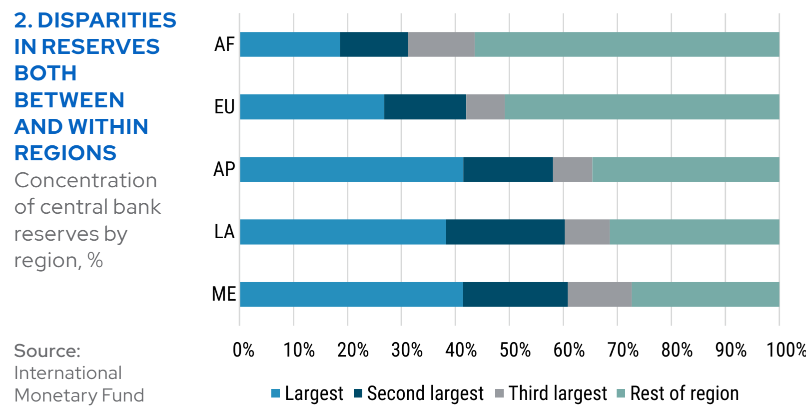
Meanwhile, reserve assets have continued to grow globally (Figure 1) reaching a new record of $16.2tn, representing growth of more than 20% since 2019. The vast majority of that growth continues to come from a combination of Asia Pacific, where growing economies are accumulating reserves, and from Europe, via central bank quantitative easing. Europe's reserves have grown by 62% since 2017, but at $4.15tn are still less than half those in Asia. But Asia's dominance of global reserve assets is declining (Figure 2).

Total reserve assets as a percentage of global gross domestic product have fallen back almost to pre-pandemic levels as extraordinary central bank intervention continued, coinciding with the revival of GDP after the pandemic-related economic shocks of 2020-21 (Figure 3). Concentration of assets



1. CENTRAL BANK RESERVES REACH NEW HEIGHTS, DRIVEN BY EUROPE AND ASIA
Global reserve assets, $bn

Source: International Monetary Fund



2. DISPARITIES IN RESERVES BOTH BETWEEN AND WITHIN REGIONS
Concentration of central bank reserves by region, %

Source: International Monetary Fund

46.5%
proportion of global reserves held by five largest central banks (China, Japan, Switzerland, US, India)

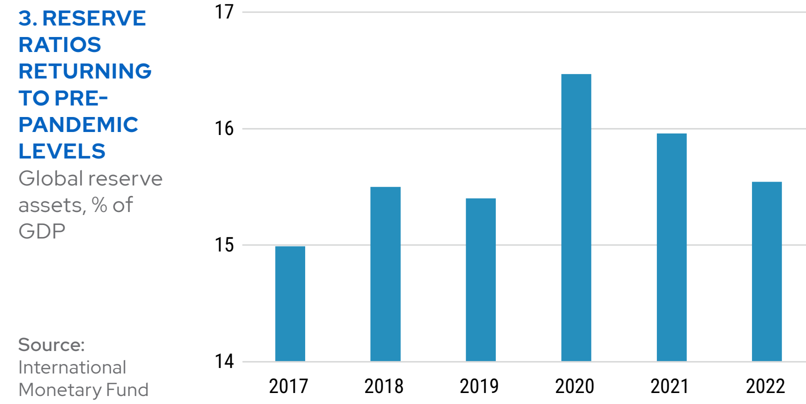
63%
cite insufficient data or information as a major barrier to adopting or integrating ESG into their portfolios

60%
believe that successful reserves management is critical to a central bank's public reputation

58%
of central banks excluding Asia Pacific believe inflation will remain sustainably higher

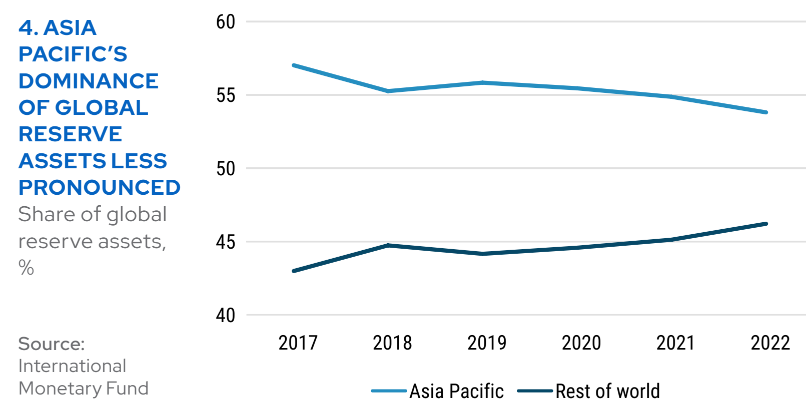
90%+
cite capital preservation and ensuring liquidity as their top two investment priorities

31%
of reserves managers plan to increase holdings of renminbi over the next 12-24 months



3. RESERVE RATIOS RETURNING TO PRE-PANDEMIC LEVELS
Global reserve assets, % of GDP

Source: International Monetary Fund



4. ASIA PACIFIC'S DOMINANCE OF GLOBAL RESERVE ASSETS LESS PRONOUNCED
Share of global reserve assets, %

Source: International Monetary Fund

86%
consider inflation to be one of the key factors affecting reserves management

$16.2tn
Total reserve assets under management of 171 global central banks

73
Survey respondents

41%
of survey respondents now own sustainable fixed-income assets other than green bonds, such as social, transition, blue or SDG bonds

57%
of total portfolios are held in dollars

33.6%
rise in global reserve assets since 2017

9%
of total portfolios are invested in emerging markets

TOTAL RESERVE ASSETS AS A PERCENTAGE OF GLOBAL GROSS DOMESTIC PRODUCT HAVE FALLEN BACK ALMOST TO PRE-PANDEMIC LEVELS AS EXTRAORDINARY CENTRAL BANK INTERVENTION CONTINUED, COINCIDING WITH THE REVIVAL OF GDP AFTER THE PANDEMIC-RELATED ECONOMIC SHOCKS OF 2020-21.

(Figure 4) continues to vary by region, with the top three central banks accounting for more than 73% in the Middle East (the highest by region) and 43% in Africa (the lowest).

In addition to traditional questions about asset allocation, future investment plans and the macro environment, this year's GPI includes a detailed focus on a number of specific areas.

CHINA: More than 30% of reserves managers plan to increase their holdings of renminbi assets in the next two years. Around 85% of them already own Chinese government bonds. Geopolitical concerns, poor market infrastructure and difficulties accessing the market for foreign investors are the main reasons for not allocating more to renminbi assets.

EXTERNAL MANAGERS: Globally, 12.6% of reserve assets are overseen by external managers. The highest region is Latin America, at 24%, and the lowest is Europe at 5.8%. Knowledge transfer – or learning how to manage new or complex asset classes internally – is the most popular reason for using external managers (85% of respondents).

EXCHANGE-TRADED FUNDS: In total, 0.98% of reserves managers' portfolios are invested in ETFs. Asia is the region which most uses ETFs, at 2.15% of assets under management. Some 18% of central banks plan to increase use of ETFs in the next 12-24 months.

SOCIAL BONDS: This year saw a steep rise in holdings of sustainable fixed-income assets other than green bonds (41% of respondents, up from 8%). Social bonds are of particular interest to reserves managers, with 66% of respondents saying they already own or plan to invest in this asset type.

Around 60% of survey respondents said that successful reserves management is crucial to a central bank's reputation. Getting the calls right over the likely turmoil in global financial markets over the coming years could, perhaps, help to offset the negative view that their colleagues in monetary policy have let the inflation genie out of the bottle, and are struggling to control it. •

KEY FINDINGS

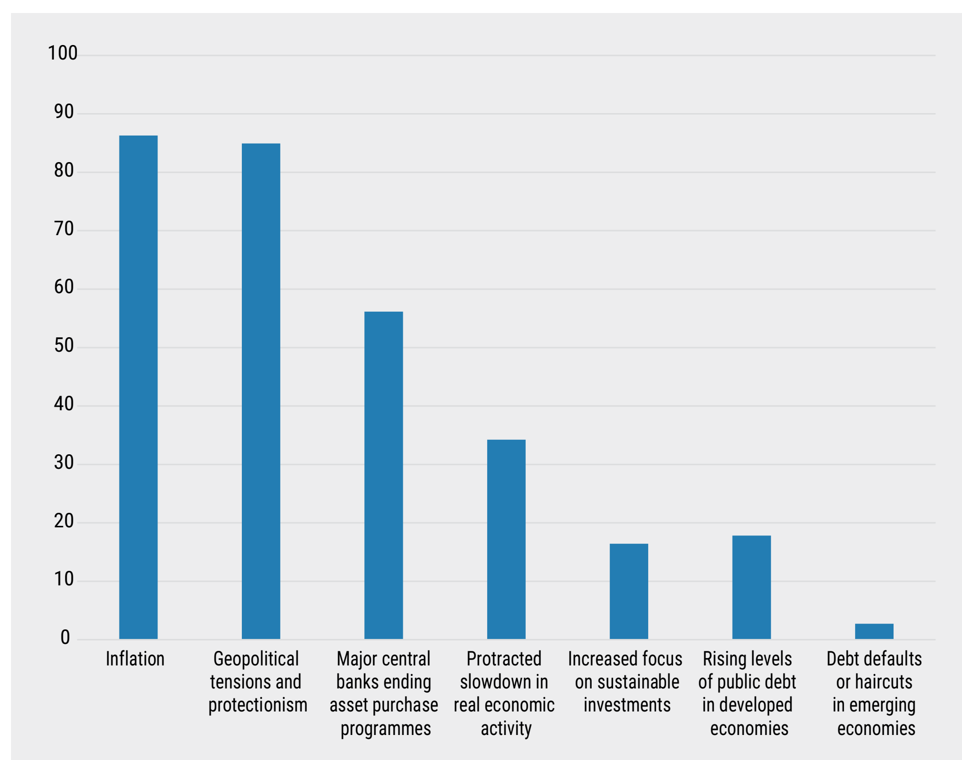
1

HOW the world has changed. Close to 90% of reserves managers now count inflation as one of the three most important factors affecting their performance. Last year, inflation wasn't even considered a major factor. The impact of the war in Ukraine is clear, with geopolitics now cited by more than 80% of the central banks surveyed, whereas in 2021 just 17% were factoring in such tensions. It seems ironic now, as global interest rates rise, that just 12 months ago the main factor affecting reserves managers was the expectation of major central banks moving further into negative rate territory. Expect a rise in the importance of a protracted slowdown in real economic activity to become more of a concern in the 2023 iteration of the GPI.

INFLATION AND GEOPOLITICS TOP LIST OF MACRO FACTORS

What are the three most important factors affecting reserves management in the current economic environment?

Share of respondents, %



Source: OMFIF GPI survey 2022

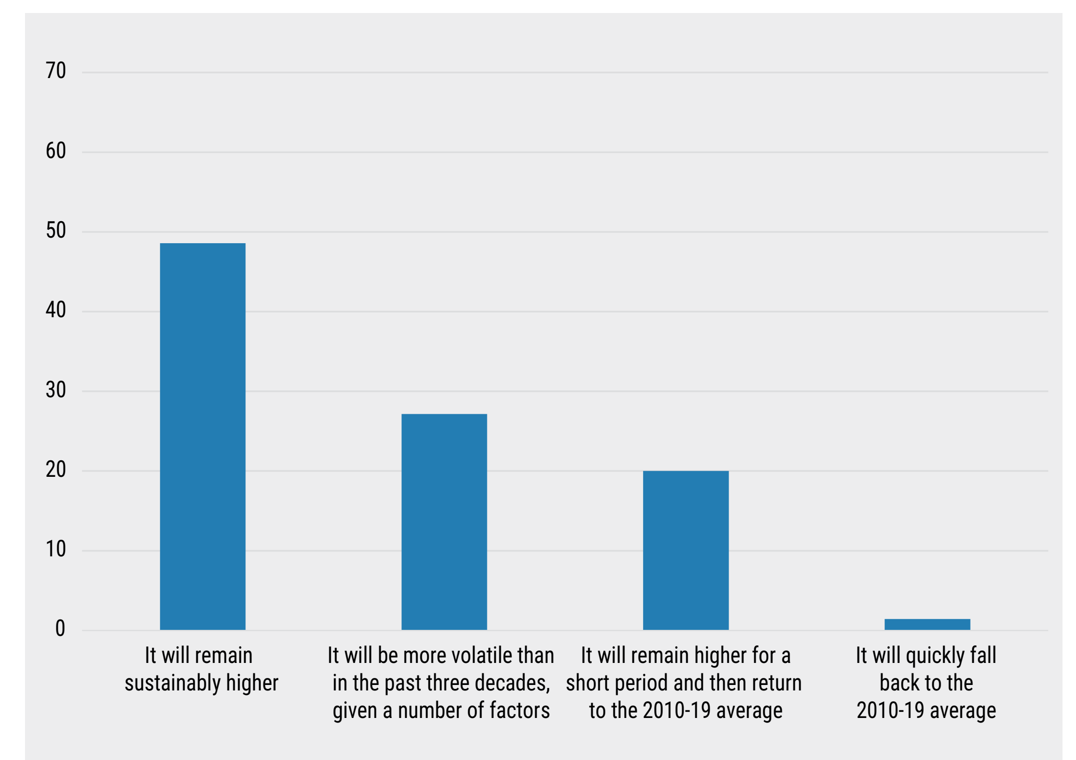
2

ALMOST half of the reserves managers surveyed by OMFIF think inflation is set to go high and remain higher. This suggests they don't believe their central banking peers in charge of monetary policy have the tools to suppress the surge in inflation any time soon. Strip out the responses of Asian central banks – where the majority believe inflation will be more volatile, but not persistently higher – and the proportion of reserves managers expecting price rises to remain sustainably higher rises to nearly 60%. Just 20% of respondents now believe that the spike in inflation will be transitory, the line followed by many senior central bankers over the past 12 months.

RETURN OF INFLATION WILL NOT BE TRANSITORY

How will the rate of inflation evolve across most major economies over the next 24 months?

Share of respondents, %



Source: OMFIF GPI survey 2022

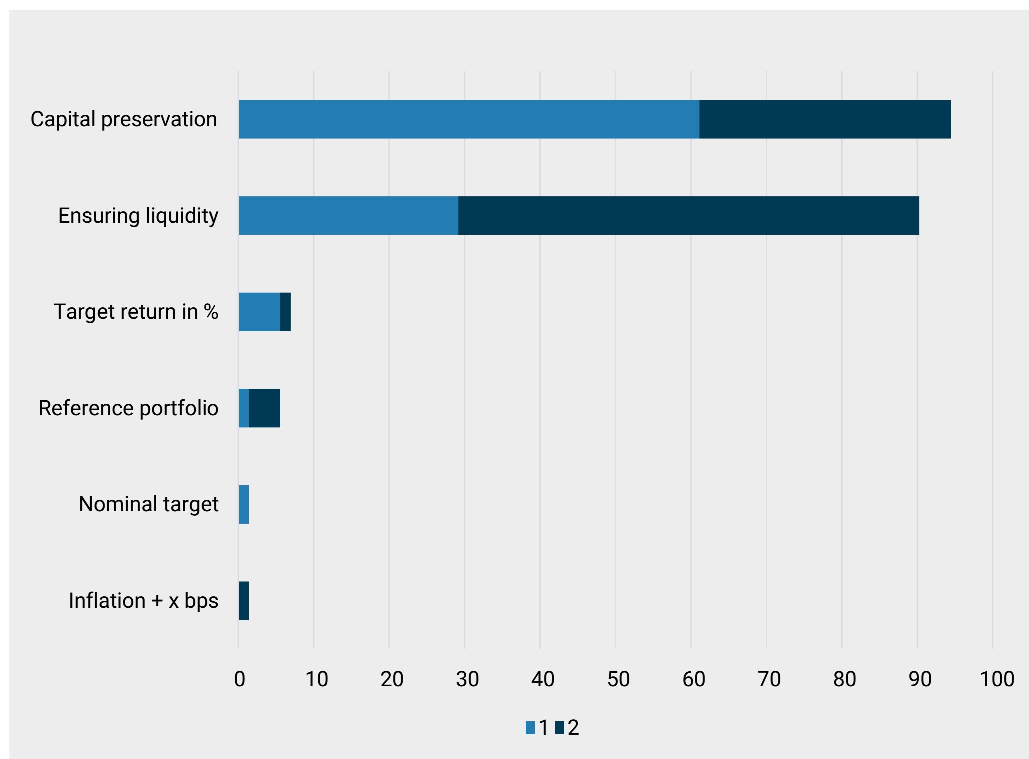
3

CENTRAL banks have traditionally been risk-averse investors, putting capital preservation and liquidity at the heart of their approach. Upheavals in the macroeconomic environment have only served to reinforce this. More than 90% of reserves managers cite capital preservation and ensuring liquidity as their top-two investment objectives. In our 2021 survey, capital preservation was a top-three objective for 75% of respondents. Capital preservation is also the most important factor in diversifying reserves, cited by 44%. Less than 30% of respondents in 2020 ranked capital preservation as a top-three factor in diversification. The question in the months and years to come for many reserves managers will be whether capital preservation actually equates to minimising capital losses.

CAPITAL PRESERVATION AND LIQUIDITY MORE IMPORTANT THAN EVER

Respondents' top-two most important investment objectives (1 = most important)

Share of respondents, %



Source: OMFIF GPI survey 2022

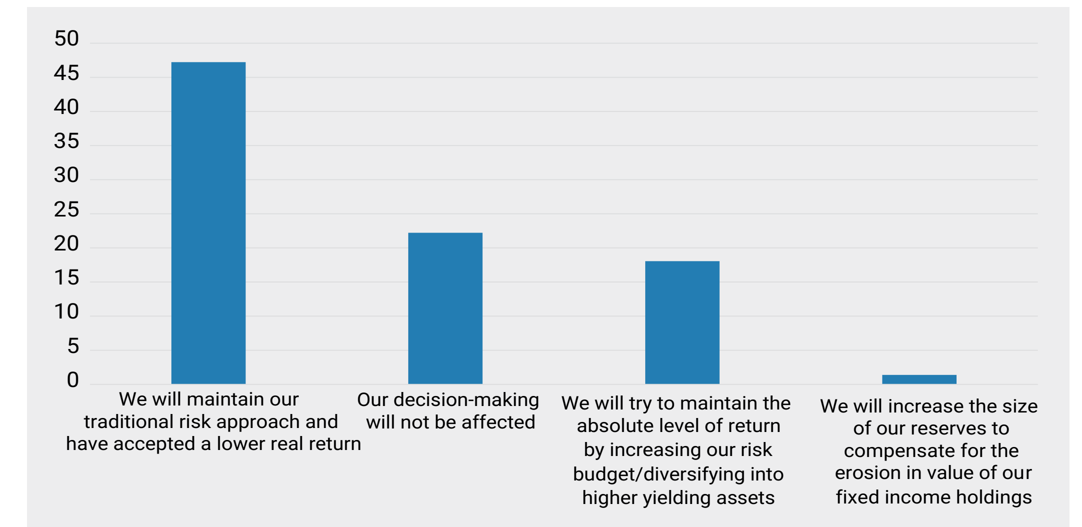
4

AROUND 70% of reserves managers say they will not make any fundamental changes to their investment approach despite the surge in inflation. Of these, two-thirds say they have accepted their real returns will fall. The remainder might consider that they are already well positioned for the longer term, or perhaps are hoping for the best. That doesn't mean reserves managers are going to just sit on their hands – a slight majority of respondents will become more active in their portfolio management. Expect that activity to involve marginal shifts in asset allocation, rather than major strategic changes, at least for the time being.

RISK-TAKING OFF THE AGENDA FOR MOST RESERVES MANAGERS

How will the elevated rate of inflation across most major economies affect your decision-making?

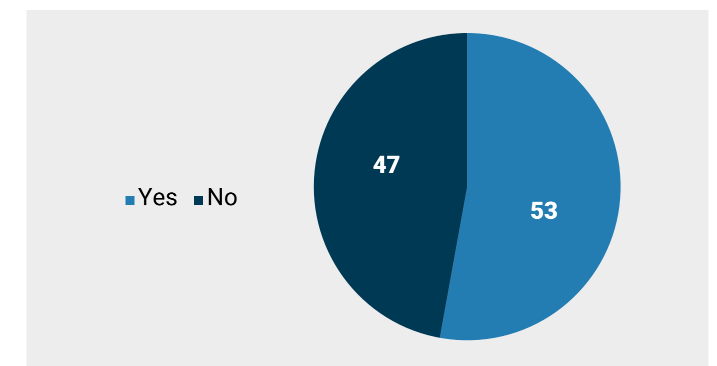
Share of respondents, %



CHANGES IN MACRO ENVIRONMENT WILL DRIVE MARGINAL PORTFOLIO SHIFTS

Do you anticipate that economic and market volatility will prompt you to adopt a more active approach to portfolio management?

Share of respondents, %



Source: OMFIF GPI survey 2022

5

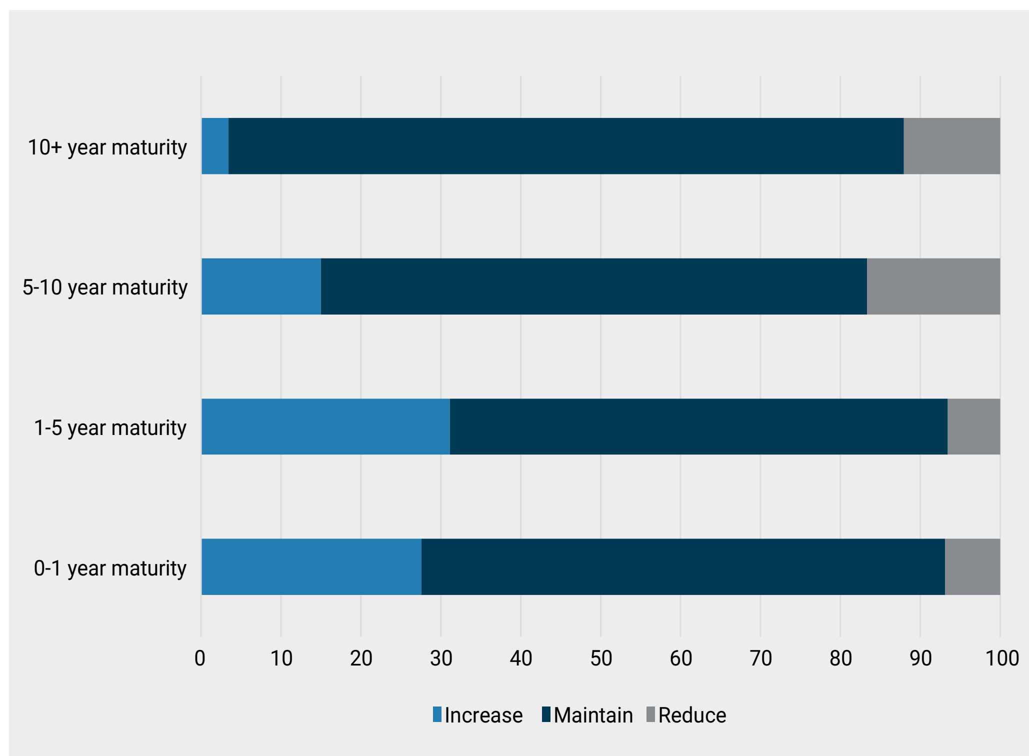
FIXED INCOME PORTFOLIOS SHIFT TO SHORTER DURATION

YEARS of ultra-low interest rates have seen government bond markets moving further along the maturity curve, with investors locking in higher returns via more duration. With liquidity at a premium, that trend could now be over. Reserves managers are set to reduce their holdings of longer-term debt, while moving into more liquid holdings at the shorter end of the curve. These anticipated shifts also mirror investors' expectations that inflation will remain higher for longer. In 2021, by contrast, bonds with maturities of more than five years showed a net positive shift in allocations.

RESERVES MANAGERS PLAN TO SHIFT OUT OF LONGER-TERM DEBT

Reserves managers' expectations to increase, reduce or maintain allocation to government bonds in the following categories

Share of respondents, %



Source: OMFIF GPI survey 2022

6

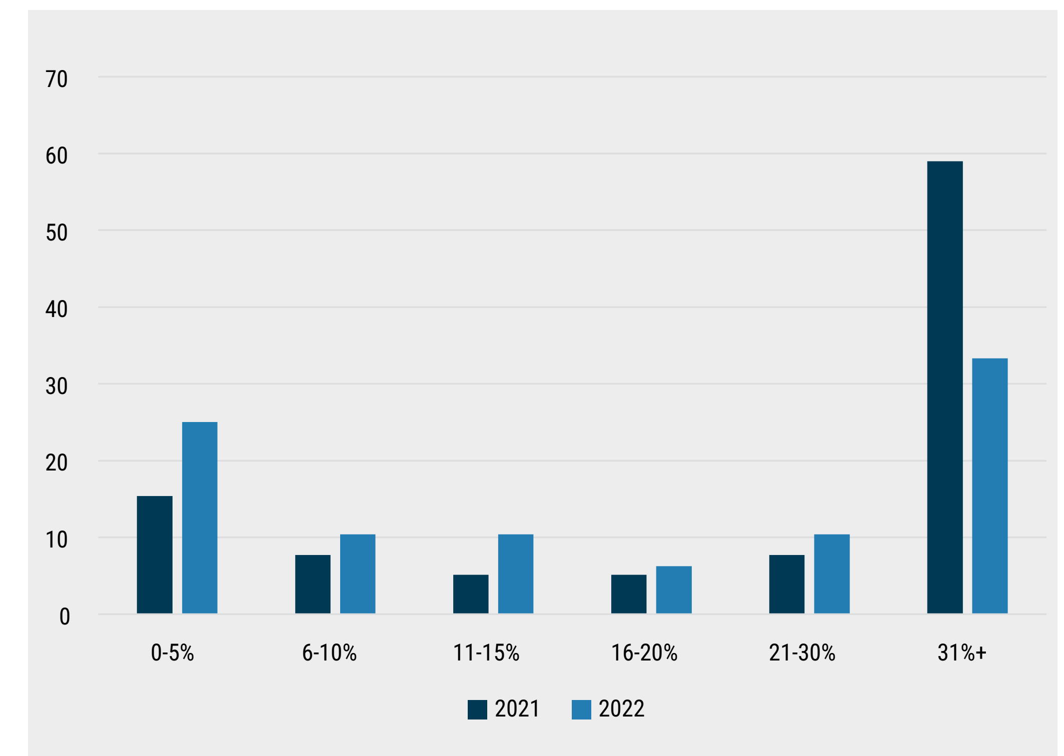
CENTRAL BANKS PREPARED TO USE FEWER RESERVES IN A CRISIS

SOME 49% of reserves managers see a case for continued accumulation of foreign exchange reserves, while only 16% do not. Almost 60% consider a draw-down of FX reserves as the most effective safety net during a period of stress, up from 47% last year. And yet the percentage that would deploy more than 30% of their reserves in the event of a currency crisis has almost halved, from 59% in 2021 to just 33% this year. Almost as many would now be prepared to use only a minimal amount of reserves. Are central banks moving towards a position that deployment of reserves during currency crises is ineffective? And if so, are they prepared to put more reserves to work in order to generate returns?

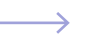
CENTRAL BANKS MORE CAUTIOUS ABOUT DEPLOYING RESERVES

What is the maximum share of your reserves you would be willing to use in the event of a currency crisis?

Share of respondents, %



Source: OMFIF GPI survey 2021-22



7

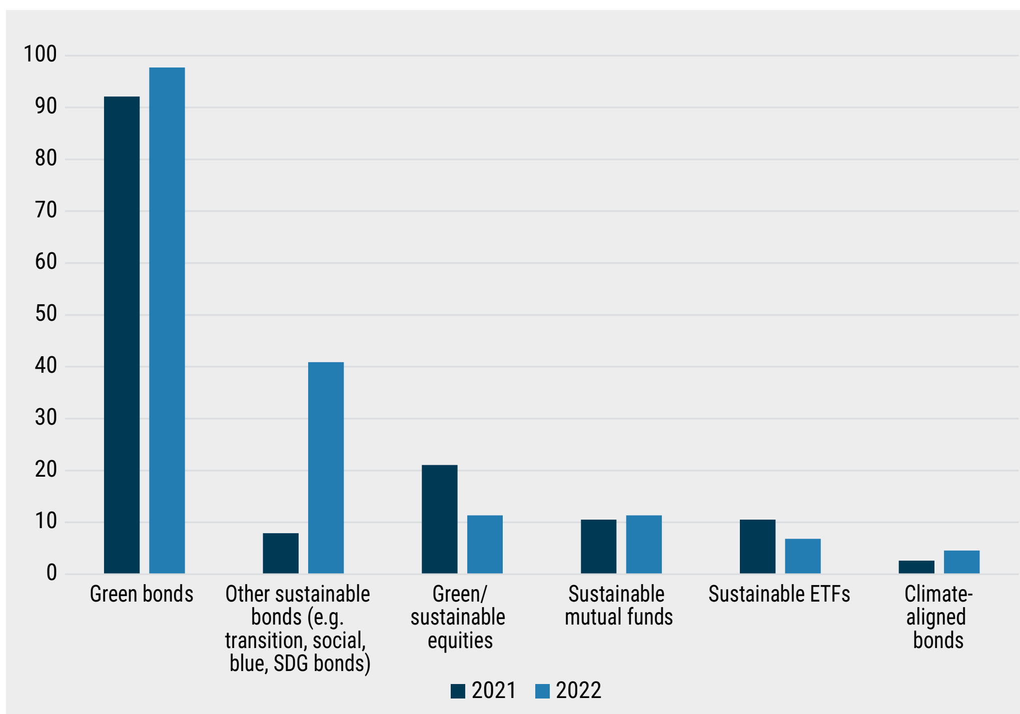
GREEN BONDS ARE BECOMING A UNIVERSALLY ACCEPTED ASSET CLASS

OF the reserves managers that responded to this year's survey section on holdings of ESG assets, just one – from a conflict-torn developing market – does not have any green bonds in its portfolio. Interest in other forms of sustainable assets, such as social bonds, has grown rapidly over the past 12 months, with more than 40% of central banks now owning them. The proportion of reserves managers that do not implement environmental, social and governance criteria in their investment approach is falling, from over 50% in 2020 to 43% in 2022. That's the positive news. But barriers remain. The problems caused by lack of relevant and accurate data or information – long a critical failing of the drive for ESG investment – are actually growing. More than 60% cite lack of data as a major issue, compared to less than 50% in 2022. It seems likely that, as reserves managers invest more, they are becoming more familiar with the difficulties of monitoring their ESG portfolios.

ALLOCATIONS TO NEW FORMS OF SUSTAINABLE BONDS RISE SHARPLY

Which sustainable assets do you invest in?

Share of respondents, %



Source: OMFIF GPI survey 2021-22

8

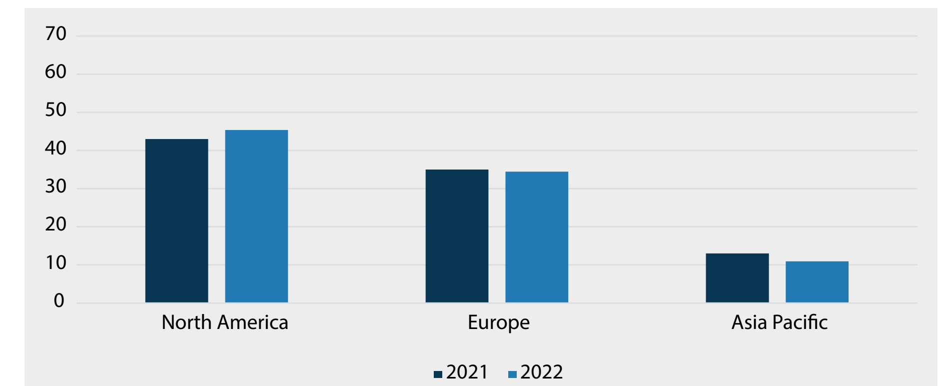
RESERVES MANAGERS MAY STRUGGLE TO EXECUTE ASSET ALLOCATION PLANS IN ASIA

ASIA PACIFIC remains the favoured destination for further investment for many reserves managers. More than 33% plan to increase their allocations to the region. But assets to invest in can be hard to find. This year's research shows that the aggregate portfolio invested in Asia actually fell compared to 2021, to 11% from 13%. That's despite the fact that, in last year's survey, more than 40% of respondents said they planned to increase their holdings in the region. External managers report that many official institutions in Asia are changing their mandates to invest more in overseas markets because they lack investment opportunities in their domestic markets. The competition for Asian assets is therefore likely to be fierce, leaving many reserves managers disappointed.

ALLOCATIONS TO ASIA PACIFIC DECLINE...

What percentage of your total portfolio is invested in the following regions?

