

THE FUTURE OF CASH IN AUSTRALIA

AN ANALYSIS OF MARKET DATA TO UNDERSTAND RECENT, CURRENT, AND EXPECTED FUTURE TRENDS



Background and research question

The payments landscape in Australia has been evolving for decades, and this evolution continues, ostensibly at an increasing rate. The evolution pathway commenced in 1974 with the introduction of Bankcard, the first credit card issued in Australia. Since then, the growth of credit and then debit cards, the enablement of card payments on mobile devices, and the mushrooming of alternate payment methods and interfaces across bank transactions, account-to-account payments, real-time payments, and cryptocurrencies (the last having more noise than substance from a payments perspective) has meant that the role and relevance of cash has reduced in the overall payments ecosystem.

There have been predictions of the “end of cash” – frequently inferring a fully cashless society – since the advent of card payments. These predictions grew in number and volume particularly after what we might call “peak cash” in late 2008. But, to paraphrase the well-known Mark Twain quote, “reports of cash’s impending death have been greatly exaggerated.”

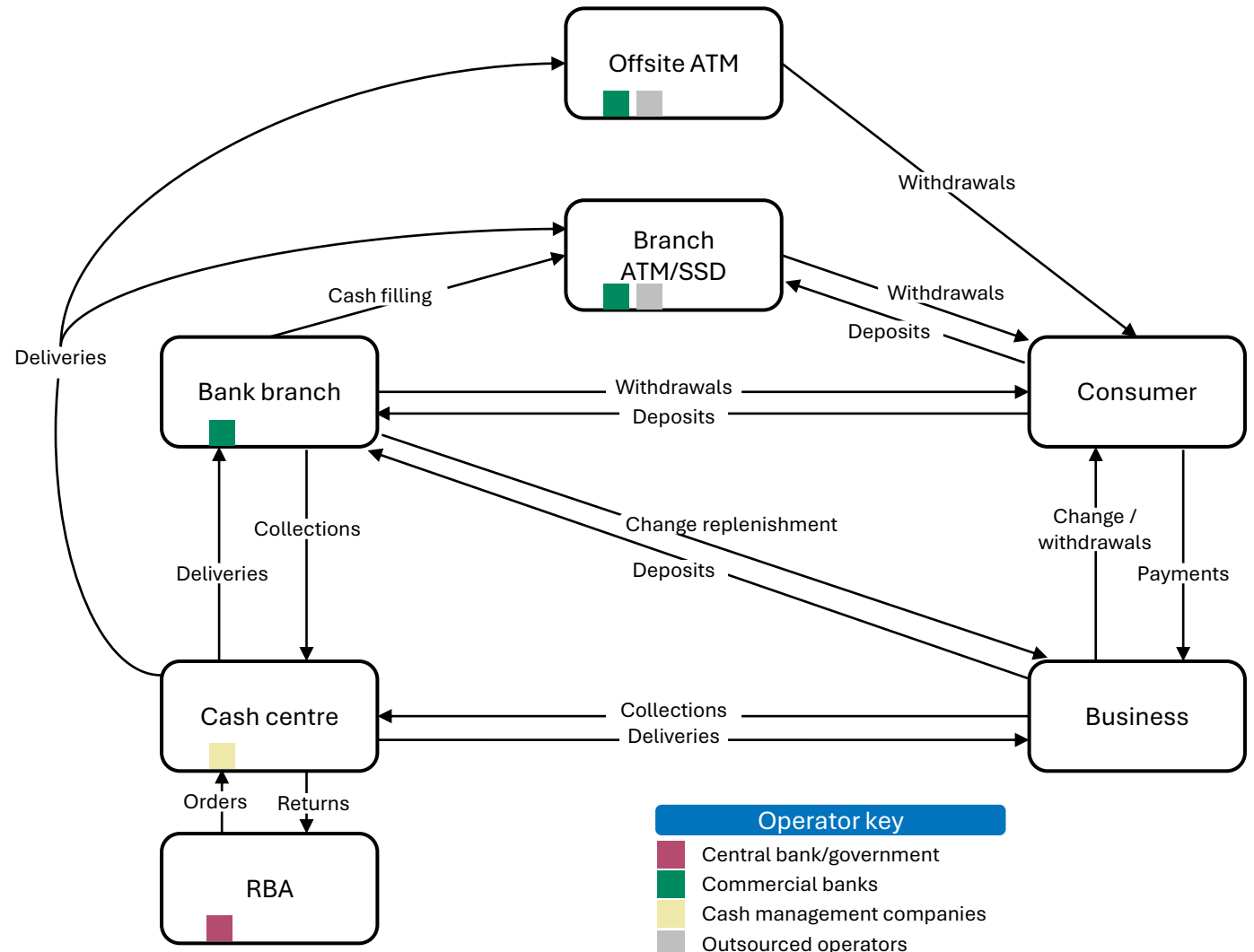
This report draws from public domain data to understand the recent and current trends in payments and cash in Australia, in order to infer – with some caution – where cash usage might head in the future. The report also discusses what broader factors may influence changes in cash usage, to aid readers in forming their own efforts to crystal ball the role cash will play in Australia’s payments landscape in the future.

