



Marketing material
For qualified investors only
Global version

UBS Annual Reserve Manager Survey 2021

27th Reserve Management Seminar

Dr. Massimiliano Castelli PhD, MSc
Head of Strategy and Advice, Global Sovereign Markets

Philipp Salman, lic. oec. HSG
Strategy & Advice, Global Sovereign Markets



27th Annual RMS Survey

Highlights

UBS RMS Survey is among the most authoritative depictions of official reserve management activities available. This survey was conducted during April – June 2021 and collected responses from close to 30 central banks from all regions globally.

- **Macro and Economic concerns:** **Failure to end the pandemic** is the main concern (79%), followed by soaring debt levels (71%) and fear of inflation (57%). Inflation was not mentioned at all in last year survey.
- **Macro and Financial Concerns:** **Lower/Negative yields** in fixed income markets is mentioned by 86% of respondents, inline with the survey results of the last three years. **Rising interest rates & inflation** is mentioned by 64% of surveyed institutions, a dramatic increase from only 6% in the previous year. 67% of participants expect the US **FED** to **raise interest rates** in 2023
- **Strategic Asset Allocation:** The “secular” trend towards more **diversification** of reserves across asset classes has continued during the pandemic. **Equities** is an eligible asset class for over 40% of central bank and **Emerging Market Debt** experienced a surge in eligibility (54%). 21% of participant banks consider investing in **illiquid asset classes** like real estate and infrastructure. A shift towards assets that **protect against inflation** is also visible in 2021.
- **Currencies:** The **RMB** continues its “marathon” of becoming a key reserve currency with the average long-term target allocation to the Chinese currency increasing to **5.7%**. **Reduced USD demand** during the year and rising demand for euro denominated assets.
- **Sustainability:** 19% of participants considered adding sustainability as a **fourth reserve management objective**. 31% indicated that they have recently moved or considered to move from traditional to **ESG benchmarks**.
- **Central Bank Digital Currencies:** Nearly 40% of respondents expect **wholesale CDBC** to be launched within the next 3 years. **Crime and money laundering** prevention and **pressure from crypto currencies** are mentioned among the key drivers. 71% of respondents prefer a **centralized setup** instead of a decentralized (DLT) system. More than 60% of respondents do not believe that the launch of CDBC will lead to a **diminished role of the USD** and more than 50% do not know yet what will be the impact of a **digital Yuan** on the internationalization of the RMB.



Source: UBS Annual Reserve Manager Survey, results as of June 2021

Macro and economic issues

Key results of the 27th Annual Reserve Management Seminar Survey

- The top concern that the global economy is currently facing is a **failure to end the pandemic** which was mentioned by 79% of participants, followed by **fear of global government debt levels** (71%). The fact that participants still take the global pandemic very seriously is also reflected in the fact that half of participants believe that the pandemic will only be over after 2022.
- **Fear of inflation** and an uncontrolled **rise in long-term yields** was mentioned by 57% of participants and came in at #3, a significant increase as this risk was not mentioned by a single participant in the previous year.
- When it comes to risks that are specifically related to the investment of FX reserves, the top concern which 86% of respondents cited remained **lower and negative yields** in the fixed income markets, which was also the top concern in the previous year. **Rising US interest rates & inflation** are now the second-most mentioned concern with 64% of participants, while this was only mentioned by 6% of survey participants in the previous year.
- 67% of participants expect the US **FED** to **raise interest rates** in 2023 and a further 30% expect the Fed to do so in 2022. Only 4% expect the FED to raise rates in 2024. In contrast, participants expect a later hiking cycle for the **ECB** with 33% of participants expecting the first interest rate increases in 2023, 41% in 2024 and only 26% later than 2024.
- We asked survey participants how far leading central banks like the Fed might go to support markets in their opinion.
 - 58% of respondents think that the US FED could turn to **yield curve control** if needed.
 - 16% of respondents think that the US FED could turn to **negative interest rates** if needed.
 - 42% of respondents think that the US FED could **buy equities** if needed.



Source: UBS Annual Reserve Manager Survey, results as of June 2021

Strategic Asset Allocation

Key results of the 27th Annual Reserve Management Seminar Survey

- The global trend towards **FX reserve diversification** is continuing, but this year, more conservative assets like Supranationals as well as **inflation hedges** (Inflation-protected bonds and Gold) were more frequently mentioned when it comes to instruments that participants have added over the past year or intent to add to their portfolio over the coming year.
- But with central banks still diversifying away from more conservative fixed income assets, **Passive Equity** were once again the most frequently mentioned item when it comes to the question which asset class central banks want to increase over the coming year on a net basis.
- **Emerging Market debt** experienced a surge in eligibility among participating institutions (from 33% to 54% eligibility). Also, 21% of participants indicated that they now consider investing in **illiquid asset classes** (infrastructure, real estate) to enhance returns, an increase from only 3% in the previous year.
- With **sustainable investment strategies** becoming mainstream, 19% of participants have considered adding sustainability as a **fourth reserve management objective** beyond the established objectives of **liquidity, safety** and **return**.
- Overall, 52% of participants have **altered** their **Strategic Asset Allocation** over the last 12 months and a further 56% indicated that they wish to implement further changes to their asset allocation in the next 12 months.
- 13% of respondents indicated that they recently moved or considered **moving passively-managed assets** back to **active** management strategies (unchanged from 13% in 2020).
- Finally, 38% of respondents (2020: 41%) indicated that they integrate **gold** holdings into the SAA of their reserve management portfolio, while 59% are treating gold separately.



Source: UBS Annual Reserve Manager Survey, results as of June 2021

Management of FX reserves

Key results of the 27th Annual Reserve Management Seminar Survey

- 89% of central banks consider the current level of their reserves as **adequate**, slightly down from 90% in the previous year.
- 78% of respondents say that their **level of reserves** increased or remained stable over the last 12 months (compared with 87% in the previous year), signaling that the period of stabilization in global FX reserves that we observed last year continued.
- Central banks use several measures to determine the **adequacy** of their reserves, with the majority measuring against months or % of imports.
- 68% of respondents split their assets in different **tranches** to better tailor their asset allocation, an increase from 58% in the previous year
- Five surveyed entities have recently considered setting up a **Sovereign Wealth Fund**, up from three in the previous year.
- 31% of respondents indicated that their institution recently changed or **considered changing its benchmark(s)** to **reflect ESG**.



Source: UBS Annual Reserve Manager Survey, results as of June 2021

Currency Management

Key results of the 27th Annual Reserve Management Seminar Survey

- The **average share of USD holdings** among all the participants was 69%, an increase from 67% in the previous year.
- The **Renminbi** was the most frequently mentioned currency when it came to the question which currencies were added on a net basis in the reserves of participating sovereign institutions during the past year. In contrast, the **USD** and the **Euro** were the most frequently mentioned currencies that participants reduced over the course of the previous year.
- However, while the **Euro** was the most frequently mentioned currency when it came to reductions this year and in the previous year, it now also ranked #2 after the Renminbi when it comes to currencies that central banks are planning to **add over the coming year**.
- Overall, 81% of survey respondents answered that they are invested, or consider investing, in the **Renminbi**, a slight decline from a high value of 83% in the previous year.
- The average long-term (10-year) **target allocation for the RMB** as a percentage of total reserves increased to 5.7% from 5.0% in the previous year, which implies further growth from levels currently reported to the IMF. Two participants indicated that they **introduced** the RMB as **a new currency in their reserves**.



Source: UBS Annual Reserve Manager Survey, results as of June 2021

Survey special: Central Bank Digital Currencies

Key results of the 27th Annual Reserve Management Seminar Survey

- The question by when **central banks are expected to launch digital currencies** must be split between widely available retail CBDCs on the one hand and CBDCs with access only for large financial institutions (**wholesale**) on the other hand. In total, participating central banks expect wholesale CBDCs to be introduced earlier than retail CBDCs.
- The motivation **to improve retail payment systems** and the **overall wholesale financial architecture** (payment, clearing, settlement) were among the top answers why central banks want to introduce CBDCs. Interestingly, central banks also see **crime and money laundering prevention** and **pressure from private projects** (stablecoins and cryptocurrencies) as one of the key motivations to pursue the development of CBDCs.
- Survey participants see the most important use cases for CBDCs in their economy in **retail sales transactions** and for **remittance** and **cross-border payments**, followed by improvements in **international inter-bank clearing processes**.
- The risk of **disintermediation of the banking system** and the resulting impact **on financial stability**, followed by **operational and cybersecurity** issues as well as potential **disruptions on existing payment system providers** were seen by participants as the key risks of CBDC adoption in their economies.
- 57% of participants see no meaningful **impact for the reserve management** at their institution from the introduction of CBDCs, while 24% indicate that there might be an impact on their **back-office operations**. 14% see increasing **pressure to invest in cryptocurrencies**.
- 64% of participants do not believe that CBDCs will lead to the **fall of the USD as the dominant reserve currency**.
- What would be the main motivation for central banks to **invest in cryptocurrencies**? 83% of participants believe that the **learning process** itself of investing and managing this new asset class would be valuable for their institution. 28% of participants see benefits coming from cryptocurrencies as an **uncorrelated asset**, and a further 11% would consider it as an alternative to gold.

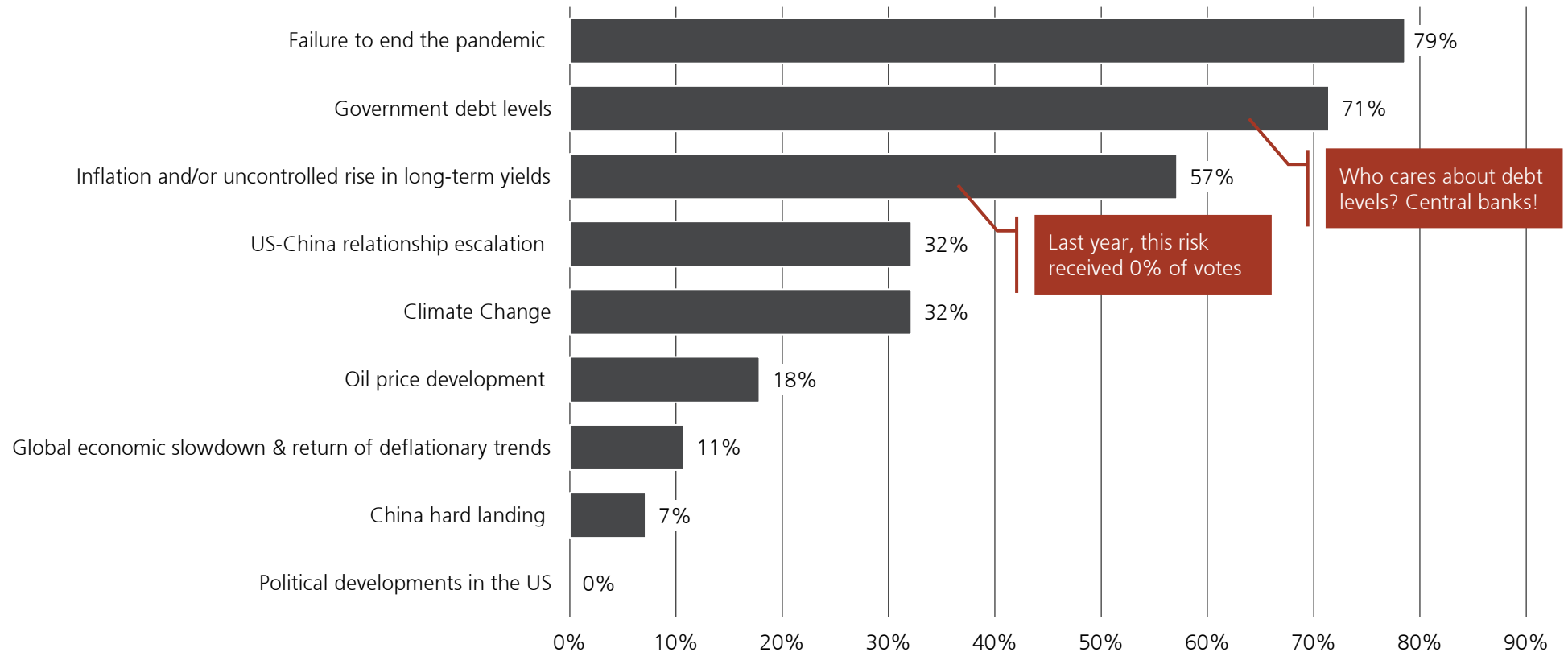


Source: UBS Annual Reserve Manager Survey, results as of June 2021

Main concerns impacting the global economy

What are the main risks that the global economy is currently facing?