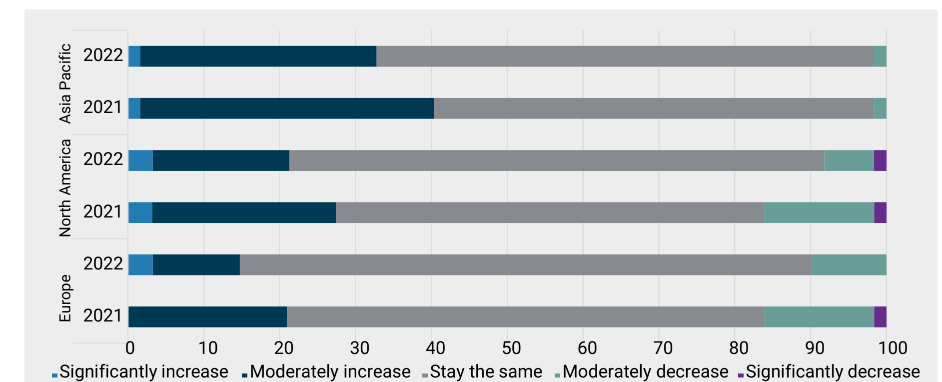
Average response, %



...WHILE REMAINING TOP OF RESERVE MANAGERS' EXPECTED INVESTMENT PLANS

Reserves managers' expectations to increase, reduce or maintain exposure to the following regions

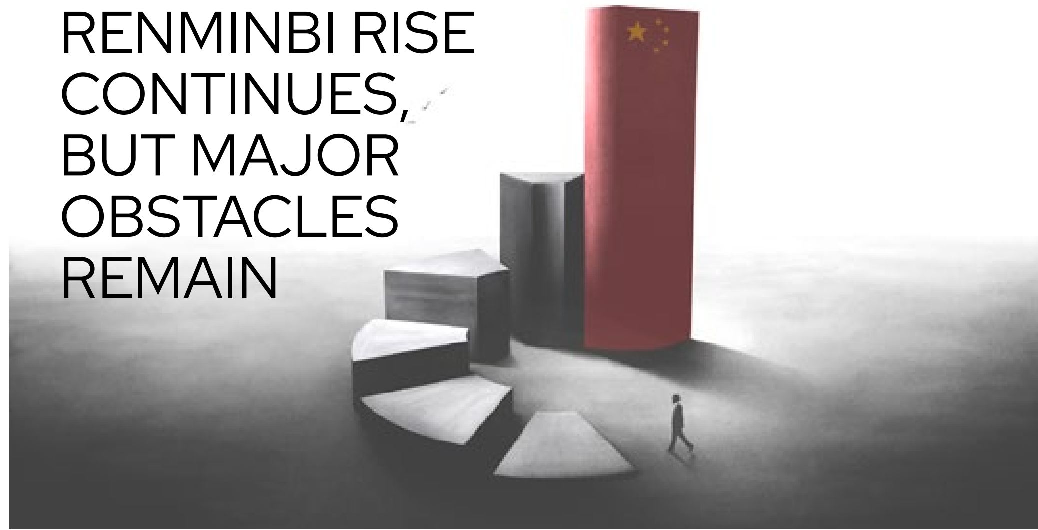
Share of respondents, %



Source: OMFIF GPI survey 2021-22

9

RENMINBI RISE CONTINUES, BUT MAJOR OBSTACLES REMAIN



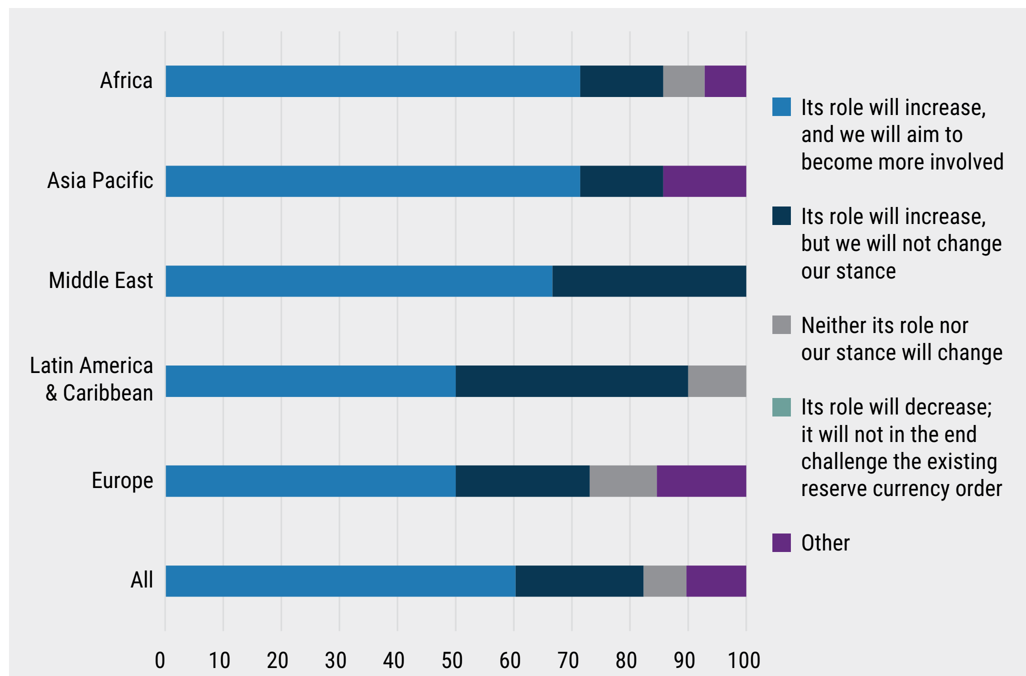
ALLOCATIONS to renminbi reserves rose year on year, from 1.75% to 2.5%. In Asia Pacific and Africa, close to 5% of all reserves are now held in the Chinese currency. Around 30% of respondents plan to increase their renminbi holdings, a small rise on last year. Diversification, the increasing importance of China in the global economy and higher yields are all cited as factors encouraging central banks to invest more in Chinese assets. More than 80% of reserves managers who answered our survey questions on China now own Chinese government bonds.

But there are signs that the rise of the renminbi is slowing. Some 60% of respondents in 2022 say the role of the renminbi as a reserve currency over the next 10 years will increase, and they will become more involved, compared to almost 70% holding that view last year. And geopolitical concerns are the top reason why reserves managers might not invest more in China (71%), closely followed by poor market infrastructure (63%).

RISE OF THE RENMINBI MAY BE STARTING TO SLOW

How do you see the role of the renminbi as a reserve currency developing over the next 10 years, and how will you respond?

Share of respondents, %



Source: OMFIF GPI survey 2022

10

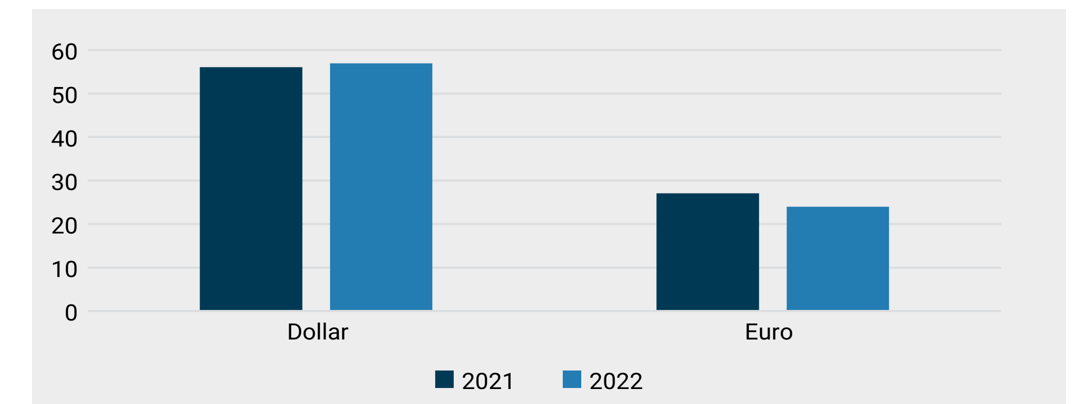
EURO STRUGGLING TO GAIN TRACTION AS RESERVE ASSET

NEXT Generation EU bonds were launched to great fanfare in 2021, a new €750bn borrowing programme which would not only rebuild Europe post-Covid-19, but also transform the region's bond markets and promote the euro's position as a reserve asset. But just 13% of reserves managers surveyed have purchased NGEU bonds to date, including only 27% of European central banks. The euro's share of currency allocations fell slightly this year, to 24% from 28%. However, close to 50% of respondents believe NGEU bonds will become a permanent feature of reserves portfolios in the future, and 67% think that plans to issue one-third of all NGEU bonds in sustainable format will boost the global green bond market.

ALLOCATIONS TO EURO ASSETS HAVE DECLINED OVER THE PAST 12 MONTHS

What percentage of your portfolio is allocated to the following currencies?

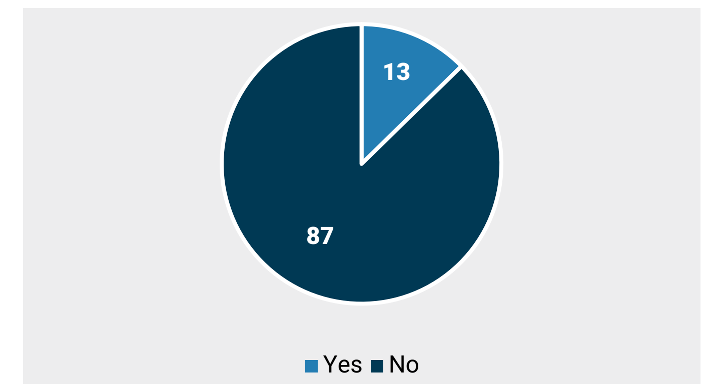
Average response, %



MOST RESERVES MANAGERS HAVE SO FAR SHUNNED NGEU BONDS

Have you purchased bonds from Next Generation EU since issuance began in 2021?

Share of respondents, %



Source: OMFIF GPI survey 2021-22

RESERVES MANAGERS FACE TOUGH NEW PARADIGM

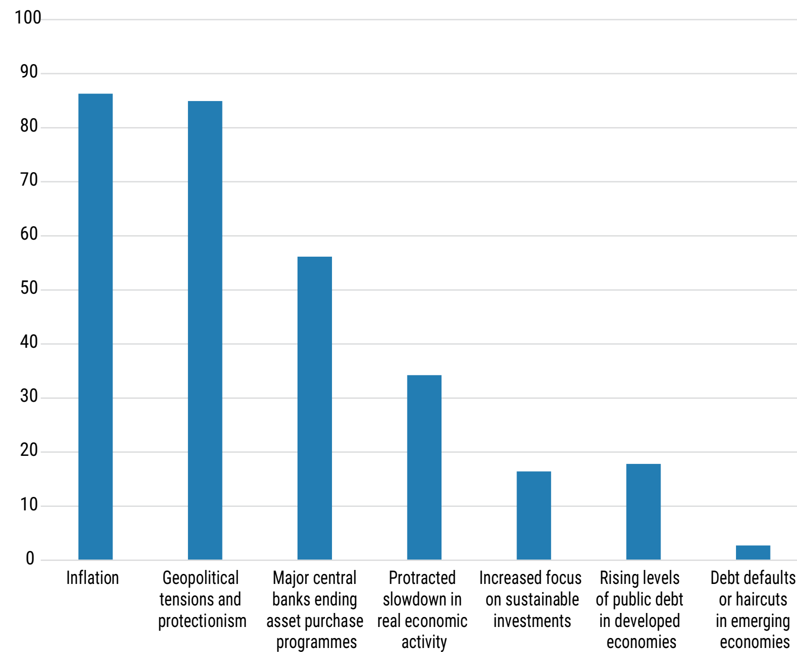
Heightened volatility, risk and uncertainty. The return of inflation. Another economic slowdown. The macroeconomic environment for central bank investors has been upended. By Neil Williams and Taylor Pearce.

A year ago, the central theme of OMFIF's annual Global Public Investor was GPIs' continued drive towards portfolio diversification in a lower-for-longer interest rate environment. Last year, 76% of reserves managers listed major central banks moving further into negative rate territory as a primary concern, while only 16% reported geopolitical tensions and protectionism as one of the most important channels affecting reserves management. Inflation was not yet a major concern for most.

This year's findings could not be more different. Even before the Russian invasion of Ukraine, winding down pandemic emergency measures and prolonged supply chain disruptions posed daunting challenges for policy-makers. And yet, before markets had fully recovered from

1. INFLATION AND GEOPOLITICAL TENSIONS DOMINANT FACTORS AFFECTING RESERVES MANAGEMENT

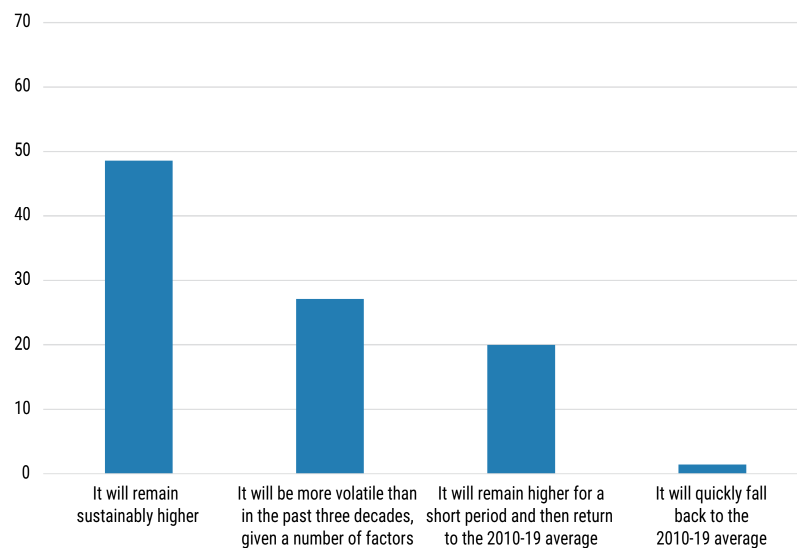
What do you see as the most important factors affecting reserves managers in the current economic environment? Share of respondents, %



Source: OMFIF GPI survey 2022

2. HIGH, VOLATILE INFLATION EXPECTED OVER SHORT TERM

How do you anticipate the rate of inflation will evolve across most major economies over the next 24 months? Share of respondents, %



Source: OMFIF GPI survey 2022

the 'once-in-a-lifetime' pandemic shock, they were thrust into a new paradigm – one of exponentially heightened volatility, risk and uncertainty. Skyrocketing commodity and energy prices stemming from the war in Ukraine have led to the highest inflation rates in a generation in most major economies. Swift and decisive sanctions from the West led Russia to become a pariah of global financial markets and payment systems overnight, further fragmenting the global economy.

As a result, central bank reserves managers are preparing for an environment of rising inflation and geopolitical risk. Higher inflation is expected by most, with a significant share appearing to expect stagflation.

Our survey findings suggest that, by far, the bulk of respondents consider inflation (86%) and geopolitical tensions (85%) to be the dominant factors affecting their operations (Figure 1). Across all regions, the majority expects inflation to remain high (49%) and/or volatile (27%) over the coming two years. This is consistent with the forecast horizon of most central bank interest rate setters. Within that time, though, more than 20% expect it to return to the pre-Covid-19 levels (Figure 2).

We found considerable regional divergence on inflation expectations, specifically between Asia and the rest of the world. While 60% of reserves mangers in the Asia Pacific region anticipate inflation in 2023-24 being more volatile than in the past three decades, only 18% of respondents from the rest of the world expected such prolonged volatility. Furthermore, while only 13% of respondents in Asia Pacific predicted that inflation will remain sustainably higher, 58% of respondents from other regions expected heightened inflation to remain over the short term. This most likely reflects the region's calmer economic waters and relative detachment from the war in Ukraine.

Consistent with heightened inflation expectations are respondents' other concerns of a protracted growth slowdown, partly as a legacy of Covid-19 – 90% still see the pandemic as a major driver of economic activity.

In the current monetary tightening cycle (rate rises, the end of quantitative easing and moves towards active quantitative tightening), this is understandable. As is the fact that, with

90%
still see Covid-19 as a major driver of economic activity

57%
of reserves managers do not believe central banks' monetary policy should be actively reconsidered

49%
of respondents expect inflation to remain high over next two years

20%
of respondents expect inflation to return to pre-Covid-19 levels over next two years

these processes underway and new factors in play (notably the war in Ukraine), the influence of monetary policy in the macro environment is considered slightly weaker than it was last year. The percentage of respondents who reported that monetary policy is having an excessive influence on financial markets and pricing fell to 64% this year from 75% in 2021 (Figure 3). There is debate as to how severe overheating might be: further policy tightening is anticipated, but this suggests it may be no more, and possibly less, restrictive than money markets expect.

Correspondingly, 55% of respondents highlighted 'major central banks ending asset purchasing programmes' as one of the most important factors affecting reserves management (Figure 1). Sentiments surrounding QE were mixed, with some more critical than others. One respondent commented that QE was 'creating price bubbles', with another maintaining that 'the level of intervention within the market by major central banks (pumping cash into financial systems) has led to overpricing of some financial instruments.'

Others, while still insisting that QE should be reconsidered, remain more sanguine. 'Huge monetary stimuli adopted during the global financial crisis and Covid-19 pandemic have inevitably influenced the cost of money significantly,' one commented, emphasising that 'gradual exits from such policies affect the financial markets markedly as expected.' Another respondent remained confident that 'the influence of monetary policy will wane as conditions normalise.'

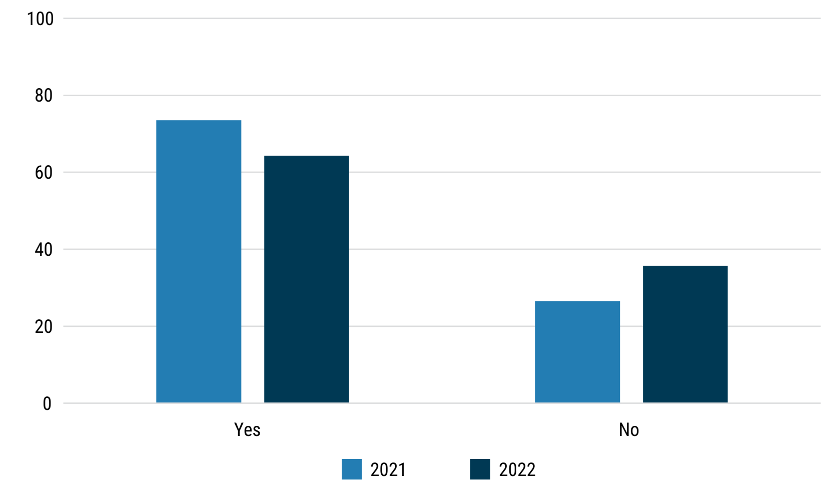
Despite sentiment that monetary policy is having an excessive influence on markets and pricing, the majority of reserves managers do not believe central banks' monetary policy should be actively reconsidered (Figure 4). This is similar to last year's share, decreasing by only three percentage points (from 58% in 2021).

Respondents' comments back this up. One maintained that this influence is 'inevitable, given the unpredictable impact of Covid-19, inflation, geopolitical tensions and other factors have had on economies and the need for interventions.' Another noted, 'Although it can be reconsidered to minimise the volatility it may create, it seems hard to remove such influence totally.'

Given these emerging themes, for those affected there is acceptance that little can usefully be done to break the link between monetary policy announcements and market reaction – especially given QE – such that current arrangements should not be reconsidered. In tandem, these factors are contributing to an increasingly complex macro environment, as policy-makers and market practitioners enter uncharted territory. •

3. INFLUENCE OF MONETARY POLICY CONSIDERED SLIGHTLY WEAKER THAN LAST YEAR

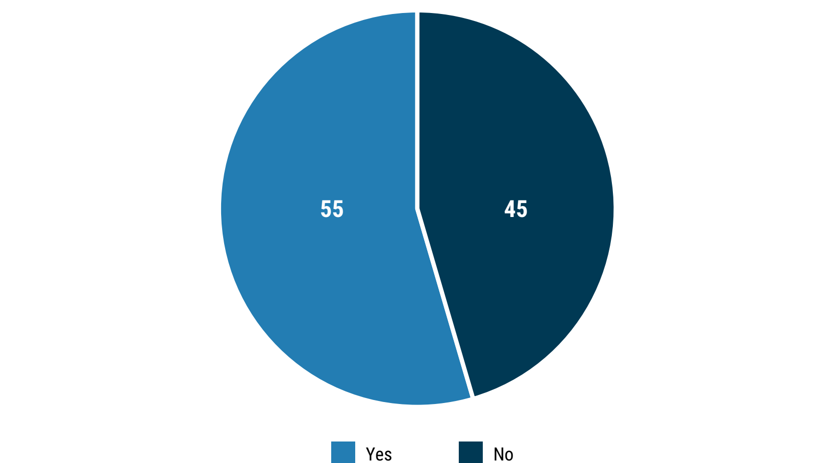
Do you believe that monetary policy is now having an excessive influence on financial markets and pricing? Share of respondents, %



Source: OMFIF GPI survey 2021-22

4. AMBIGUITY ON WHETHER CURRENT MONETARY ARRANGEMENTS SHOULD BE RECONSIDERED

Do you believe that monetary policy needs to be actively reconsidered to remove this influence? Share of respondents, %



Source: OMFIF GPI survey 2022

"CENTRAL BANK RESERVES MANAGERS ARE PREPARING FOR AN ENVIRONMENT OF RISING INFLATION AND GEOPOLITICAL RISK. HIGHER INFLATION IS EXPECTED BY MOST, WITH A SIGNIFICANT SHARE APPEARING TO EXPECT STAGFLATION.

SPONSOR'S COMMENT

Amundi
ASSET MANAGEMENT

RENMINBI'S RISE WILL NOT CHALLENGE DOLLAR DOMINANCE

International monetary system set to become multipolar as geopolitics becomes an increasingly important factor, writes Didier Borowski, head of global views, Amundi Institute.

INFLATION'S return will impact the strategic allocation of all long-term investors, especially central banks and sovereign funds. The Federal Reserve is normalising monetary policy swiftly, which has caused a rapid rise in long-term interest rates in the US and, to a lesser extent, Europe. This has helped strengthen the dollar.

At the same time, a sharp economic slowdown (or even recession) seems to be on the cards in both Europe and, possibly, the US. This would give many investors the opportunity to reposition themselves in US Treasuries. At current levels, US bond yields are becoming more attractive compared to Chinese bond markets. This will increase if US inflation starts to slow, which is likely to happen by 2023.

Does this mean that the dollar will continue to dominate the international monetary system? This old question resurfaces from time to time. Despite major structural changes in the monetary system over the past 60 years, the dollar remains the dominant international reserve currency. Yet the dollar's share of global reserves has fallen to 59% from 71% in 1999, when the euro launched. This shows that central banks were gradually moving away from the dollar before Russia's war in Ukraine. Some expect this trend to continue or even accelerate as central banks in emerging economies seek to further diversify their reserves mix.

The freezing of the Russian central bank's assets following the invasion of Ukraine was a reminder to all sovereign investors that their allocation choices have a strategic dimension. The US administration – through Treasury Secretary Janet Yellen – is now promoting the concept of 'friend-shoring', whereby countries commit to working with others that adhere to a set of norms and values about how to operate in the global economy and how to manage the global economic system. Western countries, seeking to increase their resilience and strategic independence, will naturally take this argument into account. Recall that, historically, military strength and monetary dominance are intertwined. Countries around China will, for this very reason, seek to increase their exposure to the renminbi, at the expense of the dollar. The launch of the digital renminbi will certainly help them to do so.

The long-term impact the war in Ukraine will have on the international monetary system is uncertain. It depends on how countries react, as geopolitical factors will increasingly be taken into account. In a fragmented and multipolar world there can no longer be one dominant currency. There is no doubt that the renminbi will become more international, but this may be limited to a few countries. While the renminbi will play an increasingly important role, it will not supplant the dollar. •

> THE FREEZING OF THE RUSSIAN CENTRAL BANK'S ASSETS FOLLOWING THE INVASION OF UKRAINE WAS A REMINDER TO ALL SOVEREIGN INVESTORS THAT THEIR ALLOCATION CHOICES HAVE A STRATEGIC DIMENSION.

The Sustainable Policy Institute is a high-level community designed to meet the policy, regulatory and investment challenges posed by environmental, social and governance factors. Membership offers insight through Analysis and Meetings, drawn from the expertise of OMFIF's in-house specialists and global network of public and private sector members. The Institute publishes regular data, updates members on new developments and innovations and convenes discussions in a variety of formats to help shape the sustainability agenda.

omfif.org/spi

For membership enquiries, please contact Mingiyan.Shalkhakov@omfif.org

Sponsored by

NEUBERGER | BERMAN

TIME TO GET MORE ACTIVE?

In the face of short-term volatility, reserves managers are opting for longer-term strategies. By Neil Williams and Taylor Pearce.

HOW is the challenging macro environment impacting central bank reserves managers' investment objectives? And how might asset allocations shift as a result? This year's survey findings suggest that despite recognition of – and, to a large part, preparation for – a changing macro climate, the majority of reserves managers seem unfazed. Traditional approaches will generally be followed even if it means a lower return: the objective being to preserve capital, maintain liquidity and diversify.

When asked how the elevated rate of inflation across most major economies will affect their decision-making, 47% of this year's survey respondents answered that they plan to maintain their traditional risk approach and have accepted a lower real return. An additional 22% stated that their decision-making has not been affected at all.

Respondents were split on whether economic and market volatility will prompt them to adopt a more active approach to portfolio management,

with 53% stating yes and 47% answering no. This division was also reflected in respondents' comments. One insisted that 'higher volatility in the financial markets requires a more active management approach.' Another commented, 'We will try to adopt a more defensive strategy in order to guarantee capital preservation and enhance returns in the current conditions.'

Nevertheless, a sizeable share of respondents reported already having sufficiently active portfolio management practices. 'We adopt an active approach to a very small portion of reserves and we are not planning to make changes on this front,' noted one, a sentiment which was echoed by many others. It appears that reserves managers are opting for longer-term strategies, refraining from drastically changing course as a result of increased short-term volatility and heightened uncertainty.

Across the board, capital preservation stands out as the primary asset allocation objective this year, with 97% of reserves managers listing it as a top-three investment objective, and 61% listing it as the number one consideration (Figure 1). Ensuring liquidity was also listed by 97% as one of the top-three asset allocation considerations, with 29% listing it as their top investment objective. This has remained relatively consistent with previous years' findings, with 75% listing capital preservation as the top objective in 2021.

Capital preservation has risen drastically in importance for reserves managers. It is now the top reason for diversification of assets among our polling group and has increased to 72% from 29% in 2020, the largest rise (by percentage points) across categories.

Increasing risk-adjusted returns remains the number one reported driver of diversification, with 75% reporting it among their top-three considerations. Risk/volatility reduction remains a key objective for 68% of respondents, although capital preservation ranked slightly higher this year, a reversal of the previous two years' findings. Each of these points should be considered in a growing inflation environment. But their ascent as drivers of diversification started early and do not appear to be symptomatic of a sudden pick-up in inflation fear this year.

The composition of assets is also revealing, with traditional risk-on assets still in vogue (such as equities and emerging markets), and yet seemingly no rush for the door from less inflation-protected assets such as fixed income. Bonds (government, quasi-government and corporate) still comprise on average 55% of portfolio composition, with equities (3%), cash (17%) and gold (9%) remaining a sizeable share, meeting an array of diversification needs (Figure 3).

Unsurprisingly, most of the respondents (71%) invest in physical gold, with a few others investing indirectly via futures markets (6%) and mining industries (3%). Although gold's strong presence might be associated with dysfunctional economies – inflation build-up and/or default risk – its importance to reserves management this year appears to be consistent with previous years. In 2020, 71% directly invested in gold and only slightly fewer (65%) in 2021 (see Chapter 5).

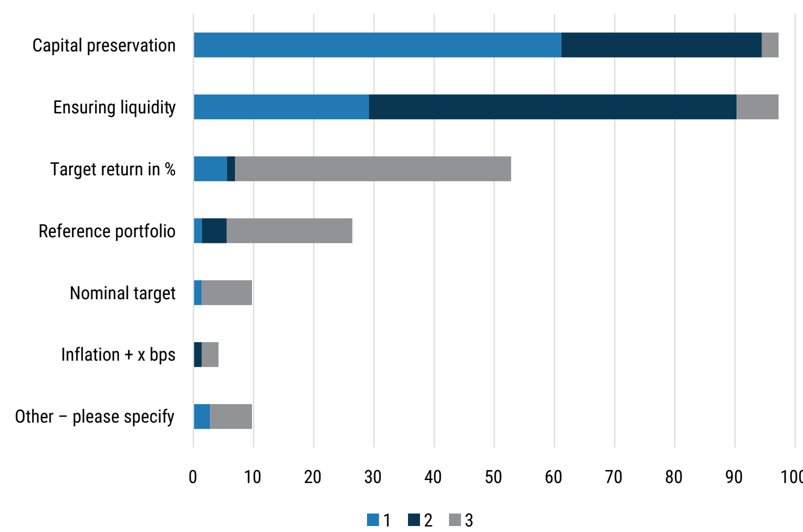
Notably, more traditional assets will be sought in the next one to two years, with an even greater allocation to bonds, equities and gold (Figure 4). A net increase of 22% is anticipated in government bonds, along with an 18% net increase in quasi-government bonds and a 20% net increase in corporate bonds. Net increases in gold and equities of around 18% and 14% respectively are also anticipated.

This is consistent with diversification, but it may surprise inflation seekers that bonds are higher and may surprise growth optimists that there will be only a moderate uplift in equities and gold. The only real downscaling is expected in cash, suggesting reserves mangers have thus far little trepidation of aggressively rising rates. This may also displease deflationists.

Compared with previous years, reserves managers' appetites for bonds over the next two years have increased across the board, as has

1. CAPITAL PRESERVATION AND LIQUIDITY STAND OUT AS PRIMARY ASSET ALLOCATION OBJECTIVES

What is your investment objective? Please rank top three in order of importance. Share of respondents, %

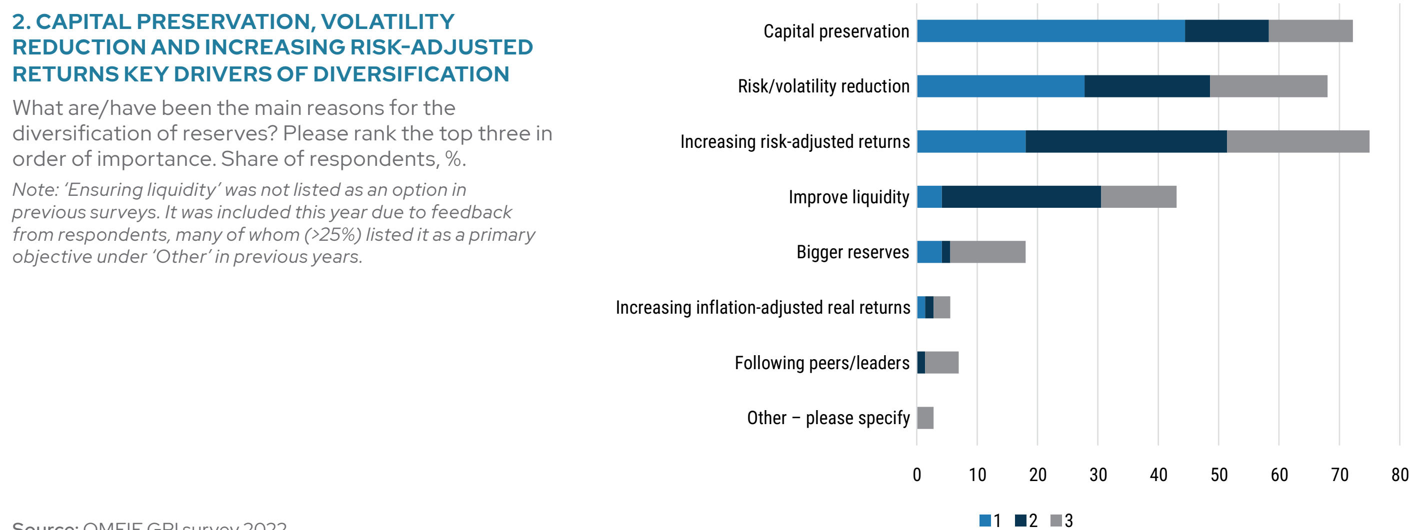


Source: OMFIF GPI survey 2022

2. CAPITAL PRESERVATION, VOLATILITY REDUCTION AND INCREASING RISK-ADJUSTED RETURNS KEY DRIVERS OF DIVERSIFICATION

What are/have been the main reasons for the diversification of reserves? Please rank the top three in order of importance. Share of respondents, %.

Note: 'Ensuring liquidity' was not listed as an option in previous surveys. It was included this year due to feedback from respondents, many of whom (>25%) listed it as a primary objective under 'Other' in previous years.