The Australian cash cycle

The Australian cash cycle – the movement and holding of cash – can be represented relatively simply, as we have done in this diagram. This representation helps with understanding what is happening with cash for a number of reasons:

- (a) It identifies who the main actors are in the cash cycle – who plays a role in consumers and businesses ultimately using cash
- (b) It is a useful reference point to understand what data exists to support cash usage analysis
- (c) It is a representation of the infrastructure that is needed to support cash payments, to inform understanding on the economics of the cash cycle

In an ideal world, we would directly access POS data from retailers and others, to get a picture of cash usage at the consumer level. Unfortunately this data simply does not exist in Australia in any meaningful way. This means we need to use the next best data point – cash withdrawals – and make inferences from there. If the main actors in the cash cycle were to participate in a more substantial study, it would be possible to build out an increasingly reliable model of activity across the entire cash cycle, to aid the predictive power of the model.



Data sources

This research report is based purely around public domain information. We have used the following sources to support our analysis:

- The Reserve Bank of Australia's (RBA) consumer payments studies (run triennially, most recently in 2022)
- The RBA's monthly payments statistics
- The RBA's monetary aggregate statistics
- AusPayNet's device statistics

These data are all useful, but have limitations. The key limitations of note are as follows:

- **Consumer payment studies.** These are run once every three years. 1,000 consumer are asked to keep a payments diary for one week, recording key information in relation to payments they make. While the sample size is, prima facie, reliable, we are concerned that the time period and the risk of non-reporting of transactions are likely to have an effect on data quality and report conclusions. Additionally, while the sample size is reliable, the selection of participants is not disclosed and basic demographics to support the representative nature of the sample are not published, if they are known
- **Monthly payments statistics.** While electronic payments are monitored and reported at a 'point of payment' level, cash is only reported at the cash withdrawal level. This means that the recycling nature of cash is not measured. For example, a consumer may use a \$50 note to make a payment, and get any amount less than \$50 in change. That change will be used for further payments, and so on. If we assume change of 50% of the cash paid each time, the \$50 note would induce some \$95-100 of payments. If we assume change of 20%, then the \$50 note would induce around \$60-65 of payments. To our knowledge there is no data or research that seeks to understand the appropriate multiplier. Where needed, this research report has used two bounds – 1.12 (the multiplier for an average change of 10% of the payment) and 1.94 (the multiplier for an average change of 50% of the payment). The reality is likely to be somewhere between these two

Triangulation of the consumer payment surveys and payment statistics

While we recognise that conducting research such as the consumer payments survey is challenging, and we appreciate the work that the RBA does to help inform discussion and understanding around consumer payments, it is useful to triangulate the survey outputs with the payment statistics to quantify limitations. This exercise is to both contribute to building a predictive model for cash usage, and to promote understanding around the limitations of any data.

The below table triangulates the consumer payments survey (CPS) with the RBA payment statistics (PS). We consider two groups of data:

- Firstly, cash payments as a share of cash+card. We do this because the CPS includes other payment methods (BPAY, PayPal, internet banking, etc) which are not captured by the PS. Therefore this provides a reasonable comparative. What this points to is that in 2007 and 2010, the data is broadly aligned when taking into account consumer recycling of cash, with a recycling multiplier of between 35% and 50% (average change as a % of payment between 26% and 34%). However from 2013 onwards the cash share of payments has an increasing variance. Using the 2022 data, the inference is that if there is no consumer cash recycling, some \$180m per month is being 'stuffed under the mattress.' We are sceptical of this difference, and therefore believe that the payment statistics with some allowance for consumer recycling is appropriate
- To further illustrate the limitations of the CPS, we have analysed device present data, which is a common measure across both the CPS and the PS. The difference in these measures is even more startling

This is not aimed at discrediting the CPS. The intent is to demonstrate the need for treating CPS data with appropriate caution.

Year	CPS: cash as a share of cash+card	PS: cash withdrawals as a share of cash+card	PS: cash payments	PS: cash payments	CPS: debit card device present share	PS: debit card device present share	CPS: credit card device present share	PS: credit card device present share
			as a share of cash+card (lower bound cash)	as a share of cash+card (upper bound cash)				
2007	46.7%	38.0%	40.7%	54.3%	n/a	n/a	n/a	n/a
2010	40.0%	33.8%	36.4%	49.8%	n/a	n/a	n/a	n/a
2013	25.6%	28.7%	31.1%	43.8%	80.0%	83.6%	63.0%	66.2%
2016	24.6%	23.7%	25.8%	37.6%	76.9%	80.4%	64.3%	66.0%
2019	15.1%	18.8%	20.6%	31.0%	82.4%	77.6%	69.6%	52.0%
2022	10.4%	12.2%	13.5%	21.2%	76.3%	62.0%	64.0%	41.2%

Consumer payments data

The most widely cited data for the use of cash in consumer payments is the RBA consumer payments studies. The table to the right is a summary of the key data over each survey year.

This data shows a change in the usage of cash as a percentage of value of payments from 38% in 2007 to 8% in 2022 – a drop of 30% or a reduction of share of nearly 80%. Debit and credit cards overtook cash in 2013, and the survey suggests that cash usage by value is equal to payments made through BPAY in 2022.