% of respondents, multiple answers possible

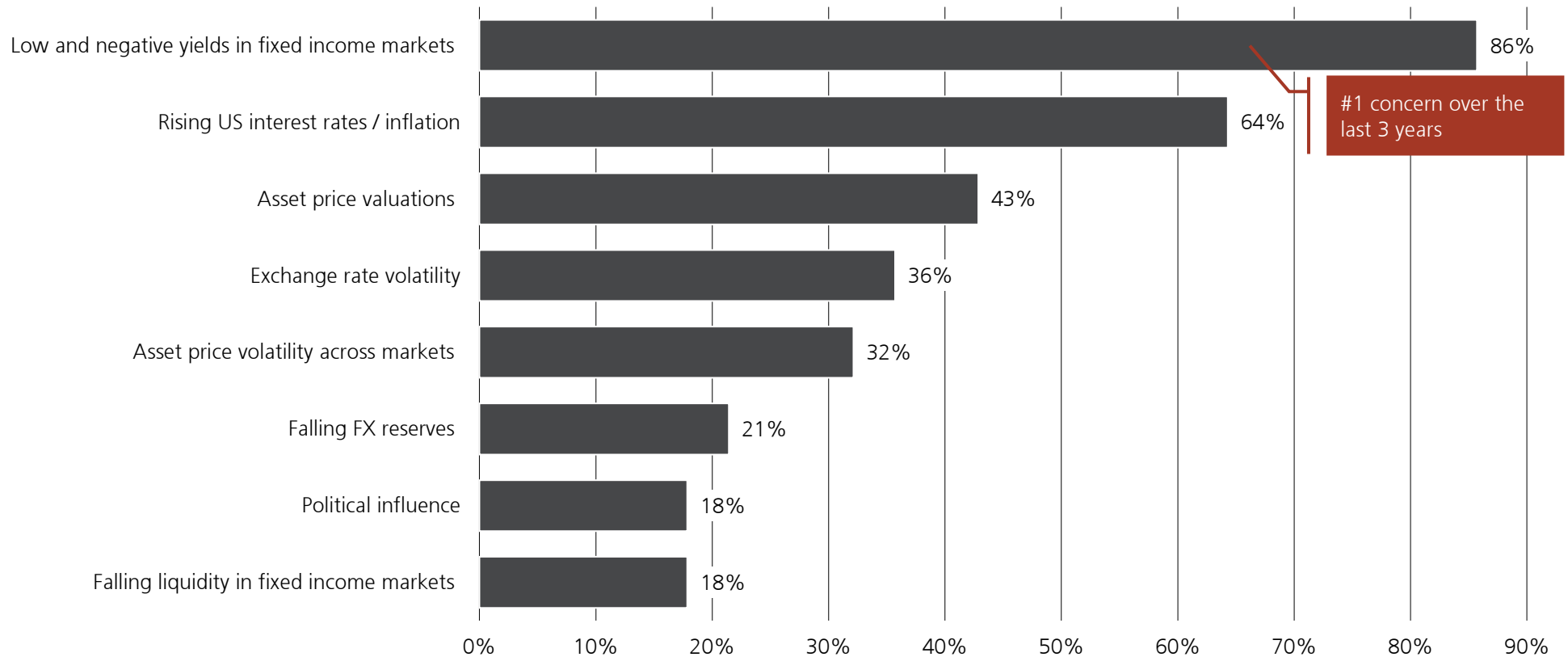


Source: UBS Annual Reserve Manager Survey, results as of June 2021

Main concerns impacting the levels of FX reserves

What are your main concerns when it comes to the investment of FX reserves?

% of respondents, multiple answers possible

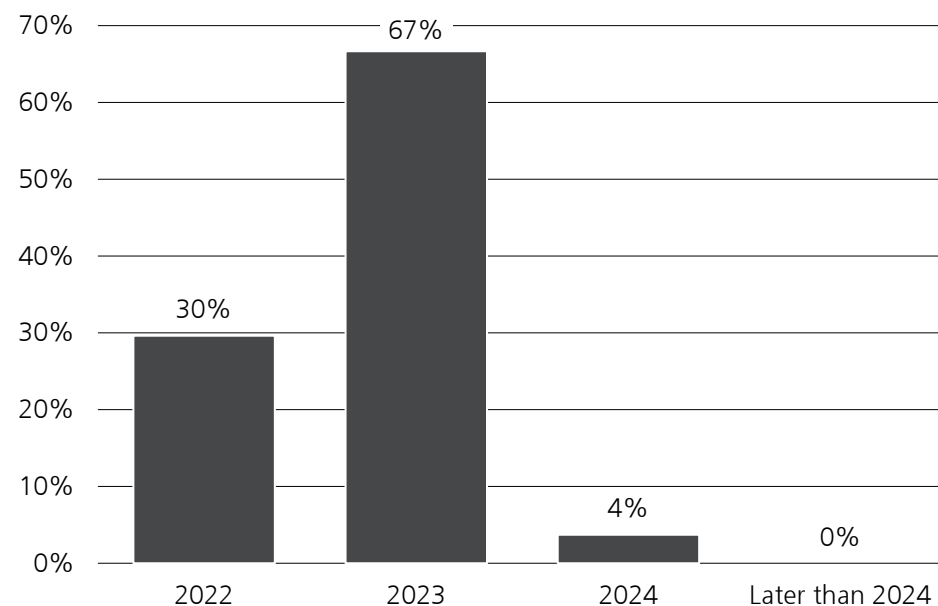


Source: UBS Annual Reserve Manager Survey, results as of June 2021

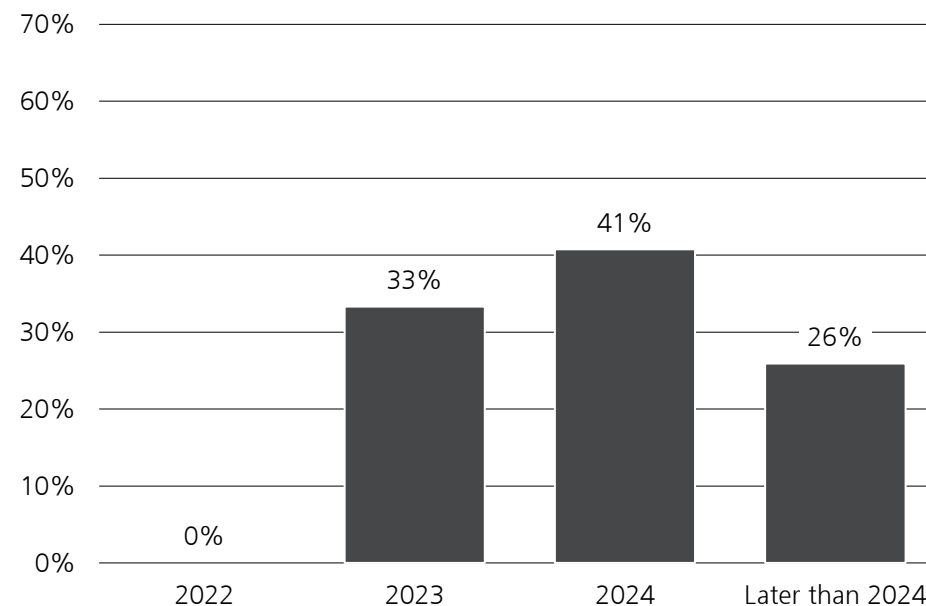
Timing the turning point in the interest rate cycle

96% of participants agreed to the statement that inflation will rise in a post-pandemic world, but not much. What does this mean for the turning point in interest rates?

By when do you expect the FED to raise interest rates?



By when do you expect the ECB to raise interest rates?



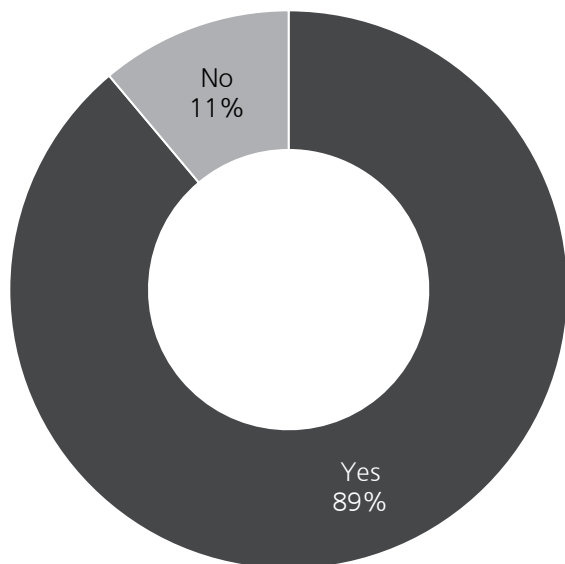
What other measures could central banks implement?

- 16% of survey participants think that the US FED will adopt negative interest rates if needed
- 58% of survey participants think that the US FED could turn to yield curve control if needed
- 42% of survey participants think that the US FED could buy equities if needed

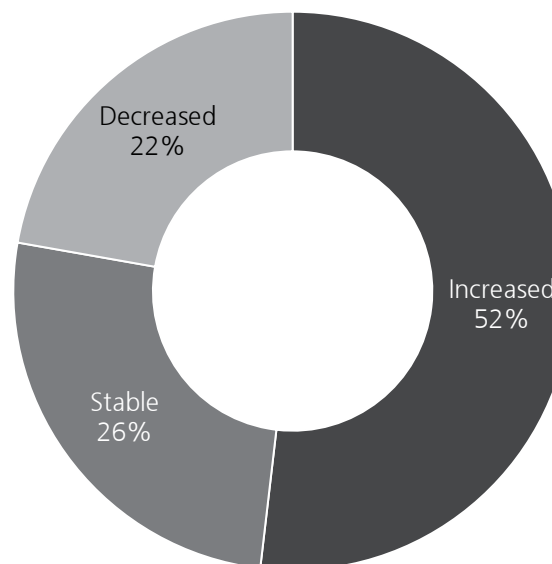
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Level and adequacy of FX reserves

Do you see your current level of FX reserves as adequate?



How has the amount of your FX reserves changed over the last 12 months?



How do survey participants assess their FX reserves?