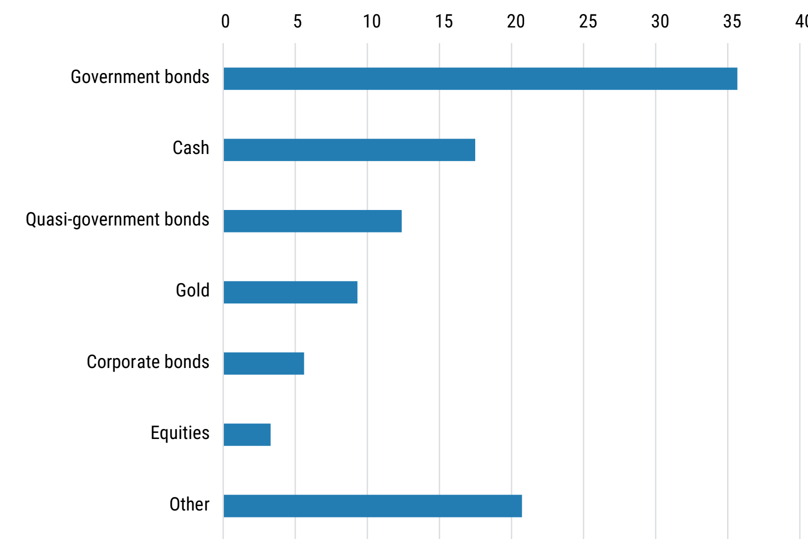


Source: OMFIF GPI survey 2022

3. PORTFOLIO COMPOSITION STILL FAVOURS TRADITIONAL ASSETS

Share of total portfolio invested in following asset classes. Average response, %

Note: 'Other' includes supranationals, special drawing rights, collateralised securities and fixed deposits.



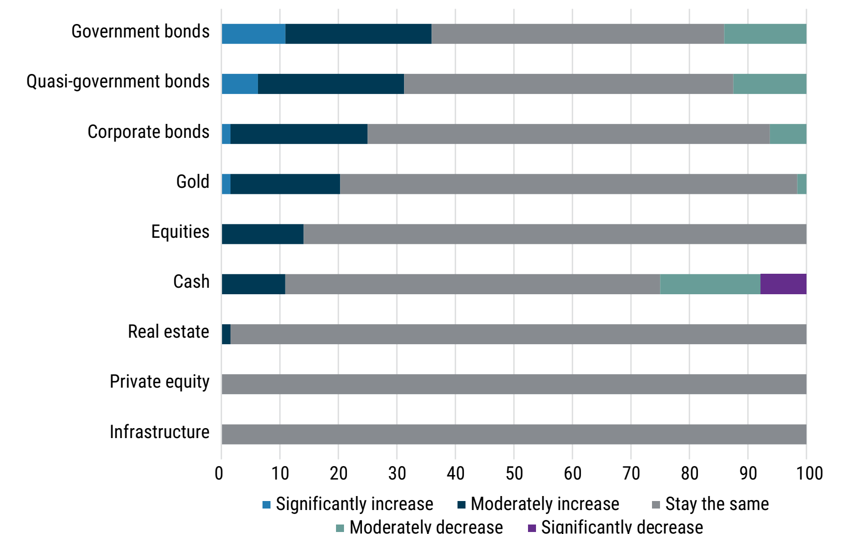
Source: OMFIF GPI survey 2022

PERCENTAGE OF RESERVE MANAGERS WHO INVEST DIRECTLY IN PHYSICAL GOLD:

2020:	2021:	2022:
71%	65%	71%

4. NO SIGNIFICANT FLIGHT FROM ASSET CLASSES LESS PROTECTED FROM INFLATION

Reserves managers' expectations to increase, reduce or maintain allocation to the following asset classes over the next 12-24 months. Share of respondents, %



Source: OMFIF GPI survey 2022

anticipated demand for gold (Figure 5). Equities and cash both saw a marginal net decrease, but neither looks substantially different to last year. As allocation intentions over the short term seem to be a continuation of previous trends, this suggests little obvious fear that monetary tightening will be aggressive.

Consistent with that is an intention to move down the spectrum in the next two years to shorter-maturity bonds (Figure 6). The anticipated move is true for all maturity categories under 10 years, while a net reduction of 9% is anticipated for more than 10-year maturity bonds. This looks in line with expectations of higher inflation, which would disproportionally impede longer maturities, and possibly of quantitative tightening. Respondents' comments echo this, with one expressing an intention to 'reduce the impact of the rising rates environment by shortening our portfolio's duration,' while others added that they plan to 'decrease duration exposure' and to shift towards 'shorter duration.'

There is a higher allocation expected for both triple-A (15% net increase) and non-triple-A (22% net increase) investment-grade sovereign debt (Figure 6). The only category where net reductions are expected is for sub-investment grade debt (around 9% net decrease). However, neither the small net reduction planned nor the more negative stance compared with 2021 appears to be a sign of sudden risk aversion.

DEVELOPED MARKET CURRENCIES AND ASSETS STILL FAVOURED FOR NOW

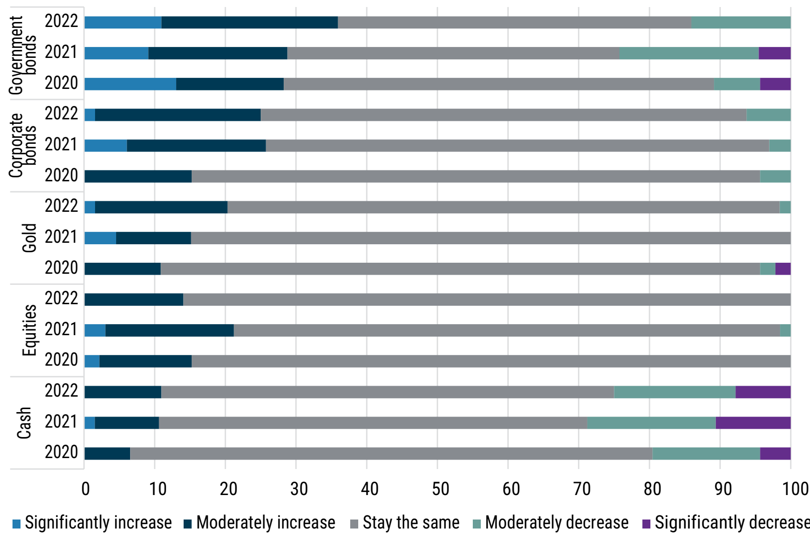
At least three other aspects seem to rule out increasing risk aversion in response to changing events. These also seem consistent with a continuation of longer-term strategies, rather than any short-term panic.

First, while exposure to developed markets outweighs that to traditionally higher-risk emerging markets by a factor of 10, this is relatively unchanged from last year. This year's reported portfolio allocation among survey respondents averaged 9% investment in emerging markets versus 90% in developing markets, compared with 10% and 87% respectively in 2021.

In 2023-24, North American assets are expected to lose some ground to the Asia Pacific region, which stands out as the main gainer (Figure 8). But for now, the US is still highly favoured even within developed market allocations, with exposure to the North America region increasing to average 45% of regional portfolio composition, slightly higher than last year's figure (43%).

5. EVEN GREATER ALLOCATION TO BONDS, EQUITIES AND GOLD EXPECTED OVER SHORT TERM

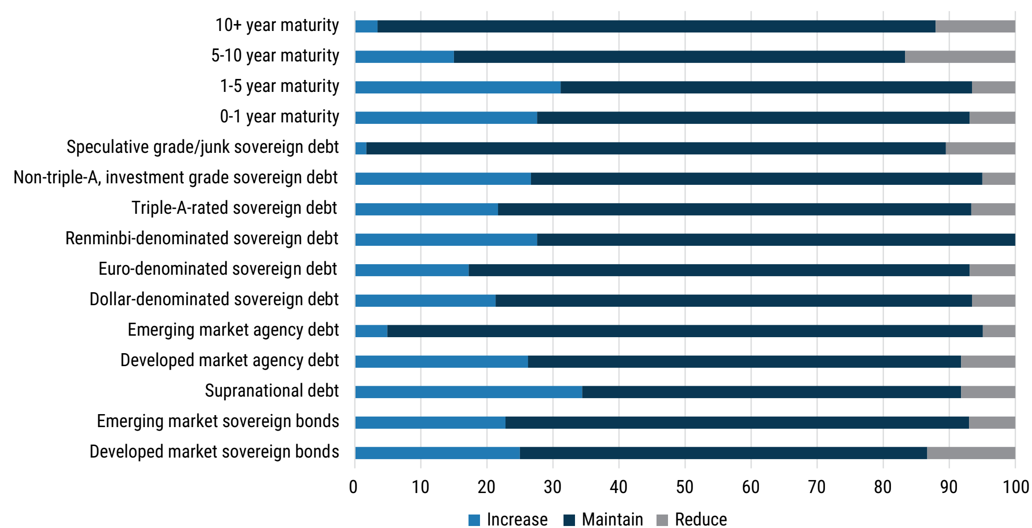
Reserves managers' year-on-year expectations to increase, reduce or maintain allocation to the following asset classes over the next 12-24 months. Share of respondents, %



Source: OMFIF GPI survey 2020-22

6. MOVE TOWARDS SHORTER-MATURITY BONDS EXPECTED OVER SHORT TERM

Reserves managers' expectations to increase, reduce or maintain allocation to following categories of government bonds over the next 12-24 months. Share of respondents, %

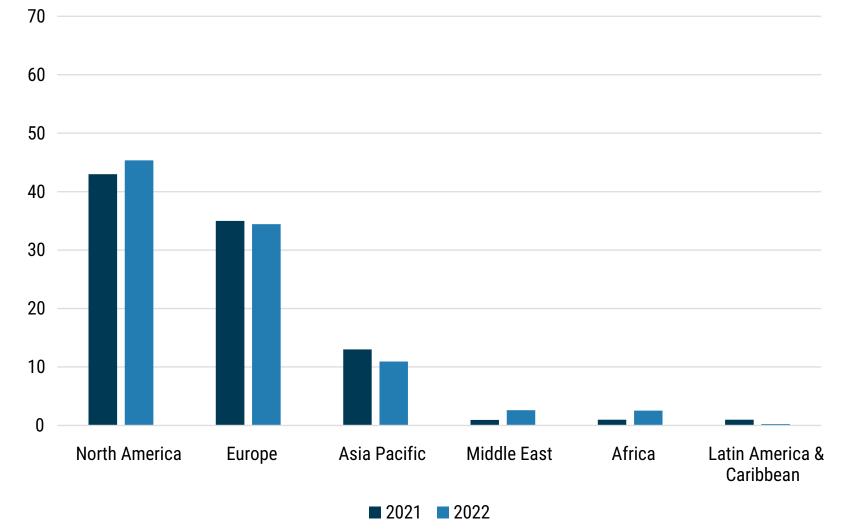


Source: OMFIF GPI survey 2022

7. NORTH AMERICA STILL MOST FAVOURED REGION FOR PORTFOLIO INVESTMENT

What percentage of your total portfolio is invested in the following regions? Average response, %

Note: Remainder (>5%) invested in supranationals, special drawing rights and gold

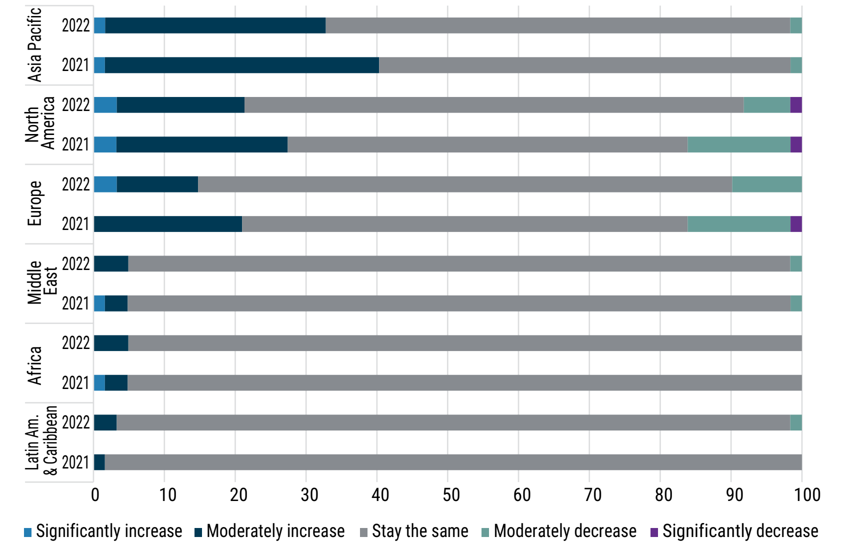


Source: OMFIF GPI survey 2021-22

8. ASIA PACIFIC REGION STANDS TO GAIN MOST OVER SHORT TERM

Reserves managers' expectations to increase, reduce or maintain exposure to following regions over the next 12-24 months. Share of respondents, %

Note: Russia and Turkey both classified as Europe



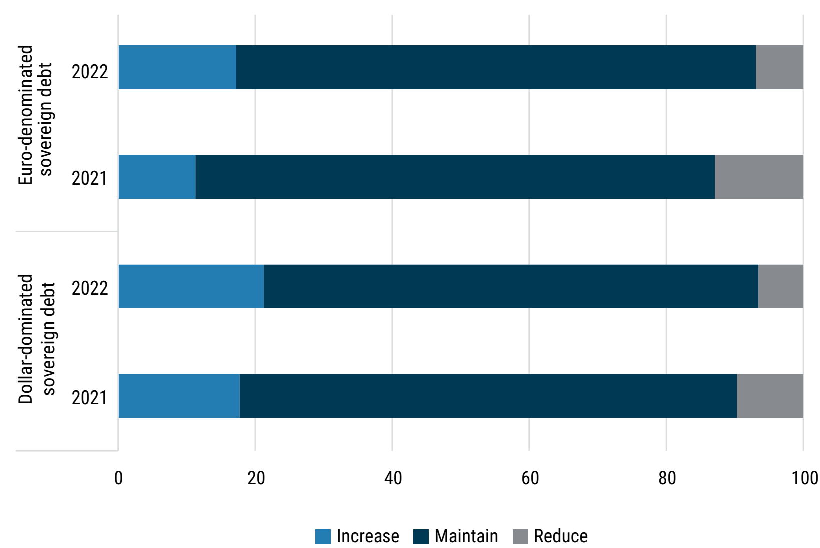
Source: OMFIF GPI survey 2022

"

THE US IS STILL HIGHLY FAVOURED EVEN WITHIN DEVELOPED MARKET ALLOCATIONS, WITH EXPOSURE TO NORTH AMERICA INCREASING TO AVERAGE 45% OF REGIONAL PORTFOLIO COMPOSITION.

9. DOLLAR-DENOMINATED SOVEREIGN DEBT FAVOURED OVER EURO IN THE SHORT TERM

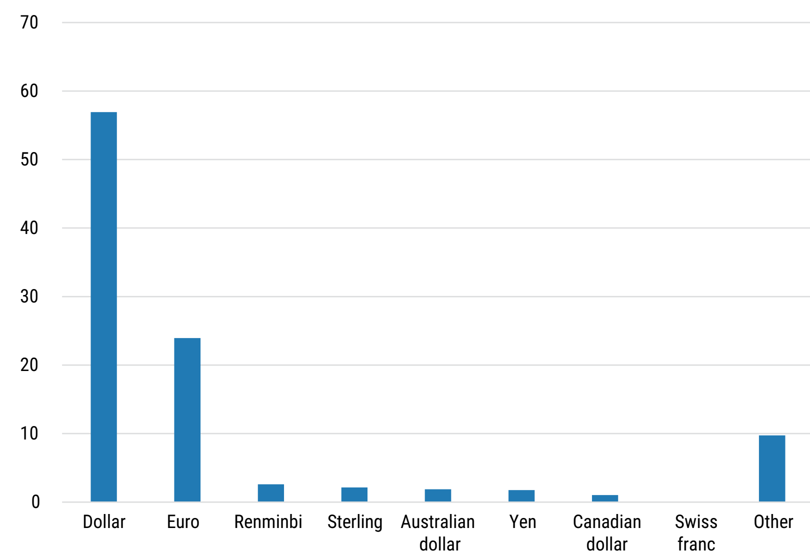
Expected portfolio allocation to government bonds over next 12-24 months. Share of respondents, %



Source: OMFIF GPI survey 2021-22

10. DOLLAR REMAINS CURRENCY KING

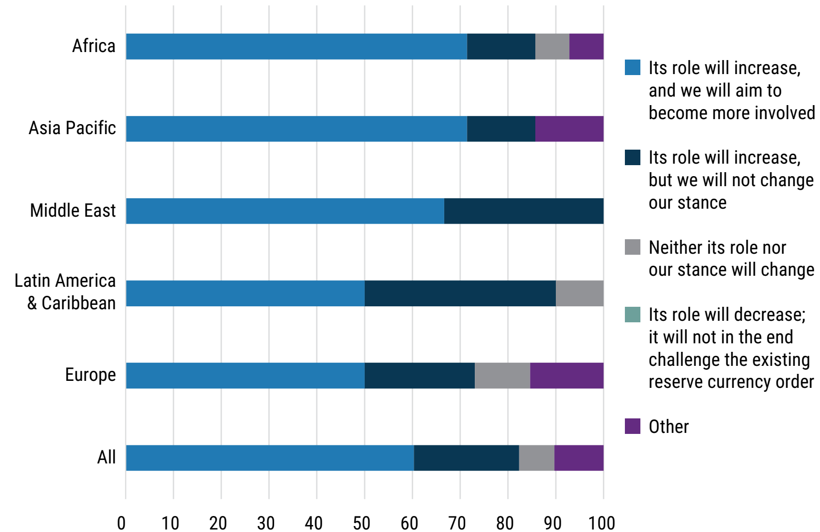
Portfolio allocation to following currencies. Average response, %



Source: OMFIF GPI survey 2022

11. RENMINBI ROLE ANTICIPATED TO INCREASE ACROSS ALL REGIONS

How do you see the role of the renminbi as a reserve currency developing over the next 10 years? How will you respond? Share of respondents, %

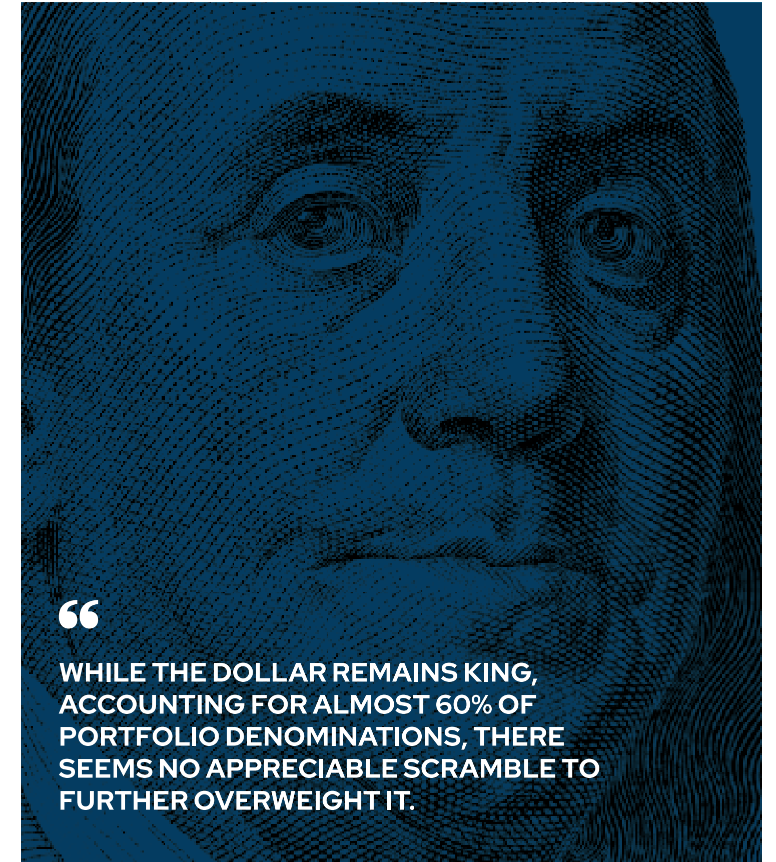


Source: OMFIF GPI survey 2022

Within sovereign debt, those hoping for a strong shift from US to euro area bonds might be disappointed: the survey revealed an anticipated 10% net increase in euro-denominated sovereign debt this year compared with a 15% net increase in dollar-denominated sovereign debt. This is a slight increase in anticipated investment in euro-denominated debt, but interest in dollar debt is still greater than that in euro debt, which was also the case in 2021 (Figure 9).

Second, while the dollar remains king, accounting for almost 60% of portfolio denominations, there seems no appreciable scramble to further overweight it (13% net increase anticipated). This looks true of other traditional 'safe-haven' currencies, such as the Japanese yen (>2% net decrease) and Swiss franc (>2% net increase). Sterling's status is expected to change little (>4% net increase), again accounting for only 2% of respondents' global portfolios (see Chapter 5).

Perhaps more telling is the approximately 30% intended net increase in renminbi exposure from 2021's 2.5% levels. The main driver is belief that the renminbi will assume a greater role as a reserve currency (87%), which looks circular, and thus potentially self-fulfilling. This view extends across regions (Figure 11). For all jurisdictions, the renminbi's attractions are its expected role in world trade (73%) and diversification potential (81%). Offsetting only some of that, geopolitics (71%) and poor market infrastructure (63%) look to be the main impediments to its wider use (see Chapter 5).



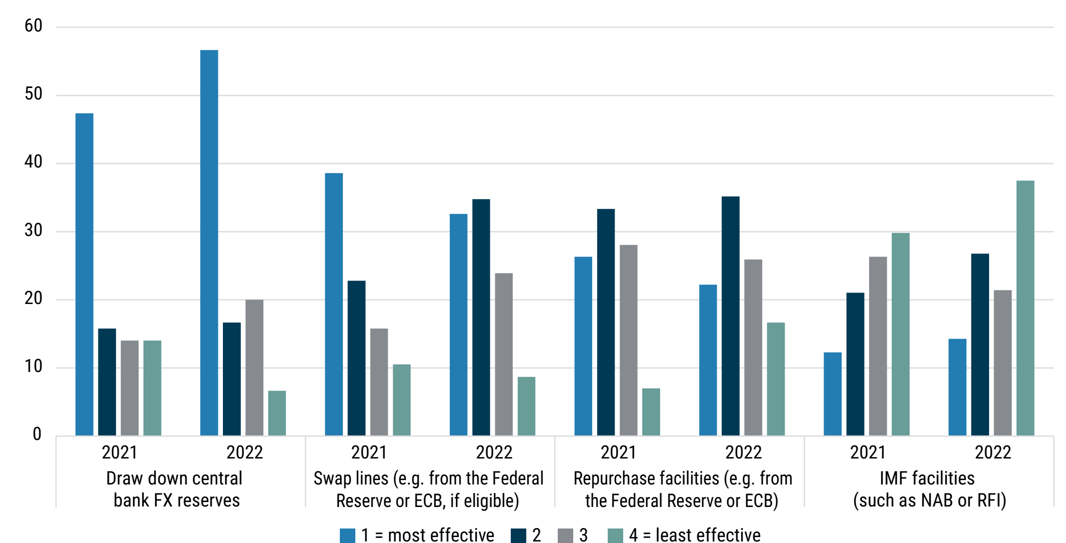
EQUIPPING CENTRAL BANKS FOR FUTURE CRISES

The third and final clue that suggests reserves managers are taking a longer-term approach pertains to the use of – and willingness to deploy – accumulated reserves. Doubtless reflecting previous planning, reserves appear more than sufficient and diversified to address any future currency-led crises.

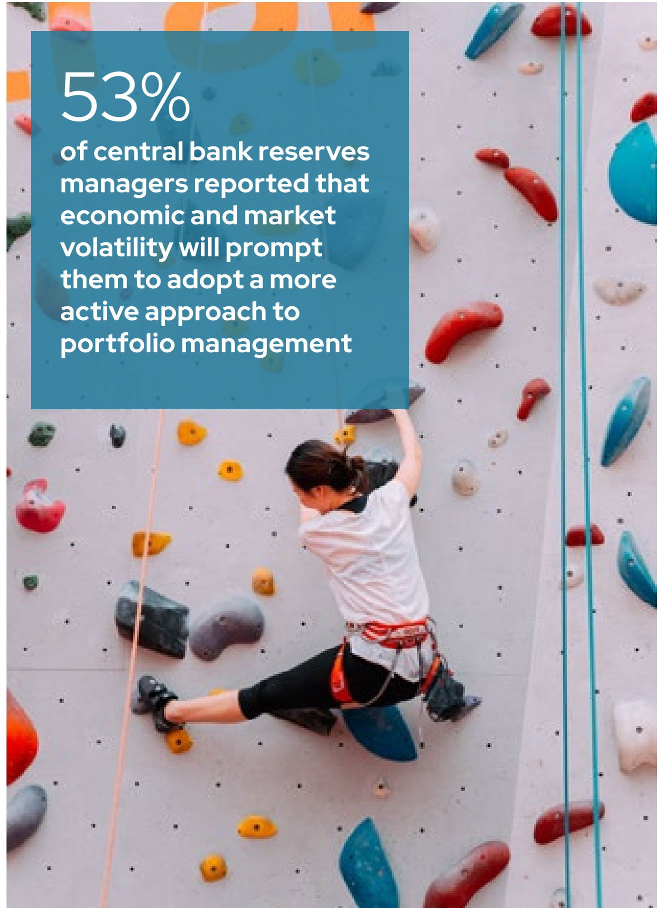
The sufficient accumulation and diversification of reserves is reflected in survey respondents' perception of drawing down reserves as the most effective element of the global financial safety net in a crisis. In contrast, swap lines and repurchase facilities from the Federal Reserve and/or European Central Bank, as well International Monetary Fund facilities, decreased in importance (Figure 12). Perhaps suggesting a reluctance to rely on

12. DRAWING DOWN FOREIGN EXCHANGE RESERVES BECOMING MORE IMPORTANT

Please rank the following elements of the global financial safety net in order of potential effectiveness during a period of stress. Share of respondents, %



Source: OMFIF GPI survey 2021-22



outside assistance or fearing negative signalling effects, 49% of reserves managers reported seeing a case for continued foreign exchange reserves accumulation, even as reserves reached their highest (nominal) levels this year, increasing by 5% from 2021 to total $16.17tn. Only 16% did not see a case for continued accumulation, and 35% remained uncertain.

The share of respondents reporting the possibility of devoting 30% or more of reserves to stave off future crises (35%) is admittedly down on 2021 (59%). Nevertheless, it remains at a high level with fewer fixed currency pegs to have to defend, offering some reassurance about facing economic challenges.

Finally, further evidence of the sufficient diversification and accumulation of reserves is apparent in their other reported uses, such as managing currency ranges and addressing trade imbalances. The majority of central banks' reserves seem sufficient to also be used when required to move into riskier assets, with 71% reporting they deploy their excess reserves to do so (Figure 14). For many, this still leaves open the possibility of devoting 30% or more of reserves to stave off future crises (Figure 13).

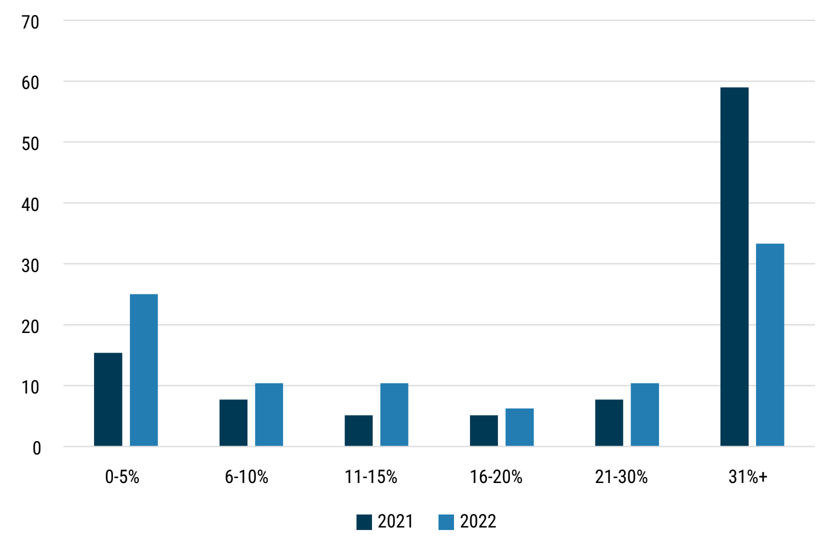
MINOR MOVES AMID MAJOR CHANGES

Overall, reserves appear more than sufficient and diversified to address any future currency-led crises. Gold and equities are still sought, presumably for inflation-cover. Yet, there seems little discernible flight from fixed income (government, quasi government, corporate bonds), nor from traditional risk-on assets (such as sub-investment grade and emerging markets). While many central banks expressed intentions to diversify in the future, developed-market currencies and assets, and particularly the US and dollar, remain most highly favoured.

All this suggests scepticism about underlying economic growth prospects, an easing in yield concerns after global bonds have 'cheapened' and, by moving towards shorter bond maturities, that money markets' rate-tightening expectations may be overdone. •

13. FEWER RESERVES MANAGERS WILLING TO USE GREATER THAN 30% OF RESERVES IN A SHOCK

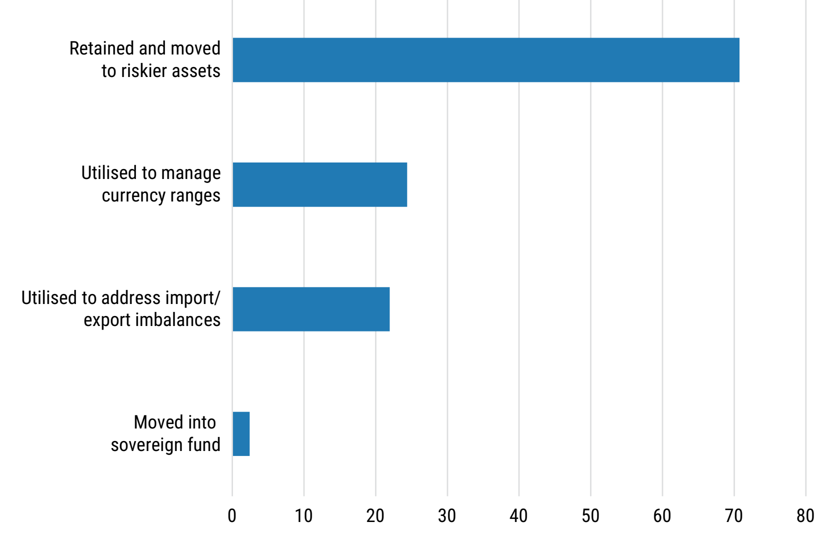
Maximum share reserves managers willing to use in the event of currency crisis. Share of respondents, %



Source: OMFIF GPI survey 2021-22

14. RESERVES ARE BEING DEPLOYED TO MEET OTHER OBJECTIVES

How are excess reserves currently deployed? Please select all that apply. Share of respondents, %



Source: OMFIF GPI survey 2022

> **"THIS YEAR'S REPORTED PORTFOLIO ALLOCATION AMONG SURVEY RESPONDENTS AVERAGED 9% INVESTMENT IN EMERGING MARKETS VERSUS 90% IN DEVELOPING MARKETS, COMPARED WITH 10% AND 87% RESPECTIVELY IN 2021.**

SPONSOR'S COMMENT

SWITCHING GEARS FOR AN UPHILL RIDE

Portfolios can be built to withstand a profoundly changed economic environment and return outlook without blowing through their risk constraints, write Jahangir Aka, head of official institutions, Ziling Jiang, head of EMEA institutional solutions, and Joe McDonnell, head of portfolio solutions EMEA, Neuberger Berman.

OMFIF's latest survey of global central banks revealed some predictable factors affecting reserves management in the current economic environment. Inflation, geopolitics and protectionism were the most prominent. Monetary policy tightening and the threat of economic slowdown were the other key concerns.

They are familiar to many investors. Inflation, exacerbated by disruption to supply chains worldwide caused by Covid-19, war, geopolitical tensions and protectionism, is being met with tightening financial conditions even as growth begins to slow. That is translating into low expected returns for both equities and bonds, even after this year's market corrections. It also suggests higher volatility in economic cycles and markets, and tighter correlations between equities and bonds. These factors are likely to make diversification more critical but more difficult.

Central bank foreign exchange reserves managers, sovereign funds and public pension funds have distinct mandates, but they all place importance on capital preservation, meeting long-term nominal or real target returns and liquidity.

These objectives look increasingly like an impossible trinity. Capital preservation is now unlikely to be achieved with core, developed market government bonds, where both volatility and yields are rising. Nominal return targets appear increasingly unattainable and real return targets appear even more ambitious, given the growth and inflation outlook. And if core government bonds are relied on for liquidity, that requirement now clashes with preserving capital and meeting return targets.

In our conversations with investors, we find many unsure about what to do, or unable to act because of investment policy constraints put in place when the outlook was more favourable.

"

OFFICIAL INSTITUTIONS WILL NEED TO MAKE THREE MAJOR DECISIONS OVER THE COMING MONTHS.

MANAGING RISK, SUSTAINING RETURNS, HEDGING INFLATION

Official institutions will need to make three major decisions over the coming months. First, core government bonds need to be partially replaced with assets that can sustain low correlation with equities but continue to deliver positive total returns. For sovereign funds and public pension funds, liquid alternative investments such as hedge funds may have a role. For all investors, credit markets will become more important, and liquidity needs are often overestimated. Investors could start to think not only in terms of liquid assets, but in terms of liquidity generators – less liquid but higher-income assets such as mortgage-backed securities, high-yield bonds and private credit.