The survey also provided a number of other useful touchpoints:

- High cash users (>80% of payments by cash) reduced from over 40% in 2007 to under 10% in 2022, while low cash users (<20% of payments by cash) increased from less than 10% in 2007 to over 70% in 2022
- High cash users skew heavily toward older demographics – particularly 65+ years old, but also 50-64 years old
- Users indicated their opinion on the effect of no cash – for high cash users, some 60% suggested no cash would be a major inconvenience, while for low cash users, 19% suggest no cash would be a major inconvenience
- The most common responses to why consumers need to use cash include privacy and security concerns, merchants only accepting cash, and budgeting

Consumer payment methods

Share by value of payments, per cent

Payment method	2007	2010	2013	2016	2019	2022
Cash	38	29	18	18	11	8
Debit cards	21	27	22	26	36	39
Insert card	na	na	14	12	10	3
Online	na	na	4	6	6	9
Tap card	na	na	2	8	17	18
Tap device	na	na	na	0	1	8
Other	na	na	1	0	1	1
Credit cards	23	16	31	28	25	26
Insert card	na	na	15	7	5	2
Online	na	na	10	10	7	9
Tap card	na	na	2	10	10	10
Tap device	na	na	na	1	1	4
Other	na	na	4	1	2	1
Internet/phone banking	na	12	10	10	14	14
Cheques	6	3	2	2	2	0
BPAY	10	10	11	8	9	8
Gift/prepaid cards	na	na	na	1	1	0
Other	3	4	7	6	3	6

Payment statistics – looking at changes in cash withdrawals

Our analysis of payment statistics begins with cash withdrawals in their own right. This includes ATM withdrawals and POS cash outs/cash advances, to ensure any measurable form of cash withdrawal is captured.

Using this data, “peak cash” was in December 2008, with just over \$16bn of withdrawals in the month. It is worth remembering that this was in the middle of the uncertainty of the global financial crisis, which we expect helped to nudge cash withdrawals a little higher than they might otherwise have been.

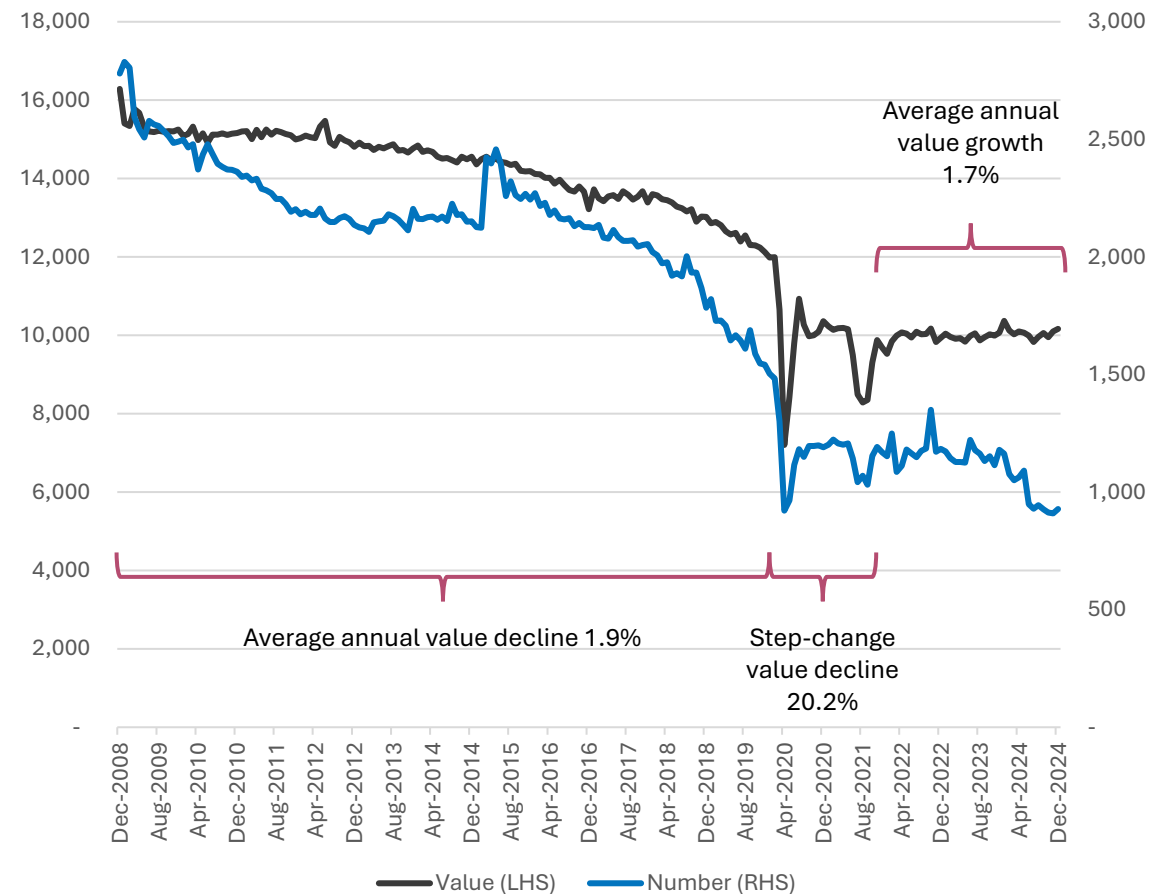
From this point, cash withdrawals moved to a generally downward trend, with an average decline rate through to the COVID period of 1.9%, though it was accelerating through 2018-19.