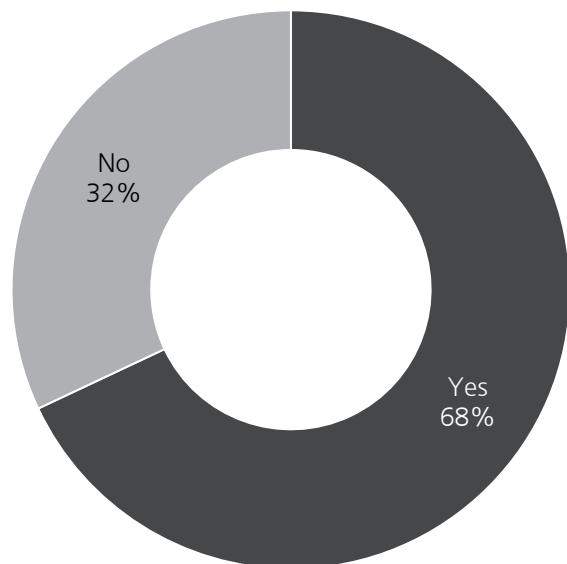
- The percentage of survey participants that see their level of FX reserves as **not adequate** has slightly increased to 11% from 10% last year.
- The number of participants who reported **increased FX reserves** increased to 52% from 40% last year.
- The majority of participants use several measures to determine the **adequacy of their reserves**, but the majority are measuring against months or % of imports (most frequent answer with 77%), followed by % of short-term external debt, and % of GDP as well as scenario analysis.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Tranching and institutional setup

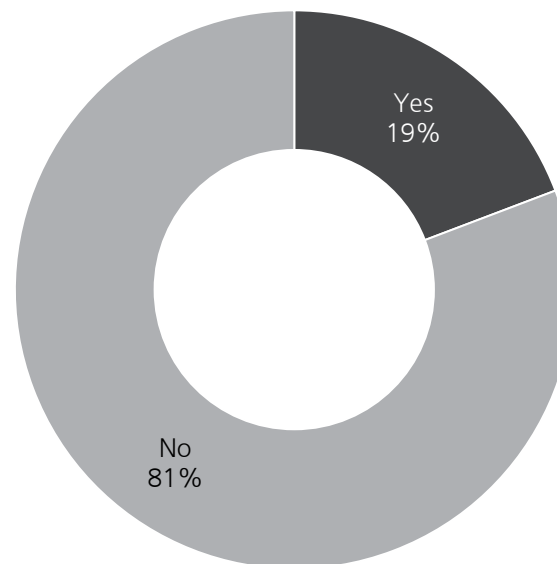
Do you segment / tranche your reserves

(e.g., in liquidity, liability and saving/total return/wealth portfolios)?



Has your institution recently considered setting up a separate entity

(e.g., Sovereign Wealth Fund) to manage assets?



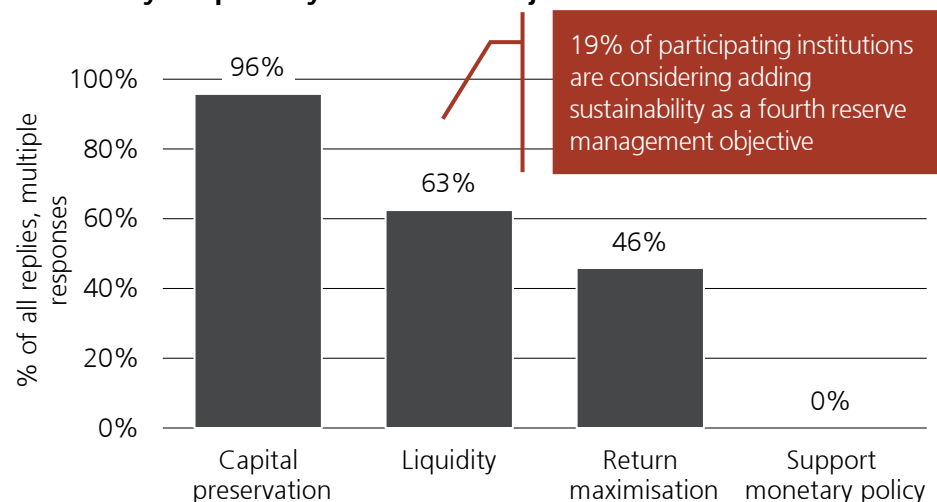
Tranching and institutional setup

- The number of participants who reported that their institution **segments** or **tranches** their reserves stood at 68% compared with 58% last year.
- The percentage of participating institutions that recently **considered setting up a separate entity** to manage assets stood at 19% compared with 16% last year.
- 31% of participants indicated that their institution recently changed or **considered changing their benchmark(s) to reflect ESG**.

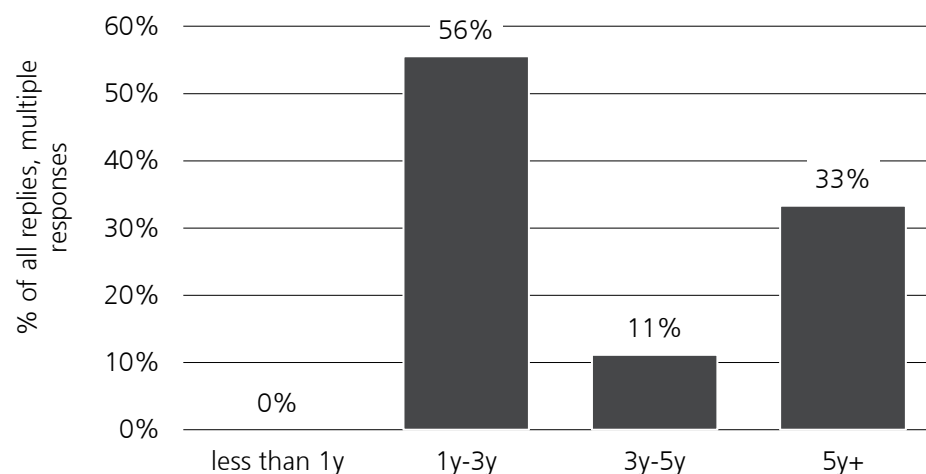
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Key asset allocation objectives

What are your primary investment objectives?



What is your investment horizon?



- Overall, 52% of participants **altered their Strategic Asset Allocation** over the last 12 months (previous year: 50%) and a further 56% (previous year: 56%) indicated that they wish to implement further changes to their asset allocation in the next 12 months.
- 21% of respondents indicated that they consider **investing in illiquid asset classes** (for example infrastructure or real estate) to enhance returns, compared with only 3% in the previous year.
- 13% responded that they recently moved or considered moving passively-managed assets to **active management strategies** compared with 13% in the previous year.
- 88% responded that **CLOs** are not an eligible asset class at their institution and that they are not planning to make them eligible compared with 91% in the previous year.
- 38% of respondents indicated that they **integrate gold holdings in the SAA** of their reserve management portfolio compared with 41% in 2020.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Trends in approved asset classes

Which of the following instruments are approved at your institution?

In % of total respondents, multiple responses possible.

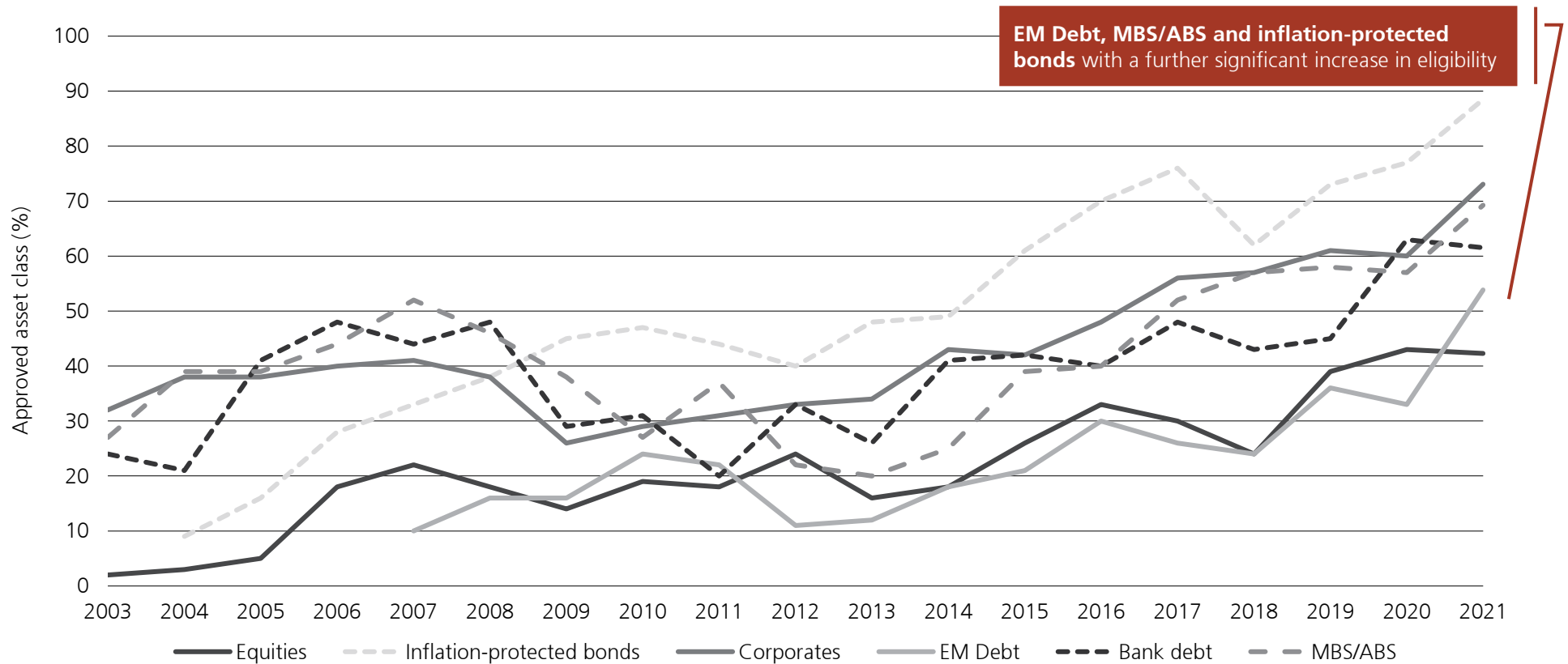
Asset Class	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Supranationals	100	100	94	95	93	90	89	94	82	87	76	70	68	70	72	70	74	63	62	60	62	54	63	60
Sovereign Eurobonds	88	100	85	86	89	93	92	90	78	73	64	68	65	66	66	64	60	60	58	58	61	60	66	66
US agencies	100	93	85	76	74	83	74	49	54	69	55	65	71	84	86	84	82	76	78	75	71	62	68	54
Inflation protected bonds	88	77	73	62	76	70	61	49	48	40	44	47	45	38	33	28	16	9	na	na	na	na	na	na
Covered bonds	65	50	45	43	48	53	34	43	40	45	30	38	40	53	58	50	48	44	38	35	37	34	28	12
Bank debt	62	63	45	43	48	40	42	41	26	33	20	31	29	48	44	48	41	21	24	21	26	20	16	4
Corporates	73	60	61	57	56	48	42	43	34	33	31	29	26	38	41	40	38	38	32	28	22	20	15	10
MBS / ABS	69	57	58	57	52	40	39	25	20	22	37	27	38	46	52	44	39	39	27	22	17	19	12	2
Emerging Market debt	54	33	36	24	26	30	21	18	12	11	22	24	16	16	10	na	na	na	na	na	na	na	na	na
Equities	42	43	39	24	30	33	26	18	16	24	18	19	14	18	22	18	5	3	2	na	na	na	na	na
Private Equity	15	7	18	5	19	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Hedge Funds	12	0	15	0	11	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Trends in approved asset classes

Which of the following instruments are approved at your institution?

