

Financial Innovation and the Future of CBDC in Australia



RESERVE BANK OF AUSTRALIA

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Speech at the Intersekt Conference

Melbourne – 18 September 2024



‘Money shapes economies, economies shape nations, nations shape history.’ This quip from Larry Summers, though pithy, contains a kernel of truth. It is equally true that through history, bursts of technological innovation have intersected with changing needs of the economy to generate profound implications for society. Look no further than the introduction of paper money to replace copper coin in China’s Song dynasty, the development of double-entry ledgers in Renaissance Europe, the laying of the transatlantic cables in the 1850s and the dematerialisation (electronification) of securities half a century ago.

Fast forward to today, rapid innovation in technology and structural change in the financial economy is again raising important questions about whether our monetary arrangements are fit for purpose – this time in the digital age.

It is great to be here at Intersekt. This is an important forum where industry and members of the policy making and academic community can come together to discuss issues that will shape our financial future. It is also timely because this morning the RBA and Treasury will publish their first ever joint paper – part stock take, part roadmap – on central bank digital currency (CBDC) and the future of digital money in Australia. This is the latest initiative to emerge from the RBA’s expanding work program on the future of money. I am here this morning to highlight three key messages from this work.

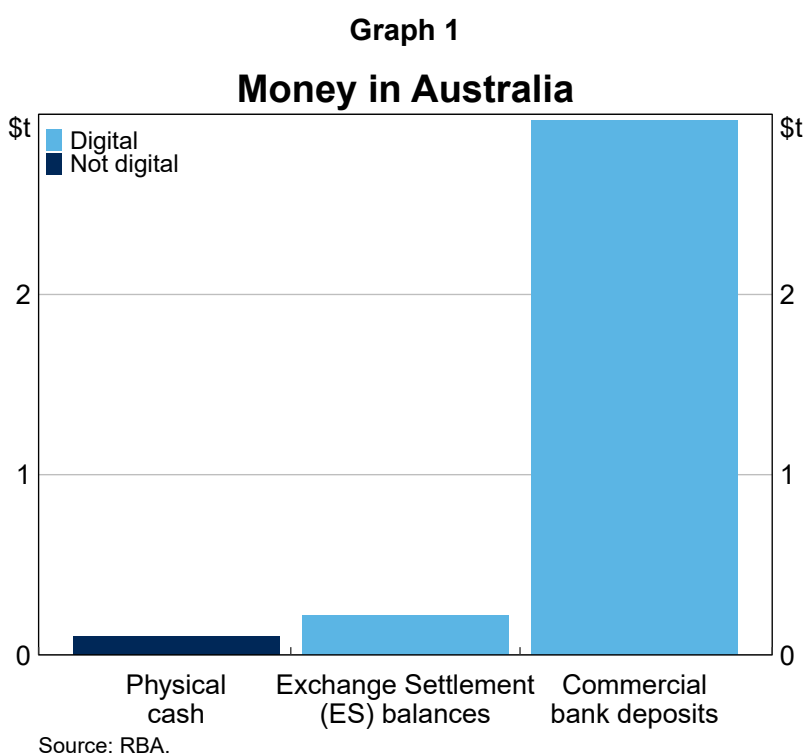
First, and with the strong endorsement of the Payments System Board, I can confirm that the RBA is making a strategic commitment to prioritise its work agenda on wholesale digital money and infrastructure – including wholesale CBDC – rather than retail CBDC. At the present time, we assess the benefits to the economy as more promising, and the challenges less problematic, for a wholesale CBDC compared to a retail version. This recognises that unlike a retail CBDC that would be issued for use among the public, a wholesale CBDC would represent more an evolution than revolution in our monetary arrangements. It also recognises the stabilising role of central bank money in the settlement of wholesale market transactions, particularly in markets that are (or could be) systemically important – a point emphasized in international standards.

Second, we are publicly committing to a three-year applied research program on the future of digital money in Australia. This has a number of elements. Our most immediate priority is to launch a new project with industry on wholesale CBDC and tokenised commercial bank deposits. The focus will be on understanding how new ledger arrangements and concepts like ‘programmability’ and ‘atomic settlement’ in tokenised markets could unlock benefits for the Australian financial system and wider economy. We don’t have all the answers here, so look forward to engaging with industry partners who have an ability and appetite to innovate with the national interest in mind.

Third, the view of the RBA and Treasury is that if a public policy case ever emerged in favour of issuing a retail CBDC, the Australian Government would be the ultimate decision authority and it would almost certainly require legislative change. This would also be in keeping with the recent international experience. In the case of wholesale CBDC, the decision making and legislative implications would depend on how transformative the new arrangements were. But in either case, you should expect close engagement between the RBA, Treasury and Government.

(Digital) Money in Australia Today

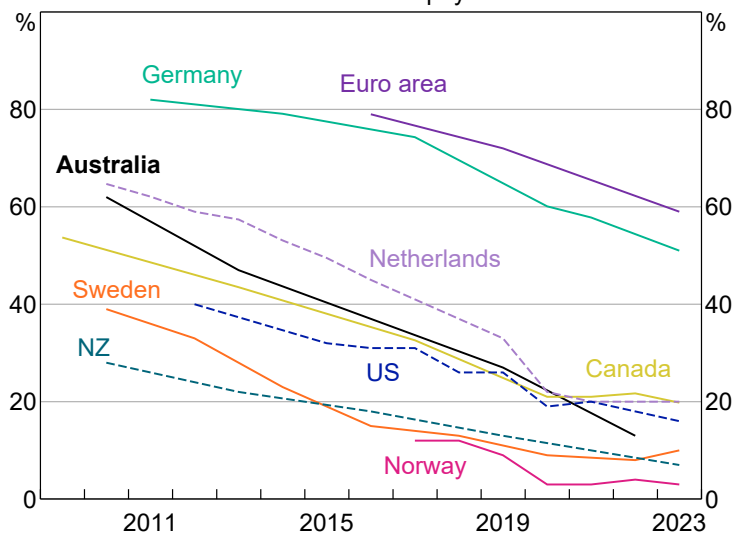
At this point a quick stock take of our current monetary arrangements is in order. There are three forms of money in Australia today – physical cash, Exchange Settlement (ES) balances and commercial bank deposits (Graph 1). The latter two are digital, by which I mean balances exist only on electronic ledgers.