COVID played a major disrupting role in the usage of cash – in April 2020 withdrawals dropped by 32% in the month. For the period to October 2021 there were spikes and troughs in line with lockdowns, with the net change being a step-change of 20.2% from pre-COVID levels.

Since coming out of the lockdown period, cash withdrawals have been remarkably stable, and actually show a modest growth rate.

Interestingly, the number of withdrawals continues to decline. There is no evidence to point to the reason for this, not if it is an indicator of less people using more cash – or the same (or more) people withdrawing larger amounts of cash per withdrawal.

Monthly cash withdrawals, value and number

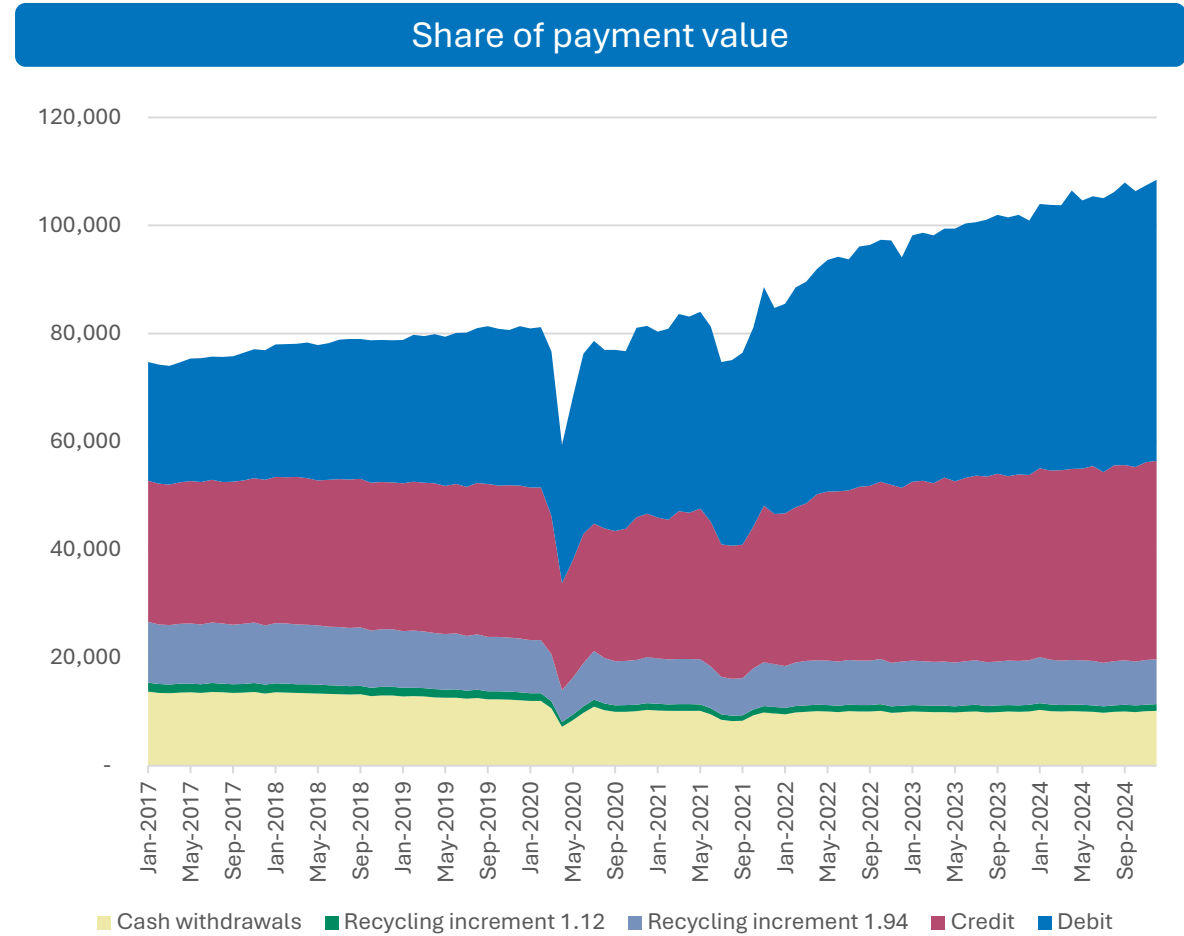


Payment statistics – cash as a proportion of payments

Our view is that there is no debate – certainly no evidence – that the role of cash in the payment landscape, measured by value of payments, is reducing. This is a key point highlighted by the CPS, and while we are cautious about their measures, the more robust payments statistics support this view.

In 2017 cash withdrawals made up 22% of withdrawals+card payments. Adding consumer recycling, cash made up between 24% and 35% of payments. By 2024 the cash withdrawal share had dropped to 10%, while the payment share likely sat between 11% and 18%.

Despite the stability of cash withdrawals over the three years since COVID lockdowns ended, the role of cash continues to change – not because it is reducing, but because use of other payments continues to increase.