Second, investors need to assume more credit and liquidity risk in fixed income, as opposed to interest rate risk. In equity, at current valuations, taking more liquidity risk – as opposed to more non-domestic risk – is prudent: sovereign funds and pension funds could allocate more to private equity. After years of increasingly passive investment, active management will be necessary to sustain returns, following a decade of strong performance by beta, growth and momentum.

Third, portfolios need to be better hedged against inflation. Real estate will have a key role because it can combine the capital appreciation of a real asset with highly inflation-sensitive rental cash flows, but has also exhibited resilience during most recessions.

THREE HYPOTHETICAL PORTFOLIOS, RE-OPTIMISED

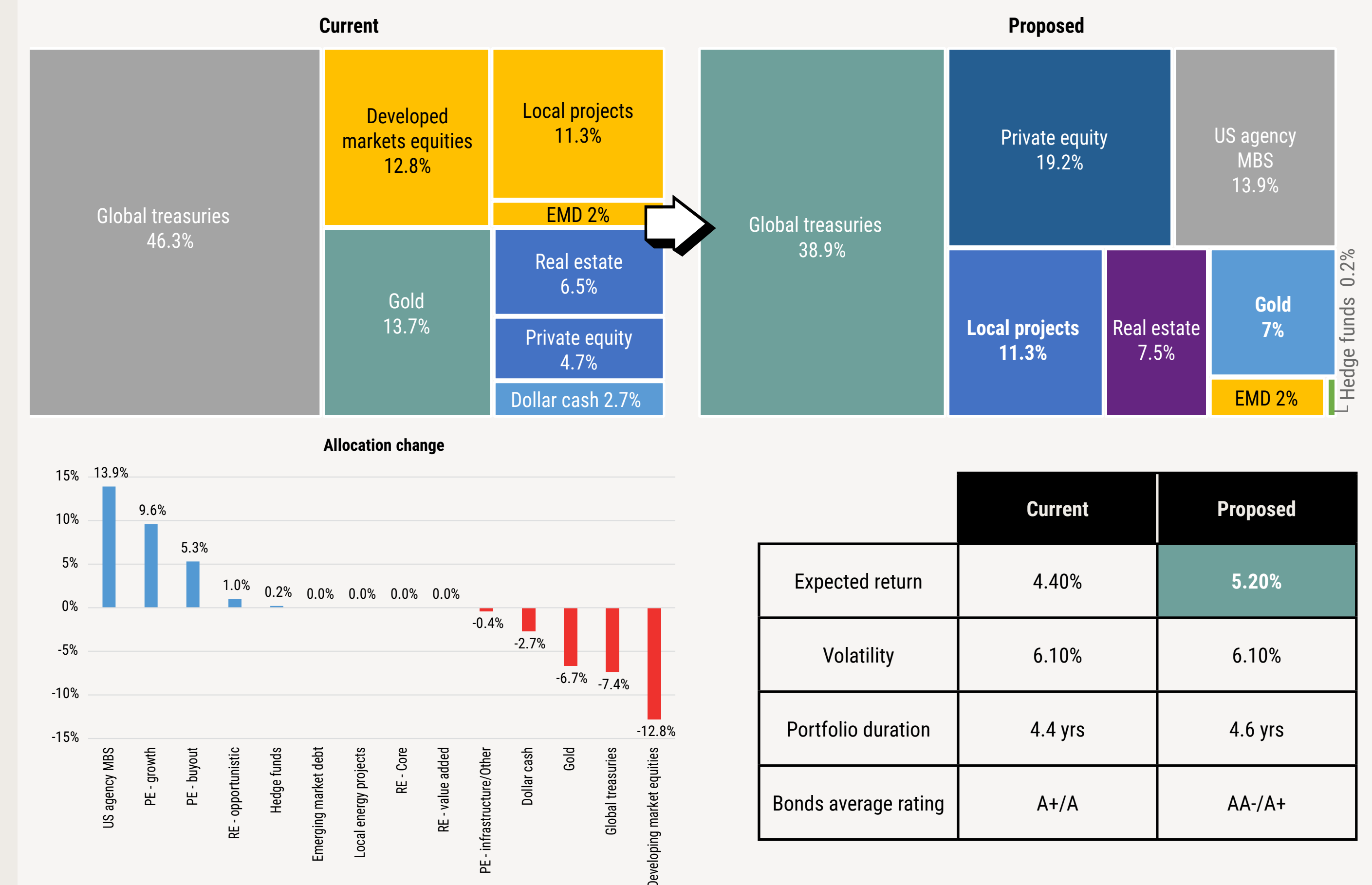
Can these moves respect the risk and credit-quality profiles of current portfolios? We believe they can.

We created three hypothetical portfolios, based on typical central bank, sovereign fund and pension fund investors among our clients. We calculated the duration and average credit rating for each portfolio and, using our latest capital market assumptions from March 2022, their expected return and volatility. We then used the same capital market assumptions, but a broader menu of asset classes, to create newly optimised allocations with the same volatility, portfolio duration and credit rating.

We also observed some practical constraints appropriate to these institutions. Turnover relative to the original allocations was capped at 30%. For sovereign funds and pension funds, we capped growth-orientated private equity at 10%. For pension funds, we required at least 10% to be allocated to both domestic government and corporate bonds. And for central banks, we subjected all new asset classes to a 10% cap, required at least 10% in both dollar and non-dollar cash and capped the aggregate high quality liquid assets haircut to 20% of the value of portfolio assets.

1. SOVEREIGN FUNDS TAKING LIQUIDITY RISK FOR MORE GROWTH POTENTIAL

Source: Bloomberg, Neuberger Berman



	Current	Proposed
Expected return	4.40%	5.20%
Volatility	6.10%	6.10%
Portfolio duration	4.4 yrs	4.6 yrs
Bonds average rating	A+/A	AA-/A+

It is important to note that, even with these constraints, these mechanical optimisations should be considered as 'way markers' for the direction of travel, rather than detailed recommendations.

For the central bank investor, the optimisation reduced cash and government bonds in favour of a substantial allocation to US agency MBS and small allocations to private equity and real estate. This preserved the portfolio's volatility at 2.2% and its duration at around four years, while lifting the portfolio's annualised expected return to 2.7% from 1.9%.

For our sovereign fund investor, there is much more scope to take liquidity risk (Figure 1). Cash, government bonds and gold were reduced, and MBS and real estate were introduced. Most notably, public-market equities were completely swapped out for private equity, joining an existing allocation to local projects. We would not advocate such a radical change, but we think the result points in the right direction – taking more liquidity risk and becoming more actively managed. Once again, 80 basis points of expected return were added with no change to the observed risk profile.

We see a similar move in the pension fund portfolio. Public-market equities were substantially cut to make room for more private equity. Exposure to domestic markets across asset classes was rejected in favour of more global exposure, especially in high-yield bonds. However, domestic treasuries and corporate bonds still account for 40% of the allocation, reflecting liability-matching requirements. Investors could instead manage duration with more capital-efficient, derivatives-based programmes. Hedge funds were boosted as a meaningful source of liquid diversification. For the pension fund, an additional 90bp of expected annualised return was generated with the same risk profile.

MORE RESILIENCE

The world has changed profoundly over the past six months. Putting aside the war in Ukraine, inflation in developed economies is at levels unseen for 40 years and interest rates are rapidly rising after more than a decade of loosening financial conditions. The world is facing the first genuine cyclical economic slowdown since the beginning of the century and a broad correction to stretched equity and bond valuations.

All types of official institution portfolios can be made more resilient against the emerging conditions with relatively modest re-allocations that do not consume more risk budget. We can never be sure that these new allocations will outperform the old ones, but we can be sure that they are more thoroughly diversified. This raises the probability of acceptable performance in a wider range of economic and market scenarios. •

3. EXTERNAL MANAGERS

KNOWLEDGE IS KEY AS RESERVES MANAGERS LEAN ON THEIR ADVISERS

Deep relationships mean external managers can help their clients navigate short-term market challenges as well as long-term strategic shifts. By Julian Jacobs.

WHAT a difference a year makes. In the 2021 OMFIF survey of central banks, reserves managers revealed that accessing complex asset classes was the main reason for employing external managers. As central banks sought to diversify into higher yielding products, such as credit or equities, paid for advisers played a crucial role in helping them add new products to their portfolios and manage associated risks.

Twelve months later the world has changed, with the return of inflation and rising geopolitical concerns. Many investors have switched into capital preservation mode (see Chapter 2). Diversification and knowledge transfer are now the most important part of the external/reserves manager relationship. Benchmarking performance is of growing importance (see Figure 1).

This chapter summarises key findings from our survey of 73 central banks as well as our interviews

OPINION

SELECTION, EVALUATION AND COMMUNICATION CONTRIBUTE TO SUCCESSFUL EXTERNAL MANAGEMENT PROGRAMME

Colombia's central bank has been working successfully with external managers for over 30 years. Here's what it has learnt, writes Andres Cabrales, acting head, international investment department, Banco de la República.

SINCE 1994, Banco de la República, Colombia's central bank, has been successfully running an external management programme. By developing a robust framework and creating strong partnerships that have grown and evolved through time, the main objectives of the programme have been met.

Success is the result of the fact that the private firms that participate in the programme are chosen through a competitive bidding process, are continuously evaluated and receive frequent feedback. Based on the results each administrator obtains, the amount managed might be modified or their participation in the programme may be reviewed. This robust set of processes has been developed over time and continues to evolve in order to strengthen the methodologies and allow the bank to select and keep the best set of managers for the mandate.

One of the main objectives of the programme is to enhance the performance of Colombia's foreign reserves investment portfolio. In this respect, firms chosen to participate in the programme are highly capable in their analyses of financial markets and have a sophisticated infrastructure that can be taken advantage of to define investment strategies. By having a strong set of different managers with varying views, the portfolio has benefited from a number of investment ideas that have provided diversification and positive relative returns.

BY HAVING A STRONG SET OF DIFFERENT MANAGERS WITH VARYING VIEWS, THE PORTFOLIO HAS BENEFITED FROM A NUMBER OF INVESTMENT IDEAS THAT HAVE PROVIDED DIVERSIFICATION AND POSITIVE RELATIVE RETURNS.

Additionally, close interaction with managers generates positive feedback. Allowed asset classes and investment guidelines have changed through time in order to permit relevant strategies that are in line with the risk and return objectives of the mandate. Managers also play an important role in that they may have teams in place that specialise in asset classes that are not managed by internal investment teams. If managers are able to handle new asset classes and relevant strategies are added, more investment opportunities arise and greater diversification benefits can be obtained.

External managers are also key allies in that they provide training and knowledge transfers to the bank's staff and support its research efforts. Not only do managers offer investment feedback and ideas, but they have also been very important partners in providing training and collaborating on projects that include different areas of the investment role, such as analysing risk and attribution tools, generating new risk measurement methodologies, providing scenario analysis for managed portfolios and preparing presentations and meetings on current topics, among others. This has been beneficial in the development of many projects and initiatives and should continue to be an important factor in years to come.

We expect to continue developing the external management programme. Markets will continue to evolve and moments of volatility and uncertainty will occur again. Active management will remain relevant and portfolios will benefit from a diversity of ideas and strategies. Given our experience, we can strongly believe in the programme – built over almost 30 years – while recognising that we will have to continue to be dedicated to it in order to keep reaping the benefits. •

with external managers from Amundi, BNY Mellon, BNP Paribas, BlackRock, State Street Global Advisors, Neuberger Berman and UBS Asset Management. Our findings suggest that external managers are becoming a growing part of central banks' strategies, helping abet knowledge transfer, particularly at institutions in the global south, many of which have more scarce internal resources. External managers are thus a key part of the broader movement towards diversification, which is marked by growing interest in new asset classes, including exchange-traded funds.

DIVERSIFICATION IN A VOLATILE WORLD

External managers can assist central banks by helping improve their diversification. The chief reasons for central bank reserves diversification are to preserve capital, reduce risk volatility and increase returns. Figure 1 shows that 76% of reserves managers in 2022 cited diversification as a reason that they employ external managers, up from 69% in 2021. And this emphasis on diversification may grow in response to current uncertainty. As Jahangir Aka, head of official institutions at Neuberger Berman, points out, 'Volatility is a big driver for movement towards external managers, since the diversification of instruments is greater than ever, and some central banks lack resources.'

Aka spoke to a crucial point about the way central banks are using external managers in such a difficult period for the global financial system. Many central bank reserves managers are dealing with their first experience of taking losses in a long time. Massimiliano Castelli, head of strategy for global sovereign markets at UBS Asset Management, notes that central bank losses right now dwarf those 'experienced even in 2008' largely as a result of negative returns in fixed income. So far, central banks have adopted a wait and see approach in the light of the strong returns experienced over the last few years.

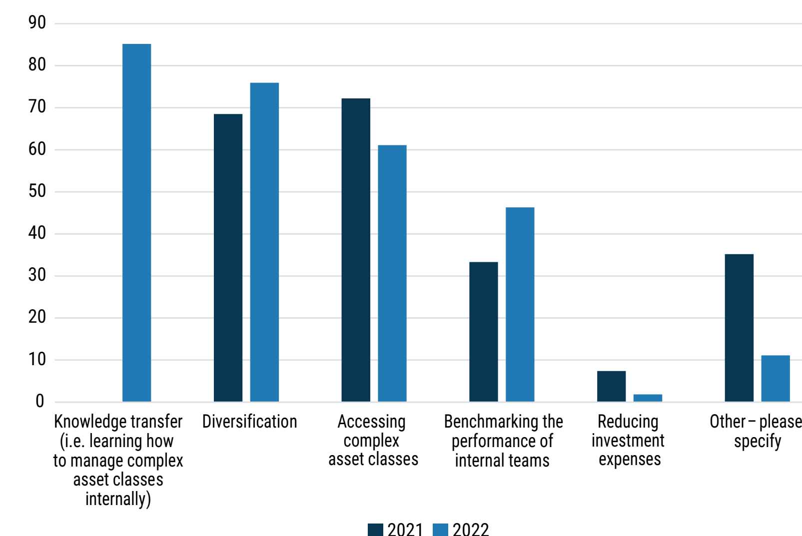
External managers offer the opportunity to not only reduce losses, but also to become more active investors. The growing orientation of reserves managers towards equity markets and real estate, for instance, is a good example of how central banks are, as Castelli said, diversifying and in doing so becoming 'more similar to pension funds'.

The importance of external managers in diversifying and accessing other asset classes is highlighted in Figure 2. Although the use of external managers is highest for government and corporate bonds, these results should be contextualised. First, the World Bank's reserve advisory and management partnership may well be considered external management by many central banks, which inflates the figures for government bonds in particular. And second, as Johanna Lasker, chief executive officer for North America at BNP Paribas Asset Management, pointed out, 'If you think of a classic [central bank] portfolio, it's still mostly government bonds, with a small allocation to equity, if any.' Indeed, the 27%

1. CENTRAL BANKS USE EXTERNAL MANAGERS FOR KNOWLEDGE TRANSFER AND DIVERSIFICATION

For which of the following reasons do you employ external managers? Share of respondents, %

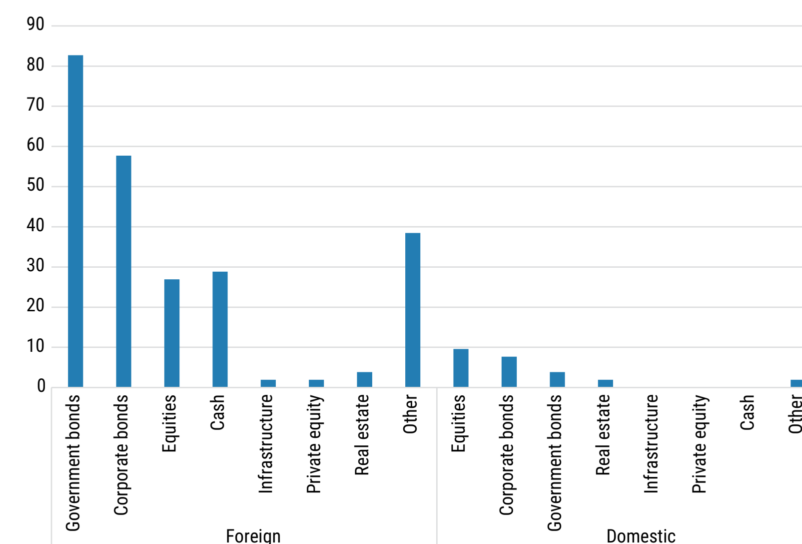
Note: Knowledge transfer not included as an option in 2021.



Source: OMFIF GPI survey 2021-22

2. EXTERNAL MANAGERS USED IN DIVERSITY OF ASSET CLASSES

For which of the following reasons do you employ external managers? Share of respondents, %



Source: OMFIF GPI survey 2022

76%

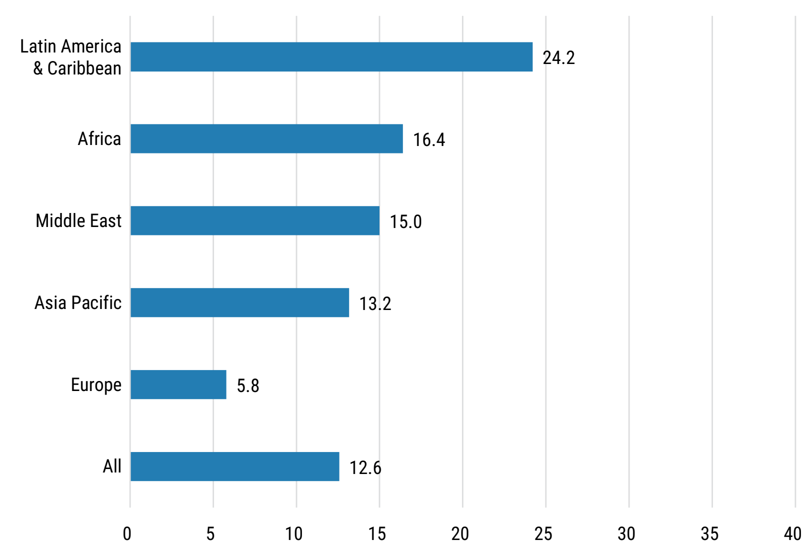
Three-quarters of reserves managers who turned to external managers did so to aid diversification

18%

Nearly one-fifth of reserves managers find moving into ETFs appealing

3. EXTERNAL MANAGERS RESPONSIBLE FOR AVERAGE 13% OF CENTRAL BANK ASSETS UNDER MANAGEMENT

What percentage of your assets under management is managed by external managers? Average response, %



Source: OMFIF GPI survey 2022

usage of external managers for equities and 38% for 'other' (e.g. supranationals and mortgage-backed securities) is high relative to the average equity allocation of a central bank reserves portfolio.

This indicates a particular emphasis in central bank usage of external managers on equity. Moreover, if we studied the percentage of central bank equities that are handled by external managers, we might see a more complete picture of the role external managers play in supporting central banks' behaviour in equity markets. As Isabelle Mateos y Lago, global head of the official institutions group at BlackRock, remarked, 'In our experience, central banks are more likely to turn to external asset managers when they diversify into new asset classes; when it comes to equity allocations, which according to our research only about one-third of central banks in 2019 were allowed to invest their reserves in, the GPI survey share of 27% recourse to external managers suggests it is the overwhelmingly dominant practice.'

THE IMPORTANCE OF KNOWLEDGE TRANSFER

Beyond the growing significance of external managers to central banks' diversification efforts, they are used by many central banks as part of 'knowledge transfer' – 85% of central bank survey respondents cited this. The point here is for reserves managers to utilise the deep institutional knowledge, flexibility and understanding of new financial instruments, portfolio management techniques and operating models that asset managers and private financial institutions possess.

The importance of passing on such institutional knowledge is particularly pronounced for central banks with fewer resources. This explains the higher rates of external manager usage in the global south. External managers are responsible for 13% of assets under management for all central banks in our survey (Figure 3). Yet this number is larger for Latin America (24%), Africa (16%) and the Middle East (15%). External managers, by contrast, handle 6% of assets under management in Europe. In total, this comes out to an estimated $410bn of survey respondents' assets handled by external managers and average fees of 0.05% (or five basis points) of central bank assets under management among respondents.

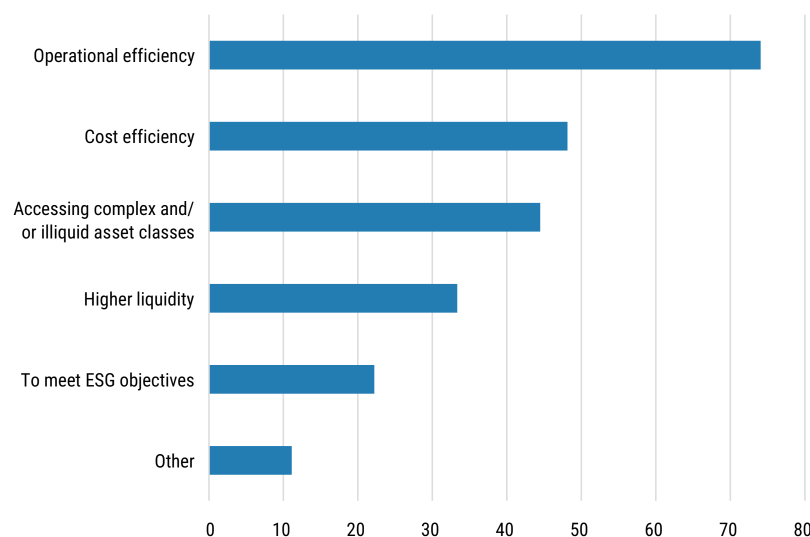
Xavier van den Brande, segment head for asset owners, Europe at BNY Mellon, explained that central banks 'expect to learn more about asset classes by working with external managers… [and the] diversification away from fixed income means some global south central banks will benefit from using external managers.' As a consequence, some central banks not only view external managers as a helpful way to diversify, but, perhaps more importantly, as a tool to learn about markets, financial instruments, data and complex asset classes.

Knowledge transfer tends to be tailored to central bank needs. Aka of Neuberger Berman explained that 'We have training that is bespoke for them, including training them on a more holistic view of how to manage money… and if there is a specific area, we help with that too.' Eric Dussoubs, head of institutional clients coverage at Amundi, discusses how, in particular, the institutional knowledge of external managers around 'regulation, complexity and data' are areas where central banks ask for support.

This element is likely to grow in importance for central banks, given the increasing digitalisation and complexity of the financial sector as well as the role of sophisticated data science analyses. Lasker said that there is a 'need among central banks to understand artificial intelligence and data science, and now digital currencies as well.' Regardless of whether this knowledge transfer induces changes to a reserves manager's portfolio, the need for central banks to employ external managers to better understand the changing dynamics of a digital financial system may continue to grow.

4. ETFs USED PRIMARILY FOR OPERATIONAL EFFICIENCY

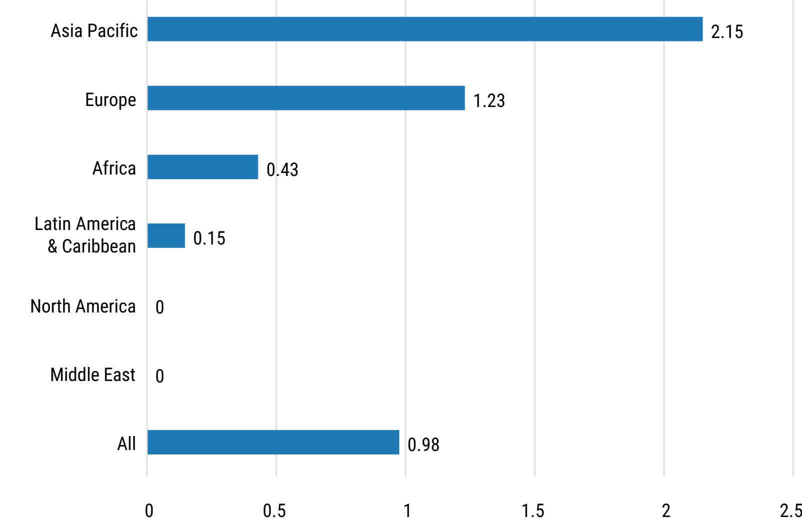
What share of your portfolio is held in the form of ETFs? Average response, %



Source: OMFIF GPI survey 2022

5. ALLOCATIONS TO ETFs AVERAGE 1% OF CENTRAL BANK PORTFOLIO; HIGHEST IN ASIA

For which of the following purposes do you use ETFs? Select all that apply. Share of respondents, %



Source: OMFIF GPI survey 2022

THE ROLE OF ETFs AND EQUITY MARKETS

The drive for diversification is not borne out in the level of ETF and equity usage by central banks. Figure 5 shows that an average of 1% of central bank portfolios are invested in ETFs. Such a small allocation is notable given that ETFs should, in theory, represent a particularly attractive vehicle for central banks to enter equity markets. The share of portfolios allocated to ETFs is highest in Asia at 2%.

These low levels of ETF usage may be changing, however. As Brande at BNY Mellon commented, 'ETFs are an obvious choice for central banks without sufficient internal expertise because they are a low-cost way to get exposure' to equity markets. This promises more diversification, making portfolios more resilient across different economic and financial conditions. And although, as Castelli said, central banks with equity exposures are seeing losses in the range of 6% to 8%, he predicts that the diversification trend will continue. Figure 4 shows the main reasons central banks gave for using ETFs within their portfolios. Chief among them were operational efficiency (74%), cost efficiency (48%) and access to complex and/or illiquid asset classes (44%).

Figure 6 highlights the planned movement of ETF holdings by central banks over the next 12-24 months. The results suggest that, even in an environment with significant uncertainty in equity markets, the prospect of moving into ETFs remains appealing to nearly one-fifth of reserves managers.

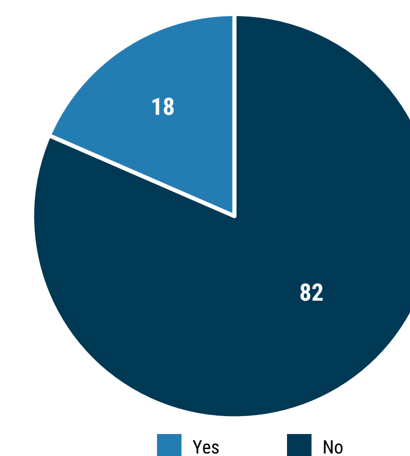
GROWING OPPORTUNITY AMID RISING UNCERTAINTY

Our findings from surveying central bank reserves managers and interviewing external managers offer a window into both the uncertainty of the current macro environment and the opportunity some central banks see for the future. Geopolitical crises, inflationary shocks and prospects for recession are posing considerable challenges for reserves managers. With many reserves managers grappling with the most significant losses they have seen in their career, many central banks have slowed their movement of capital. And yet, the growing use of external managers for diversification (Figure 1) indicates a possible openness to new asset classes. This is made clear by the role these managers play as part of knowledge transfer and in helping central banks understand new markets.

Such developments point to trends in central bank reserves management that may outlast the shock of the current geopolitical and inflation crises. Indeed, as the movement towards ETFs indicates, there is a growing focus among reserves managers on diversifying their portfolios and becoming more innovative in their investment strategies. With this comes the prospect of higher returns, but also greater risk. •

6. 18% OF CENTRAL BANKS PLAN TO INCREASE ETF HOLDINGS

Do you plan to increase the share of your portfolio held in the form of ETFs in the next 12-24 months? Share of respondents, %



Source: OMFIF GPI survey 2022

4. SUSTAINABLE BONDS

BARRIERS TO ENTRY HAMPER SUSTAINABILITY PROGRESS

As central banks' mandates grow to include ESG considerations, so too does reserves managers' interest in social bonds. By Taylor Pearce.

THOUGH late to the party compared to their institutional peers, central banks are continuing to expand their environmental, social and governance considerations. Social bonds, or bonds whose funds are earmarked for projects with positive social outcomes, are a new and notable asset class falling under the sustainable umbrella. This year's GPI survey examined the ESG considerations of central banks with a specific focus on social bonds as a burgeoning ESG asset class. Consistent with our other ESG findings, we found that the majority of central banks expressed existing or future interest in social bonds – though significant barriers to their adoption as a suitable reserves asset class persist.

CENTRAL BANKS EXPANDING ESG MANDATES

This year, more central banks than ever reported implementing some form of ESG criteria. Compared to 2021, OMFIF's research reveals progress in central banks' ESG practices across nearly all categories. These include investment in sustainable finance assets, exercising exclusion/negative screening, implementing ESG integration, implementing

"COMPARED WITH 2021, WE FOUND A MARGINAL INCREASE IN CENTRAL BANKS' ESG PRACTICES ACROSS NEARLY ALL CATEGORIES."

SPONSOR'S COMMENT

HOW THE NEW GEOPOLITICAL REALITY AFFECTS ESG

The war in Ukraine has enormous implications for sustainability goals, writes Marcus Pratsch, head of sustainable bonds and finance, DZ BANK AG.

THE war in Ukraine has a massive impact on all four dimensions of sustainability: economic, environmental, social and governance. It has already cost the lives of thousands of civilians and displaced millions of people from their homes. Health, education and housing systems are facing a new test of endurance. Rising commodity prices and trade disruptions are exacerbating inflationary pressures. Higher food prices could push millions of people, especially in the poorest and most vulnerable countries, further into poverty.

Given the 'weaponisation of gas', the war is also a wake-up call to expedite the global transition to a more secure and cleaner energy future. It makes clear that a successful development agenda requires inclusive partnerships at global, regional, national and local levels.

The past has taught us that negative external shocks widen the sustainability financing gap, making it even more important to mobilise private capital and allocate it through the capital market to sustainable projects with positive impact. Even before the Russian invasion, the world was not on track to achieve most of the United Nations' sustainable development goals. Unfortunately, many targets will be set back by the new geopolitical situation, so even more capital will be required in the future.

The war is increasingly becoming a test for the socially responsible investment movement. It will inevitably lead to a reassessment of ESG investment approaches and sustainable portfolios as it not only reveals Europe's high energy dependence on Russia and how vulnerable the global food system is, but also raises the question of geopolitical sustainability. Therefore, it is not surprising that the first sustainability rating agencies have revised their ESG risk assessment methodologies and added new geopolitical criteria.

The conflict has also renewed the question of how sustainable and safe invested capital is in countries with autocratic governments. In principle, an investment in government bonds and an investment in a company based or conducting business with authoritarian countries should be considered separately. But the boundaries are often not clear.

Corporates operating in authoritarian states are typically more exposed to sustainability risks than others operating only in democracies. Examples include human rights, corruption and reputational risks. Irrespective of a moral evaluation, such ESG risks have a negative impact on a company's performance. Hence, there is a question of how to treat companies that resume trading with Russia as concern becomes a source of systemic risk. The last few weeks have shown that more and more SRI investors are now excluding Russian companies as well as issuers with significant ties to Russia.

There is no question that the disruption of global energy markets has caused SRI investors to rethink energy strategies. Does the pace of fossil fuel phase-out need to be adjusted until renewables, hydrogen and storage technologies can fill the gap reliably and affordably? Will nuclear energy and natural gas gain importance as bridging technologies? Without a doubt, this new thinking should focus on renewable energy sources, energy infrastructure and sustainable technologies to support the transition away from traditional energy sources.

Finally, the war in Ukraine has also brought a controversial ESG discussion back onto the front pages. How should the issue of security and defence be interpreted in a sustainability context? Is defence ESG-compliant? Is 'Security the mother of all sustainability' as the Federation of the German Security and Defence Industries argues? How should SDG 16 (peace, justice and strong institutions) be interpreted in this context? A large pension fund has already surprisingly changed its investment policy to include even certain defence companies in selected ESG funds.

Although the conflict has revealed some flaws in ESG investing and shifted priorities, it is too early to say if it will lead to a total rethinking of ESG in the long term. But one thing is certain: mitigating and combating the economic, environmental and social consequences of such negative external shocks requires the help of the capital markets – and this must be done in a sustainable manner. •

UNFORTUNATELY, MANY TARGETS WILL BE SET BACK BY THE NEW GEOPOLITICAL SITUATION, SO EVEN MORE CAPITAL WILL BE REQUIRED IN THE FUTURE.

position screening/best-in-class strategies and practising thematic investing (Figure 1).

Perhaps the most telling figure, however, was the share of respondents who reported that they do not implement ESG, which has steadily fallen to 42% from 51% in 2020. This is a significant decrease and a promising indication that ESG is becoming a more mainstream factor in central banks' reserves management strategies.

Insufficient data or lack of information remains the biggest obstacle to further adoption/integration of ESG into central banks' reserves portfolios, having increased steadily to 63% from 49% in 2020 (Figure 2). This increase most likely indicates that a greater share of central banks are now considering investment in ESG assets, rather than a decline in available data. One respondent noted, 'We gradually increase investment in green and sustainable bonds (sovereign and corporate), but this market is still immature. Classification criteria are not transparent enough and controversial in some cases.'

Two further trends have emerged on barriers to ESG implementation. First, the share of respondents reporting that ESG does not fit with their fund investment strategy has fallen to 31% from 38% in 2020. At the same time, the share of respondents reporting lack of suitable projects as a main barrier to adoption and/or further implementation of ESG has risen steadily over the past few years, increasing to 17% from 9% in 2020 and 12% in 2021, suggesting that demand for ESG assets is outpacing supply. Respondents' comments reflect this, with one stating, 'Green bonds issued by highly-rated sovereigns are very limited and we cannot invest into corporate bonds or equities in reserves portfolios according to our guidelines.' This lack of suitable asset class supply suggests significant potential for social bonds as an ESG asset.