Commercial banks issue deposits that are accessible to the public. ES balances are issued by the RBA to eligible financial institutions for monetary policy and financial stability purposes, including to facilitate the settlement of payments.^[1] These arrangements form our ‘two-tier’ monetary system, which reflects the comparative advantage of the public and private sectors. Central banks don’t have a comparative advantage in providing customer-facing services directly to households and firms. Rather, they focus on supplying foundational public goods (the ‘base tier’), including a safe settlement asset, essential infrastructure and a level playing field for competition. This enables private innovation in money and payment services (the ‘top tier’), which can lead to more value at reduced cost for households and firms.

Central bank money is available to the public but takes a physical form (i.e. banknotes), and fewer Australians are choosing to transact in it: the share of transactions occurring in cash declined from 62 per cent to 13 per cent between 2010 and 2022 (Graph 2).^[2] As elsewhere, the Australian public holds virtually all their money in bank deposits.

Graph 2
Trends in Cash Payments*
 Share of number of payments



* Observations are not directly comparable due to differing survey methods and inclusions across economies.

Sources: Bank of Canada; Colmar Brunton; De Nederlandsche Bank; Deutsche Bundesbank; European Central Bank; Federal Reserve Bank of San Francisco; Ipsos; Norges Bank; Roy Morgan Research; Sveriges Riksbank.

It is reasonable to ask at this point: if, as in many other advanced economies, digital money is already so dominant in Australia, then what is the big deal about CBDC?

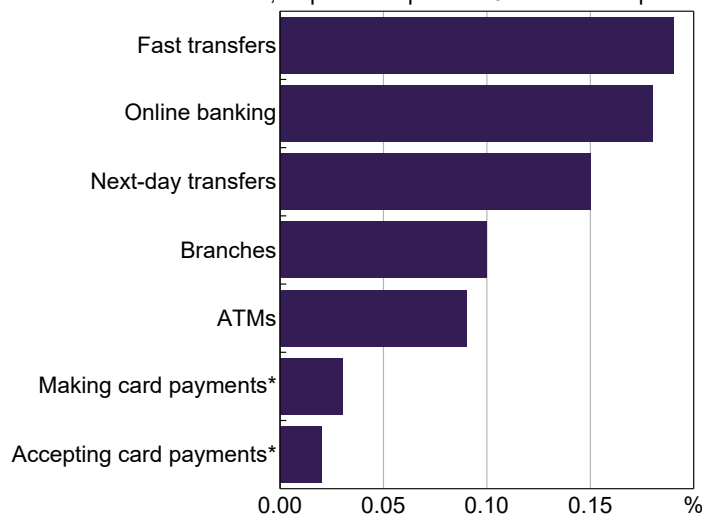
At one level, my sense is that much of the attention, if not intrigue, follows from CBDC connecting to deeply held views in parts of the community about the rights of citizens and the role and obligations of the state. This includes issues of safety, privacy, freedom, sovereignty and even geopolitics – issues that put us squarely in political economy territory, which is not exactly the natural habitat of most central bankers (!). This might also explain why public debates over retail CBDC have been hotly contested in some parts of the world.

Retail CBDC Considerations in Australia

A retail CBDC that would be available for use among the general public would represent a significant change to Australia's financial arrangements. Our assessment is that the potential benefits of a retail CBDC generally appear modest or uncertain at the present time, relative to the challenges it would introduce. Most of the arguments made internationally in support of a retail CBDC (set out in bold below) reflect issues that are either of limited relevance to Australia, or where it is not obvious that a retail CBDC would best address them.

Offline resilience. The digitisation of payments and commercial activity has yielded significant economic efficiency gains, but also made us vulnerable to disruptions to our digital infrastructure (Graph 3). Many countries are uplifting their crisis preparedness arrangements in response to national security threats and the risk of natural disasters. Social cohesion, not just economic disruption, is foremost in mind here.^[3] However, the processing of payments during electricity or telecommunication outages requires an offline capability first and foremost; this needn't require a retail CBDC *per-se*. Though more work is needed, some card payment terminals operated by merchants in Australia are already capable of accepting payments offline. Some countries are also reconsidering the back-up role that physical cash might play for short-term transactional purposes, albeit access to and acceptance of cash still requires supporting offline capabilities.

Graph 3
Duration of Retail Payment Outages
 Percentage of planned available
 hours, September quarter 2021 to March quarter 2024



* Outages in making card payments prevent card holders from making payments to anyone. Outages in accepting card payments prevent businesses from receiving payments from anyone.

Source: RBA.