Payment statistics – cash as a proportion of in-person payments

We are of the view that the most important measure for proportion of payments is those that are made in-person. Cash is not a payment instrument designed for the online economy. While we know of ‘cashtech’ developments that seek to provide mechanisms for cash to be used online – and indeed this is important in some developing economies – the reality in Australia is that there is unlikely to ever be real product-market fit for such innovation.

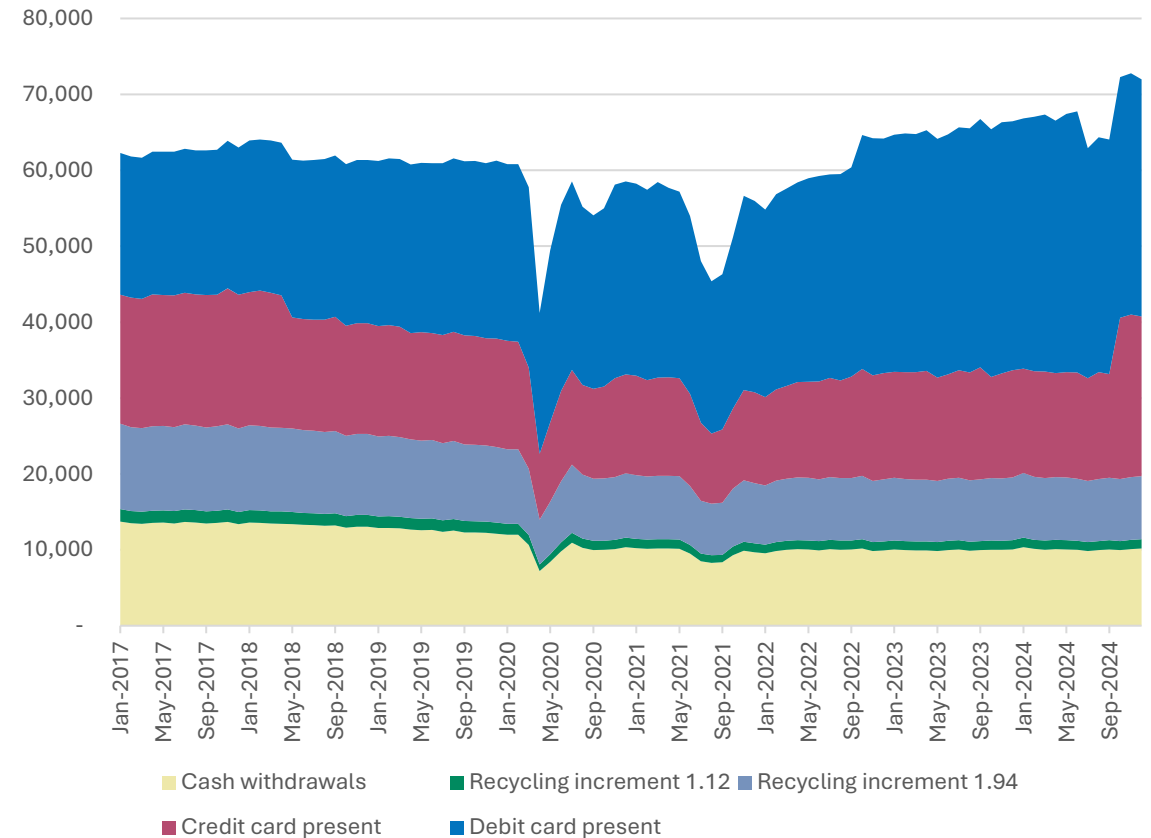
Therefore, the most ‘like for like’ measure of cash is against device-present card payments.

This shows quite a different picture. While the cash proportion has declined, the change is nowhere near that of overall payments. The comparative numbers:

- 2017 cash withdrawals made up 28% of withdrawals+card payments
- Adding consumer recycling, 2017 cash made up between 30% and 42% of payments
- 2024 cash withdrawals made up 16% of withdrawals+card payments
- Adding consumer recycling, 2024 cash made up between 18% and 27% of payments

This analysis is the most relevant for understanding the incidence, prevalence and trend of cash usage in a retail environment.