Taken together, these figures point towards the growing acceptance and importance of ESG considerations for reserves management, as more institutions develop ESG frameworks and strategies.

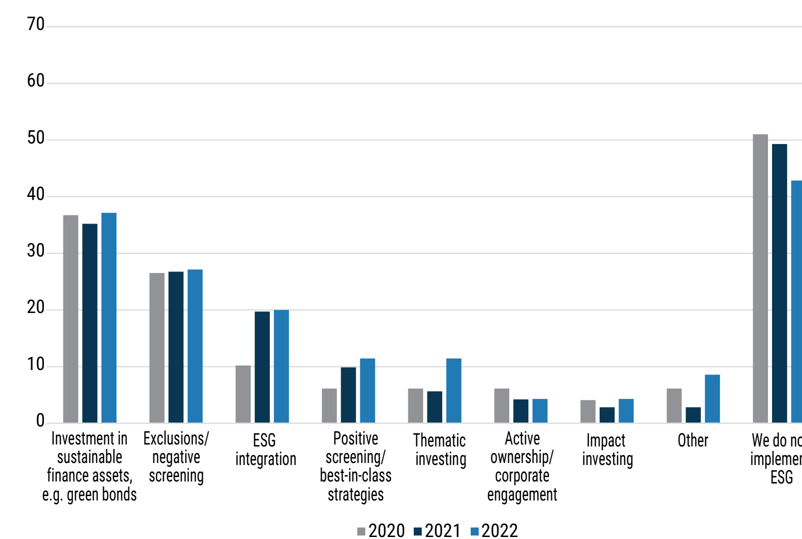
Despite these challenges, 63% of central banks intend to increase allocation to green bonds and 42% intend to increase allocation to other sustainable bonds. In fact, net increases in central banks' ESG asset allocation are anticipated across all categories over the next two years (Figure 3). As sustainability increases in global urgency, these trends in central banks' asset allocation are likely to continue over the medium to long term.

Of central banks investing in sustainable assets, 98% invest in green bonds with 'other' sustainable bonds the next most popular sustainable asset class at 41% (Figure 4). Sustainable bonds, which include social bonds, were by far the biggest gainer since last year – up a sizeable 33 percentage points – outpacing investment in green equities, sustainable mutual funds and sustainable ETFs.

The appetite for social bonds is confirmed by the

1. MORE CENTRAL BANKS THAN EVER IMPLEMENTING ESG CRITERIA

In which of the following ways do you implement ESG? Select all that apply. Share of respondents, %

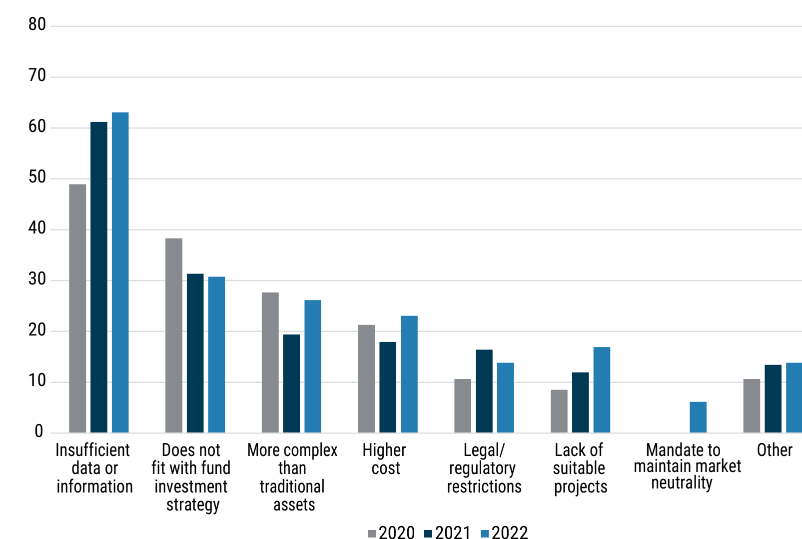


Source: OMFIF GPI survey 2020-22

2. INSUFFICIENT DATA HIGHEST BARRIER TO FURTHER ESG IMPLEMENTATION

What do you see as the barriers to ESG adoption/further implementation in your reserves management? Select all that apply. Share of respondents, %

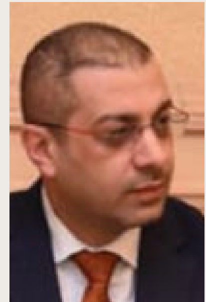
Note: 'Mandate to maintain market neutrality' first included as option in 2022



Source: OMFIF GPI survey 2020-22

THE GROWING IMPORTANCE OF ESG CONSIDERATIONS HAS COINCIDED WITH A PARTICULARLY CHALLENGING MACRO ENVIRONMENT AND GEOPOLITICAL LANDSCAPE. THIS MEANS THAT ESG OBJECTIVES MAY TAKE A BACKSEAT TO MORE ACUTE PRESSURES OVER THE SHORT TERM.

OPINION



CENTRAL BANKS CAN EASE GREEN ECONOMY TRANSITION WHILE MAINTAINING THEIR MANDATES

Even in oil-rich countries like Iraq, central banks can contribute to cultural change, writes Mazen Sabah Ahmed, director general, investments and foreign remittances department, Central Bank of Iraq.

THE response to climate change is often hindered by a lack of public information. To many, the issues are too abstract or vague, contrasting with the tangibility of a global pandemic. Increasingly, however, environmental developments and advances in research have clearly illustrated the capacity of climate change to impact billions of people's lives.

At the Central Bank of Iraq, we believe that central banks are essential in combatting climate change. Although it is difficult for central banks to integrate climate change risks into their analytical frameworks and modelling, they can still play a role in acting, studying the impacts of climate change and encouraging the transition to net zero. It can do all of this while maintaining a functioning financial system and managing inflation, interest rates, growth, prudential policy and behavioural incentives.

Climate-related risks pose distinctive challenges to central banks. The first problem is a one of reliable information about the green transition. Second, the real dangers of climate change and a disruptive green transition may not be linear and manifest over the medium to long term. Third, the future of environmental change and action is difficult to predict and relies heavily on political events.

Despite this, central banks have various ways of mitigating climate-related risks. They can reduce the size of polluting corporations and support new businesses that aim to reduce their carbon footprints through financing channels. They can help kindle broader reform – central banks can restrict the ability of commercial banks to provide financing to businesses that have a high carbon footprint while offering low interest loans to green and renewable energy projects. Given this, the focus now is on macroprudential management and guidelines, administrative assumptions and stress testing.

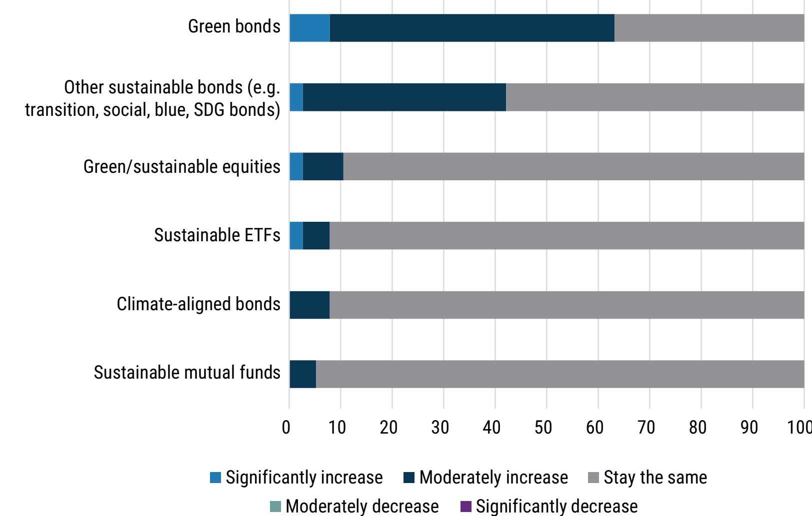
In embracing greener monetary policy, the Central Bank of Iraq is deeply concerned about the impact climate change will have on the Iraqi economy. After dramatic weather events – with temperatures hitting record highs exceeding 50 degrees – Iraq has experienced parched land and a lack of clean water from both the Tigris and Euphrates rivers and groundwater. We estimate that these trends could result in a decrease of Iraq's real gross domestic product by 4%, regardless of any gains in GDP levels caused by higher oil prices.

The central bank operates in one of the world's major oil-exporting countries and is highly dependent on crude oil revenue, which constitutes over 95% of Iraq's fiscal budget and around 60% of its GDP. Yet, the significant risks posed by climate change have pushed the central bank to take urgent action. For instance, we are currently offering 1tn Iraqi dinars ($800m) in low interest, eased-term loans for water, green and renewable energy projects. These loans will be provided through local banks. In addition, we are working with local government partners to raise awareness about the economic impacts of climate-related risks on the Iraqi people. Our hope is that, by taking such an approach, we can avoid accelerating the severity of climate risks and collaborate with government, media and private organisations to achieve a necessary cultural change. •

THESE TRENDS COULD RESULT IN A DECREASE OF IRAQ'S REAL GROSS DOMESTIC PRODUCT BY 4%, REGARDLESS OF ANY GAINS IN GDP LEVELS CAUSED BY HIGHER OIL PRICES.

3. SIGNIFICANT ANTICIPATED INCREASE IN INVESTMENT FOR GREEN AND OTHER SUSTAINABLE BONDS

Reserves managers' anticipated allocation to the following sustainable assets over the next 12-24. Share of respondents, %



Source: OMFIF GPI survey 2022

finding that 38% of central banks plan to invest in social bonds as part of their ESG holdings and 28% plan to invest in social bonds in the next two years (Figure 5). As in other sustainable assets, availability remains an issue – 31% of respondents reported 'lack of supply' as a key obstacle to the incorporation of social bonds into their reserves portfolio (Figure 6).

Interest in social bonds will not necessarily equate to investment, at least in the short term. Social bonds have some fundamental flaws. Nearly two-thirds of central banks reported lack of clarity about the definition of the asset class as a barrier to further investment in social bonds, while 55% reported lack of market depth and liquidity risk as a primary obstacle (Figure 6). In combination, these are perhaps the reason why none of the reserves managers surveyed by OMFIF reported investing in social bonds as a specific asset class in their portfolio (Figure 5)

In spite of these obstacles, however, 40% of reserves managers still stated that they plan to increase their allocation to social bonds over the next 12-24 months (Figure 7). This no doubt reflects the asset class' significant potential as central bank reserves managers come to terms with ESG prerogatives as a permanent factor in their investment objectives.

INCREASINGLY IMPORTANT, BUT NOT A TOP PRIORITY

The challenges facing reserves managers looking to boost their sustainable investments are consistent with those facing other asset managers. Data and performance metrics need to be strengthened and standardised, as reserves managers report that 'reputational risk can arise due to lack of common socially responsible investment standards and a harmonised, reliable rating system.' Another listed 'low quality of the ESG scoring, poor correlation between different ESG scoring institutions [and] greenwashing' as persistent concerns.

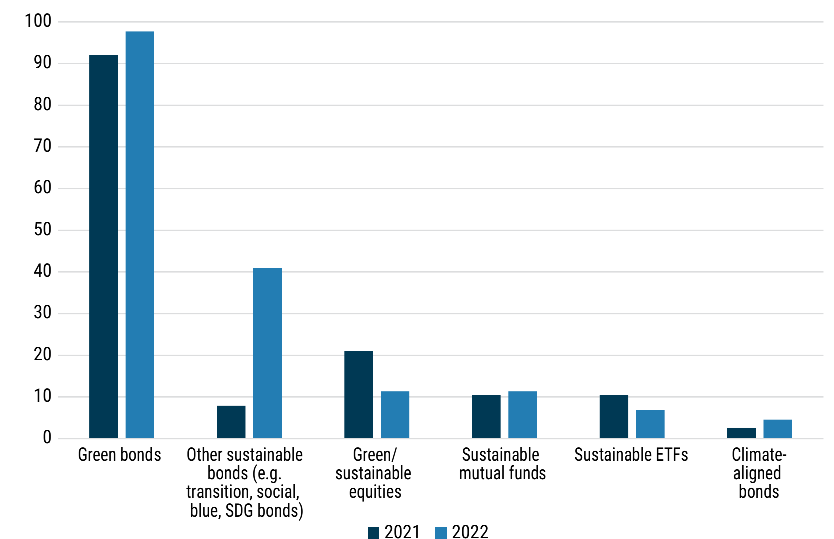
The growing importance of ESG considerations has coincided with a particularly challenging macro environment and geopolitical landscape. This means that ESG objectives may take a backseat to more acute pressures over the short term. One survey respondent lamented, 'We have started a discussion about investing in ESG, but it has been delayed because of the pandemic in the last two years.'

Furthermore, in the face of increased inflationary pressure, a number of reserves managers noted the incompatibility of long-term ESG issues with short-term portfolio duration. One stated that the 'duration of the [ESG] projects do not comply well with our aim to maintain short duration of the portfolios,' with another commenting that there is a 'mismatch between our current average portfolio duration versus the usual long maturity tenor of ESG issues.' This aspect of ESG investment has been exacerbated by exogenous geopolitical shocks (see Chapter 2).

Central banks are making progress in implementing ESG, but it is slow. It is worth remembering that although more institutions than ever are implementing ESG standards and frameworks, more than 40% of surveyed central banks have still not incorporated any ESG criteria. Reserves managers must learn to grapple with both short-term volatility and long-term climate risk. •

4. GREEN BONDS REMAIN FAVOURITE ESG ASSET CLASS

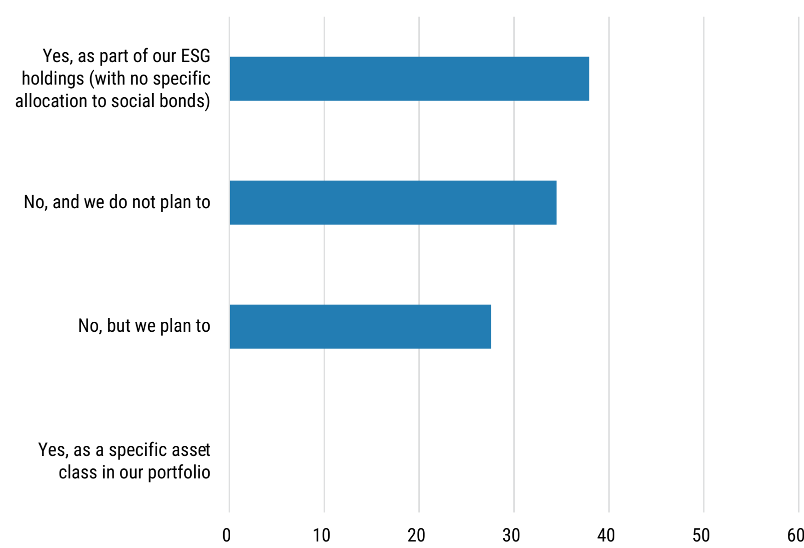
Which sustainable assets do you invest in? Select all that apply. Share of respondents, %



Source: OMFIF GPI survey 2021-22

5. TWO-THIRDS OF CENTRAL BANKS EXPRESS CURRENT OR FUTURE INTEREST IN SOCIAL BONDS

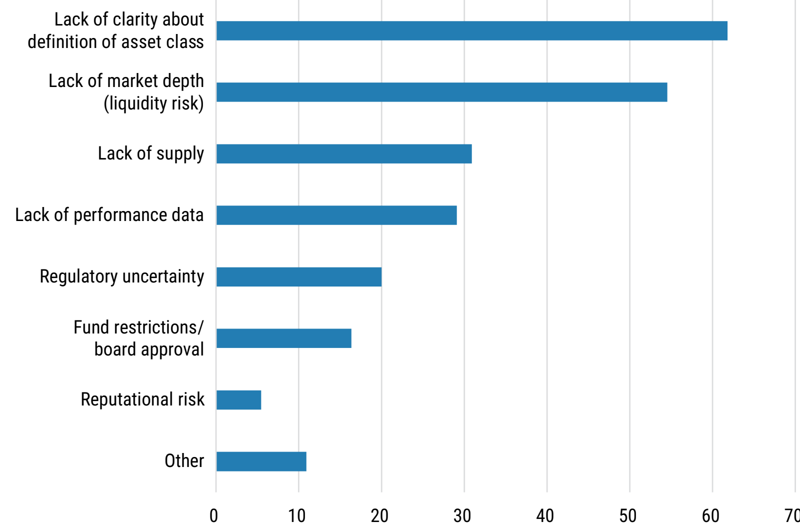
Do you invest in social bonds? Share of respondents, %



Source: OMFIF GPI survey 2022

6. SIGNIFICANT OBSTACLES TO INCORPORATION OF SOCIAL BONDS INTO PORTFOLIOS

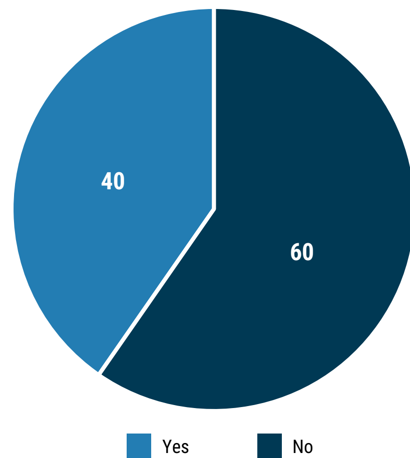
Which of the following are obstacles to the incorporation of social bonds into your reserves portfolio? Select all that apply. Share of respondents, %



Source: OMFIF GPI survey 2022

7. NEARLY HALF OF CENTRAL BANKS PLAN TO INCREASE ALLOCATION TO SOCIAL BONDS

Do you expect to increase your allocation of social bonds over the next 12-24 months? Share of respondents, %



Source: OMFIF GPI survey 2022

63%
of central banks intend to increase allocation to green bonds and 42% intend to increase allocation to other sustainable bonds

Of central banks investing in sustainable assets,
98%
invest in green bonds

38%
of central banks plan to invest in social bonds as part of their ESG holdings and 28% plan to invest in social bonds in the next two years

OPINION

WHAT ARE SOCIAL BONDS?

Social bonds are less well-understood than green bonds, but the Social Bond Principles are designed to help issuers and investors in this field, explains Simone Utermarck, director sustainable finance, International Capital Market Association.

CENTRAL banks which invest in green bonds as part of their sustainability mandates, or a mandate to support the government's sustainability goals, have also started to show an interest in social bonds. These are less well-understood as social factors cannot be based on science, and therefore often appear to be a more challenging asset class to invest in.

Social bonds are governed by the Social Bond Principles which, like the Green Bond Principles, have become the de facto global voluntary standard created by a market-led initiative consisting of issuers, investors and underwriters, supported by the International Capital Market Association. According to the SBP, 'Social bonds are any type of bond instrument where the proceeds, or an equivalent amount, will be exclusively applied to finance or re-finance in part or in full new and/or existing eligible social projects… and which are aligned with the four core components of the SBP.' These are: use of proceeds, process for project evaluation and selection, management of proceeds and reporting. The SBP recommend that issuers publish a bond framework and get an external review.

Similarly to the GBP, the SBP provide a list of eligible social project categories which can be financed. Social projects aim to address or mitigate a specific social issue and achieve positive social outcomes especially but not exclusively for a target population. Unlike the GBP, the SBP also list potential beneficiaries in the form of target populations.

Looking at the bond market, social bonds as well as sustainability bonds (a mix of green and social) experienced a surge in issuance during the pandemic. In 2020 and 2021, they proved to be suitable instruments to finance the socio-economic consequences of Covid-19. The European Union during that time became the largest social bond issuer with its €100bn Support to Mitigate Unemployment Risks in an Emergency programme for addressing unemployment risks.

The public sector is the largest issuer of social bonds with the lion's share coming from sovereigns, supranationals and agencies, followed by financial institutions and corporates. According to Environmental Finance Data, France, the US and Chile – followed by Japan and Korea – had the most social bond issuances in 2021. LGX DataHub shows that the euro is the main currency that social bonds are issued in, followed by the Korean won, Japanese yen and the dollar – the first and last in particular help to attract an international investor base. There have also been issuances from emerging markets like Latin America, as well as smaller ticket items in Asia.

This year, in light of the Russian invasion of Ukraine and other wars, the executive committee of the principles, supported by ICMA, underlined that existing guidance for social and sustainability bonds was appropriate for use in the support of fragile and conflict states. Eligible projects include direct emergency relief such as food, shelter and healthcare, and specific projects designed to alleviate unemployment caused by the circumstances.

Another topic that has gained importance in the last 18 months is diversity and inclusion. In the social bonds space, we have seen the emergence of gender finance and what is sometimes called 'gender bonds', which are a theme under social bonds. In November 2021, ICMA – together with the International Finance Corporation and United Nations Women – published practical guidance on the topic.

With sustainable debt products such as social bonds, investors want to know whether their money is doing any good. For social bonds, ICMA provides a harmonised framework for impact reporting which is part of the reporting component under the SBP. Investors appreciate it when issuers show the intended contribution of the bond to the UN sustainable development goals, which seems especially popular for social debt products even though it is not part of the SBP. ICMA has created a mapping document to allow issuers to map eligible project categories to the SDGs.

Finally, it is becoming increasingly clear that the climate transition has to go hand in hand with a just transition on the social side. Social bonds should therefore continue to grow as a sustainable asset class, increasing liquidity along the way. •

IN 2020 AND 2021, SOCIAL BONDS PROVED TO BE SUITABLE INSTRUMENTS TO FINANCE THE SOCIO-ECONOMIC CONSEQUENCES OF COVID-19.

5. GLOBAL FLOWS

Sponsored by

CAUTION AND FLIGHT IN GLOBAL CURRENCY FLOWS

The dollar looks set to benefit from global uncertainty while reserves managers weigh the pros and cons of allocating more to the renminbi. By Julian Jacobs.

MOVEMENTS in central bank reserve currencies mirror many of the trends revealed in the asset allocation findings of OMFIF's reserves manager survey (see Chapter 2). Central banks are navigating an increasingly uncertain and volatile macroeconomic environment through their currency allocations. Among the elements impacting reserves managers' decision-making, historically high inflation, Russia's war on Ukraine and the lingering effects of Covid-19 lockdowns appear pronounced.

This year's GPI findings suggest that global flows movement has become more static amid significant uncertainty among reserves managers. And yet, there appears to be movement towards the dollar and, in particular, the renminbi. Within these trends, central banks are attempting to avoid the volatility, uncertainty and elevated inflation of the euro and sterling as a consequence of the Russo-Ukrainian war. While the movement towards the dollar this year represents a slight reversal of findings in our 2021 survey, there is a hastened continuation of previous actual and planned flows towards China.

AVERSION TO SHIFTING CURRENCY HOLDINGS

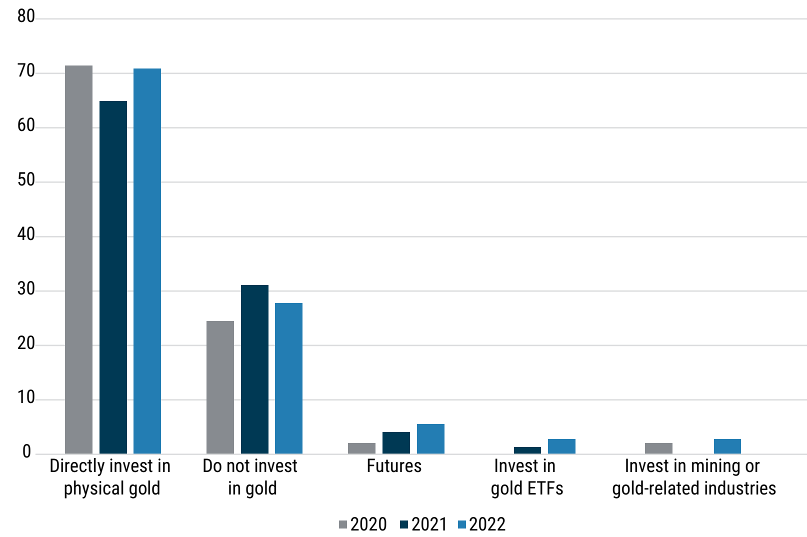
In such a turbulent time for global financial markets, the relative stability of currency reserves flows from 2021-22 may appear surprising. This is particularly true given the inflationary context, where the economic shock of sanctions on Russia is having a varied impact on currency values. Reserves managers might be expected to shift their currency holdings towards denominations experiencing less inflationary pressure.

Instead, central bank reserves managers have generally kept currency holdings consistent. Net planned movement towards or away from currencies has fallen for every single denomination. In total, the share of reserves managers stating they would plan to move currency holdings averaged 14.1% in 2022 compared with 19.4% in 2021. This decrease was particularly pronounced for the euro and dollar, which have seen 18% and 17.3% reductions in planned movement from 2021-22, respectively.

The causes of this slowed movement are likely

1. CENTRAL BANKS MOVING TOWARDS GOLD

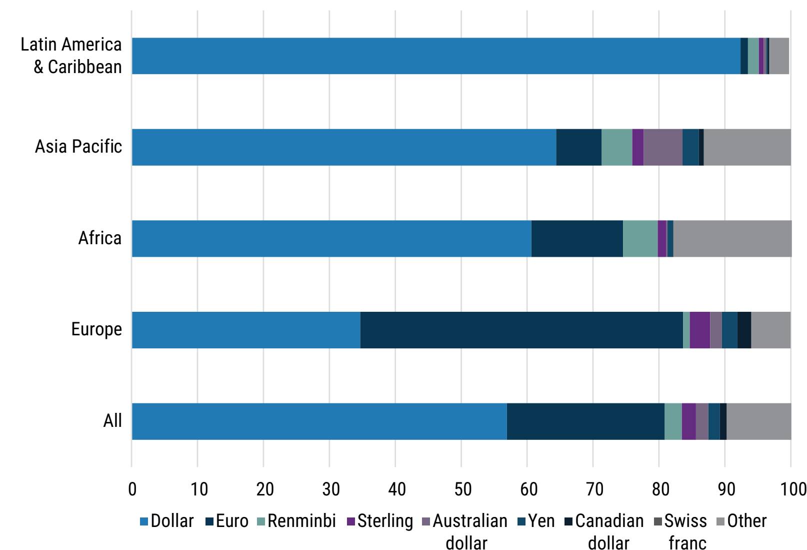
Do you invest in gold, and if so, how? Share of respondents, %



Source: OMFIF GPI survey 2020-22

2. DOLLAR REMAINS DOMINANT

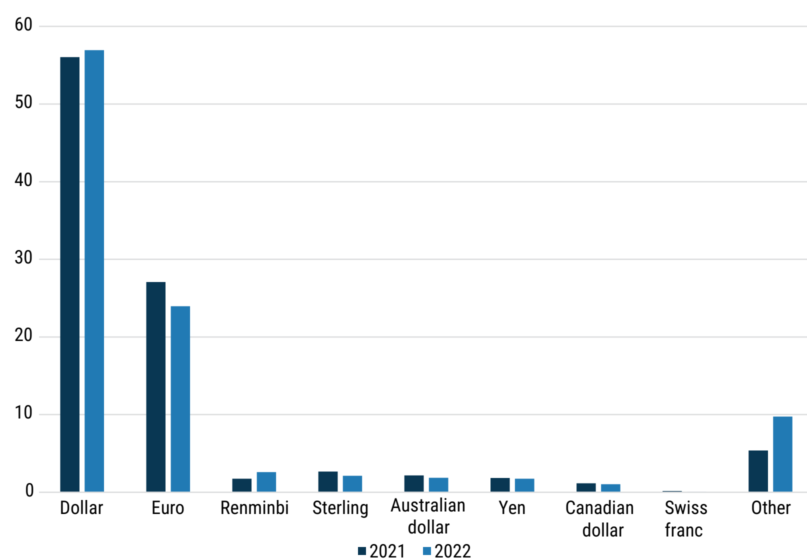
What percentage of your portfolio is allocated to the following currencies? Average response by region, %



Source: OMFIF GPI survey 2022

3. DOLLAR HOLDINGS RISE, WHILE EURO ALLOCATIONS FALL

What percentage of your portfolio is allocated to the following currencies? Average response, %



Source: OMFIF GPI survey 2021-22

"THE DOLLAR, FOR AT LEAST THE FORESEEABLE FUTURE, WILL CONTINUE TO DOMINATE AS THE GLOBAL RESERVE CURRENCY.

to be a consequence of both prudence and fear in a volatile global economy. Johanna Lasker, chief executive officer for North America at BNP Paribas Asset Management, points out that this static behaviour is most likely a result of a pervasive sense that doing nothing is better than making potentially hasty manoeuvres in a rapidly changing climate. Yet this sluggishness may also be a matter of policy.

As Juliusz Jablecki, head of risk management and strategic allocation at the National Bank of Poland, put it at an OMFIF event in March: 'While we are experiencing transitory valuation shocks that are not pleasant… we needn't worry too much about these valuation changes.' This is because the National Bank of Poland is a long-term investor, and so central bank reserves managers are loath to shift their currency holdings on account of short-term economic shocks.

This longer-term strategy, however, is exactly why the movements that are occurring are worth paying attention to. Given the unwillingness of central banks to generally move their holdings on account of economic shocks, the movement that does happen can be a strong indication of concern about today's crises as well as the future of the global macroeconomy.

This caution about the global economy and currencies losing their value may partially explain the slight growth in gold purchases in 2022. Figure 1 shows that central banks directed their holdings towards gold in 2020 and 2022 – two periods of significant economic tumult. Such a flight towards the safety of gold mirrors the flight towards government bonds and corporate bonds as a means to slightly move away from cash holdings (see Chapter 2). This shift away from cash, says Massimiliano Castelli, head of strategy for global sovereign markets at UBS Asset Management, is a consequence of an 'emotional response to the current environment,' in which central banks are potentially missing out on 'good medium- to long-run returns on cash.'

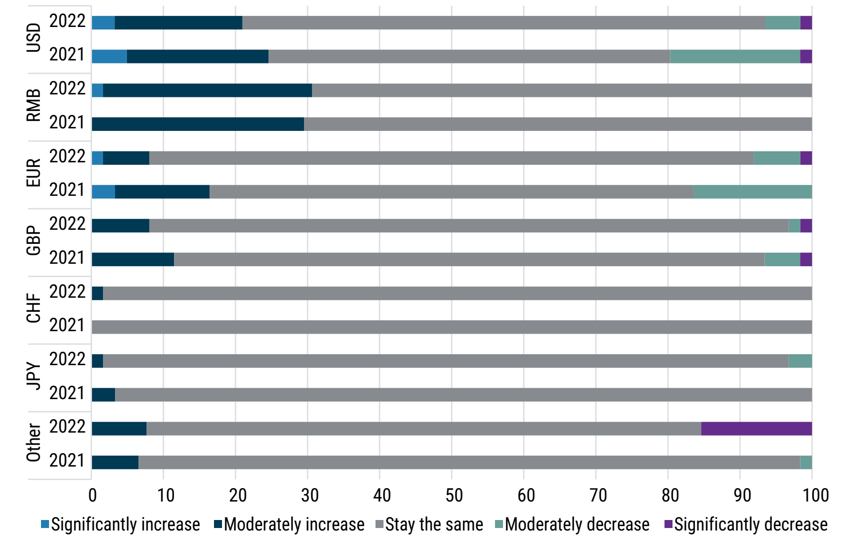
REVERSING PREVIOUS TRENDS

Amid the slowdown of currency movements, there are indications that central banks are planning to move towards the dollar. Given the geographically uneven impact of the Russo-Ukraine war, such movement towards US currency markets – less exposed to war in Europe – is expected. These results are part of broader trends that see a growing US-based asset allocation among global central banks. And the dominance of US financial markets in recent years is likely to further encourage this movement.

Figure 2 shows that central banks hold an average of 57% of their portfolio in dollars. The second largest share is the euro at 24%. However, its presence is highly concentrated among European central banks. Among surveyed central banks in Latin America, there is an average of 92% dollar exposure compared with just 1% for the euro.

4. BIGGER ALLOCATIONS PLANNED IN DOLLAR AND RENMINBI

Over the next 12-24 months, are you planning to increase, reduce or maintain your exposure to the following currencies? Share of respondents, %



Source: OMFIF GPI survey 2021-22

Given this continued dominance of the dollar, it is important that all movements of currency flows are contextualised. As Figure 3 shows, although growth in renminbi holding has been rising alongside movement towards the dollar, it is starting from a significantly lower point.

These results are significant given the considerable speculation about the future of the dollar as the global reserve currency. Figure 4 highlights central banks' planned movement in currency holdings. After a period of roughly +5% planned net movement towards the dollar in 2021 (with 20% of central banks intending to move away), there is planned net movement of +12% towards the dollar in 2022 (with under 7% moving away). Such shifts suggest that, at least for a period, the status of the dollar as a global reserve is not at high risk.

Yet, as some reserves managers commented, these short-run shifts towards the dollar are not necessarily indicative of long-term strategy. Jablecki remarks that the National Bank of Poland's movement towards the dollar is 'strategic rather than tactical'. In other words, such shifts towards the dollar are indicative of immediate-term movement to preserve capital and avoid volatility, as opposed to a revaluation of long-term currency allocation strategy.