Monetary sovereignty. If cash usage continues to decline, it has been suggested in some jurisdictions that a retail CBDC may be needed to preserve monetary sovereignty.^[4] Currency substitution can certainly compromise the policy objectives of a domestic central bank, where activity occurs in a currency and at interest rates outside its control. But the history of currency substitution suggests this risk is gravest in economies where institutions and the rule of law are weak, and residents and foreign investors have good reason to question the integrity of the domestic currency – conditions not apparent in Australia. And while it is possible that a BigTech firm launches another global stablecoin initiative in an effort to bundle their digital services with payment services, there is now a concerted international effort to closely regulate any such move. Should the United States ever issue a retail CBDC, some countries might reconsider their own position given the global role of the US dollar. But there is no momentum behind a retail CBDC in American political or policy circles. And aside from the legal impediments, I find it inconceivable that a digital Chinese yuan or digital euro would circulate as the currency of choice for Australians.

‘Singleness’ of central bank and private bank money. A key feature of our monetary arrangements is that bank deposits are interchangeable with one another and central bank money, on a dollar-for-dollar basis (this is the ‘singleness’ concept). This spares households and merchants from wasting resources in repricing the credit risk of different issuers – a lesson learned the hard way from the chaotic ‘wildcat’ free-banking era in the United States. It has been suggested that if physical cash was no longer available to the public, a retail CBDC may be needed to ensure private money retained its value because it would still be interchangeable at par with central bank money. However, most central banks have no plans to eradicate physical cash. And central banks already support the singleness of money in various ways, including by settling banks’ net payment claims ‘at par’ in central bank money.

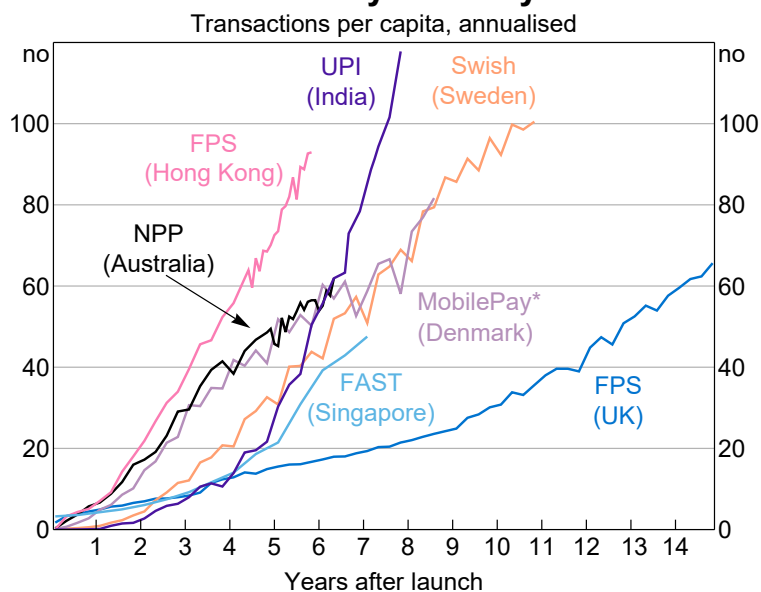
Safety. A retail CBDC would clearly be free of credit and liquidity risk, and would mean households still had the choice of transacting in central bank money even in circumstances where cash was unavailable or usable (such as online transactions). But the international evidence that households value the safety of central bank money is mixed in advanced economies. Cash holdings often increase during periods of economic uncertainty, though it is unclear if this owes to the assurance found in the physical properties of cash (it can be touched), or to its risk-free status (or both). Survey-based research by RBA staff suggests that Australian households would not attach

economic value to the risk-less nature of a CBDC.^[5] This could reflect the limited experience of Australians with bank failures and/or the range of measures to support public confidence in commercial bank deposits, including deposit insurance, depositor preference, a robust regime for bank regulation and supervision and the RBA's role as lender of last resort.

Privacy. International views on the privacy implications of retail CBDC vary widely – some fear a CBDC could be used as a surveillance tool of the state, while others find comfort in central banks not having incentives to exploit personal transaction data in the manner of private service providers. In any event, few central banks are considering a version of retail CBDC that would be fully anonymous given their responsibilities to mitigate financial crime. Research by RBA staff also suggests Australian households would attach very limited value to accessing a form of money that makes transaction data available to the RBA instead of a commercial bank.^[6] This suggests privacy considerations should not be determinative in any decision on a retail CBDC.

Efficiency and cost. Countries without a fast payment system are often most interested in retail CBDC. But we are fortunate in Australia to have the New Payments Platform (NPP) that enables payments to be processed and settled in near real time on a 24/7/365 basis (Graph 4). Regulation and competition have also lowered digital payment costs in Australia over the past two decades (Graph 5).^[7] That said, the extent to which a retail CBDC could further reduce payment costs is yet to be fully assessed and would depend on design choices. We are sympathetic to the idea that a retail CBDC could spawn a range of new payment services, though this was part of the motivation for last year's pilot project which did not surface compelling retail use cases.^[8]

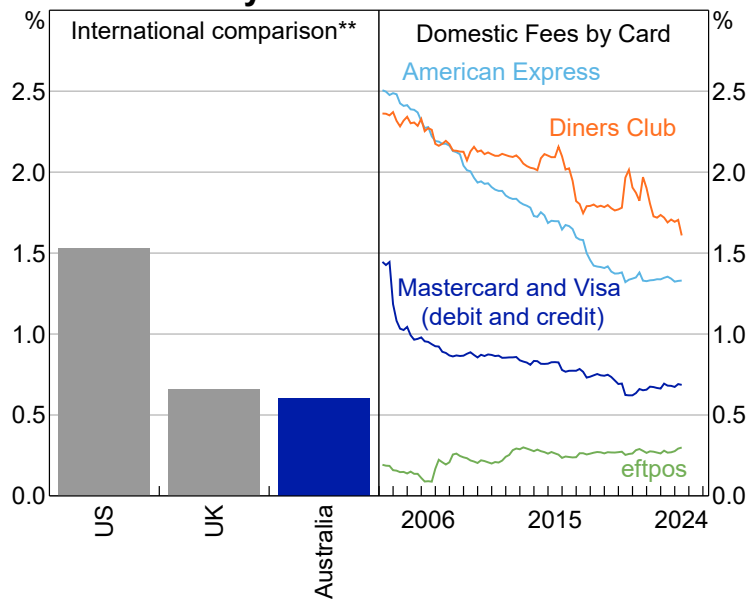
Graph 4
Use of Fast Payments Systems



* MobilePay data unavailable from 2022 onwards.