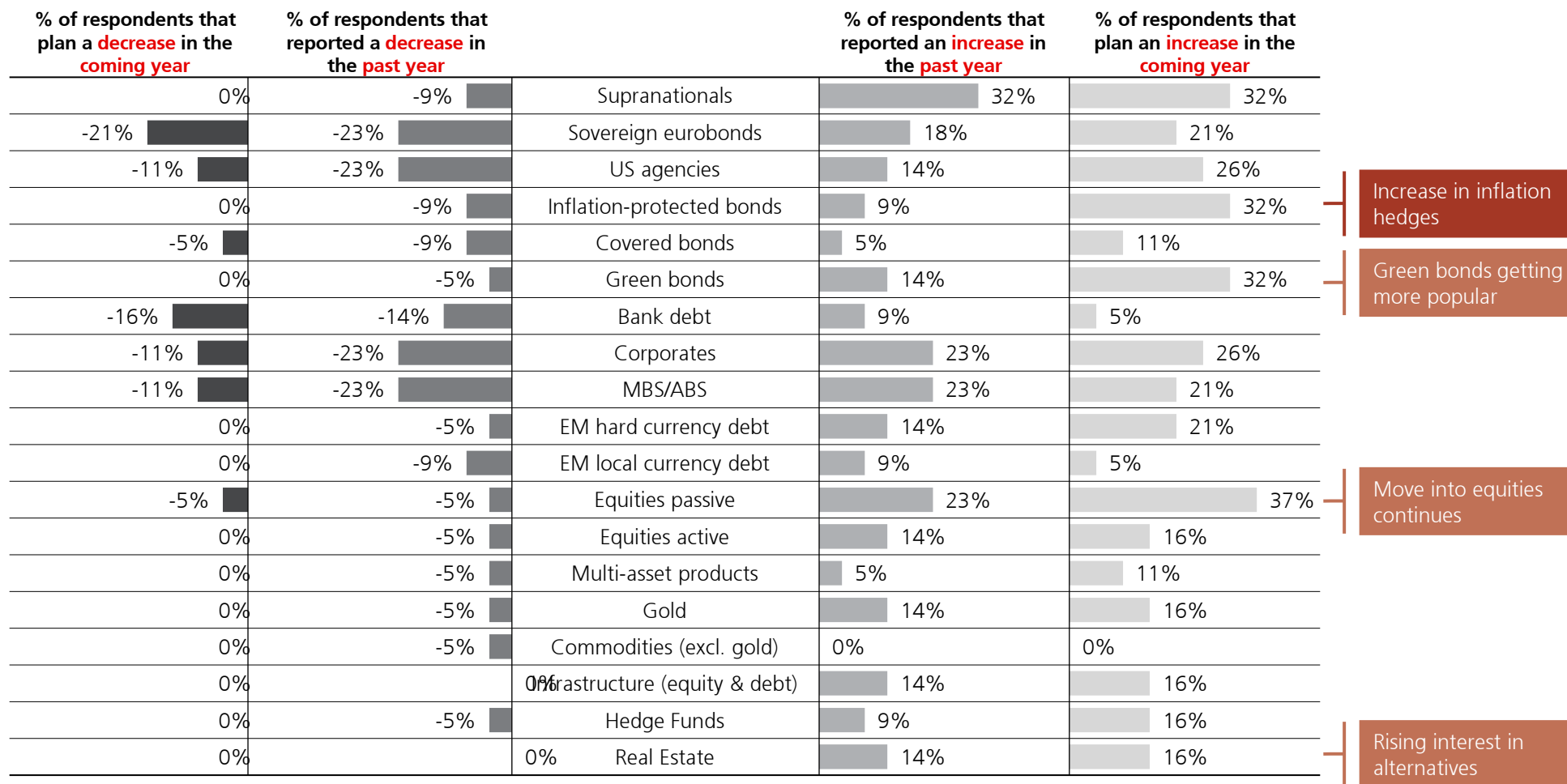
In % of total respondents, multiple responses possible.



Source: UBS Annual Reserve Manager Survey, results as of June 2021

Key changes in asset allocation

Which of the following instruments have you increased/decreased in your portfolio in the past year?
Which of the following instruments would you want to own more or less of over the next year?



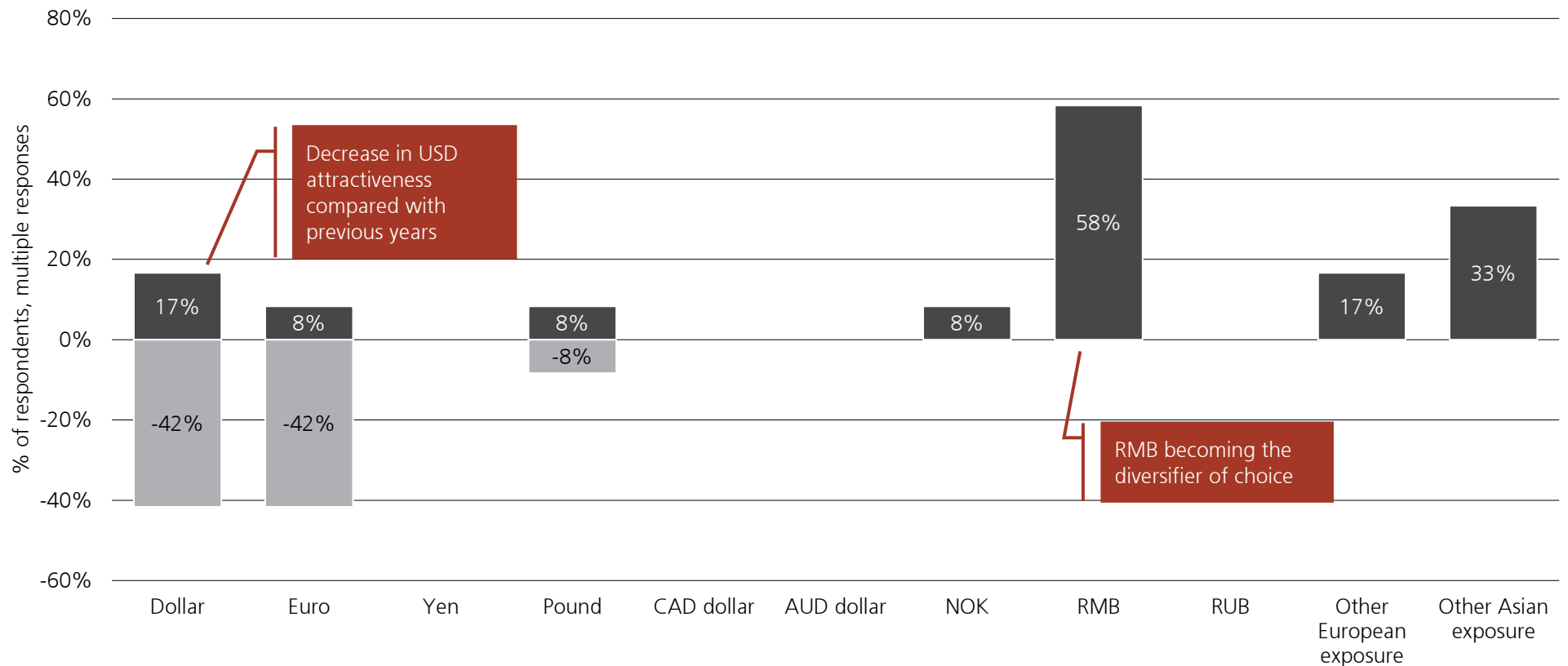
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Currency focus: Changes in 2020/21

Indicates the % of respondents that altered their allocations to each currency up or down.

How have survey participants altered their currency allocation during the past year?

The average share of USD holdings among all participants was about 69%, up from 67% in the previous year.

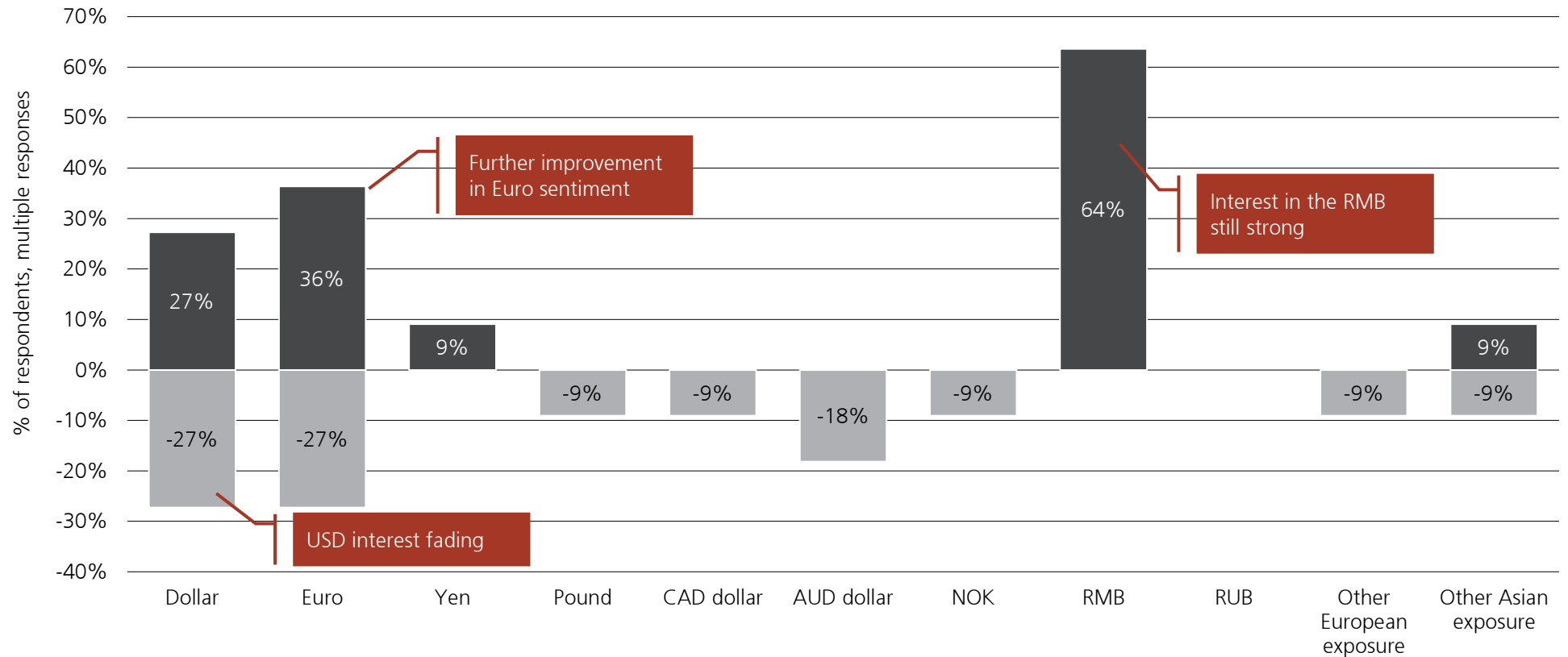


Source: UBS Annual Reserve Manager Survey, results as of June 2021

Currency focus: Outlook

Indicates the % of respondents that expect their allocations for each currency to go up or down.

How do survey participants expect their currency allocations to change going forward?

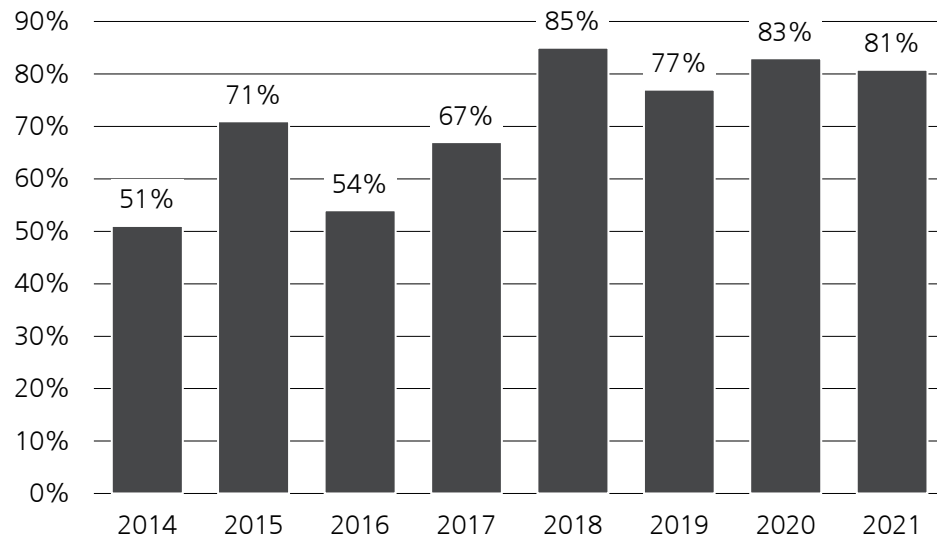


Source: UBS Annual Reserve Manager Survey, results as of June 2021

Currency focus: RMB

Please describe your attitude towards the RMB!