Share of payment value, face-to-face environments



The velocity of cash

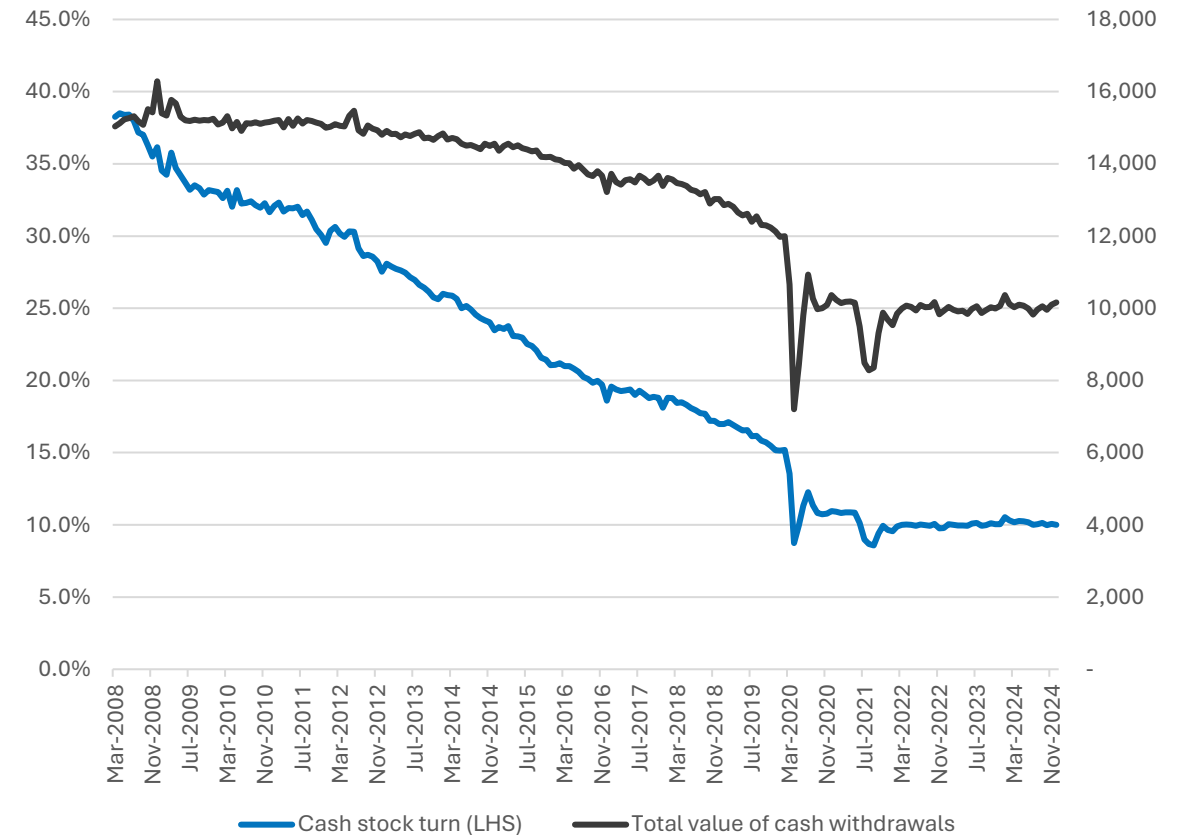
Many cash advocates point to currency in circulation as a key measure of cash usage and the ongoing relevance of cash. We do not subscribe to this argument. Decisions by a national central bank around cash supply consider cash usage as a reference point, but the two are not completely aligned.

The velocity of cash is a useful indicator because it shows how many times currency in circulation circulates through the economy. It is the same conceptual measure as inventory turnover in a retail business. However in this case, rather than being multiples it is a proportion of stock.

This analysis shows that some 38% of currency in circulation was withdrawn per month in 2008, while it is currently – and has been since 2022 – around 10%. This points to two considerations. Firstly, that the velocity of cash is reducing. But secondly, when taken alongside withdrawal (activity) data, that currency in circulation was continuing to grow across the period 2008-2019 beyond what was needed in the economy.

We are not aware of any current best practice or benchmark data for the ideal velocity of cash. Indeed, this would be dependent on market, usage, and even geographic considerations. A 10% velocity does appear particularly low, as it suggests stock holdings across the system of 10x more than is needed. This may be reflective of over-holding in distributed networks (retail shops, branches and ATMs), in cash centres, with the RBA, or with some combination of these.

Cash stock turn (the velocity of cash)