Sources: FPSL; Getswish; HKICL; MAS; MobilePay; National statistics agencies; NPCI; RBA; United Nations World Population Prospects.

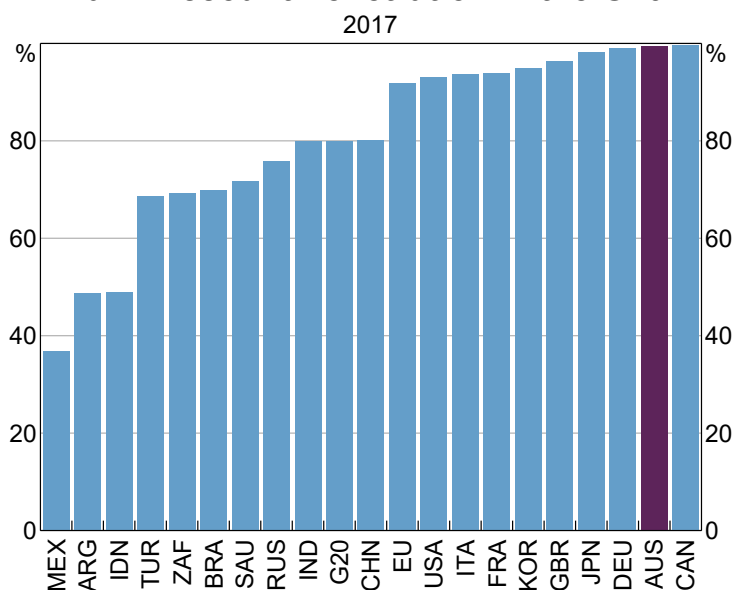
Graph 5
Retail Payment Costs in Australia*



* Comparing merchant service fees for all payment cards as a percent of transaction values acquired.
 ** Data for Australia and the US is as of 2023. UK data is as of 2018.
 Sources: Nilson Report; RBA; UK PSR.

Financial inclusion. A final argument sometimes offered in favour of a retail CBDC is that it could open up access to financial services. Yet this argument has most relevance in emerging market economies – Australian households are already among the most banked societies in the world (Graph 6). Research by RBA staff has also found that among Australians who continue to rely on physical cash, issues like poor internet access and low confidence with digital modes of transacting are particularly relevant.^[9] Further work is therefore needed to understand how a retail CBDC could address these issues – at the present time it is not obvious.

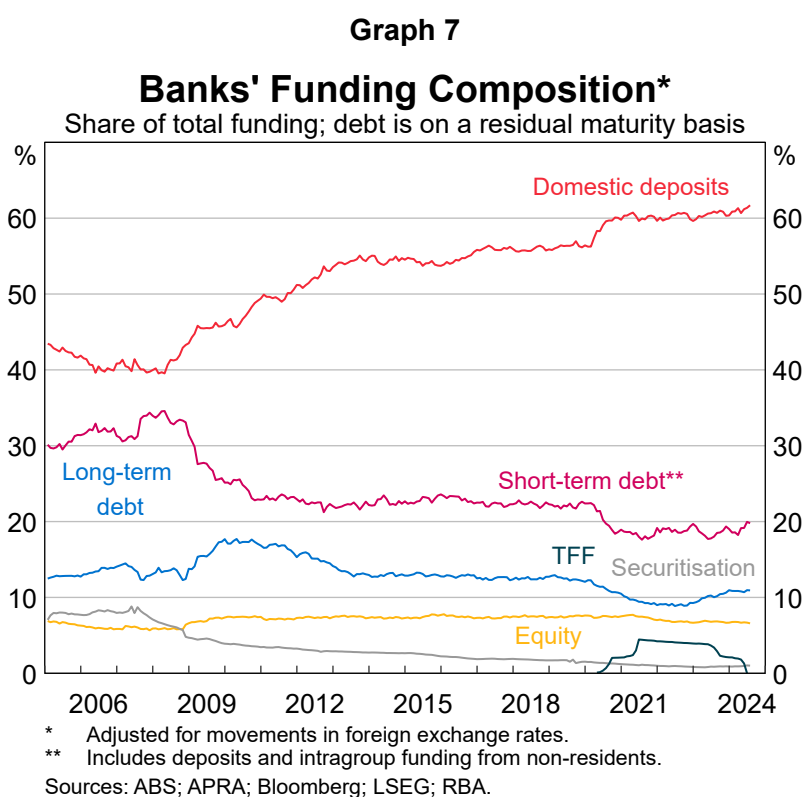
Graph 6
Bank Account Penetration in the G20*



* Percentage of the population aged 15 years and above with a bank account.
 Sources: RBA; World Bank.