% of survey respondents that are invested, or consider investing, in the RMB



The average long-term target allocation (not the actual allocations) to the RMB is around 5.7% among survey participants, another significant increase from 5.0% in the previous year

- 2 participants reported that they introduced the RMB this year into their reserve portfolio
- The number of participants that are invested, or consider investing, in the RMB decreased slightly from high levels last year

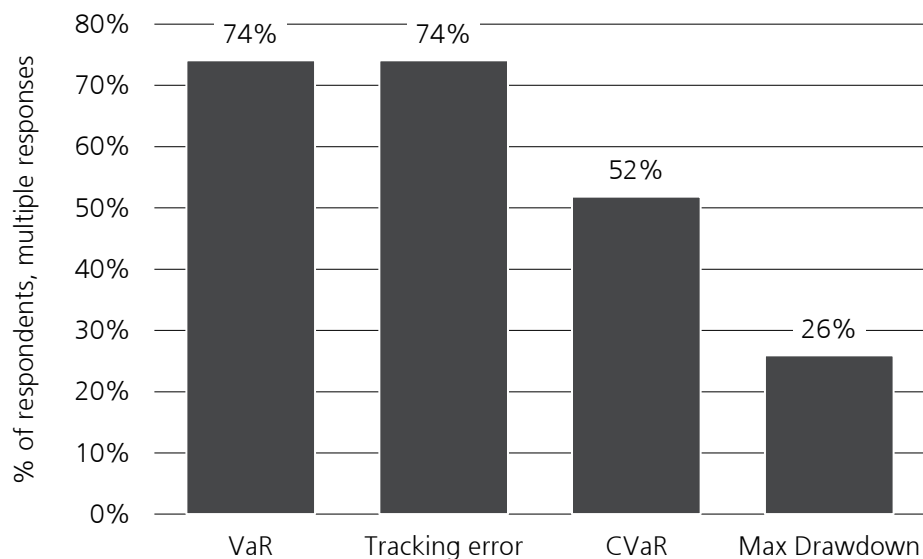


UBS has issued the White Paper
"RMB's march to reserve currency status
- A reality check"
on the occasion of the Reserve Manager Seminar 2018.

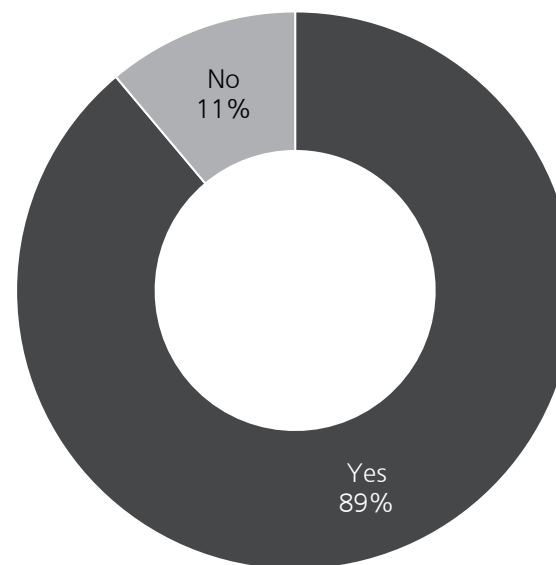
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Performance and Risk management

How do you measure risk in your portfolios?



Do you take any tactical positions compared to the benchmark?



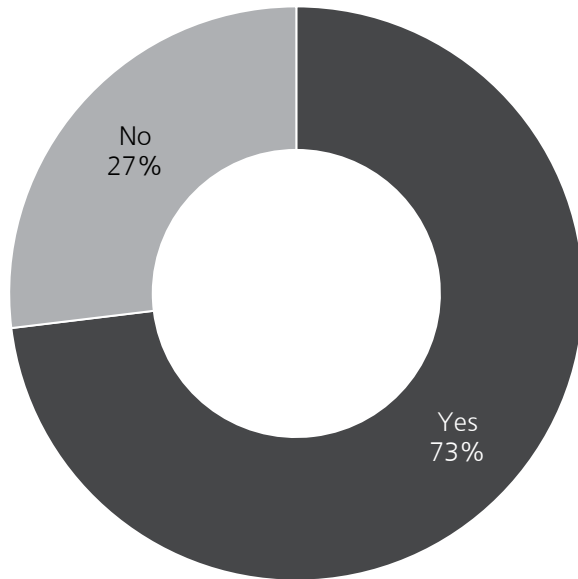
Risk and performance measurement

- 60% of the survey respondents **review their investment policy** at least on a quarterly basis.
- Four survey participants **increased maximum drawdown levels** to enhance returns in the past year, in two cases by an additional minus 3-5%.
- 29% of survey respondents indicated that **no negative returns are tolerated** in their investment policy. 24% indicated that they tolerate a maximum drawdown of up to 5% and an additional 18% accept a drawdown of minus 5-10% in their investment policy.

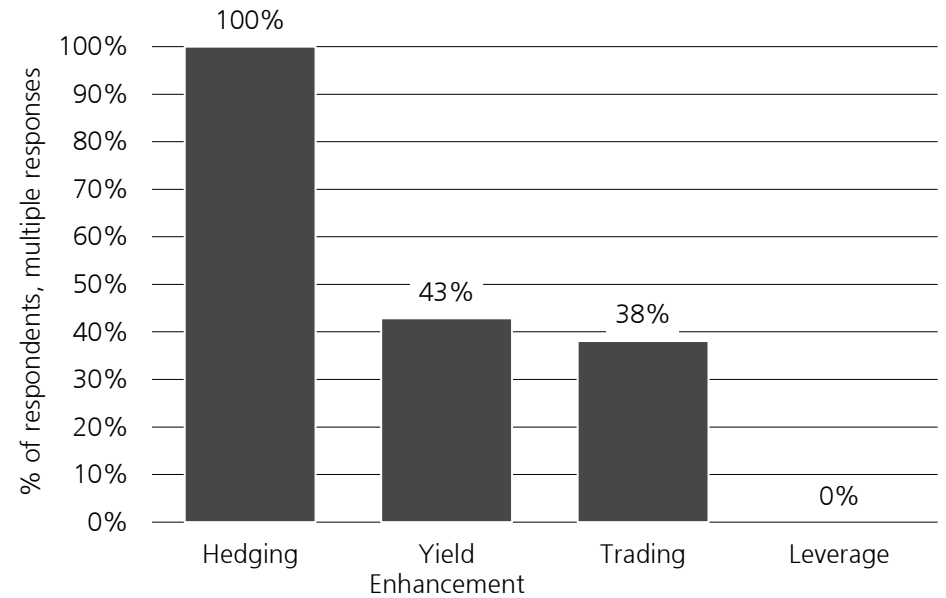
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Derivatives

Do you use derivatives within your reserve portfolio?



If you use derivatives, what are the main objectives for using them?

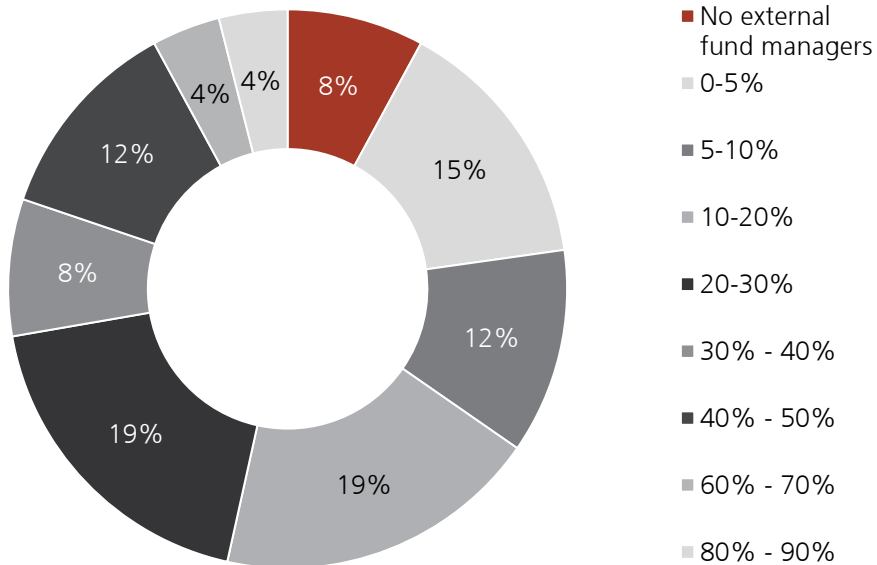


- Additional survey participants reported the use of derivatives to **reduce FX risk**, but not to manage reserve assets.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

External asset management

What percentage of your reserves are currently externally managed?



What asset classes of external fund management interests you the most?



What assets are externally managed?

- **External mandates** currently exist mainly in the area of DM sovereign, MBS and DM corporate debt, as well as inflation-protected bonds and short-term liquidity products.
- 36% of respondents indicated that they are currently **looking into tail-risk hedging strategies**.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Central Bank Digital Currency (CBDC) Special

Summary (I)

What actions can we expect from G7 central banks in the future?

- The question by when **central banks are expected to launch digital currencies** must be split between widely available **retail** CBDCs on the one hand and CBDCs with access only for large financial institutions (**wholesale**) on the other hand.
- In total, participating central banks expect wholesale CBDCs to be introduced earlier than retail CBDCs.
 - When it comes to **retail** CBDCs, a period of 3-5 years was the most often mentioned answer from participants.
 - When it comes to **wholesale** CBDCs, while a period of 3-5 years was the most often mentioned answer from participants, an even **shorter time frame** (1-3 years) was almost as frequently mentioned, and more frequently than for retail CBDCs.

Key motivations and risks

- The motivation to **improve retail payment systems** and the **overall wholesale financial architecture** (payment, clearing, settlement) were among the top answers why central banks want to introduce CBDCs. Interestingly, central banks also see **crime and money laundering prevention** and **pressure from private projects** (stablecoins and cryptocurrencies) as one of the key motivations to pursue the development of CBDCs.
- Survey participants see the most important use cases for CBDCs in their economy in **retail sales transactions** and for **remittance** and **cross-border payments**, followed by improvements in **international inter-bank clearing processes**.
- The risk of **disintermediation of the banking system** and the resulting impact **on financial stability**, followed by **operational and cybersecurity** issues as well as potential **disruptions on existing payment system providers** were seen by participants as the key risks of CBDC adoption in their economies. Only 17% of respondents see a risk for **reserve management activities** coming from CBDC adoption.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Central Bank Digital Currency (CBDC) Special

Summary (II)

Preferred architecture of CBDCs

- For most participants (76%) a **general purpose (retail) CBDC** that is available also to private households and businesses instead of only a select number of financial institutions and service providers (**wholesale CBDC**) is the preferred solution
- When it comes to the **technical setup** of central bank digital currencies, 71% of participants prefer a **centralized** setup instead of a **decentralized** (DLT-based) system.
- The majority (76%) of participants want to issue their own CBDC instead of joining **multi-lateral projects** to do so.
- 54% of survey participants indicate that **privacy** and **anonymity** are very important for the acceptance among the general public when it comes to general purpose CBDCs.