SHIFT TOWARDS RENMINBI GROWS

There is continued growth in planned movement to holding renminbi. And unlike the movement towards the dollar, central banks' planned increase in renminbi holding appears to be largely a case of long-term strategy, rather than short-run prudence to avert volatility in European markets.

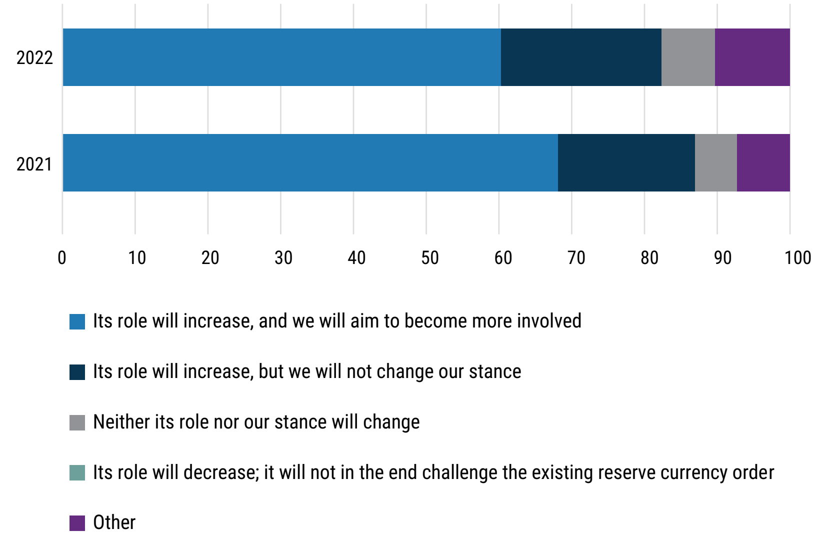
Figure 4 also captures net planned increases of

↓14.1%

In total, the share of reserves managers stating they would plan to move currency holdings averaged 14.1% in 2022 compared with 19.4% in 2021.

5. CENTRAL BANKS ANTICIPATE A GREATER ROLE FOR THE RENMINBI

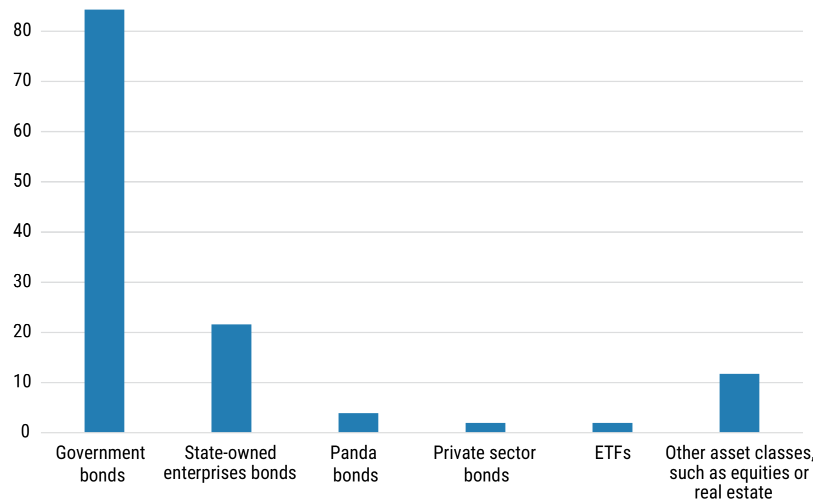
How do you see the role of the renminbi as a reserve currency developing over the next 10 years, and how will you respond? Share of respondents, %



Source: OMFIF GPI survey 2021-22

6. GOVERNMENT BONDS MOST WIDELY OWNED CHINESE ASSET

What kind of Chinese assets do you own? Share of respondents, %



Source: OMFIF GPI survey 2022

renminbi allocation among central banks of roughly +30% in both 2021 and 2022, with zero planned reductions in either year. Given the considerable volatility and economic shocks that have occurred throughout 2022, the consistency of this move towards the renminbi is notable. Figure 5 shows that 82% of surveyed central bankers expect a greater role for the renminbi, with 60% stating that they will aim to be more involved.

The movement towards the renminbi is part of a broader shift towards Chinese assets (see Chapter 2). Figure 6 shows that reserves managers are overwhelmingly choosing Chinese government bonds (84%). An additional 22% of central banks invested in Chinese assets opt for state-owned enterprise bonds. Just 2% of reserves managers with allocation to Chinese assets were invested in exchange-traded funds or private sector bonds.

Central bank respondents' chief reasons for the movement towards renminbi is shown in Figure 7. Among them, diversification (81%), the increasing importance of renminbi to the global economy (73%) and the possibility for higher yields (61%) were most significant. However, an average of just 2% of global currency allocations are directed to the renminbi. And this figure is even lower for Latin American, European and North American central banks. By contrast, the orientation towards the renminbi is primarily concentrated in Asia and Africa.

Central bank survey respondents also revealed the concerns that limit their plans to increase exposure to the renminbi and assets (Figure 8). For 71% of respondents, geopolitical concerns were discouraging them from investing in renminbi assets, and 63% and 62% respectively cited poor market infrastructure and a market not sufficiently open to investors. The presence of such concerns is why our findings do not suggest an imminent sea change in global reserves management strategy, with a widespread shift to the renminbi.

Lasker remarks that it is all too common for central banks to indicate 'planned' movement towards China, only to eventually become discouraged by geopolitical friction and weaker market infrastructure. Our survey results were also captured before the bout of Covid-19 lockdowns in

82%

of surveyed central bankers expect a greater role for the renminbi

OPINION

MAKING A POSITIVE IMPACT

ESG investment strategies can generate returns while having a beneficial impact on society, explains Perry Warjiyo, governor, Bank Indonesia.

INVESTING in social bonds reflects Bank Indonesia's conscious efforts in managing reserves to generate returns and deliver positive impacts on society. This investment strategy also aligns with the trend in recent years of responsible investment amid growing awareness of environmental, social and governance-related values and practices from investors.

Bank Indonesia's mandate of safeguarding economic and financial stability means there is a need to promote a sustainable and inclusive economy. We consider ESG risks as material to achieving our objectives and include them as part of our reserves management considerations. Our policy mix framework incorporates the view that climate change poses potentially material risks to the economy. These risks come from transition risk as a result of shifting to a low-carbon economy and physical risks due to climate-related disruptions.

Many factors have influenced our ESG investment strategy, such as the materiality of ESG risks, fiduciary duty, regulatory landscapes and risk mitigation. In recent years, there have been developments in the regulatory landscape at a global level in promoting ESG investing. In alignment with this progress, the Indonesian government is fully committed to achieving its nationally determined target under the 2015 Paris agreement. Based on these positive developments, we are confident that ESG investing can become part of the reserves portfolio management strategy since it enables us to incorporate broader portfolio diversification and provides opportunities to generate returns.

ESG assets are part of Bank Indonesia's reserves portfolio, along with other impact-labelled bonds such as green bonds and sustainability-linked bonds. In line with our commitment to engage in impact investing, these bonds have a growing share of total exposure in the reserves portfolio. We also seek to invest in social bonds as part of our effort to finance specific projects with positive social outcomes.

We are aware of the challenges of implementing and promoting sustainable finance. These challenges include inadequate awareness and expertise, lack of supportive regulatory reforms, high-cost sustainability products and data and limited access to sustainable instruments. Despite these challenges, Bank Indonesia consistently promotes ESG investing through its role as a monetary authority and regulator. As part of Indonesia's 2022 G20 presidency, through the Sustainable Finance Working Group, we are also making a serious effort to scale up sustainable finance with a focus on improving accessibility and affordability.•

DESPITE THESE CHALLENGES, BANK INDONESIA CONSISTENTLY PROMOTES ESG INVESTING THROUGH ITS ROLE AS A MONETARY AUTHORITY AND REGULATOR. AS PART OF INDONESIA'S 2022 G20 PRESIDENCY, THROUGH THE SUSTAINABLE FINANCE WORKING GROUP, WE ARE ALSO MAKING A SERIOUS EFFORT TO SCALE UP SUSTAINABLE FINANCE WITH A FOCUS ON IMPROVING ACCESSIBILITY AND AFFORDABILITY.

SPONSOR'S COMMENT

GEOPOLITICAL UPHEAVAL EMPHASISES GOLD'S VITAL ROLE

Gold's deep and liquid market makes it important for institutional investors during periods of increased risk, writes Shaokai Fan, global head of central banks, World Gold Council.

AS Russian troops entered Ukraine on 24 February 2022, the gold price surged to an intraday high of $1,974 per ounce. In the weeks that followed, as global risk assets retreated in the face of heightened geopolitical risks, gold went on to gain a further 8.75% to trade within a whisker of its record high at $2,075.

Geopolitical events in isolation are neither the only nor the main reason why investors should own gold. But, given gold's broad contribution to returns, diversification, liquidity and its positive portfolio impact, these events represent a clear example of why gold can be such an effective and well-established hedge against market risks.

Analysis suggests that gold has reacted positively to tail events linked to geopolitics and, despite price volatility, tended to keep those gains in the following months. In addition, as gold is particularly sensitive to geopolitical risks, the price of gold can rise in the lead up to events at a time when other asset classes have yet to reflect geopolitical concerns (Figure 1). This was the case in early February when tensions between Nato and Russia were rising but not yet at the forefront of the market's attention.

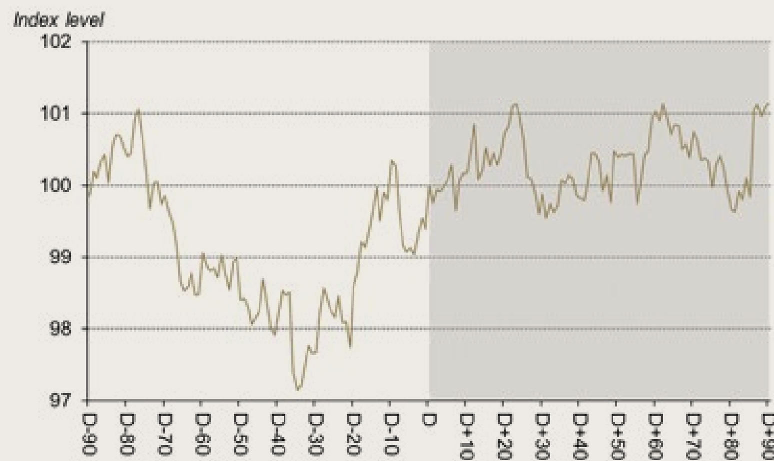
> THE PRICE OF GOLD CAN RISE IN THE LEAD UP TO EVENTS AT A TIME WHEN OTHER ASSET CLASSES HAVE YET TO REFLECT GEOPOLITICAL CONCERNS.

Our gold return attribution model offers some insights. While there is evidence that safe haven flows contributed to gold's rise in February, the full extent of its impact could not be captured. Instead, the unexplained component of our model captured geopolitical concerns that weren't fully reflected in other variables such as the dollar, volatility or oil, which normally react strongly in times of geopolitical instability. This suggests that gold prices are much more sensitive to geopolitical risks than other asset classes and can offer portfolio protection ahead of potential risk events.

Gold also trades in a deep and highly liquid market, with collective volumes surpassing $120bn a day and tight bid-ask spreads. The market's scale and depth mean that it can comfortably accommodate large, buy-and-hold institutional investors. In stark contrast to many financial markets, gold's liquidity does not dry up, even at times of financial stress, making it a much less volatile asset. Combined with the fact that bullion carries no credit risk, these factors make gold a sought after safe haven asset.

Amid today's increasingly precarious market environment, gold's portfolio role has never been clearer. This sentiment is evident among central banks. According to the 2022 Central Bank Gold Reserve Survey, 25% of central bank respondents now intend to increase their gold reserves over the next 12 months, the highest proportion since the start of the survey in 2019. In the face of rising inflation and geopolitical instability, central bank gold demand is likely to remain robust and a pillar of support for overall gold demand.•

1. AVERAGE GOLD PERFORMANCE BEFORE AND AFTER VARIOUS GEOPOLITICAL EVENTS*

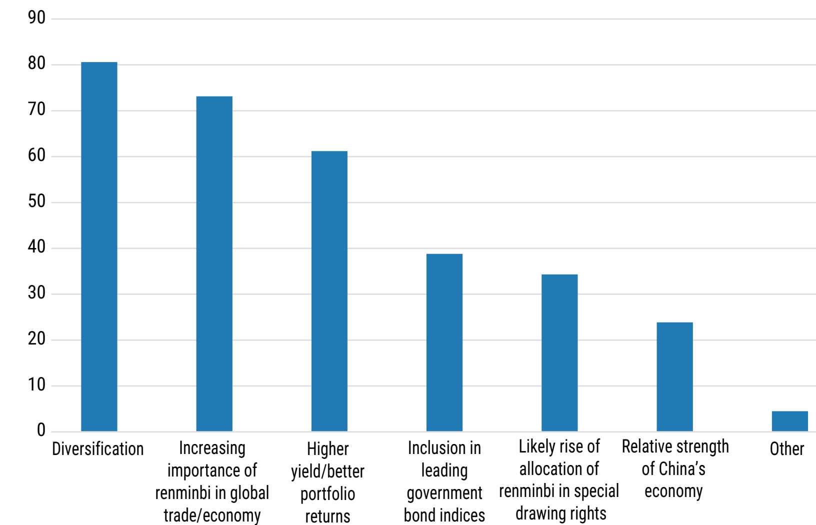


**The gold price is indexed at 100 at the start of the event, denoted by 'D'. Geopolitical events include: Start of Yom Kippur War (6 Oct 1973), Iranian Revolution: Commencement of Shah's Exile (16 Jan 1979), Iran-Iraq War (22 Sept 1980), Chernobyl nucelar disaster (26 Apr 1986), Iraqi invasion of Kuwait (2 Aug 1990), Operation Desert Storm (17 Jan 1991), World Trade Center bombing (26 Feb 1993), Oklahoma City bombing (19 Apr 1995), September 11 attacks (11 Sept 2001), US Iraq invasion (20 Mar 2003), Fukushima nuclear disaster (11 Mar 2011).*

Source: Bloomberg, ICE Benchmark Administration, World Gold Council

7. DIVERSIFICATION AND GLOBAL ECONOMY IMPORTANCE KEY TO RENMINBI GROWTH

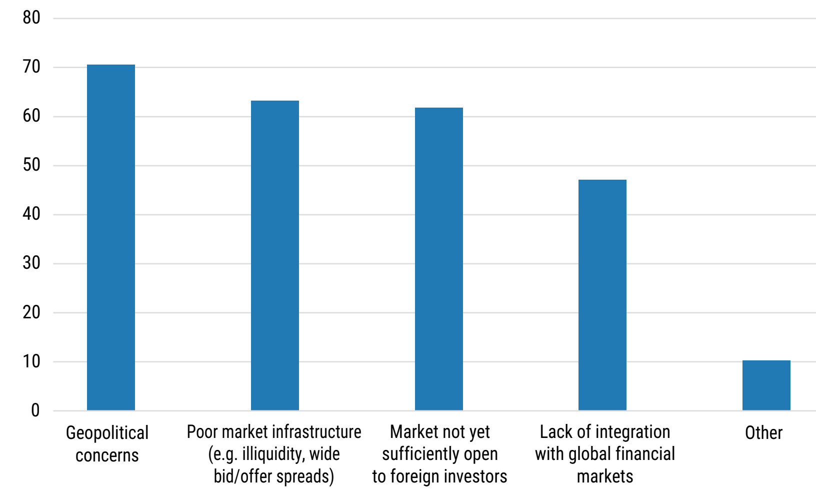
Which of the following reasons might encourage you to invest more in renminbi assets?
Share of respondents, %



Source: OMFIF GPI survey 2022

8. GEOPOLITICAL CONCERNS AND MARKET INFRASTRUCTURE DISCOURAGE RENMINBI GROWTH

Which of the following reasons might discourage you from investing in renminbi assets?
Share of respondents, %



Source: OMFIF GPI survey 2022

China earlier this year, which may be truncating the country's growth picture for some time.

These findings suggest that many countries around the world, particularly in developing regions, are keen to diversify and shift holdings from dollar to renminbi, not because of the renminbi's suitability as a reserve currency, but in spite of its many flaws. This encapsulates the geopolitical aspect of the drive towards reserves diversification, made more pressing by the freezing of Russian reserve assets through western sanctions.

SHORT-TERM PRUDENCE VERSUS LONG-TERM STRATEGY

The results of this year's GPI survey tell a clear story about how central bank reserves managers are proceeding with their currency delineations. First, central bank reserves managers are generally keeping things static, although there is some indication of a flight to safety. Planned movement of currency flows fell from 2021-22. However, the movement that is occurring generally takes the form of flight. This includes shifting towards gold to avert some of the impacts of a historically inflationary moment.

> **71%** of respondents said geopolitical concerns were discouraging them from investing in renminbi assets

Moreover, as part of a flight to safety, many central banks are increasing their reserves allocation to the dollar. Though this may not be an indication of a long-run strategy, such planned movement seems to stem partially from a recognition that the US is better insulated from the macroeconomic shocks of the Russo-Ukrainian war and turmoil in European and British financial markets. The dollar, for at least the foreseeable future, will continue to dominate as the global reserve currency.

Against these dynamics, China's growing importance to the global economy is encouraging many central bank reserves managers to increase their renminbi allocation. Despite considerable geopolitical challenges and issues of limited market infrastructure, a movement towards renminbi can offer useful opportunities for higher yield and more diversified portfolios. Such movement towards the renminbi remains primarily abstract, however, given the limited global allocation to the renminbi as well as the significant challenges central banks face in moving towards China. •

SPONSOR'S COMMENT

HOW TO CAPTURE CHINESE ALPHA THROUGH EXCHANGE-TRADED FUNDS

Stock Connect expansion makes it easier for foreign investors to take part in an increasingly important market.

CHINESE exchange-traded funds are a good way for reserves managers to rebalance their portfolios to better reflect the global economy

At the end of May 2022, the Chinese and Hong Kong securities regulators announced that they would be including eligible ETFs into the 2014 Stock Connect programme. Six years after the move was first mooted, the inclusion had been decided in order 'to expand the variety of traded products and provide more investment opportunities and convenience for domestic and overseas investors,' according to the China Securities Regulatory Commission and Hong Kong Securities and Futures Commission in a joint statement.

While there are certain limiting eligibility requirements and some final pieces of market infrastructure to resolve, it is a momentous occasion, not least because it opens China's fast growing onshore ETF market to global institutional investors for the first time.

One important subgroup of institutional investors are those who manage the official reserves of countries and central banks around the world. These have long been following a diversification path away from a reliance on fixed-income dollar assets. Not only have they been increasing their exposure to equities, they have also been broadening their exposure geographically.

ETFs and other equity index strategies have deservedly caught reserves managers' attention as a low-cost way to increase their equity exposure and risk profile, while also providing diversification, liquidity, flexibility, accessibility, transparency and tax efficiency.

At the same time, many reserves managers are aware that their overall asset exposure needs to better reflect the composition of the global economy, in particular by increasing exposure to China.

According to research by Greenwich Associates and analysis of the annual reports of several asset owners, 70% of global institutional investors say emerging market equity strategies are their primary, and sometimes only, source of Chinese exposure. Their average exposure to China is only 5%, with Asian investors having the highest (10%) and European investors the lowest (2%) exposures.

Much of this imbalance is due to the disconnect between China's gross domestic product weight and its presence in global indices. China currently represents 16% of global GDP weight but makes up only 4% of the cap-weighted index. Looked at through a purely emerging markets lens, China is 40% of global emerging market GDP but constitutes only 30% of the relevant index. This means that both global and emerging market funds are underweight in Chinese stocks compared to the Morgan Stanley Capital International all country world index and the MSCI emerging market index.

Chinese ETFs are therefore a perfect way for reserves managers to rebalance their portfolios to better reflect the global economy, while increasing non-correlated alpha with a low cost, liquid instrument.

China's ETF market is ready for this global institutional attention. Looked at from both a five- and ten-year basis, China's ETF market has grown rapidly. From 2011-21, China's ETF assets under management grew to Rmb2tn ($310bn), with an annualised growth rate of around 39%. The trade volume of ETFs also grew from around 0.5% to over 3% of the total A-shares market from 2017-21. Over the past year alone, institutional holdings of Chinese ETFs grew by almost a quarter.

China's ETF market is also becoming more sophisticated and more efficient. Analysing the return distribution of the market in total from 2020-22, returns delivered by Chinese ETFs have become much less dispersed. At the same time, fund flow analysis shows that in 2021 investors were changing their positions from investing in ETFs that had delivered the highest returns to investing in ETFs that had delivered lower returns. This shows sophisticated, contrarian behaviour.

A further compelling aspect of China's ETF market is that the indices it tracks have low correlations with other global indices and markets. For example, the performance of the China Securities Index 300 has only a 20% correlation with the S&P 500 and a 33% correlation with the MSCI ACWI. These low correlations between A-shares' broad-based indices with other markets are due to the idiosyncratic characteristics of China's economy. As these will remain, so the low correlations are likely to be sustained.

> **ETFs AND OTHER EQUITY INDEX STRATEGIES HAVE DESERVEDLY CAUGHT RESERVES MANAGERS' ATTENTION AS A LOW-COST WAY TO INCREASE THEIR EQUITY EXPOSURE AND RISK PROFILE.**

> **A FURTHER COMPELLING ASPECT OF CHINA'S ETF MARKET IS THAT THE INDICES IT TRACKS HAVE LOW CORRELATIONS WITH OTHER GLOBAL INDICES AND MARKETS.**

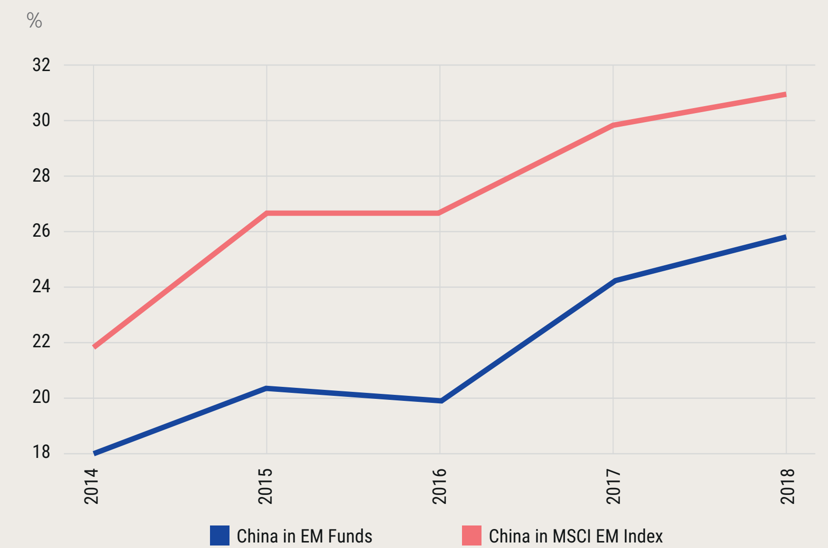
A-shares are the best expression of China's diverse and growing economy. The CSI 300 index is the index that best captures this market, comprising the 300 largest and most liquid A-share stocks listed on the Shanghai and Shenzhen exchanges. It covers over half of the market capitalisation of the two markets combined. The sector distribution of the CSI 300 index is aligned to the underlying market values with financials, technology, industrial and consumer sectors being the four largest sectors. For investors wanting more focus on high growth and technology stocks, the ChiNext-STAR 50 index also allows investors to capture the best stocks from both exchanges.

Reserves managers are also increasingly expected to incorporate environmental, social and governance considerations into their allocations. This is very much aligned with China's overall focus on sustainability within its equity markets. The ESG ratings of constituents of the CSI 300 index range from triple-A to C with the highest concentration from B to triple-B. The overall median score is 0.91 out of 1. For ChiNext-STAR 50, the overall median ESG score is 0.9 but the proportion of high ESG ratings (triple-A/AA) is only 21%.

Chinese ETFs are a product whose time has come. Investors can now access them through the Stock Connect scheme. With increased correlations between global asset classes, the need for diversification for reserves managers has never been higher. At the same time, ETFs as a product and the indices they follow need to be large and liquid enough to support the needs of global institutional investors. They also need to have ESG woven into their DNA to match the expectations of global investors. Chinese ETFs meet these requirements and should form an increasingly valuable part of reserves managers' allocations. •

1. MARKET CAPATALISATION WEIGHT OF CHINA

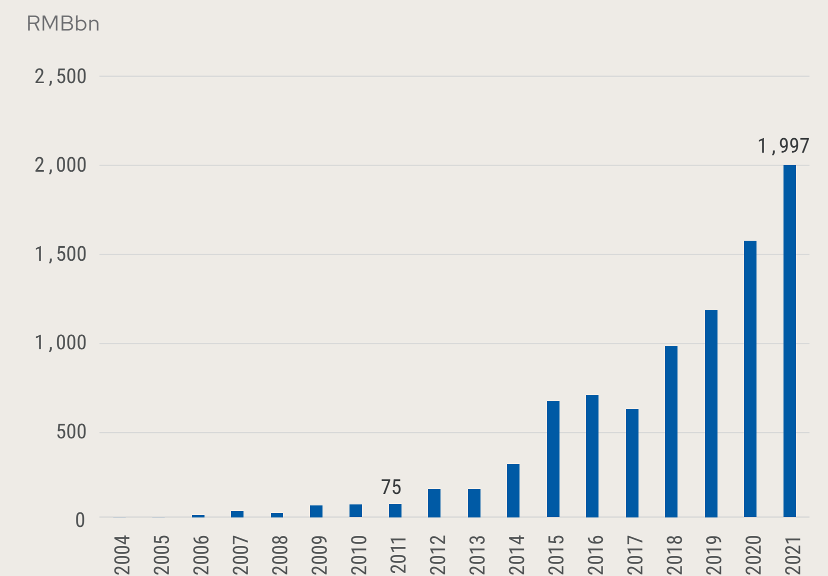
%



Source: MSCI, Lipper

2. CHINA ETF MARKET SIZE

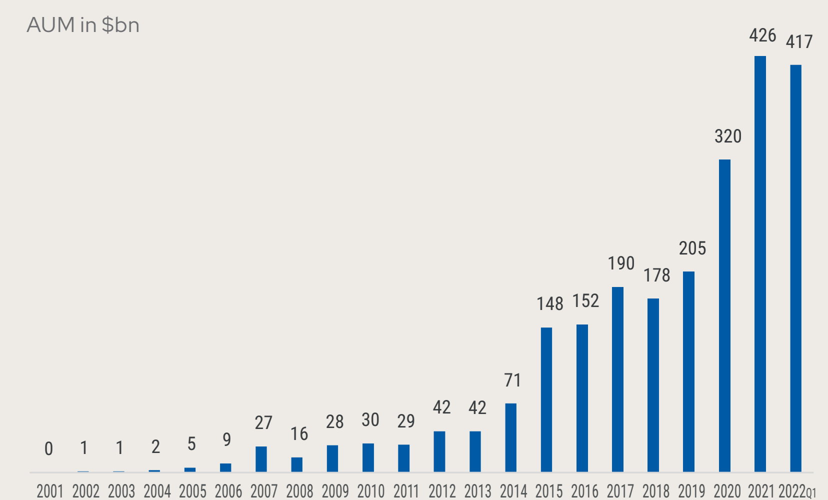
RMBbn



Source: Wind, data as of 1/1/2004-3/12/2021

3. E FUND: CHINA'S LARGEST FUND MANAGER

AUM in $bn



Source: E Fund Management Company

6. MANAGING COMMUNICATIONS

CENTRAL BANKS UNDER PRESSURE OVER TRANSPARENCY

As they work towards more accessible, clear and regular engagement with the public, central banks are taking different approaches to improving external communications. By Taylor Pearce.

CALLS for more transparency around central banks' policies and practices are not new. But they have been catalysed by the uncertainty brought to the global economy by successive exogenous shocks, first with the pandemic and more recently with impact of rising inflation and the war in Ukraine. This raises important questions for central banks. Is greater transparency with the public necessary? Is it desirable? And how can central banks best ensure accessible, clear and regular engagement with the public?

To explore these themes, OMFIF spoke with Sheila M'Mbijjewe, deputy governor of the Central Bank of Kenya, and Vincent Bignon, adviser to the general director of research and international relations of the Banque de France. This chapter draws on both GPI 2022 survey data as well as the insights from these interviews to investigate the reasoning behind this deeper and broader engagement with the public. It also looks at the practical implications, both for reserves managers and for the policy objectives of central banks more broadly.

INSTITUTIONAL RESPONSIBILITY OR POLICY TOOL?

There are two main arguments in favour of increasing central banks' transparency and communication with the public. The first relates to central banks' democratic accountability and legitimacy as public institutions, which is the heart

of the matter for M'Mbijjewe. 'The central bank is an institution of the people and an institution of the government,' she stated. 'Accountability is desirable and necessary.'

Accountability has become especially important as central banks have grown their policy toolkits. For Bignon, the key questions for the Banque de France in reconsidering their public communications have been: 'How can we listen to what people have to say? How can we adapt and react to their demands?' To strengthen its accountability to the public, the central bank has introduced virtual and live 'La Banque de France à votre écoute' ('the Banque de France at your service') events to engage with the public directly. Many other central banks are now conducting their own consumer and citizen surveys to receive input from the public.

The second justification for increased communication – related but distinct from accountability – is to improve monetary policy effectiveness through forward guidance and inflation expectations management. 'If you communicate with the public, you have the ability to influence future variables,' explained Bignon. 'Then there is the possibility they will better understand, and the central bank will be able to influence consumption and investment.'

However, this task is more challenging. Because of the technical language which central banks often use, communicating with the public is more difficult than with markets. Consumers and non-financial businesses also make choices based on future guidance, but while central bank watchers and market practitioners have the time and resources to invest in the policy language, the same cannot be said for the broader population.

To address this knowledge gap, many institutions have begun rolling out initiatives to better communicate with the public and improve financial and economic literacy through, for example, simplified language reports and data visualisations. The European Central Bank has redesigned its monetary policy statements to include 'non-technical' terms on how and why decisions were made. Many institutions are increasing the accessibility of their websites and publications,

HOW CAN WE LISTEN TO WHAT PEOPLE HAVE TO SAY? HOW CAN WE ADAPT AND REACT TO THEIR DEMANDS?

Vincent Bignon, adviser to the general director of research and international relations, Banque de France

98%

of respondents view reserves management as a factor in central banks' public reputation

and social media has been a key tool in managing forward guidance and inflation expectations of the population. The latter has been especially important for monetary authorities operating in developing economies, as OMFIF explored in GPI 2021.

Central banks' communications initiatives are often predicated on both greater accountability and improved policy effectiveness. For example, the ECB's redesigned public communications strategy overtly aims to address both the concern for institutional legitimacy and public trust as well as effectiveness of monetary policy operations. In a July 2021 white paper, the ECB stated the governing council's intention to 'modernise' its communications strategies. The paper expressed the need for the ECB to 'explain better what it does to all the people it serves' in order to 'ensure public understanding and trust' and 'to have a stronger influence on interest rates and inflation expectations.' The Bank of England has also emphasised its intentions to 'build accountability, trust and create a more effective policy-making environment' through its external communications.

TAILORED ENGAGEMENT, TARGETED AUDIENCE

The specific aim of public communications is also shaped by the particularities of their jurisdictions. This is why, for M'Mbijjewe, it is imperative 'to understand the transmission mechanisms and connection to the economy in any given market.' In Kenya, 'people ask a lot about macroeconomics, people don't ask a lot about monetary policy… Kenyans understand monetary policy through its effects on the exchange rate,' she noted. This differs to the transmission mechanisms in advanced economies, where rate policy is much more politically sensitive – and more closely followed – due to its impact on mortgages, to give one example. In this way, the Central Bank of Kenya's public communications strategy revolves around 'identifying what it is about central banks that people need to understand.'

The political pressure for greater transparency has coincided with calls for many central banks to address a wider range of issues, including non-monetary considerations ranging from climate change to inequality to digitalisation (see Chapter 4). For an increasing number of institutions, this means having to communicate clearly and consistently on interrelated issues which are growing in size, scope and complexity.

Are the calls by the public for greater transparency being conflated – to some extent – with calls for greater action on the part of central banks? Bignon remains sanguine: 'I think it's a call for greater research, especially in connection to output, growth and monetary policy… It is imperative that central banks understand and take into account the channels through which climate change affects the output gap and growth.' He added that this tendency is 'the same for inequality and digitalisation,' noting the need for research on inequality in relation to 'unconventional' monetary policy. In this sense, such non-monetary factors are important to consider, but primarily in relation to the central mandate of price stability.

This variation in the concerns of citizens in different jurisdictions demonstrates Bignon's point that 'there is no one-size-fits-all for central bank communications.' As such, central banks need to adapt how they communicate based on their target audiences and objectives, which are specific to the markets in which they operate.

IMPLICATIONS FOR RESERVES MANAGERS

Corresponding with the public's increased attention to central banks' policies and practices, successful reserves management is also key to central banks' credibility and for building public trust. This year's survey found that nearly all respondents (98%) view reserves management as a factor in central banks' public reputation, and the majority (60%) view successful reserves management as 'critical' to the public's perception of central banks (Figure 1).