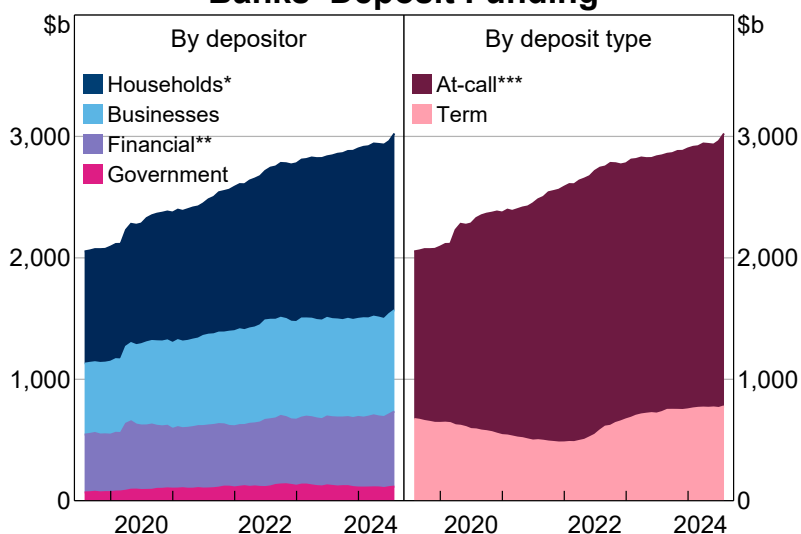
If the potential benefits of a retail CBDC in Australia appear modest or uncertain at present, what about the drawbacks? Three stand out: higher borrowing costs, bank runs and challenges with monetary policy transmission and implementation.

Bank funding costs. Australia has a bank-based financial system. The share of bank funding sourced from domestic deposits has risen to around 60 per cent (Graph 7), and is higher again for small and regional banks that have limited (if any) access to wholesale markets. Should households place their liquid assets in a retail CBDC rather than bank deposits, banks would have to offer higher deposit rates and/or tap more volatile and costly sources of funding – costs that could be passed on to borrowers. Banks could potentially compete harder for low-cost deposits by providing loans only to the very highest quality borrowers, but this would cut off credit access to otherwise creditworthy borrowers. And while central banks might consider offsetting a tightening in financial conditions with looser monetary policy, the idea that central banks should furnish banks with cheap loans as compensation for losing low-cost household deposits is more objectionable – it would raise a litany of other issues, moral hazard among them.^[10]



Bank runs. A more significant concern is that a retail CBDC could increase the risk, or amplify the effects, of bank runs. In times of stress, access to a risk-free CBDC would increase the ability of panicked households to switch out of bank deposits *en masse*. In Australia, most bank deposits are held by households and redeemable on demand (Graph 8). The events at Silicon Valley Bank last year offered a cautionary tale over the risk of rapid-fire bank runs in the digital age – one that could be magnified if bank deposits were convertible into CBDC at the touch of a smartphone.^[11]

**Graph 8
Banks' Deposit Funding**



* Includes deposits from housing loan offset accounts.

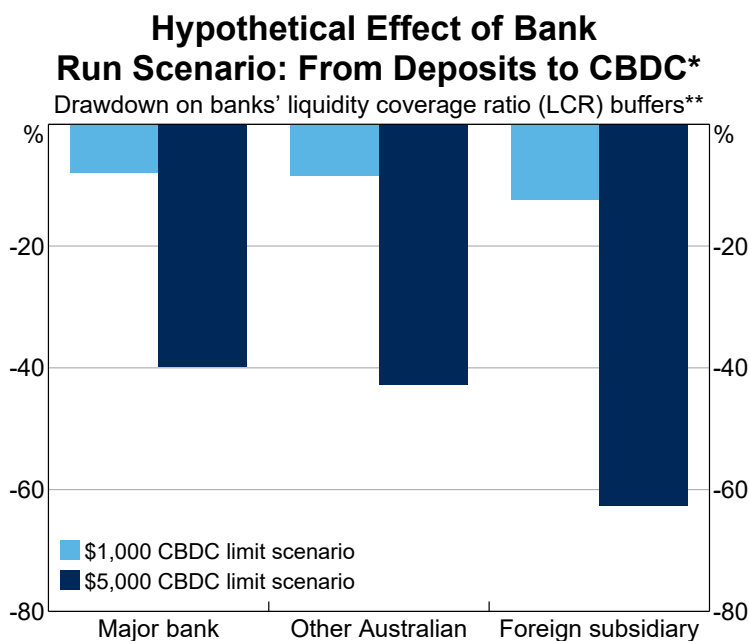
** 'Financial' refers to financial companies, such as superannuation funds and insurance companies.

*** Includes deposits in housing loan offset accounts and non-interest bearing deposits.

Source: APRA; RBA.

Under a simplistic hypothetical scenario, RBA staff examined the effects on bank liquidity if Australian households simultaneously transferred \$5,000 from their deposit account into a retail CBDC (assuming this was the upper holding limit), where there were no offsetting actions from banks or the central bank. Though a purely illustrative exercise, this was shown to reduce banks' liquidity buffers by 40–60 per cent, and could put them close to minimum internal thresholds (Graph 9).^[12] Central banks have examined measures that could forestall or limit the effects of bank runs involving CBDC, including limits on holdings, penalties on bank deposit withdrawals and negative interest rates on CBDC in periods of stress. But what such measures have in common is an effort to restrict the use of CBDC, which to my mind at least, raises the question of whether the benefits of a CBDC would be forfeited in the process.

Graph 9



* Scenarios assume depositors with deposits at a single bank (which constitutes around three-quarters of all deposits in the banking system) move deposits into CBDC up to the hypothetical limit.

** LCR buffers refer to banks' liquidity above the regulatory minimum. LCR buffers have been averaged over banks of each type.

Sources: APRA; RBA.