Investment implications

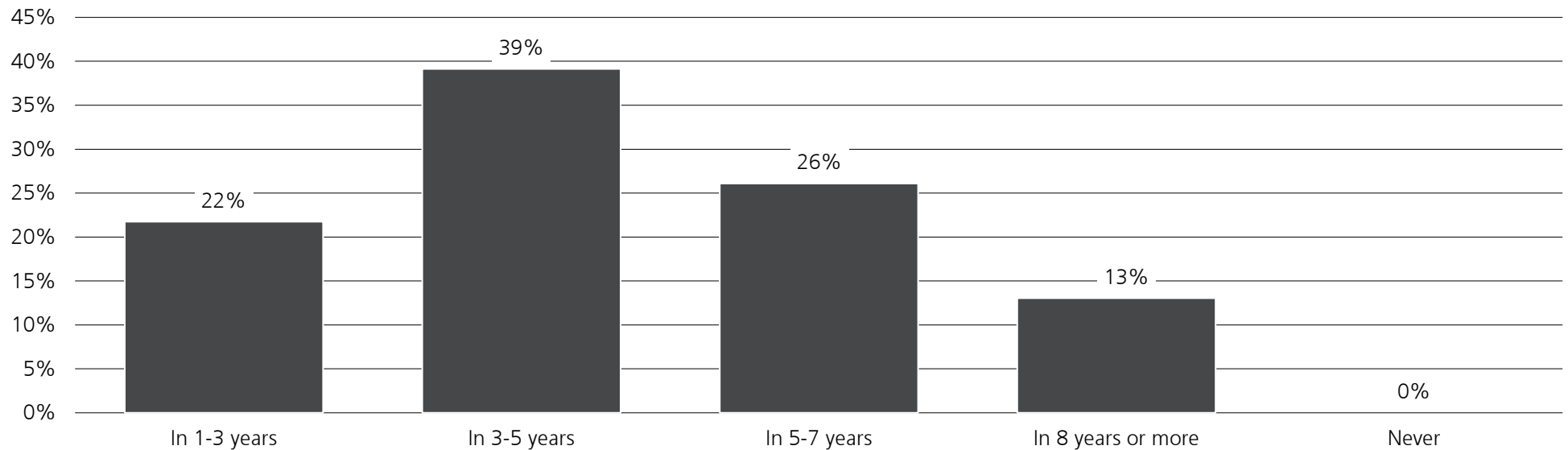
- 57% of participants see no meaningful **impact for the reserve management** at their institution, while 24% indicate that there might be an impact on their **back-office operations**. 14% see increasing **pressure to invest in cryptocurrencies**. The majority of participants are not yet able to make predictions whether reserves will be invested in CBDCs issued by other central banks in the foreseeable future.
- 64% of participants do not believe that CBDCs will lead to the **fall of the USD as the dominant reserve currency**. More than half (52%) of participants indicate that they do not know yet if a **digital Yuan** will accelerate the **internationalization of the RMB** and help it on its way of becoming a leading reserve currency.
- What would be the main motivation for central banks to **invest in cryptocurrencies**? 83% of participants believe that the **learning process** itself of investing and managing this new asset class would be valuable for their institution. 28% of participants see benefits coming from cryptocurrencies as an **uncorrelated asset**, and a further 11% would consider it as an alternative to gold. But a majority of 84% of participants do not believe that cryptocurrencies will displace gold as a safe haven.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Expected launch date for Retail CBDCs

By when do you expect the first official Retail CBDCs to be launched by a G7 central bank?

% of respondents



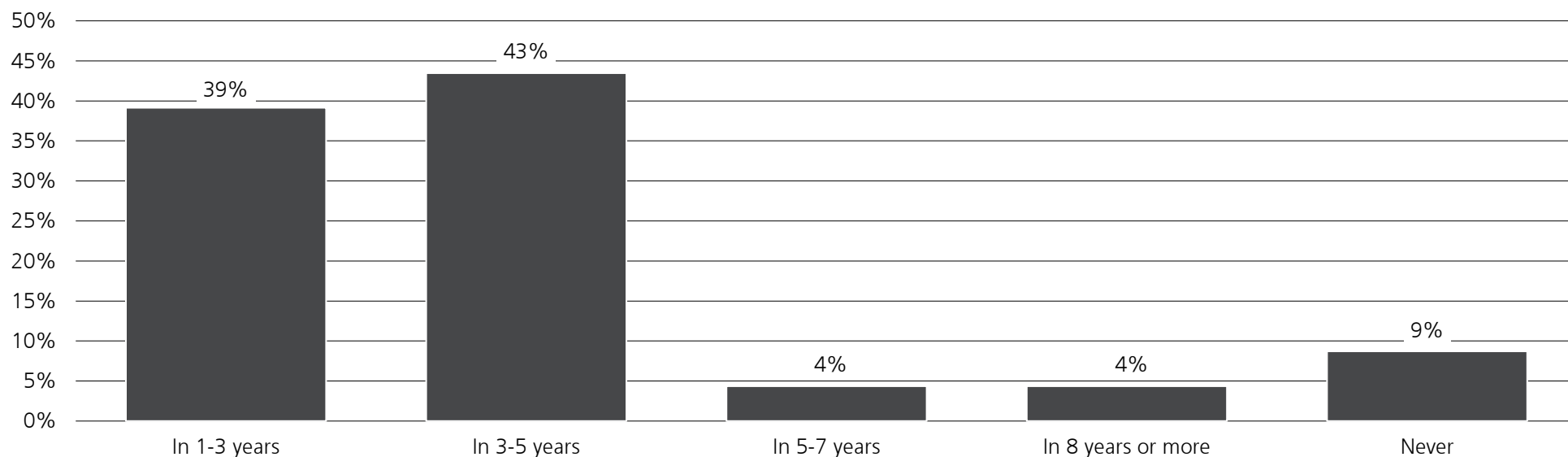
- The question by when **central banks are expected to launch digital currencies** must be split between widely available **retail** CBDCs on the one hand and CBDCs with access only for large financial institutions (**wholesale**) on the other hand.
- When it comes to **retail** CBDCs, a period of 3-5 years was the most often mentioned answer from participants.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Expected launch date for Wholesale CBDCs

By when do you expect the first official Wholesale CBDCs to be launched by a G7 central bank?

% of respondents



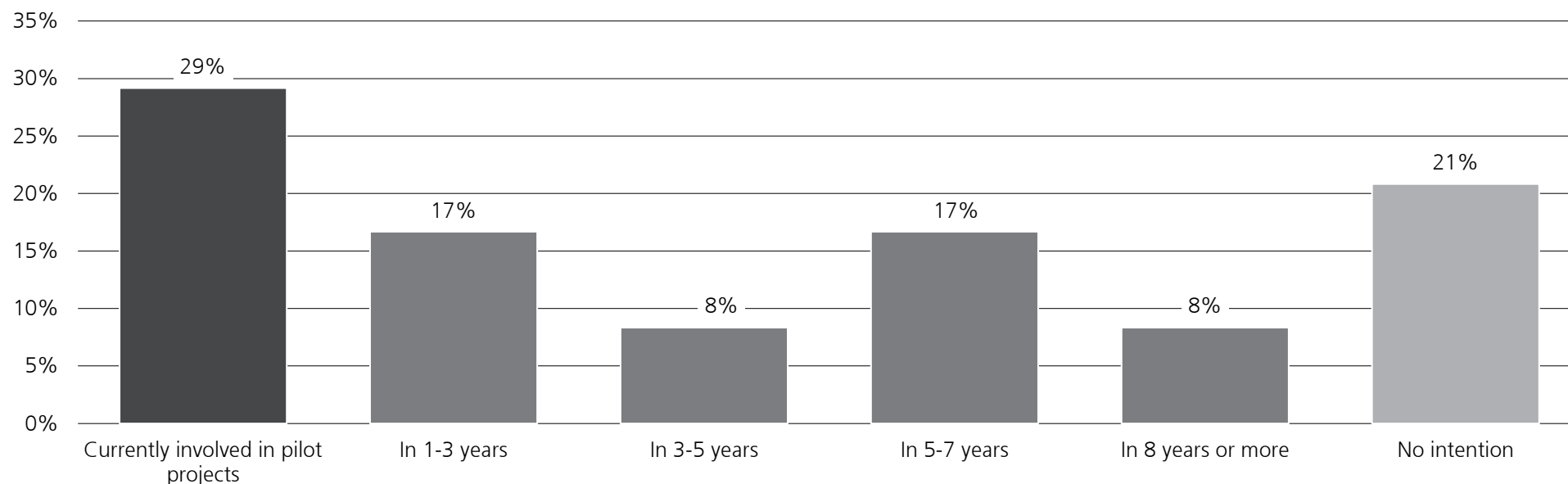
- The question by when **central banks are expected to launch digital currencies** must be split between widely available **retail** CBDCs on the one hand and CBDCs with access only for large financial institutions (**wholesale**) on the other hand.
- When it comes to **wholesale** CBDCs, while a period of 3-5 years was the most often mentioned answer from participants, an even **shorter time frame** (1-3 years) was almost as frequently mentioned, and more frequently than for retail CBDCs.
- In total, participating central banks expect wholesale CBDCs to be introduced earlier than retail CBDCs.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Expected involvement in digital currency projects

By when do you expect your institution to get involved in digital currency projects?

% of respondents



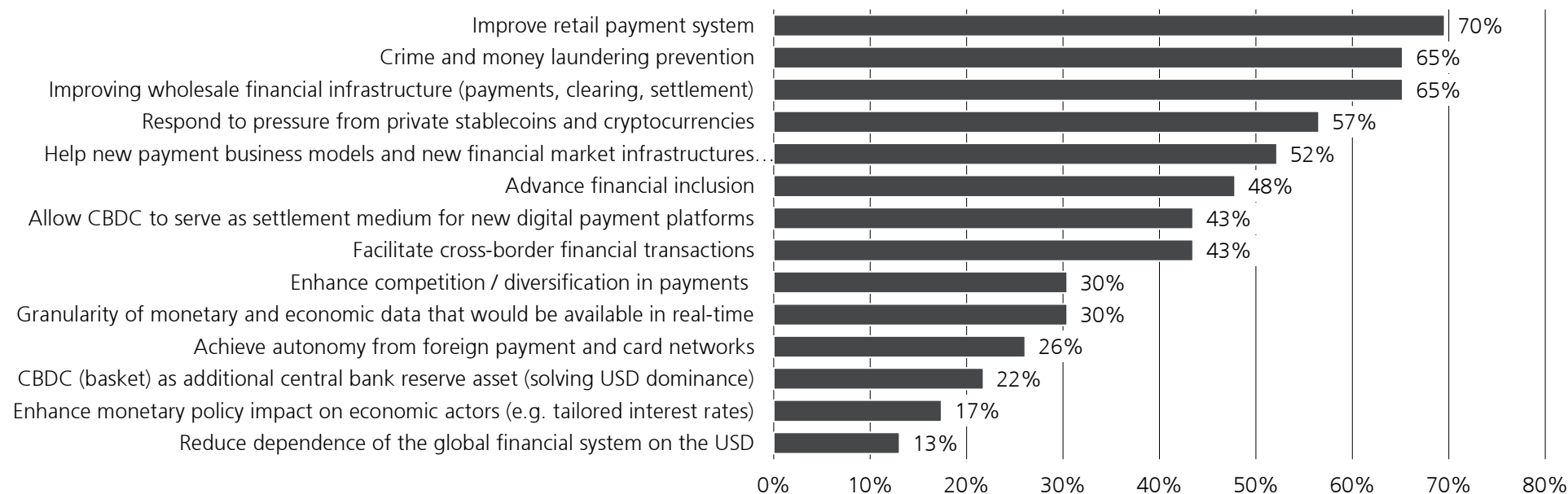
- Central banks seem to be **split** into two groups, one that wants to act relatively quickly when it comes to CBDCs and another that has little or no interest to do so over the next 5 years or even at a later date.
- 46% of participants indicated that their central bank is **already involved in CBDC pilot projects** or is expected to do so over the next 1-3 years.
- In contrast, central banks that expect their institution to wait a relatively long time (5-7 years and more than 8 years) make up 25% of respondents, and those that indicate that they have no intention to run CBDC projects stand at 21%.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Key motivations for central banks to issue CBDCs

What will be the key motivation for central banks for issuing CBDC?