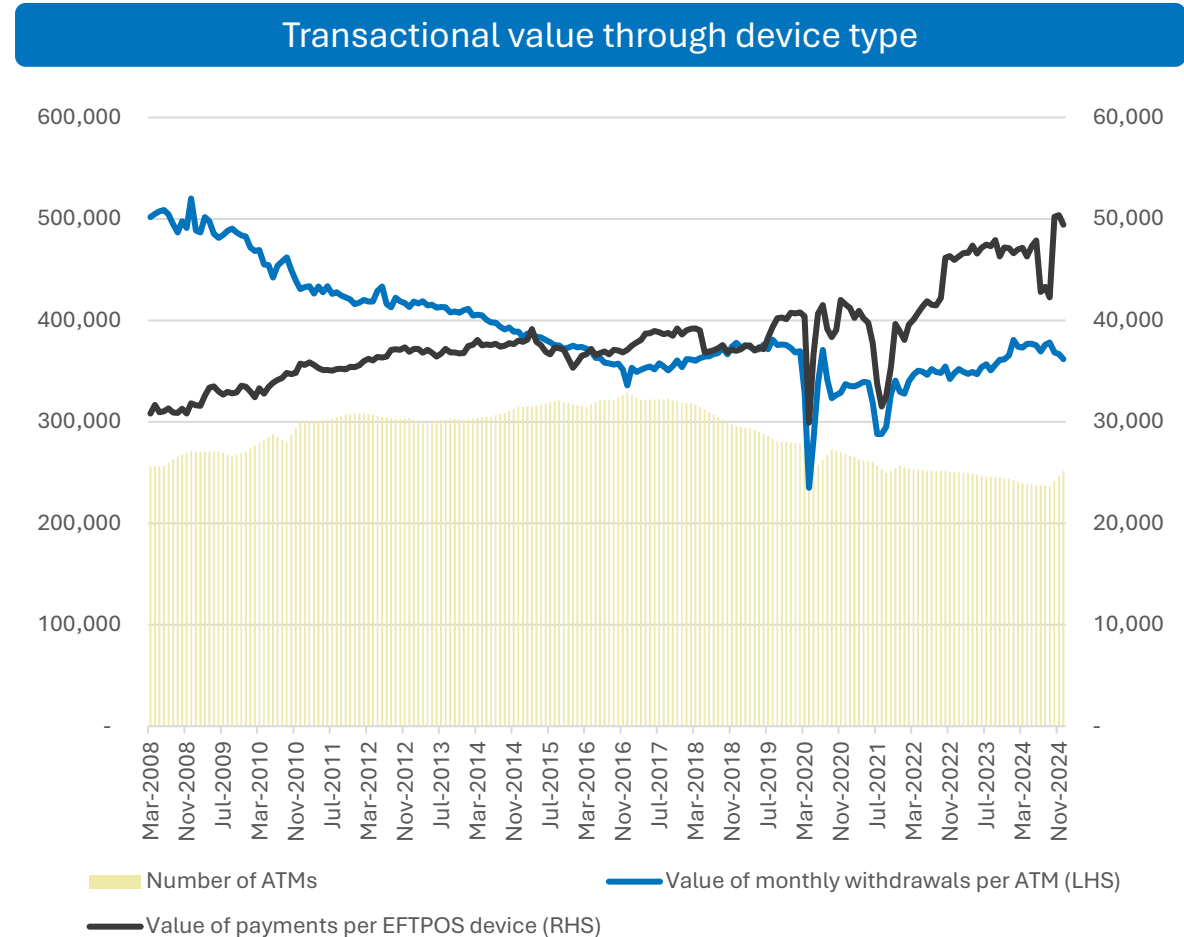


Physical network efficiency

The efficiency of physical networks – ATM and EFTPOS terminals – points to usage, adaptation of networks to changes, and risk of restrictions in availability of payment choice to consumers. There are of course other important indicators for consumer availability – retail acceptance of cash and means of retailers to deposit cash (either through bank branches or via cash-in-transit services) – but such information is much less available and more opaque.

This analysis allows us to make the following observations:

- Average value withdrawn from ATMs has decline, by around 28% over the long term. However, it is notable that this indicator has been increasing since COVID, pointing to increased utilisation rates of network devices
- Average value processed through EFTPOS terminals has continued to grow at a steady rate, which is unsurprising given the broader payments data
- ATMs across Australia have been declining, but there continues to be a substantial, country-wide network. This data does hide the change in bank-operated ATMs, which are generally surcharge-free – this is relevant for the broader discussion around what is needed for the Australian cash cycle. It is also of note that in the last quarter of 2024 ATM numbers grew, though this may be a once-off increase