Monetary policy implementation and transmission. The stock of household deposits is large relative to most central bank balance sheets and the markets they operate in. Significant uptake of retail CBDC could therefore require a large program of open market operations and have the potential to disrupt functioning in key financial markets. Separately, monetary policy transmission could be affected by disintermediation of the banking system, given its key role in setting the interest rates that influence saving and investment decisions. And while it has been suggested that a retail CBDC could enhance policy transmission at the lower bound if it was remunerated at a negative interest rate, this would necessitate the phasing out of physical cash – something most economies, Australia included, have no plans to do. Indeed, most central banks consider a retail CBDC analogous to a 'digital banknote' that would complement physical cash, not replace it, meaning it would not bear an interest rate.

Wholesale CBDC Considerations in Australia

Let's now turn to a wholesale CBDC. The context in which we might consider the case for a wholesale CBDC is fundamentally different to retail CBDC because central banks already have a long history of issuing digital money to financial institutions in support of their monetary and financial stability objectives. In this sense, a wholesale CBDC would be more evolutionary than revolutionary.

Like ES balances, a wholesale CBDC would be issued to eligible financial institutions and serve as the ultimate safe asset in the settlement of wholesale market transactions. What is new is that it could exist on different types of ledgers (centralised or decentralised) possibly alongside tokenised assets, and offer greater functionality than today's ES balances. This could support asset settlement and other wholesale payments in new ways.

The larger question here is how could the functioning of existing wholesale markets be enhanced, and new ones supported, through innovation in digital money, securities and supporting infrastructure? In some respects, innovation in wholesale markets has been less impressive than in retail payments. To cite one domestic example, it is striking that price discovery and placement in the \$780 billion market for bank term deposits – comprising

around 15 per cent of bank funding in Australia – still largely occurs in branches and over emailed spreadsheets and phone calls in an opaque, labour-intensive manner that is little changed from 25 years ago. This begs the question – is this the best we can do?

More generally, the Bank for International Settlements and most advanced economy central banks are actively exploring opportunities to uplift the functioning of their wholesale markets, including by:

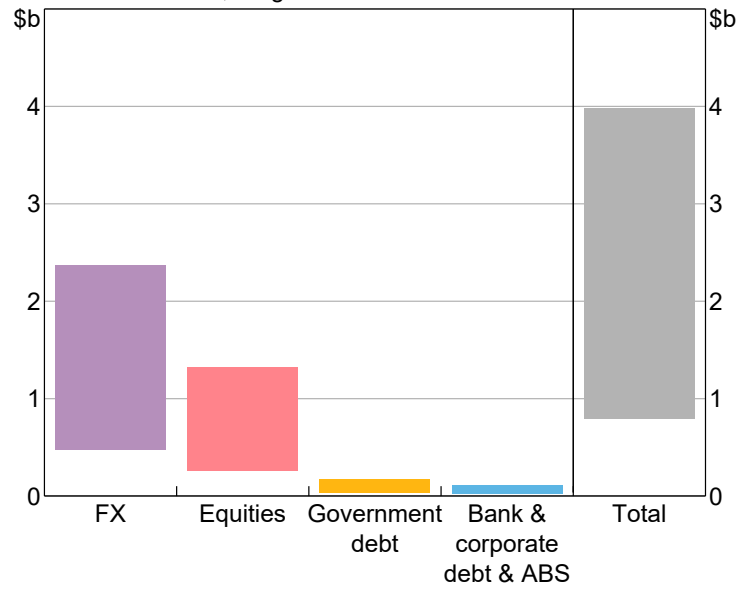
- **Reducing counterparty and operational risks, and improving capital efficiency, by freeing up collateral:** This might be achieved by shrinking the time between trade execution and settlement through instantaneous (conditional) ‘atomic settlement’, where money and assets exist on the same ledger (or on ledgers that are closely linked).
- **Increasing informational transparency and auditability:** Researchers are examining how new forms of ledgers and assets could facilitate more transparency, including in greenfield markets where the digital representations of assets could be updated and verifiable in real time.
- **Increasing liquidity and the ability to transact:** This could be supported by increased informational efficiency and transparency, 24/7 trading hours, and the fractionalisation and programmability of assets.
- **Reducing intermediary and compliance costs:** Programmability could cut through layers of manual processes in the transaction lifecycle, including the automation of compliance checks and asset-servicing tasks.

This exploratory research has seen central banks and industry probe the role that tokenisation might play in a future financial system. Digital tokens can take two forms: they can be issued directly or solely (as a standalone instrument) on new forms of ledger technology (‘native tokens’), or they can digitally represent existing ‘real-world’ money and assets (‘non native tokens’). Tokens could be stored, traded and transferred on either centralised or decentralised programmable platforms. The programmability of tokens via smart contracts, and the ability to free up collateral and reduce counterparty risk by atomically exchanging money and assets on the same ledger, have been of particular interest in experimental research.

When I first spoke about the opportunities and challenges associated with tokenisation in the Australian financial system a year ago, I noted the potential benefits were sufficiently interesting to warrant further investigation. As a case in point, if tokenisation produced just a small share of the benefits of earlier periods of innovation in wholesale markets, then aggregate cost savings to investors and issuers in the Australian financial markets could be substantial (Graph 10; Graph 11).^[13] That said, for all its promise, I should also caution that tokenisation is not without its challenges. Work is well underway at the RBA and elsewhere to examine whether the potential benefits of tokenisation stand up to closer scrutiny.