% of respondents, multiple answers possible



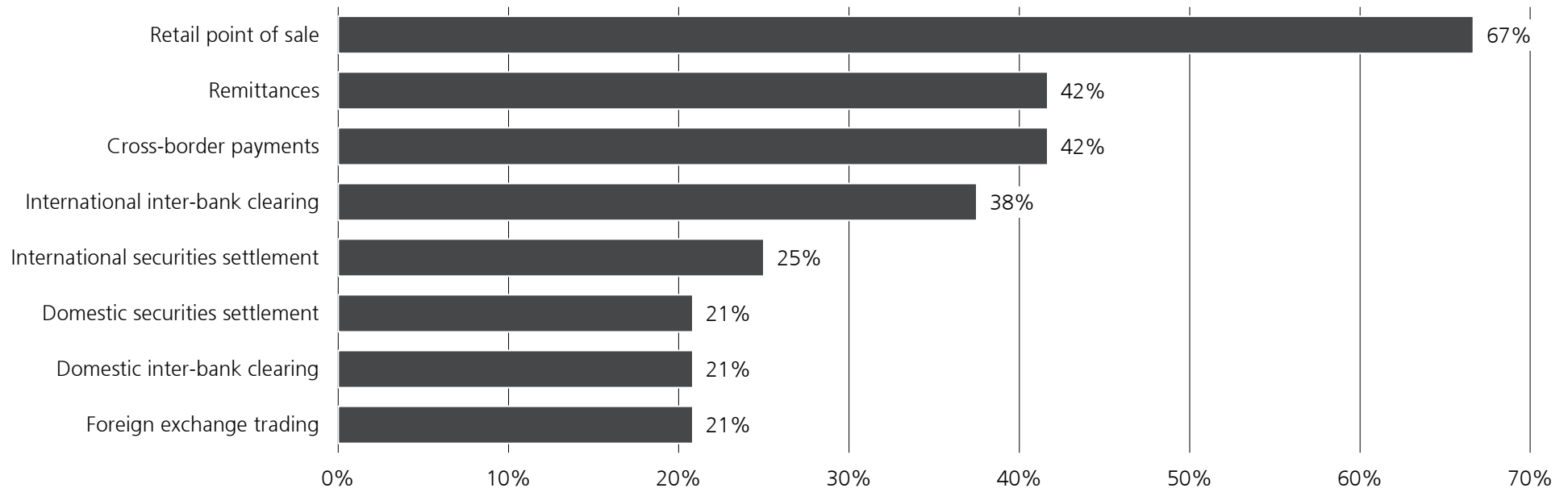
- The motivation to improve retail payment systems and the overall wholesale financial architecture (payment, clearing, settlement) were among the top answers why central banks want to introduce CBDCs.
- Interestingly, central banks also see crime and money laundering prevention and pressure from private projects (stablecoins and cryptocurrencies) as one of the key motivations to pursue the development of CBDCs.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Key use cases for CBDCs

Where do you see the most important use cases for CBDCs in your economy?

% of respondents, multiple answers possible



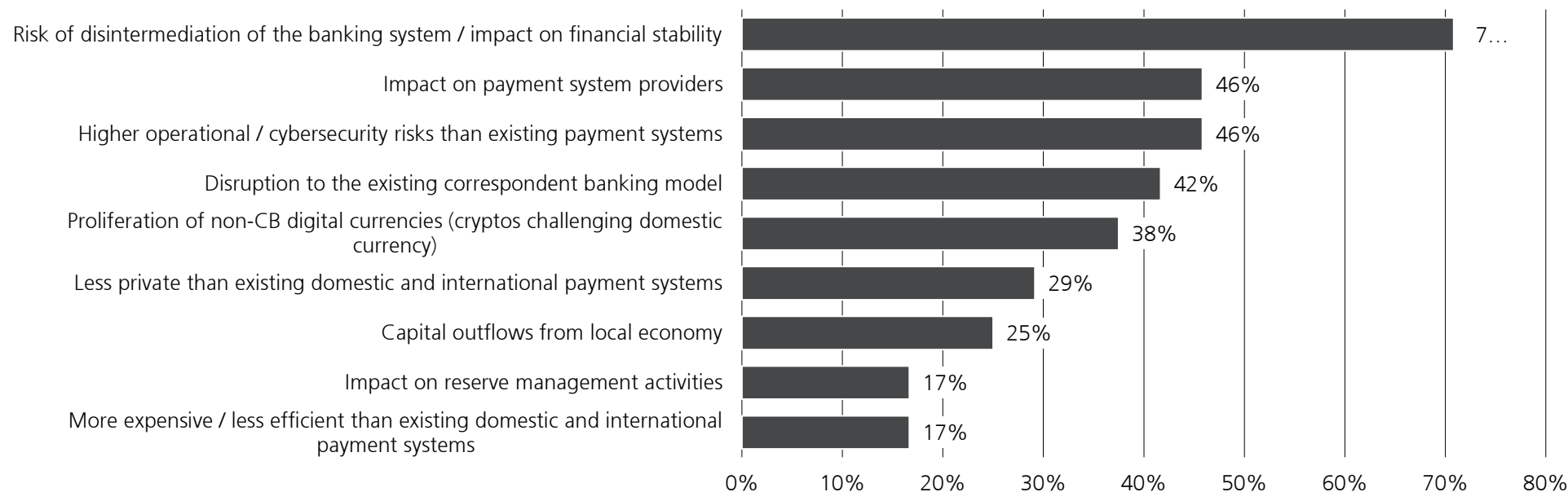
- Survey participants see the most important use cases for CBDCs in their economy in retail sales transactions and for remittance and cross-border payments, followed by improvements in international inter-bank clearing processes.

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Key risks coming from CBDCs

What do you see as the key threats coming from CBDC / digital currencies?

% of respondents, multiple answers possible

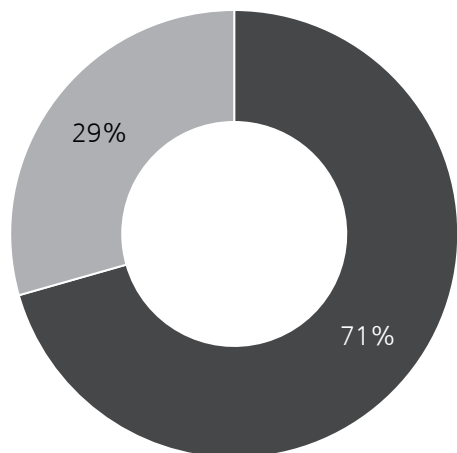


- The risk of **disintermediation of the banking system** and the resulting impact on **financial stability, operational and cybersecurity** issues as well as potential **disruptions on existing payment system providers** were seen by participants as the key risks of CBDC adoption in their economies.
- Only 17% of respondents see a risk for **reserve management activities** coming from CBDC adoption.

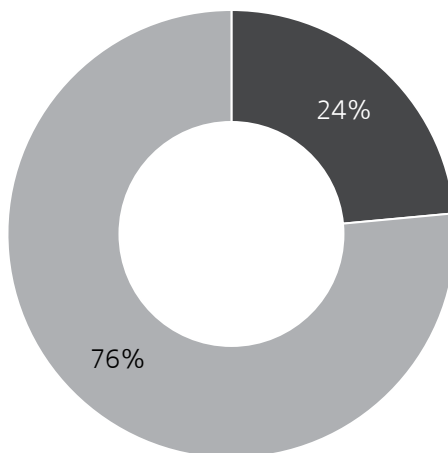
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Preferred architecture of CBDCs

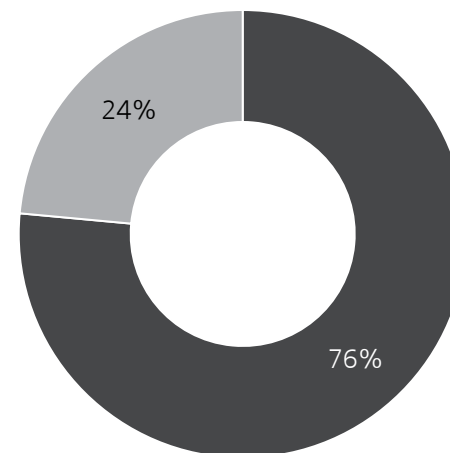
What would be the preferred (back-end) architecture of CBDCs at your institution?



■ Centralized
■ Distributed ledger technology



■ Wholesale
■ General Purpose (Retail)



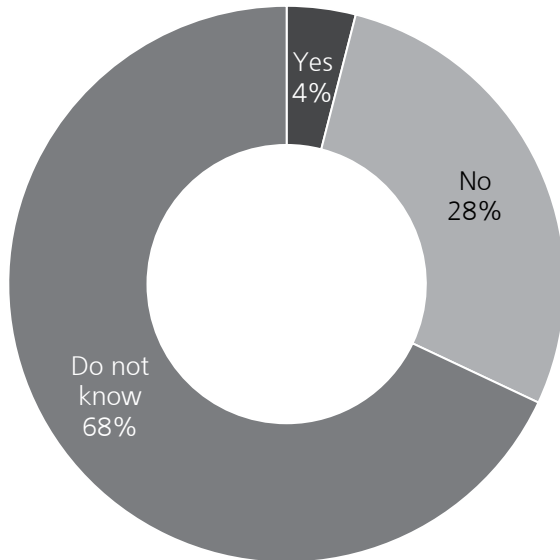
■ Single-country (or currency block)-issued
■ Multi-lateral (issued as basket)

- When it comes to the **technical setup** of central bank digital currencies, 71% of participants prefer a **centralized** setup instead of a **decentralized** (DLT-based) system.
- For the majority of participants (76%) a **general purpose (retail) CBDC** that is available also to private households and businesses instead of only a select number of financial institutions and service providers (**wholesale CBDC**) is the preferred solution.
- The majority (76%) of participants want to issue their own CBDC instead of joining **multi-lateral projects** to do so.
- 54% of survey participants indicate that **privacy** and **anonymity** are very important for the acceptance among the general public when it comes to general purpose CBDCs (Moderate importance: 29%, Less important and/or it would weaken key purposes including crime prevention: 17%).

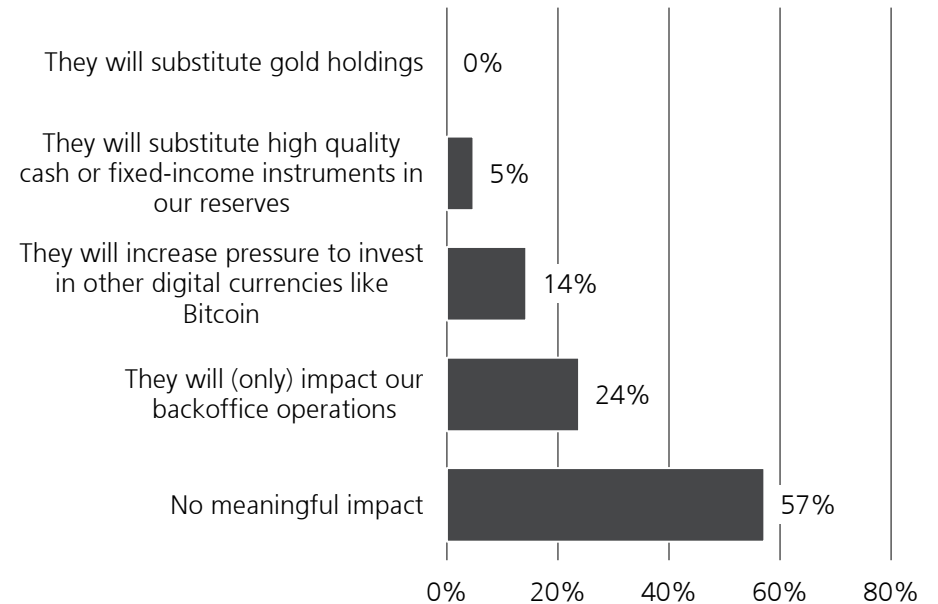
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Investment implications

Do you expect your institution to invest its reserves in CBDC once issued?



What will be the most likely investment implications for your institution once CBDC are issued?