An additional 38% of reserves managers reported that reserves management impacts the central bank's reputation to some extent. One survey respondent clarified: 'Reserves management plays an important role in influencing public reputation, but the critical factor arises from the fundamental objective of the central bank, which is to maintain price stability.'

For central banks operating in developing market economies, reserves management is even more pertinent. One such respondent noted that, specifically, 'the level of the reserves, rather than the reserves management practices, is critical to the central bank's reputation.' M'Mbijjewe offered an explanation: 'Revenue from reserves is the source of a bank's independence… If you're not looking after the balance sheet, you're not looking after the institution.'

Central bank reserves managers face the dual challenge of operating under an increasingly volatile macro environment, while also facing more intense scrutiny at home by the broader population. A significant drop in the level of reserves could erode public confidence and trust in the central bank.

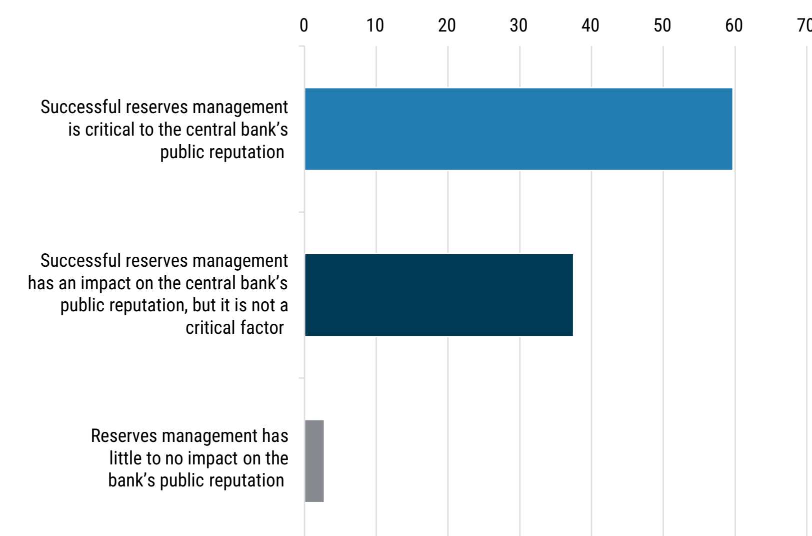
TOWARDS ACCESSIBLE, CLEAR AND REGULAR COMMUNICATION

While much progress has been made on strengthening the link between central banks and markets, engaging with the broader public has been more challenging. That should not deter monetary policy-makers and reserves managers. The merits of central banks communicating with the public are manifold, both due to the responsibility of central banks as public institutions and the need to improve policy effectiveness. Though more attention is being paid to central banks' actions and intentions given the current volatility and uncertainty in the macroeconomy, the trend towards greater openness is unlikely to reverse.

The resulting strategies, measures and initiatives will vary by jurisdiction, but as they develop public communications initiatives and strategies, the trade-off between parsimonious communication and effectively expressing the uncertainty of monetary policy-making will continue to pose challenges for central banks globally. As their policies and practices are shared more with the public, reserves managers will face even more pressure to perform. •

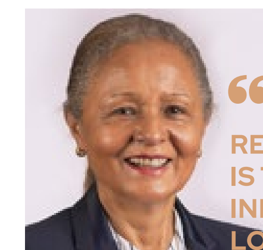
1. RESERVES MANAGEMENT IMPACTS CENTRAL BANKS' PUBLIC REPUTATION

How important is reserves management to maintaining or protecting the central bank's public reputation? Share of respondents, %



Source: OMFIF GPI survey 2022

A SIGNIFICANT DROP IN THE LEVEL OF RESERVES COULD ERODE PUBLIC CONFIDENCE AND TRUST IN THE CENTRAL BANK.



REVENUE FROM RESERVES IS THE SOURCE OF A BANK'S INDEPENDENCE… IF YOU'RE NOT LOOKING AFTER THE BALANCE SHEET, YOU'RE NOT LOOKING AFTER THE INSTITUTION.

Sheila M'Mbijjewe, deputy governor, Central Bank of Kenya

REGIONAL SPOTLIGHTS

REGIONAL HIGHLIGHTS

Fewer than 5% of reserves managers intend to increase their exposure to the region and African assets currently make up only 2.5% of global portfolios.

African reserves managers use external managers for more than 16% of their assets under management, the highest for any region apart from Latin America.

More than two-thirds of respondents do not implement ESG criteria in their reserves management practices, with 50% attributing the relative complexity of sustainable assets – almost double the 26% global average – as one of the main obstacles to integrating ESG criteria into investment policies.

The role of the renminbi has increased as economic and financial ties with China deepen. As a proportion of total portfolios, a 5.2% allocation represents a greater share than even Asia Pacific, with 42% of central banks planning to increase this exposure in the next 12-24 months.

The dollar is becoming less important to African reserves managers, with its representation in African portfolios falling to 61% from 69% in 2021 – the only region to reduce dollar holdings.

Top 10 central banks

Regional Ranking	GPI Rank	Country	Institution	AUM $bn	$bn change on 2021	% change on 2021
1	31	Libya	Central Bank of Libya	85.5	12.6	17%
2	41	South Africa	South African Reserve Bank	57.8	3.6	7%
3	42	Egypt	Central Bank of Egypt	56.7	6.7	13%
4	45	Algeria	Bank of Algeria	46.1	-2.8	-6%
5	50	Nigeria	Central Bank of Nigeria	41.8	5.1	14%
6	54	Morocco	Bank Al-Maghrib	35.6	-0.4	-1%
7	63	West African System	Banque Centrale des Etats de l'Afrique de l'Ouest	24.2	2.3	11%
8	74	Angola	Banco Nacional de Angola	15.6	0.6	4%
9	79	Ghana	Bank of Ghana	10.8	3.2	42%
10	81	Central African System	Banque des États de l'Afrique Centrale	9.8	2.0	26%

Biggest changes in reserve assets

Top three risers and fallers by change in reserves, $bn

$bn change on 2021	% change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
12.6	17%	Central Bank of Libya	Libya	85.5	31	▲3	1	▶0
6.7	13%	Central Bank of Egypt	Egypt	56.7	42	▶0	3	▶0
5.1	14%	Central Bank of Nigeria	Nigeria	41.8	50	▲2	5	▶0
-0.7	-22%	National Bank of Ethiopia	Ethiopia	2.4	123	▼-9	21	▼-3
-1.0	-10%	Banque Centrale de Tunisie	Tunisia	8.7	88	▼-8	12	▼-3
-2.8	-6%	Bank of Algeria	Algeria	46.1	45	▼-2	4	▶0

Top three risers and fallers by change in reserves, %

% change on 2021	$bn change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
2362%	0.8	Reserve Bank of Zimbabwe	Zimbabwe	0.8	150	▲21	29	▲11
364%	2.7	Banque Centrale du Congo	DR Congo	3.5	113	▲35	18	▲9
195%	0.2	Central Bank of Burundi	Burundi	0.3	168	▲2	39	▶0
-14%	-0.1	Central Bank of Djibouti	Djibouti	0.6	160	▼-9	34	▼-4
-22%	-0.7	National Bank of Ethiopia	Ethiopia	2.4	123	▼-9	21	▼-3
-29%	-0.2	Reserve Bank of Malawi	Malawi	0.4	163	▼-7	37	▼-6

KEY NUMBERS

83%

of central banks list benchmarking as a reason for employing external managers

71%

anticipate inflation will remain high

8.15%

decrease in the dollar's share of portfolio currency

69%

do not implement ESG criteria

85%

believe successful reserves management is critical for protecting public reputation

55%

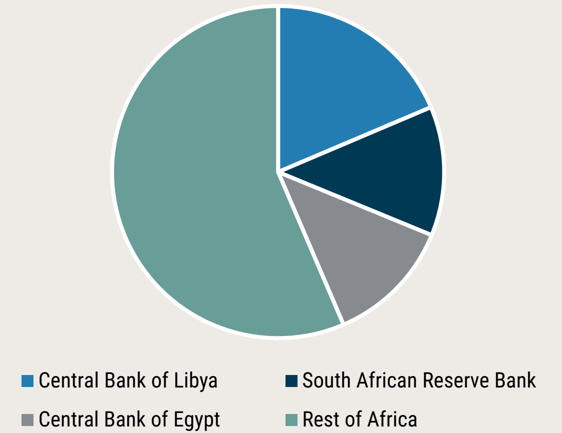
are unwilling to use more than 10% of reserves in a currency crisis

35%

cite IMF facilities as the most effective aspect of the global financial safety net

1. AFRICAN RESERVE ASSETS THE LEAST CONCENTRATED OF ANY REGION

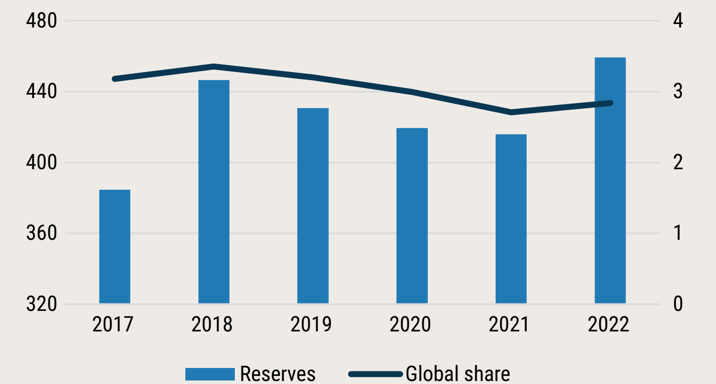
Concentration of reserve assets by region for selected countries



Source: International Monetary Fund

2. RESERVES INCREASE HALTS RECENT SLIDE

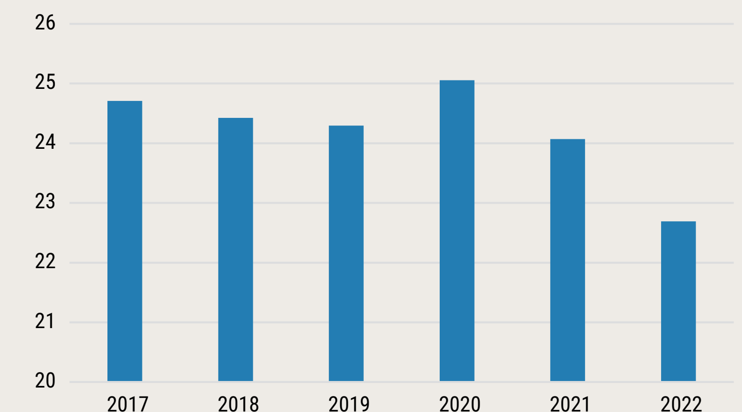
Total reserve assets by region, $bn, and regional share of total global reserve assets, %



Source: International Monetary Fund

3. RESERVE ACCUMULATION IN LINE WITH ECONOMIC RECOVERY

Total reserve assets, % of GDP



Source: International Monetary Fund

LATIN AMERICA AND CARIBBEAN

REGIONAL HIGHLIGHTS

LATIN AMERICA is the least favoured investment destination for global reserves managers. Just 0.24% of global portfolios are held in Latin American assets, and only 3% of reserves managers plan to increase their holdings in the region over the next 12-24 months.

Reserve assets under management with Latin American central banks have steadily increased since 2017 by 9.9%, with a relatively constant ratio of reserves to GDP.

However, in a period which has seen total central bank reserves increase by 33.6%, accumulation rates have not kept pace with those seen elsewhere.

Recent inflation and geopolitical shocks have reinforced Latin American reserves managers' propensity to hold dollar assets. More than 92% of their portfolios are dollar-denominated, compared to a global average of 57%.

Three-quarters of Latin American reserves managers classify central bank legislation as among the biggest challenges to introducing asset classes –the highest of any region. This is reflected in their portfolios – equities account for just 0.1%, and government bonds 47%, compared to global averages of 3.3% and 36%, respectively.

Top 10 central banks

Regional Ranking	GPI Rank	Country	Institution	AUM $bn	$bn change on 2021	% change on 2021
1	12	Brazil	Banco Central do Brasil	362.2	6.6	1.9%
2	19	Mexico	Banco de México	207.7	8.7	4.4%
3	34	Peru	Central Bank of Peru	79.1	4.3	5.7%
4	37	Chile	Banco Central de Chile	62.8	3.6	6.1%
5	39	Colombia	Banco de la República Colombia	60.6	-3.2	-5.0%
6	52	Argentina	Banco Central de la República Argentina	39.7	0.3	0.7%
7	65	Guatemala	Banco de Guatemala	20.9	2.5	13.4%
8	72	Uruguay	Banco Central del Uruguay	17.1	0.7	4.4%
9	77	Dominican Republic	Banco Central de la República Dominicana	13.0	2.3	21.2%
10	78	Venezuela	Banco Central de Venezuela	10.9	4.6	71.5%

Biggest changes in reserve assets

Top three risers and fallers by change in reserves, $bn

$bn change on 2021	% change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
8.7	4%	Banco de México	Mexico	207.7	19	▼-1	2	▶0
6.6	2%	Banco Central do Brasil	Brazil	362.2	12	▶0	1	▶0
4.6	71%	Banco Central de Venezuela	Venezuela	10.9	78	▲18	10	▲5
-0.3	-4%	Banco Central de Costa Rica	Costa Rica	6.9	95	▼-2	14	▼-1
-0.5	-10%	Banco Central de Bolivia	Bolivia	4.8	102	▼-2	16	▶0
-3.2	-5%	Banco de la República Colombia	Colombia	60.6	39	▼-4	5	▼-1

Top three risers and fallers by change in reserves, %

% change on 2021	$bn change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
71%	4.6	Banco Central de Venezuela	Venezuela	10.9	78	▲18	10	▲5
70%	0.4	Centrale Bank van Suriname	Suriname	1.0	145	▲12	26	▲1
26%	0.8	Banco Central de Nicaragua	Nicaragua	4.0	110	▲2	18	▶0
-4%	-0.3	Banco Central de Costa Rica	Costa Rica	6.9	95	▼-2	14	▼-1
-5%	-3.2	Banco de la República Colombia	Colombia	60.6	39	▼-4	5	▼-1
-10%	-0.5	Banco Central de Bolivia	Bolivia	4.8	102	▼-2	16	▶0

KEY NUMBERS

24%

of reserve assets are managed by external managers – the highest by region

0.046%

fees paid to external managers as a % of AUM – the lowest fee by region

91%

of respondents who engage external managers do so for reasons including knowledge transfer and diversification

92%

of total portfolios held in dollars

40%

of central banks will not increase their renminbi exposure, despite foreseeing its role as a reserve currency increasing

75%

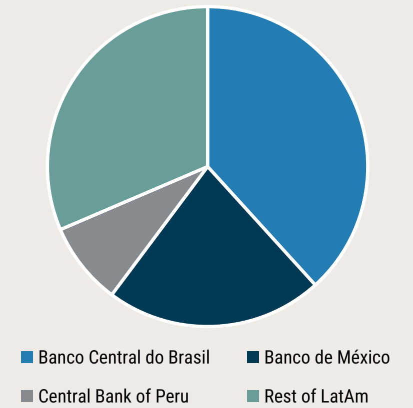
of reserves managers cited legislation as one of the greatest obstacles to introducing new asset classes

66%

of reserves managers see lack of data or other information as the biggest barrier to increased ESG investment

1. BRAZIL AND MEXICO ACCOUNT FOR OVER 60% OF TOTAL REGIONAL RESERVE ASSETS

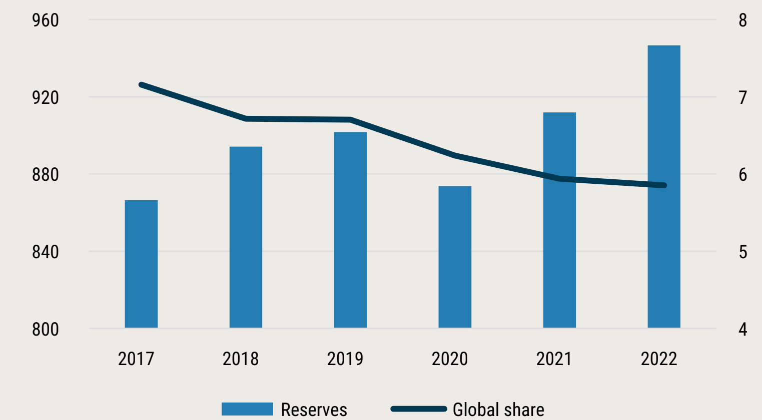
Concentration of reserve assets by region for selected countries



Source: International Monetary Fund international financial statistics

2. INCREMENTAL INCREASES INSUFFICIENT TO KEEP PACE WITH GLOBAL TRENDS

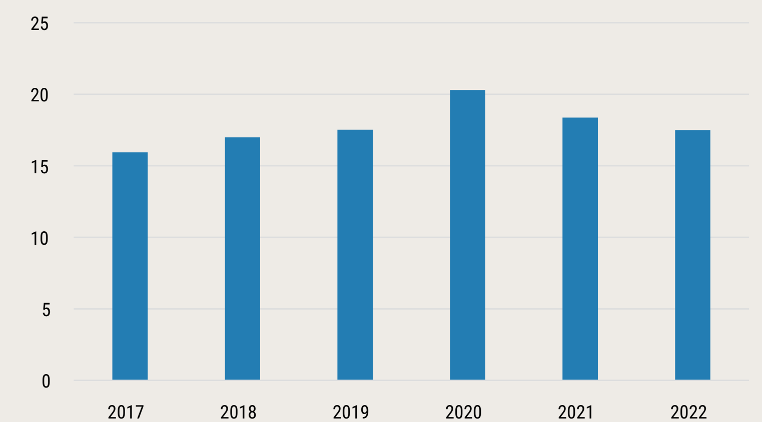
Total reserve assets by region, $bn, and regional share of total global reserve assets, %.



Source: International Monetary Fund international financial statistics

3. RESERVES ACCUMULATION PEGGED TO OUTPUT GROWTH

Total reserve assets, % of GDP



Source: International Monetary Fund international financial statistics, World Economic Outlook

EUROPE

REGIONAL HIGHLIGHTS

Just over 34% of central bank portfolio assets are invested in Europe, and it is the biggest regional investment for reserves managers from Africa. Three-quarters of managers globally plan to maintain their current allocations over the next 12-24 months.

Recent reserves growth has seen Europe contribute a third of the nominal increase in global central bank assets since last year. Reserves have grown by 63% since 2017, almost twice the global rate of 33%.

Only 5.8% of reserves are managed externally, with these managers being primarily utilised in accessing foreign bonds and equities – the only region to do so in both domestic and foreign markets.

Some 58% of institutions in Europe are invested in social bonds, the highest in any region, compared to 53% across the rest of the world who do not plan on investing in this asset class.

The dollar composition of aggregate European reserves manager portfolios has increased by 4%, at the expense of euro and renminbi allocations. The 0.44% share fall in renminbi made Europe the only region where such a fall in renminbi holdings occurred over the past 12 months.

Top 10 central banks

Regional Ranking	GPI Rank	Country	Institution	AUM $bn	$bn change on 2021	% change on 2021
1	3	Switzerland	Swiss National Bank	1111.3	26.3	2%
2	6	Russia	Central Bank of the Russian Federation	630.6	34.6	6%
3	13	Germany	Deutsche Bundesbank	296.1	26.6	10%
4	14	France	Banque de France	253.5	20.9	9%
5	16	UK	Bank of England	239.2	16.1	7%
6	17	Italy	Banca d'Italia	229.4	16.3	8%
7	20	Czech Republic	Česká Národní Banka	173.9	7.5	5%
8	21	Poland	Narodowy Bank Polski	166.4	11.9	8%
9	26	Turkey	Central Bank of the Republic of Turkey	111.2	17.6	19%
10	29	Spain	Banco de España	99.0	11.9	14%

Biggest changes in reserve assets

Top three risers and fallers by change in reserves, $bn

$bn change on 2021	% change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
34.6	6%	Central Bank of the Russian Federation	Russia	630.6	6	▼-1	2	▶0
26.6	10%	Deutsche Bundesbank	Germany	296.1	13	▶0	3	▶0
26.3	2%	Swiss National Bank	Switzerland	1111.3	3	▶0	1	▶0
-0.2	-7%	Centralna Banka Crne Gore	Montenegro	2.0	131	▼-8	42	▼-3
-0.3	-1%	Banca Naţională a României	Romania	51.9	43	▼-2	16	▶0
-0.9	-8%	Národná banka Slovenska	Slovakia	10.0	80	▼-3	28	▼-1

Top three risers and fallers by change in reserves, %

% change on 2021	$bn change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
88%	1.4	Banque Centrale du Luxembourg	Luxembourg	3.0	117	▲13	39	▲2
77%	5.7	Central Bank of Ireland	Ireland	13.2	76	▲15	27	▲3
70%	0.9	Banka Slovenije	Slovenia	2.3	129	▲9	41	▲1
-1%	-0.3	Banca Naţională a României	Romania	51.9	43	▼-2	16	▶0
-7%	-0.2	Centralna Banka Crne Gore	Montenegro	2.0	131	▼-8	42	▼-3
-8%	-0.9	Národná banka Slovenska	Slovakia	10.0	80	▼-3	28	▼-1

KEY NUMBERS

31%

of European reserves managers rank increased risk-adjusted returns as the main reason for diversification against 11% in the rest of the world

44%

of external managers are used for accessing foreign equities

13%

of portfolios are allocated to gold

89%

of central banks directly invest in gold, the highest of all regions

27%

of reserves managers plan to increase equity allocations over the next 24 months

56%

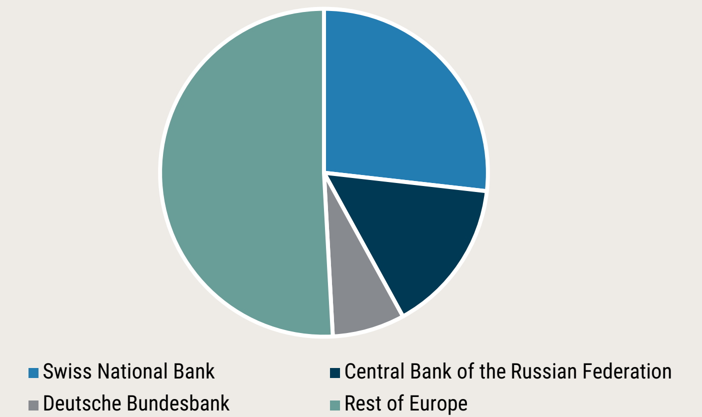
of reserves managers invest in sustainable finance assets

19%

of reserves managers plan on increasing allocations to green or sustainable equities – the only region to do so

1. SWISS NATIONAL BANK CONTRIBUTED 27% OF REGIONAL RESERVES GROWTH SINCE 2017

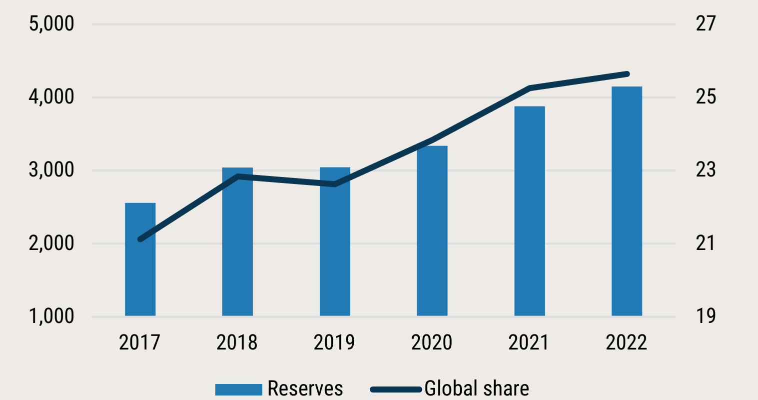
Concentration of reserve assets by region for selected countries



Source: International Monetary Fund

2. EUROPE NOW RESPONSIBLE FOR OVER A QUARTER OF GLOBAL CENTRAL BANK RESERVES

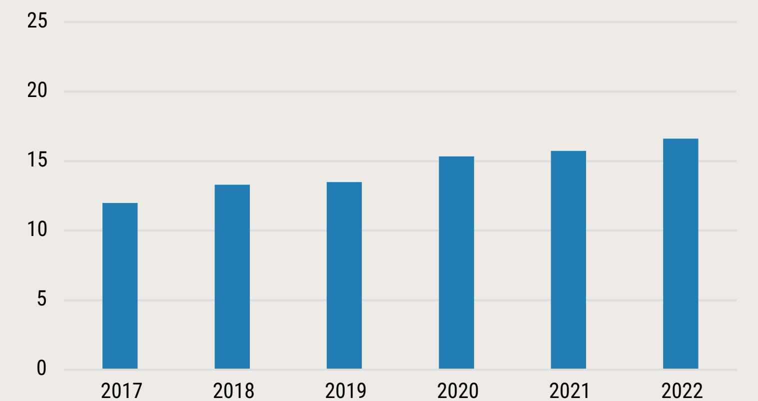
Total reserve assets by region, $bn, and regional share of total global reserve assets, %



Source: International Monetary Fund

3. RESERVES GROWTH REPEATEDLY OUTSTRIPS GROWTH PERFORMANCE

Total reserve assets, % of GDP



Source: International Monetary Fund

ASIA PACIFIC

REGIONAL HIGHLIGHTS

Of reserves managers surveyed, 33% intend to increase their exposure to Asia Pacific over the next 12-24 months, the highest proportion for any region, although it is lower than 2021's figure of more than 40%. Around 11% of central bank portfolios are already invested in Asia Pacific.

Asian reserves managers allocate less than 10% of their portfolios to the euro, the lowest of any region other than Latin America.

Reserves managers in Asia Pacific are more likely to invest in ETFs than their global counterparts, with 27% of respondents planning on increasing their allocation in the next 24 months. Stressing the benefits of ETFs in enhancing operational efficiency and gaining access to complex assets, Asia Pacific is the only region where monetary authorities invest in gold ETFs.

Asian reserves managers cite the market not yet being sufficiently open to foreign investors (69%) as one of the most important factors in not allocating more to renminbi assets. Only 47% cited geopolitical concerns, which was the most frequently cited impediment for all other regions (with the global average being 71%).

In response to rising inflation, reserves managers are hinting at a less conservative stance. On the trade-off between traditional risk approaches and absolute returns, 33% of reserves managers intend on maintaining their approach to risk and 27% to absolute returns, against global averages of 47% and 18%.

Top 10 central banks

Regional Ranking	GPI Rank	Country	Institution	AUM $bn	$bn change on 2021	% change on 2021
1	1	China	People's Bank of China	3606.2	70.1	2.0%
2	2	Japan	Japanese Monetary Authorities	1448.1	7.9	0.5%
3	5	India	Reserve Bank of India	635.3	46.9	8.0%
4	7	Taiwan	Central Bank of the Republic of China	554.0	18.7	3.5%
5	8	Hong Kong	Hong Kong Monetary Authority	531.1	11.5	2.2%
6	9	South Korea	Bank of Korea	463.1	20.0	4.5%
7	11	Singapore	Monetary Authority of Singapore	417.9	55.6	15.3%
8	15	Thailand	Bank of Thailand	246.1	-12.2	-4.7%
9	22	Indonesia	Bank Indonesia	144.9	9.0	6.6%
10	24	Malaysia	Bank Negara Malaysia	117.0	8.8	8.2%

Biggest changes in reserve assets

Top three risers and fallers by change in reserves, $bn

$bn change on 2021	% change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
70.1	2%	People's Bank of China	China	3606.2	1	▶0	1	▶0
55.6	15%	Monetary Authority of Singapore	Singapore	417.9	11	▶0	7	▶0
46.9	8%	Reserve Bank of India	India	635.3	5	▲1	3	▶0
-1.9	-17%	Nepal Rastra Bank	Nepal	9.2	87	▼-11	21	▶0
-2.3	-40%	Central Bank of Sri Lanka	Sri Lanka	3.4	115	▼-16	26	▼-2
-12.2	-5%	Bank of Thailand	Thailand	246.1	15	▼-1	8	▶0

Top three risers and fallers by change in reserves, %

% change on 2021	$bn change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
42%	0.3	Banco Central de Timor-Leste	Timor-Leste	0.9	148	▲6	33	▲2
40%	0.4	Reserve Bank of Fiji	Fiji	1.5	141	▲2	31	▲1
36%	15.6	Reserve Bank of Australia	Australia	58.6	40	▲6	13	▲1
-17%	-1.9	Nepal Rastra Bank	Nepal	9.2	87	▼-11	21	▶0
-20%	-0.2	Maldives Monetary Authority	Maldives	0.8	152	▼-7	34	▼-1
-40%	-2.3	Central Bank of Sri Lanka	Sri Lanka	3.4	115	▼-16	26	▼-2

KEY NUMBERS

60%
of respondents anticipate inflation will become more volatile across most major economics over the next 24 months

27%
of total portfolio assets allocated to government bonds – the lowest proportion in any region

67%
of reserves managers willing to use over 30% of reserves in the event of a currency crisis

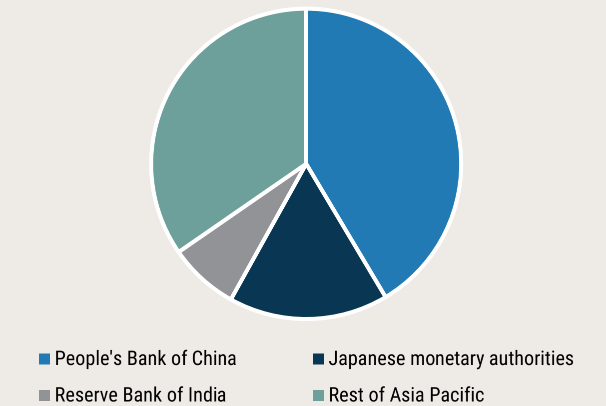
2%
of total portfolios held in ETFs – double the global average of 1%

77%
of reserves managers list administration and governance among the greatest obstacles to introducing new assets

25%
of reserves managers invest in green or sustainable equities – more than double the global average of 11%

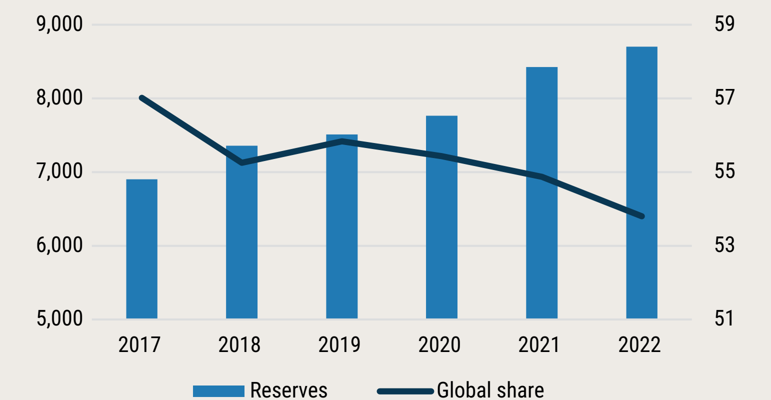
47%
of reserves managers implement ESG criteria through exclusions or negative screening

1. CHINA ACCOUNTS FOR 41.4% OF REGIONAL RESERVES
Concentration of reserve assets by region for selected countries



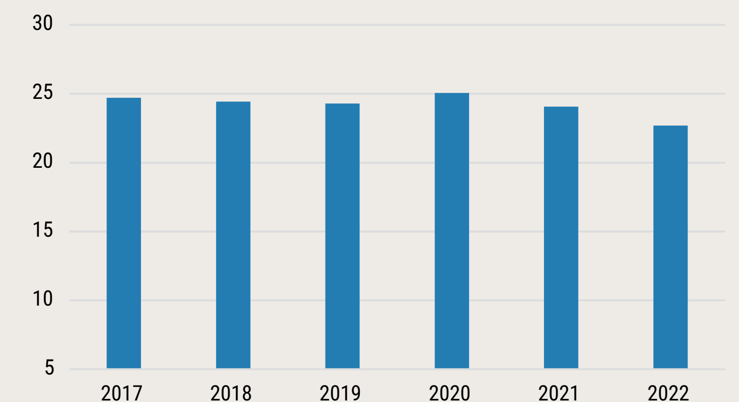
Source: International Monetary Fund

2. CONSISTENT RECORD OF RESERVES GROWTH
Total reserve assets by region, $bn, and regional share of total global reserve assets, %



Source: International Monetary Fund

3. RESERVES-GDP RATIO LEAST VOLATILE BY REGION
Total reserve assets, % of GDP



Source: International Monetary Fund

MIDDLE EAST

REGIONAL HIGHLIGHTS

Only 5% of global reserves managers plan on increasing their exposure to the Middle East in the next 24 months. Middle Eastern assets represent a 3% share of global reserves manager portfolios.

Reserves managers in the Middle East have demonstrated their willingness to increase their portfolio allocations to both emerging markets and equities, at 36% and 10%, respectively, dwarfing global averages of 9% and 3%.