Graph 10 Hypothetical Transaction Cost Savings

Annual, ranges from illustrative scenarios*

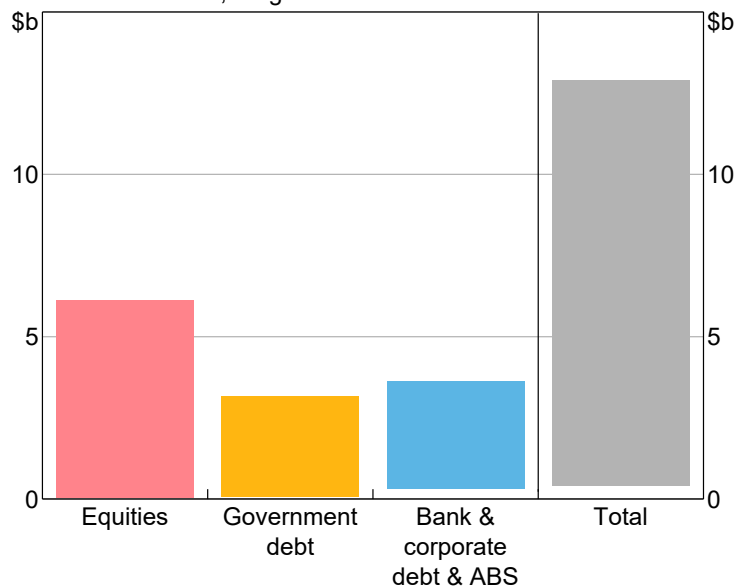


* If explicit transaction costs (including correspondent banking, collateral, and clearing & settlement fees) and a proxy for implicit round-trip transaction costs (the bid-ask spread multiplied by turnover) decline by 6–30 per cent. This reflects declines in bid-ask spreads observed following periods of technological innovation, scaled down by 50–90 per cent to be conservative. See Jones (2023): 'A Tokenised Future for the Australian Financial System?' for more information.

Sources: ABS; AOFM; ASIC; ASX Information Services; Bloomberg; ice; J.P. Morgan; Oliver Wyman; RBA calculations; World Bank.

Graph 11 Hypothetical Cost of Capital Savings

Annual, ranges from illustrative scenarios*



* If the cost of capital falls by 5–24 basis points, calibrated from research papers that estimate the impact of greater liquidity and transparency on the cost of capital, and scaled down by 50–90 per cent to be conservative. The ranges also incorporate uncertainty over whether the cost of capital decline is applied to outstanding or new issuance. See Jones (2023): ‘A Tokenised Future for the Australian Financial System?’ for more information.

Sources: AOFM; ASIC; ASX Information Services; Bloomberg; ice; RBA calculations.

For instance, in a world of atomic settlement, orders would likely need to be prefunded, which would increase liquidity requirements for market participants as netting benefits would be lost. Liquidity conditions could also worsen if trading volumes were fragmented between new platforms and traditional infrastructure. New infrastructure is time intensive to establish, so tokenised markets would likely need to be interoperable with traditional infrastructure for a considerable period. There is still a way to go in resolving governance and legal issues involving smart contracts and tokenised securities. A range of non-functional considerations will also need to be better understood, including the impact on central bank balance sheets from wholesale CBDC issuance and the trade-offs between transaction processing speed and ledger security. An even larger issue (one that could constitute a separate speech) relates to the monetary and financial stability implications of widening access arrangements to wholesale central bank money.

It may well be that a significant efficiency uplift in trading, clearing and settlement in our wholesale markets can be achieved without the issuance of a wholesale CBDC. But given the Principles for Financial Market Infrastructures emphasise the public policy benefits from conducting settlement in central bank money, we expect it to continue to have an important anchoring role in any market that is or could be systemically important.

A Roadmap

Table 1 sets out publicly, for the first time, key components of a three-year digital money work plan for the RBA and Treasury.

Our most immediate priority is to launch the public phase of Project Acacia. Project Acacia aims to build on the lessons from our CBDC pilot last year by focussing on opportunities to uplift the efficiency, transparency and resilience of wholesale markets through tokenised money and new settlement infrastructure. Subsequent phases of the project may well involve cross-border applications with regional central banks. In October, the RBA, alongside our research partners at the Digital Finance Cooperative Research Centre, will publish a consultation paper inviting industry engagement.

A second step is to launch industry and academic CBDC advisory forums in the first half of 2025, covering both retail and wholesale CBDC issues. We have benefited significantly from engagement with industry and the academic community on various CBDC issues over recent years, and we now seek to put more structure around this dialogue. These forums would play a similar role to those the RBA has convened in recent years with economists from industry and academia, to hear different views on monetary policy issues.

A third initiative, to begin next year, builds on a lesson from last year's CBDC pilot and will involve supporting reforms to a regulatory sandbox for financial innovation, including digital money and infrastructure. Industry feedback suggests the existing sandbox, which provides unlicensed businesses scope to test new financial products and services for a limited time, could be enhanced. Treasury will work with the Government to consider the recommendations of an independent review into the sandbox, and, where appropriate, implement reforms.

A fourth initiative commencing later next year may involve a series of 'deliberative workshops' on retail CBDC with the Australian community. Focus groups could include a broad cross-section of the population as well as minority groups that can be under-represented in public policy consultations. Recent international experience suggests that deliberative engagement of this sort can be a useful complement to the standard (consultation paper) approach.

Finally, the RBA and Treasury are committed to reassessing the merits of a retail CBDC over time, with a follow up paper to be published in 2027. By this time we will have had an opportunity to reflect on feedback from community engagement and to conduct further research into the implications of competing design options. There should also be a richer vein of international experience to draw on.