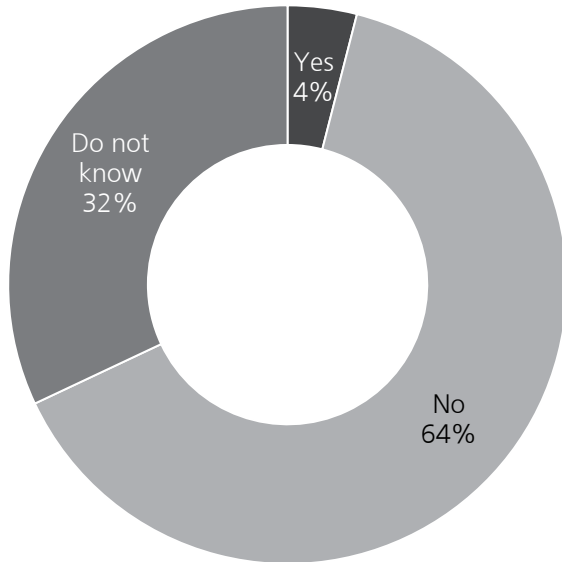


- The majority of participants are not yet able to make predictions if reserves will be invested in CBDCs issued by other central banks in the foreseeable future.
- 57% of participants see no meaningful impact for the reserve management at their institution, while 24% indicate that there might be an impact on their back-office operations. 14% see increasing pressure to invest in cryptocurrencies.

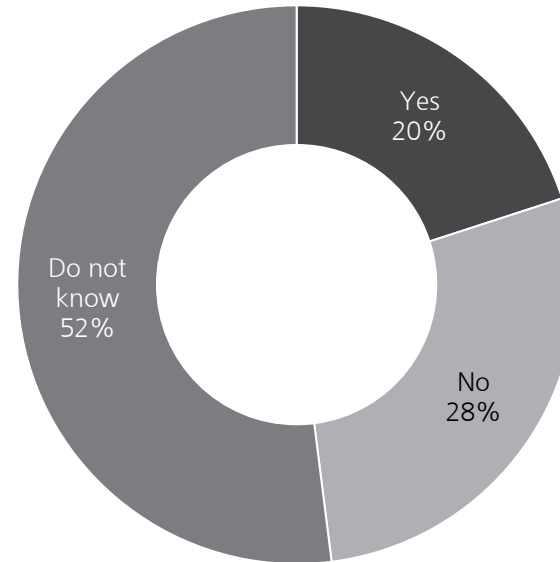
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Currency impact

Will CBDC lead to the fall of the USD as the dominant reserve currency?



Will a digital Yuan accelerate the internationalization of the RMB and make it a leading reserve currency?

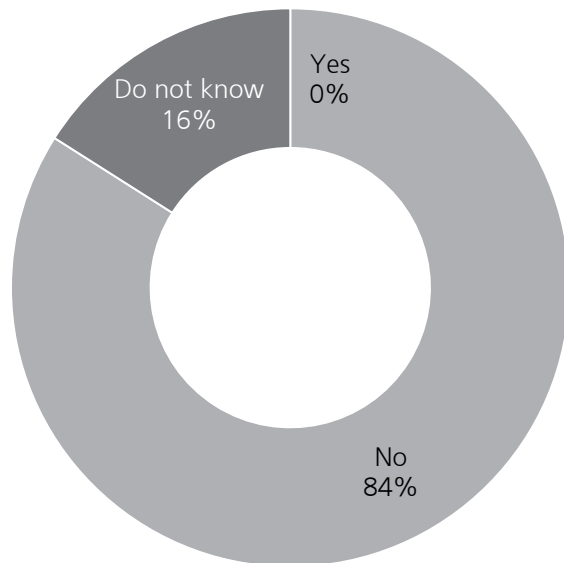


- A majority of 64% of participants do not believe that CBDCs will lead to the **fall of the USD as the dominant reserve currency**.
- More than half (52%) of participants indicate that they do not know yet if a **digital Yuan** will accelerate the **internationalization of the RMB** and help it on its way of becoming a leading reserve currency

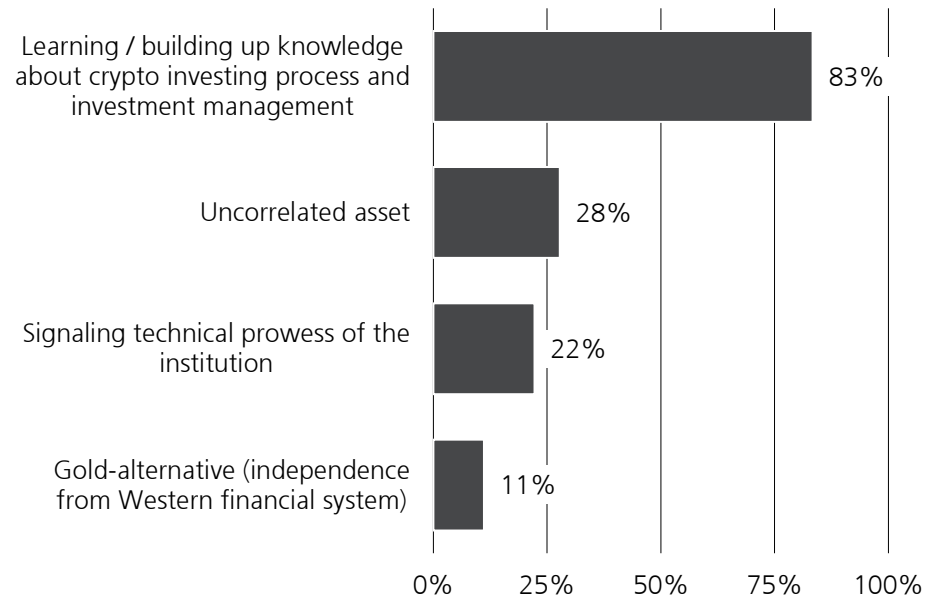
Source: UBS Annual Reserve Manager Survey, results as of June 2021

Cryptocurrencies as investments for central banks

Will cryptocurrencies displace gold as a safe haven?



What would be the motivation for central banks to invest in cryptocurrencies like Bitcoin (multiple answers possible)?



- A majority of 84% of participants do not believe that **cryptocurrencies** will displace gold as a safe haven.
- What would be the main motivation for central banks to **invest in cryptocurrencies**? 83% of participants believe that the **learning process** itself of investing and managing this new asset class would be valuable for their institution. 28% of participants see benefits coming from cryptocurrencies as an **uncorrelated asset**, and a further 11% would consider it as an alternative to gold.
- Still, survey participants believe that CBDCs and cryptocurrencies will continue to co-exist, with 46% indicating that in their opinion, Bitcoin and other cryptocurrencies will not be **displaced by CBDCs** (Yes: 33%, Do not know: 21%).

Source: UBS Annual Reserve Manager Survey, results as of June 2021

Contact information

Dr Massimiliano Castelli
Head of Strategy & Advice, Global Sovereign Markets
Tel: + 41 79 84 99 448
massimiliano.castelli@ubs.com

Philipp Salman
Strategy & Advice, Global Sovereign Markets
Tel: + 41 44 234 66 27
philipp.salman@ubs.com

UBS Asset Management (UK) Ltd
5 Broadgate
London, EC2M 2QS

+44-20-7567-8000
www.ubs.com

UBS Asset Management (UK) Ltd is a subsidiary of UBS AG



Disclaimer

For marketing and information purposes by UBS. For professional / qualified / institutional clients and investors only.

This document does not replace portfolio and fund-specific materials. Commentary is at a macro or strategy level and is not with reference to any registered or other mutual fund.

Americas

The views expressed are a general guide to the views of UBS Asset Management as of July 2021. The information contained herein should not be considered a recommendation to purchase or sell securities or any particular strategy or fund. Commentary is at a macro level and is not with reference to any investment strategy, product or fund offered by UBS Asset Management. The information contained herein does not constitute investment research, has not been prepared in line with the requirements of any jurisdiction designed to promote the independence of investment research and is not subject to any prohibition on dealing ahead of the dissemination of investment research. The information and opinions contained in this document have been compiled or arrived at based upon information obtained from sources believed to be reliable and in good faith. All such information and opinions are subject to change without notice. Care has been taken to ensure its accuracy but no responsibility is accepted for any errors or omissions herein. A number of the comments in this document are based on current expectations and are considered "forward-looking statements". Actual future results, however, may prove to be different from expectations. The opinions expressed are a reflection of UBS Asset Management's best judgment at the time this document was compiled, and any obligation to update or alter forward-looking statements as a result of new information, future events or otherwise is disclaimed. Furthermore, these views are not intended to predict or guarantee the future performance of any individual security, asset class or market generally, nor are they intended to predict the future performance of any UBS Asset Management account, portfolio or fund.

EMEA

The information and opinions contained in this document have been compiled or arrived at based upon information obtained from sources believed to be reliable and in good faith, but is not guaranteed as being accurate, nor is it a complete statement or summary of the securities, markets or developments referred to in the document. UBS AG and / or other members of the UBS Group may have a position in and may make a purchase and / or sale of any of the securities or other financial instruments mentioned in this document.

Before investing in a product please read the latest prospectus carefully and thoroughly. Units of UBS funds mentioned herein may not be eligible for sale in all jurisdictions or to certain categories of investors and may not be offered, sold or delivered in the United States. The information mentioned herein is not intended to be construed as a solicitation or an offer to buy or sell any securities or related financial instruments. Past performance is not a reliable indicator of future results. The performance shown does not take account of any commissions and costs charged when subscribing to and redeeming units. Commissions and costs have a negative impact on performance. If the currency of a financial product or financial service is different from your reference currency, the return can increase or decrease as a result of currency fluctuations. This information pays no regard to the specific or future investment objectives, financial or tax situation or particular needs of any specific recipient.

The details and opinions contained in this document are provided by UBS without any guarantee or warranty and are for the recipient's personal use and information purposes only. This document may not be reproduced, redistributed or republished for any purpose without the written permission of UBS AG.

This document contains statements that constitute "forward-looking statements", including, but not limited to, statements relating to our future business development. While these forward-looking statements represent our judgments and future expectations concerning the development of our business, a number of risks, uncertainties and other important factors could cause actual developments and results to differ materially from our expectations.

UK

Issued in the UK by UBS Asset Management (UK) Ltd. Authorised and regulated by the Financial Conduct Authority.

APAC

This document and its contents have not been reviewed by, delivered to or registered with any regulatory or other relevant authority in APAC. This document is for informational purposes and should not be construed as an offer or invitation to the public, direct or indirect, to buy or sell securities. This document is intended for limited distribution and only to the extent permitted under applicable laws in your jurisdiction. No representations are made with respect to the eligibility of any recipients of this document to acquire interests in securities under the laws of your jurisdiction.

Using, copying, redistributing or republishing any part of this document without prior written permission from UBS Asset Management is prohibited. Any statements made regarding investment performance objectives, risk and/or return targets shall not constitute a representation or warranty that such objectives or expectations will be achieved or risks are fully disclosed. The information and opinions contained in this document is based upon information obtained from sources believed to be reliable and in good faith but no responsibility is accepted for any misrepresentation, errors or omissions. All such information and opinions are subject to change without notice. A number of comments in this document are based on current expectations and are considered "forward-looking statements". Actual future results may prove to be different from expectations and any unforeseen risk or event may arise in the future. The opinions expressed are a reflection of UBS Asset Management's judgment at the time this document is compiled and any obligation to update or alter forward-looking statements as a result of new information, future events, or otherwise is disclaimed.

You are advised to exercise caution in relation to this document. The information in this document does not constitute advice and does not take into consideration your investment objectives, legal, financial or tax situation or particular needs in any other respect. Investors should be aware that past performance of investment is not necessarily indicative of future performance. Potential for profit is accompanied by possibility of loss. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice.

Australia

This document is provided by UBS Asset Management (Australia) Ltd, ABN 31 003 146 290 and AFS License No. 222605.

Source for all data and charts (if not indicated otherwise): UBS Asset Management

© UBS 2021. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.