Top 10 central banks

Regional ranking	GPI rank	Country	Institution	AUM $bn	$bn change on 2021	% change on 2021
1	10	Saudi Arabia	Saudi Central Bank	455.4	1.7	0%
2	18	Israel	Bank of Israel	213.2	39.4	23%
3	23	UAE	Central Bank of the UAE	131.1	24.4	23%
4	36	Iraq	Central Bank of Iraq	63.4	8.9	16%
5	46	Kuwait	Central Bank of Kuwait	45.0	-3.2	-7%
6	48	Qatar	Qatar Central Bank	42.2	1.2	3%
7	51	Iran	Central Bank of Iran	41.4	20.1	94%
8	57	Lebanon	Banque du Liban	35.1	-7.3	-17%
9	67	Oman	Central Bank of Oman	19.7	4.7	31%
10	68	Jordan	Central Bank of Jordan	19.1	2.1	12%

Biggest changes in reserve assets

Top three risers and fallers by change in reserves, $bn

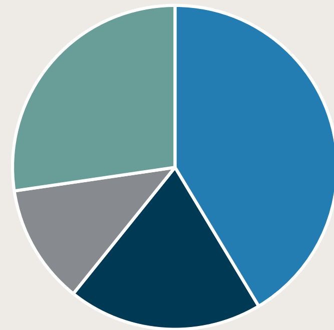
$bn change on 2021	% change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
39.4	23%	Bank of Israel	Israel	213.2	18	▲1	2	▶0
24.4	23%	Central Bank of the UAE	UAE	131.1	23	▲2	3	▶0
20.1	94%	Central Bank of Iran	Iran	41.4	51	▲13	7	▲1
-0.7	-50%	Central Bank of Yemen	Yemen	0.7	155	▼-20	15	▶0
-3.2	-7%	Central Bank of Kuwait	Kuwait	45.0	46	▼-2	5	▶0
-7.3	-17%	Banque du Liban	Lebanon	35.1	57	▼-10	8	▼-2

Top three risers and fallers by change in reserves, %

% change on 2021	$bn change on 2021	Institution name	Country	AUM $bn 2022	GPI 2022 rank		Regional rank	
110%	2.5	Central Bank of Bahrain	Bahrain	4.7	103	▲18	13	▶0
94%	20.1	Central Bank of Iran	Iran	41.4	51	▲13	7	▲1
31%	4.7	Central Bank of Oman	Oman	19.7	67	▲4	9	▲2
-7%	-3.2	Central Bank of Kuwait	Kuwait	45.0	46	▼-2	5	▶0
-17%	-7.3	Banque du Liban	Lebanon	35.1	57	▼-10	8	▼-2
-50%	-0.7	Central Bank of Yemen	Yemen	0.7	155	▼-20	15	▶0

1. REGIONAL RESERVES DISTRIBUTION REMAINS THE MOST HIGHLY CONCENTRATED

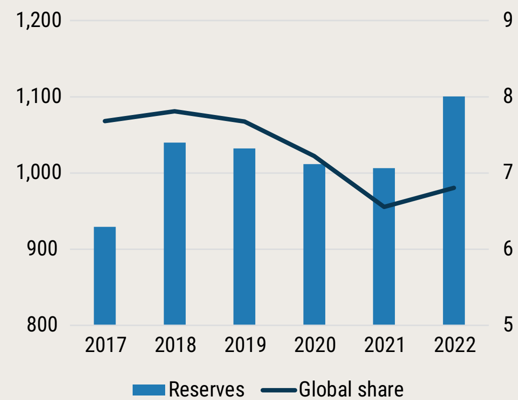
Concentration of reserve assets by region for selected countries



Source: International Monetary Fund

2. ANNUAL INCREASE OFFSETS RECENT DECUMULATION

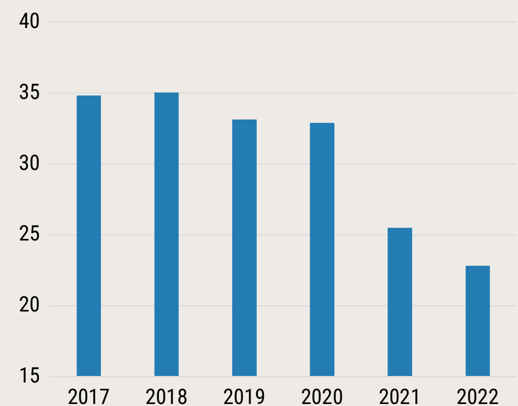
Total reserve assets by region, $bn, and regional share of total global reserve assets, %



Source: International Monetary Fund

3. RESERVES-GDP RATIO SLIDE DECELERATES FOLLOWING RECENT SHOCKS

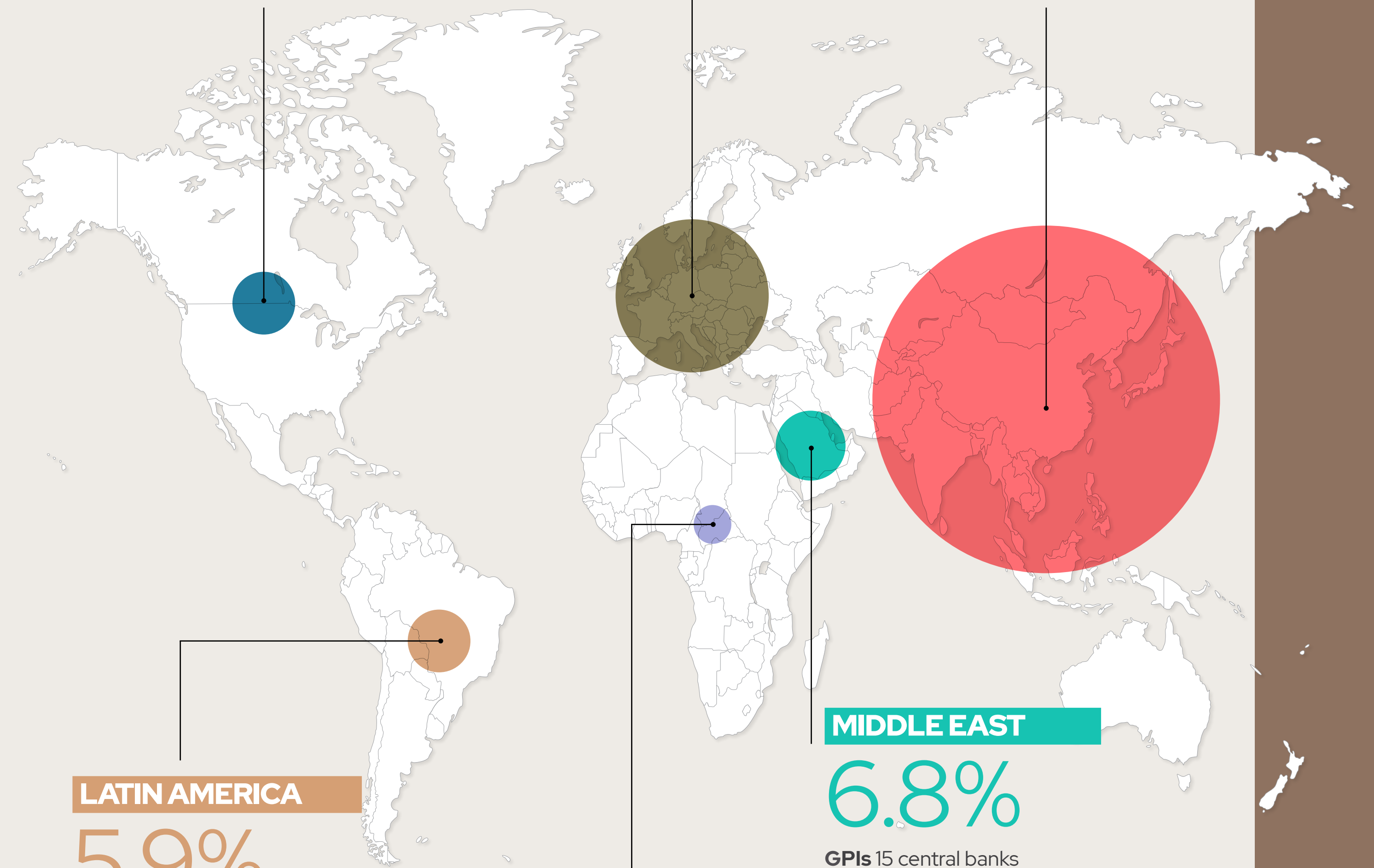
Total reserve assets, % of GDP



Source: International Monetary Fund

GLOBAL DISTRIBUTION OF CENTRAL BANK ASSETS

Total GPIs	Total AUM 2022 ($tn)	Total change from 2021
171 Central banks	$16.17tn	▲ $818bn (5.3%)



NORTH AMERICA

5.1%

GPIs 2 central banks
AUM $819bn
Change from 2021 ▲ $101.1bn (14.1%)

EUROPE

25.6%

GPIs 46 central banks
AUM $4.1tn
Change from 2021 ▲ $269.8bn (7%)

ASIA PACIFIC

53.8%

GPIs 38 central bank
AUM $8.7tn
Change from 2021 ▲ $275.1bn (3.3%)

LATIN AMERICA

5.9%

GPIs 30 central banks
AUM $946.6bn
Change from 2021 ▲ $34.7bn (3.8%)

MIDDLE EAST

6.8%

GPIs 15 central banks
AUM $1.1tn
Change from 2021 ▲ $93.8bn (9.3%)

AFRICA

2.8%

GPIs 40 central banks
AUM $459.2bn
Change from 2021 ▲ $43.3bn (10.4%)

TOP 10 CENTRAL BANKS

GPI Rank	GPI Rank change on 2021	Institution	Country	Region	Reserves ($bn)	bn change on 2021	% change on 2021
1	▶ 0	People's Bank of China	China	AP	3,606.1	70.1	2%
2	▶ 0	Japanese Monetary Authorities	Japan	AP	1,448.1	7.8	1%
3	▶ 0	Swiss National Bank	Switzerland	EU	1,111.3	26.2	2%
4	▶ 0	US Monetary Authorities	US	NA	712.4	84.9	13%
5	▲ 1	Reserve Bank of India	India	AP	635.3	46.9	8%
6	▼ -1	Central Bank of the Russian Federation	Russia	EU	630.6	34.5	5%
7	▶ 0	Central Bank of the Republic of China	Taiwan	AP	553.9	18.6	3%
8	▶ 0	Hong Kong Monetary Authority	Hong Kong	AP	531.1	11.4	2%
9	▲ 1	Bank of Korea	South Korea	AP	463.1	20.0	4%
10	▼ -1	Saudi Central Bank	Saudi Arabia	ME	455.3	1.7	0%

Top 10 by absolute increase in reserve assets (excluding the top 10), $bn

Rank	GPI Rank	Rank change on 2021	Institution	Country	Region	Reserves ($bn)	bn change on 2021	% change on 2021
1	11	▶ 0	Monetary Authority of Singapore	Singapore	AP	417.9	55.6	15%
2	18	▲ 1	Bank of Israel	Israel	ME	213.2	39.4	22%
3	13	▶ 0	Deutsche Bundesbank	Germany	EU	296.0	26.6	9%
4	23	▲ 2	Central Bank of the UAE	UAE	ME	131.1	24.4	22%
5	14	▲ 1	Banque de France	France	EU	253.4	20.9	9%
6	51	▲ 13	Central Bank of Iran	Iran	ME	41.3	20.0	94%
7	26	▲ 1	Central Bank of the Republic of Turkey	Turkey	EU	111.1	17.5	18%
8	17	▶ 0	Banca d'Italia	Italy	EU	229.4	16.3	7%
9	28	▶ 0	Bank of Canada	Canada	NA	106.6	16.1	17%
10	16	▶ 0	Bank of England	UK	EU	239.1	16.0	7%

Top 10 by absolute decrease in reserve assets, $bn

Rank	GPI Rank	Rank change on 2021	Institution	Country	Region	Reserves ($bn)	bn change on 2021	% change on 2021
1	15	▼ -1	Bank of Thailand	Thailand	AP	246.0	-12.1	-4%
2	57	▼ -10	Banque du Liban	Lebanon	ME	35.0	-7.2	-17%
3	46	▼ -2	Central Bank of Kuwait	Kuwait	ME	45.0	-3.2	-6%
4	39	▼ -4	Banco de la República Colombia	Colombia	LA	60.5	-3.2	-5%
5	45	▼ -2	Bank of Algeria	Algeria	AF	46.0	-2.8	-5%
6	115	▼ -16	Central Bank of Sri Lanka	Sri Lanka	AP	3.4	-2.2	-40%
7	87	▼ -11	Nepal Rastra Bank	Nepal	AP	9.2	-1.8	-17%
8	58	▼ -4	National Bank of the Republic of Kazakhstan	Kazakhstan	AP	34.3	-1.2	-3%
9	66	▼ -3	National Bank of Cambodia	Cambodia	AP	20.2	-1.0	-5%
10	88	▼ -8	Banque Centrale de Tunisie	Tunisia	AF	8.6	-0.9	-9%

CENTRAL BANKS RANKED BY RESERVE ASSETS

Rank and change on 2021		Institution	Country	Region	AUM $bn	% change on 2021	Year est.
1	▶ 0	People's Bank of China[1]	China	AP	3606.18	2%	1948
2	▶ 0	Japanese Monetary Authorities[2]	Japan	AP	1448.10	1%	1882
3	▶ 0	Swiss National Bank	Switzerland	EU	1111.35	2%	1907
4	▶ 0	US Monetary Authorities[3]	US	NA	712.43	14%	1913
5	▲ 1	Reserve Bank of India	India	AP	635.35	8%	1935
6	▼ -1	Central Bank of the Russian Federation	Russia	EU	630.63	6%	1990
7	▶ 0	Central Bank of the Republic of China	Taiwan	AP	553.98	3%	1924
8	▶ 0	Hong Kong Monetary Authority	Hong Kong	AP	531.13	2%	1993
9	▲ 1	Bank of Korea	South Korea	AP	463.12	5%	1950
10	▼ -1	Saudi Central Bank	Saudi Arabia	ME	455.37	0%	1952
11	▶ 0	Monetary Authority of Singapore	Singapore	AP	417.90	15%	1971
12	▶ 0	Banco Central do Brasil	Brazil	LA	362.20	2%	1964
13	▶ 0	Deutsche Bundesbank	Germany	EU	296.09	10%	1957
14	▲ 1	Banque de France	France	EU	253.46	9%	1800
15	▼ -1	Bank of Thailand	Thailand	AP	246.07	-5%	1942
16	▶ 0	Bank of England[4]	UK	EU	239.19	7%	1694
17	▶ 0	Banca d'Italia	Italy	EU	229.42	8%	1893
18	▲ 1	Bank of Israel	Israel	ME	213.22	23%	1954
19	▼ -1	Banco de México	Mexico	LA	207.74	4%	1925
20	▶ 0	Česká národní banka	Czech Republic	EU	173.86	5%	1993
21	▶ 0	Narodowy Bank Polski	Poland	EU	166.41	8%	1945
22	▶ 0	Bank Indonesia	Indonesia	AP	144.91	7%	1953
23	▲ 2	Central Bank of the UAE	UAE	ME	131.12	23%	1980
24	▶ 0	Bank Negara Malaysia	Malaysia	AP	117.04	8%	1959
25	▼ -2	Bangko Sentral ng Pilipinas	Philippines	AP	115.25	1%	1993
26	▲ 1	Central Bank of the Republic of Turkey	Turkey	EU	111.18	19%	1931
27	▼ -1	State Bank of Vietnam	Vietnam	AP	109.96	15%	1951
28	▶ 0	Bank of Canada	Canada	NA	106.62	18%	1935
29	▲ 1	Banco de España	Spain	EU	99.04	14%	1782
30	▼ -1	European Central Bank	Eurosystem	EU	88.80	2%	1998
31	▲ 3	Central Bank of Libya	Libya	AF	85.50	17%	1956
32	▼ -1	Norges Bank	Norway	EU	84.53	12%	1816
33	▶ 0	Danmarks Nationalbank	Denmark	EU	82.30	12%	1818
34	▼ -2	Central Bank of Peru	Peru	LA	79.06	6%	1922

Rank and change on 2021		Institution	Country	Region	AUM $bn	% change on 2021	Year est.
35	▲ 3	De Nederlandsche Bank	Netherlands	EU	65.20	19%	1814
36	▲ 3	Central Bank of Iraq	Iraq	ME	63.35	16%	1947
37	▼ -1	Banco Central de Chile	Chile	LA	62.83	6%	1925
38	▼ -1	Sveriges Riksbank	Sweden	EU	62.37	7%	1668
39	▼ -4	Banco de la República Colombia	Colombia	LA	60.57	-5%	1923
40	▲ 6	Reserve Bank of Australia	Australia	AP	58.61	36%	1959
41	▼ -1	South African Reserve Bank	South Africa	AF	57.82	7%	1921
42	▶ 0	Central Bank of Egypt	Egypt	AF	56.71	13%	1961
43	▼ -2	Banca Naţională a României	Romania	EU	51.91	-1%	1880
44	▲ 1	Bangladesh Bank	Bangladesh	AP	46.15	7%	1971
45	▼ -2	Bank of Algeria	Algeria	AF	46.05	-6%	1962
46	▼ -2	Central Bank of Kuwait	Kuwait	ME	45.01	-7%	1969
47	▲ 1	Magyar Nemzeti Bank	Hungary	EU	43.52	4%	1924
48	▲ 1	Qatar Central Bank	Qatar	ME	42.20	3%	1973
49	▲ 7	Nationale Banque de Belgique	Belgium	EU	42.01	25%	1850
50	▲ 2	Central Bank of Nigeria	Nigeria	AF	41.80	14%	1958
51	▲ 13	Central Bank of Iran	Iran	ME	41.39	94%	1960
52	▼ -2	Banco Central de la República Argentina	Argentina	LA	39.66	1%	1935
53	▼ -2	Bulgarian National Bank	Bulgaria	EU	39.38	4%	1879
54	▼ -1	Bank Al-Maghrib	Morocco	AF	35.65	-1%	1959
55	▲ 2	Oesterreichische Nationalbank	Austria	EU	35.31	12%	1816
56	▼ -1	Central Bank of Uzbekistan	Uzbekistan	AP	35.14	1%	1991
57	▼ -1	Banque du Liban	Lebanon	ME	35.05	-17%	1964
58	▼ -4	National Bank of the Republic of Kazakhstan[5]	Kazakhstan	AP	34.38	-4%	1993
59	▼ -1	Banco de Portugal	Portugal	EU	33.22	11%	1846
60	▼ -1	National Bank of Ukraine	Ukraine	EU	31.02	6%	1839
61	▶ 0	Hrvatske narodne banke	Croatia	EU	28.31	22%	1990
62	▼ -2	Autoridade Monetária de Macau	Macau	AP	26.66	6%	1999
63	▼ -1	Banque Centrale des Etats de l'Afrique de l'Ouest	West African System	AF	24.22	11%	1959
64	▲ 2	State Bank of Pakistan	Pakistan	AP	22.81	25%	1947
65	▶ 0	Banco de Guatemala	Guatemala	LA	20.93	13%	1945
66	▼ -3	National Bank of Cambodia	Cambodia	AP	20.26	-5%	1954
67	▲ 4	Central Bank of Oman	Oman	ME	19.73	31%	1974
68	▶ 0	Central Bank of Jordan	Jordan	ME	19.13	12%	1964
69	▶ 0	National Bank of Serbia	Serbia	EU	18.62	12%	1884

Rank and change on 2021		Institution	Country	Region	AUM $bn	% change on 2021	Year est.
70	▼ -3	Central Bank of Syria	Syria	ME	18.17	0%	1953
71	▲ 2	Suomen Pankki	Finland	EU	17.39	20%	1811
72	▼ -2	Banco Central del Uruguay	Uruguay	LA	17.06	4%	1967
73	▲ 1	Reserve Bank of New Zealand	New Zealand	AP	16.27	16%	1934
74	▼ -2	Banco Nacional de Angola	Angola	AF	15.55	4%	1926
75	▶ 0	Bank of Greece	Greece	EU	14.94	18%	1927
76	▲ 15	Central Bank of Ireland	Ireland	EU	13.24	77%	1943
77	▲ 1	Banco Central de la República Dominicana	Dominican Republic	LA	13.03	21%	1947
78	▲ 18	Banco Central de Venezuela	Venezuela	LA	10.91	71%	1939
79	▲ 9	Bank of Ghana	Ghana	AF	10.85	42%	1957
80	▼ -3	Národná banka Slovenska	Slovakia	EU	10.05	-8%	1993
81	▲ 5	Banque des États de l'Afrique Centrale	Central African System	AF	9.79	26%	1972
82	▼ -1	Banco Central del Paraguay	Paraguay	LA	9.67	5%	1952
83	▼ -4	Da Afghanistan Bank	Afghanistan	ME	9.53	-2%	1939
84	▼ -1	Central Bank of Kenya	Kenya	AF	9.49	14%	1966
85	▼ -3	Centralna Banka Bosne i Hercegovine	Bosnia and Herzegovina	EU	9.48	9%	1997
86	▼ -1	National Bank of the Republic of Belarus	Belarus	EU	9.27	15%	1990
87	▼ -11	Nepal Rastra Bank	Nepal	AP	9.20	-17%	1956
88	▼ -8	Banque Centrale de Tunisie	Tunisia	AF	8.69	-10%	1958
89	▼ -5	Banco Central de Honduras	Honduras	LA	8.68	6%	1950
90	▲ 2	Bank of Mauritius	Mauritius	AF	8.60	17%	1967
91	▼ -1	Banco Central del Ecuador	Ecuador	LA	8.56	14%	1927
92	▼ -3	Central Bank of the Republic of Azerbaijan	Azerbaijan	AP	8.31	9%	1992
93	▼ -6	Central Bank of Myanmar	Myanmar	AP	8.10	6%	1990
94	▲ 1	Seðlabanki Íslands	Iceland	EU	7.08	10%	1961
95	▼ -2	Banco Central de Costa Rica	Costa Rica	LA	6.92	-4%	1950
96	▼ -2	Central Bank of Trinidad & Tobago	Trinidad and Tobago	LA	6.88	-1%	1964
97	▶ 0	Lietuvos Bankas	Lithuania	EU	6.59	13%	1990
98	▲ 5	Benki Kuu ya Tanzania	Tanzania	AF	6.39	34%	1966
99	▼ -1	Latvijas Banka	Latvia	EU	6.11	5%	1993
100	▲ 2	Banka e Shqipërisë	Albania	EU	5.63	17%	1992
101	▶ 0	Bank of Botswana	Botswana	AF	4.80	-3%	1975
102	▼ -2	Banco Central de Bolivia	Bolivia	LA	4.75	-10%	1928
103	▲ 18	Central Bank of Bahrain	Bahrain	ME	4.73	110%	2006
104	▶ 0	Bank of Mongolia	Mongolia	AP	4.37	-3%	1991

Rank and change on 2021		Institution	Country	Region	AUM $bn	% change on 2021	Year est.
105	▲ 5	National Bank of Georgia	Georgia	EU	4.27	9%	1919
106	▲ 2	Bank of Jamaica	Jamaica	LA	4.26	8%	1961
107	▲ 2	Bank of Uganda	Uganda	AF	4.21	8%	1966
108	▼ -1	Autoriti Monetari Brunei Darussalam	Brunei	AP	4.21	5%	2011
109	▼ -4	Narodna Banka na Republika Makedonija	North Macedonia	EU	4.13	0%	1991
110	▲ 2	Banco Central de Nicaragua	Nicaragua	LA	4.05	26%	1961
111	▶ 0	Banca Naţională a Moldovei	Moldova	EU	3.90	3%	1991
112	▼ -6	Banco de Moçambique	Mozambique	AF	3.78	-8%	1975
113	▲ 35	Banque Centrale du Congo	Democratic Republic of the Congo	AF	3.47	364%	1997
114	▼ -1	Banco Central de Reserva de El Salvador	El Salvador	LA	3.43	11%	1961
115	▼ -16	Central Bank of Sri Lanka	Sri Lanka	AP	3.40	-40%	1950
116	▶ 0	Central Bank of Armenia	Armenia	EU	3.21	22%	1993
117	▲ 13	Banque Centrale du Luxembourg	Luxembourg	EU	3.05	88%	1998
118	▼ -3	National Bank of the Kyrgyz Republic	Kyrgyzstan	AP	2.89	6%	1991
119	▲ 3	Bank of Namibia	Namibia	AF	2.76	27%	1990
120	▲ 21	Bank of Zambia	Zambia	AF	2.75	129%	1964
121	▼ -3	Central Bank of the Bahamas	Bahamas	LA	2.58	8%	1974
122	▼ -5	Centrale Bank van Curaçao en Sint Maarten	Curaçao	LA	2.54	5%	1828
123	▼ -9	National Bank of Ethiopia	Ethiopia	AF	2.39	-22%	1906
124	▶ 0	Eesti Pank	Estonia	EU	2.38	18%	1919
125	▼ -6	Bank of Haiti	Haiti	LA	2.37	0%	1979
126	▼ -1	Banque Centrale de Madagascar	Madagascar	AF	2.33	18%	1973
127	▼ -1	Central Bank of Sudan	Sudan	AF	2.33	25%	1960
128	▼ -8	Bank of Papua New Guinea	Papua New Guinea	AP	2.32	0%	1973
129	▲ 9	Banka Slovenije	Slovenia	EU	2.28	70%	1991
130	▼ -1	Eastern Caribbean Central Bank	Eastern Caribbean System	LA	2.07	17%	1983
131	▼ -8	Centralna Banka Crne Gore	Montenegro	EU	1.98	-7%	2001
132	▼ -5	National Bank of Rwanda	Rwanda	AF	1.84	2%	1964
133	▼ -5	National Bank of Tajikistan	Tajikistan	AP	1.76	-3%	1991
134	▼ -1	Banque Centrale de Mauritanie	Mauritania	AF	1.68	13%	1973
135	▼ -4	Royal Monetary Authority of Bhutan	Bhutan	AP	1.67	11%	1982
136	▲ 1	Central Bank of Barbados	Barbados	LA	1.67	23%	1972
137	▲ 2	Central Bank of Cyprus	Cyprus	EU	1.66	30%	1963
138	▼ -4	Palestine Monetary Authority	Palestine	ME	1.64	12%	1994
139	▼ -7	Central Bank of the Republic of Guinea	Guinea	AF	1.60	7%	1960

Rank and change on 2021		Institution	Country	Region	AUM $bn	% change on 2021	Year est.
140	▶ 0	Centrale Bank van Aruba	Aruba	LA	1.53	24%	1986
141	▲ 2	Reserve Bank of Fiji	Fiji	AP	1.52	40%	1984
142	▼ -6	Bank of the Lao PDR	Laos	AP	1.48	6%	1968
143	▲ 1	Bank Ċentrali ta' Malta	Malta	EU	1.37	29%	1968
144	▼ -2	Banka Qendrore e Republikës së Kosovës	Kosovo	EU	1.24	14%	2006
145	▲ 12	Centrale Bank van Suriname	Suriname	LA	0.99	70%	1957
146	▲ 1	Banca Centrale della Repubblica di San Marino	San Marino	EU	0.95	22%	2005
147	▲ 3	Bank of Sierra Leone	Sierra Leone	AF	0.94	33%	1964
148	▲ 6	Banco Central de Timor-Leste	Timor-Leste	AP	0.93	42%	2011
149	▼ -3	Central Bank of Lesotho	Lesotho	AF	0.87	3%	1980
150	▲ 21	Reserve Bank of Zimbabwe	Zimbabwe	AF	0.84	2362%	1956
151	▲ 1	Bank of Guyana	Guyana	LA	0.81	19%	1965
152	▼ -7	Maldives Monetary Authority	Maldives	AP	0.79	-20%	1981
153	▼ -4	Banco de Cabo Verde	Cape Verde	AF	0.77	5%	1975
154	▲ 4	Central Bank of Seychelles	Seychelles	AF	0.71	25%	1978
155	▼ -2	Central Bank of Yemen	Yemen	ME	0.70	-50%	1971
156	▲ 6	Central Bank of Liberia	Liberia	AF	0.69	103%	1999
157	▼ -4	Central Bank of Solomon Islands	Solomon Islands	AP	0.68	3%	1985
158	▼ -3	Reserve Bank of Vanuatu	Vanuatu	AP	0.67	9%	1981
159	▲ 1	Central Bank of Gambia	Gambia	AF	0.65	69%	1971
160	▼ -9	Central Bank of Djibouti	Djibouti	AF	0.59	-14%	1977
161	▼ -2	Central Bank of Eswatini	Eswatini	AF	0.57	5%	1974
162	▲ 6	Bank of South Sudan	South Sudan	AF	0.46	148%	2011
163	▼ -7	Reserve Bank of Malawi	Malawi	AF	0.42	-29%	1964
164	▼ -3	Central Bank of Belize	Belize	LA	0.42	21%	1982
165	▼ -2	National Reserve Bank of Tonga	Tonga	AP	0.35	18%	1972
166	▼ -2	Central Bank of Comoros	Comoros	AF	0.33	12%	1981
167	▼ -2	Faletupe Tutotonu o Samoa	Samoa	AP	0.29	6%	1984
168	▲ 2	Central Bank of Burundi	Burundi	AF	0.27	195%	1964
169	▼ -2	Bermuda Monetary Authority	Bermuda	LA	0.23	14%	1969
170	▼ -4	Cayman Islands Monetary Authority	Cayman Islands	LA	0.21	-4%	1997
171	▼ -2	Banco Nacional de São Tomé e Príncipe	Sao Tome and Principe	AF	0.09	-3%	1975

NOTES ON DATA SOURCES

Data for assets under management are largely sourced from International Monetary Fund sources, including the international financial statistics, international reserves and foreign currency liquidity databases. Where no such official data are available, OMFIF uses reliable sources from the financial industry, international organisations and central bank statistics and reports.

Most data are taken as of December 2021. In cases where this is not possible, the latest available data are taken. Where figures are not recorded in dollars, conversion rates between the reporting currency and dollars of the month in which the latest observation was published is used.

Footnotes in rankings:

1. Includes reserves managed by China's State Administration of Foreign Exchange
2. Includes assets held by the Japanese Ministry of Finance
3. Includes assets held by the Federal Reserve, Exchange Stabilization Fund and Treasury
4. Includes assets held by UK Treasury
5. Includes the National Investment Corporation of Kazakhstan and Unified State Pension Fund of Kazakhstan

NOTES ON METHODOLOGY

The ranking table includes 171 central banks.

All figures are in dollars. Throughout the publication 'dollar' refers to US dollars. Figures for the percentage change in assets are calculated using year-on-year figures where possible, generally between December 2020 and December 2021. Where year-on-year data is unavailable, the latest reported data are registered.

OMFIF adopts a regional classification: Africa (AF), Asia Pacific (AP), Europe (EU), Latin America and the Caribbean (LA), Middle East (ME) and North America (NA).

OMFIF recognises that not all states are universally recognised as enjoying full political independence or sovereignty. Where data are available, central banks and monetary authorities in overseas territories, dependencies or other non-self-governing territories are included. Several central banks from countries not recognised by at least one United Nations member, such as South Korea and Israel, are also included.

Some institutions are grouped to reduce double counting and eliminate doubts about sectoral overlaps. The most notable examples are: the US, where the term 'US Monetary Authorities' has been used; China, where the holdings of the People's Bank of China include those of the State Administration of Foreign Exchange and other associated institutions; Japan, where the foreign reserves are owned by both the Bank of Japan and the ministry of finance; and the UK, where the Treasury's exchange equalisation account owns the Bank of England's reserves.

'US Monetary Authorities' represents a combination of US institutions. The Federal Reserve holds some foreign reserves, while the Exchange Stabilization Fund holds the rest along with US stocks of special drawing rights. The general account of the US Treasury holds the US gold reserves and the IMF position. The Federal Reserve Bank of New York operates for both the Treasury and the Federal Open Market Committee and holds the Federal Reserve System's foreign exchange.

Central bank reserves include foreign exchange, gold, IMF position and SDR holdings. Gold valuations are given by the IMF. This does not always match central banks' own valuation of their gold holdings.

Survey data collection was conducted between February-April 2022, with invitations targeted across central bank departments including reserves management, financial markets and economic research.

Survey data results include responses from 73 central banks across all jurisdictions. Based on regional classifications, these included: 29 EU, 15 AF, 13 AP, 12 LA and 4 from the rest of the world.

Important note

Figures for previous years may not correspond directly to those published in earlier editions of the GPI. This reflects revisions to and comparisons between 2021 data and previous years' figures, as well as changes to the rankings' overall scope and data collection.

Asia wealth strategy summit

Singapore, November 2022

OMFIF is hosting a high-profile one-day event in Singapore in November 2022 where private bankers, family offices, HNWIs and UHNWIs come together to discuss best practice in Asian wealth management.

Find out more at omfif.org/wsi

Volksbanken Raiffeisenbanken
cooperative financial network

LOCAL
GLOBAL

Our initiative to help your business think German:
Consultancy on-site. Expertise worldwide.

As one of the market leaders in Germany, DZ BANK stands for stability and reliability. We are represented in major financial and commercial centres, and together with our nearly 850 cooperative banks (Volksbanken Raiffeisenbanken) we offer comprehensive financial services and combine regional proximity with global financial market expertise. Find out more about us at: **www.dzbank.com**

DZ BANK
Bank on Germany