Table 1

Initiative	Description	Start	End
Project Acacia: Wholesale Digital Money and Infrastructure	Assess how new forms of wholesale digital money and settlement methods could support tokenised markets	H2 2024	H2 2025
Industry and Academic CBDC Advisory Forums	Launch advisory forums to gather more input from key stakeholders	H1 2025	Open-ended
Enhanced Regulatory Sandbox	Work with Government in advancing recommendations from the Enhanced Regulatory Sandbox review	2025	N.A.
Public Engagement on Retail CBDC	Deliberative engagement with the public on retail CBDC	H2 2025	Likely 2026
Retail CBDC Considerations Paper	Assess the merits and design issues in retail CBDC, informed by public engagement and the experiences of other countries	2026	2027

Legal and Decision-making Considerations for CBDC in Australia

As a practical matter, any form of CBDC would be issued by the RBA. However, the introduction of a retail CBDC for use among the public would raise important political economy issues and give rise to significant changes to Australia's financial arrangements. As such, the Australian Government would ultimately decide whether to introduce a retail CBDC. Enabling legislation would very likely be required, consistent with the international experience.

In the case of wholesale CBDC, the legal, regulatory and primary decision-making implications would likely depend on the design and scope of its use. As a general guide, the more transformative the proposed arrangements vis-à-vis our current system of ES balances, the more likely it is that supporting legislative change (and active Government engagement) would be required.

Bottom line, it would be safe to assume that the RBA, Treasury and Australian Government would closely consult ahead of any decision to issue a CBDC – retail or wholesale – should a public policy case emerge.

A final point here is that the RBA and Treasury would view it as sub-optimal to compromise any CBDC design features in an effort to give it legal status under current legislative or regulatory frameworks. Instead, it would be preferable to identify the features of a CBDC that were most desirable from a policy perspective, and then make any necessary enabling amendments to applicable legislation.

Conclusion

Let me sum up. At the present time, we assess the potential benefits as more promising, and the challenges less problematic, for wholesale CBDC compared to the retail variant.

Australians are generally well served by a safe, efficient and innovative retail payments system. Given the potential benefits of a retail CBDC in Australia appear modest at the present time, and a retail CBDC would create non-trivial challenges for financial stability and monetary policy implementation, we are yet to see a strong public policy case emerge for issuing a retail CBDC. In jurisdictions that have issued a retail CBDC (exclusively lower income economies) or indicated that it is quite possible in coming years, the main motivations have less resonance in Australia. Nevertheless, as the retail payments landscape is rapidly evolving and the implications of a retail CBDC are still to be fully understood, we will continue to examine these issues, including as more international evidence comes to light.

In the meantime, the role that a wholesale CBDC and other forms of digital money and infrastructure upgrades could play in enhancing the functioning of our wholesale markets will be the principal focus of our future work program. This reflects our assessment of the scope for new innovations that would preserve the benefits of our 'two tier' monetary system – though there are still plenty of issues that require careful consideration. Whatever the shape of future innovation in our financial system, it is reasonable to expect central bank money will continue to serve as the ultimate safe settlement asset, particularly in systemically important markets.

The question of how we might arrange our monetary system to better support the Australian economy in the digital age is a strategic priority for the RBA. We look forward to engaging with your ideas on how this might best be achieved.

Endnotes

- [*] These remarks draw overwhelmingly on the joint RBA–Treasury publication, [‘The Future of CBDC and Digital Money in Australia’](#). In producing this speech, I would like to thank our colleagues at the Australian Treasury, and my colleagues in the RBA’s Payments Policy Department – principally Rhea Choudhary, Zan Fairweather, Adam Gorajek, Rochelle Guttman and Chris Thompson. All errors in this speech are mine alone.
- [1] ES account holders comprise authorised deposit-taking institutions and other eligible payment service providers and clearing and settlement facilities.
- [2] Nguyen T and B Watson (2023), [‘Consumer Payment Behaviour in Australia’](#), *RBA Bulletin*, June.
- [3] Indeed, this is partly why the new legislation has given Sweden’s Riksbank the authority to prepare for extreme contingencies including war, by mandating that payment service operators and providers establish a robust offline capability.
- [4] See for example, T Ahnert et al. (2022), ‘The Economics of Central Bank Digital Money’, ECB Working Paper No. 2713, August; and Bank of England and HM Treasury (2023), ‘The Digital Pound: A New Form of Money for Households and Businesses?’, Consultation Paper, February.
- [5] Fairweather Z, D Fiebig, A Gorajek, R Guttman, J Ma and J Mulqueeney (2024), [‘Valuing Safety and Privacy in Retail Central Bank Digital Currency’](#), RBA Research Discussion Paper No 2024-02.
- [6] Fairweather *et al*, n 5. This estimate assumes that Australia’s financial crime authority, AUSTRAC, can access transaction data in both cases.
- [7] See, for example, Gill T, C Holland and G Wiley (2022), [‘The Cost of Card Payments for Merchants’](#), *RBA Bulletin*, September; Dobie B and B Watson (2024), [‘The Effect of Least-cost Routing on Merchant Payment Costs’](#), *RBA Bulletin*, April.
- [8] RBA and DFCRC (Digital Finance Co-operative Research Centre) (2023), [‘Australian CBDC Pilot for Digital Finance Innovation’](#), Project Report, August.
- [9] Mulqueeney J and T Livermore (2023), [‘Cash Use and Attitudes in Australia’](#), *RBA Bulletin*, June.
- [10] Separately, while non-bank lenders in Australia do not rely on deposit funding and so may be less directly affected by a CBDC, it is worth recalling that these entities are not prudentially regulated.
- [11] It has even been suggested that a CBDC could enhance financial stability by providing authorities with better real-time information on deposit flows, enabling them to nip in the bud the faintest sign of a run – this might reduce depositors’ incentive to run in the first place. But these arguments are contested, and personally, I don’t find them persuasive.
- [12] Fairweather *et al*, n 5.
- [13] Jones B (2023), [‘A Tokenised Future for the Australian Financial System?’](#), Speech at the Australian Financial Review Cryptocurrency Summit, Sydney, 16 October.