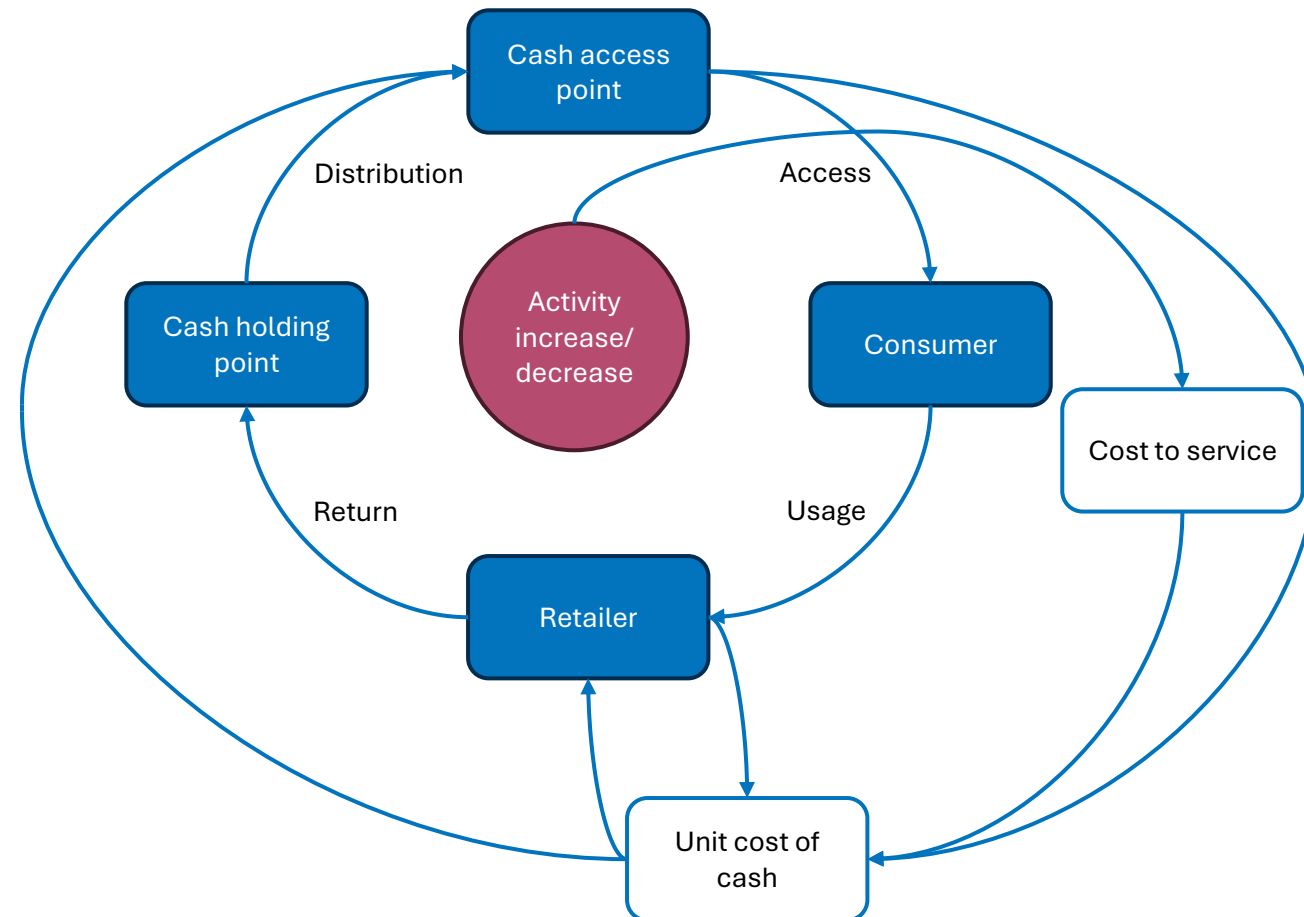
The flywheel effect of cash

An important observation and inference we can make is the flywheel effect of cash. This diagram illustrates the flywheel in a simplistic manner. The dynamics of the flywheel are:

- Most cash moves through a relatively predictable cycle, where it is distributed, accessed, used, and returned
- Over time there is either an increase or decrease in the activity through this cycle
- The activity level is an important influence on the overall cost to service. As activity goes up, cost goes up, and vice versa. However, the relationship is non-linear. This is because the cost to service has high levels of fixed or sticky variable costs. Put simply, a doubling in activity will result in a less-than-double cost increase, while a halving of activity will result in a less-than-halving cost decrease
- Further, over time there will be changes in the number of cash access points and retail locations that require service
- The non-linear relationship between activity and cost together with changes in cash 'end points' means that the unit cost of cash changes in a multiplicative – even exponential manner
- In a normal environment, the unit cost of cash is felt most directly by those who accept and then return cash (primarily retailers) and those who provide cash access (primarily banks and ATM operators)

In the Australian context at present, there is upward pressure on the unit cost of cash due to reducing cash end points, along with increasing costs due to inflation and wage growth. If underlying cash usage declines, this will add further pressure to unit costs, which will likely reduce business appetite to make cash available or accept cash.

The flywheel of cash



Conclusions

We are conscious that our analysis has only drawn on highly available public domain data. For this research to be rigorous it would need to draw from additional proprietary data sources, including data held by the RBA, by commercial banks, by ATM operators, and by cash-in-transit operators. While even this would not get to the ‘holy grail’ of actual consumer retail cash payments, it would significantly strengthen the ability to understand activity across the cash cycle.

With that substantial limitation noted, we believe the following conclusions are reasonable:

1. Cash usage in Australia has stabilised since the conclusion of COVID lockdowns. Cash withdrawals tend to be around \$10bn per month, with a modest growth rate, and cash payments are likely to be between \$11bn and \$19bn per month
2. Cash as a proportion of total payments is reducing, and is currently between 10% and 18% of total payments
3. Cash as a proportion of in-person payments is reducing, and is currently between 16% and 27% of total in-person payments
4. The velocity of cash has dropped significantly and it is likely that there is much more – potentially multiples more – cash in circulation than is needed in the current environment
5. Availability of cash access, through ATM networks, has not materially diminished. However more work is needed to understand whether there is sound geographic coverage of ATMs at a local level, and whether there is adequate fee-free availability of ATMs. The utilisation rate of ATMs is improving
6. The flywheel effect of cash means that, if cash is seen as a societal good that must continue to be available to those who need or choose to use it, key participants in the cash cycle all have a role to play

As with any research of this nature, it points to key markers to aid decisions and/or the need for further research. In this case, we have reviewed the macro trends in cash and payments. The reality of activity, system costs, demographic and geographic needs, and the increasingly qualitative considerations of who needs access to cash as a form of payment must be understood in order to support a national cash strategy.

Implications for the future of the cash cycle

The cash cycle in Australia is under strain. There has been extensive media reporting around the financial challenges of Armaguard, the largest cash-in-transit operator in the country. There are many reasons for this strain. Changes in cash usage are a contributing factor, but this is not the only factor. Other cash-in-transit operators continue to operate, provide services, and – we assume – make an acceptable profit. ATM operators continue to manage their fleets effectively. All of these market participants are facing into cash usage changes.

As we look at the overall cash cycle, we see two fundamental points:

1. There is no indication that cash will disappear in the medium term, perhaps even the long term, based on current trends. There may be a cashless society in the future, but if there is it is a long way off
2. This being the case, transformation of the entire cash cycle is a priority. The short term challenges reported in the media are indicative of a system that, if it is not broken, it is certainly sub-optimal

Changes are needed across the cash cycle to support end-user cash usage. These changes will ultimately need to touch every participant of the cash system: the RBA, commercial banks, cash-in-transit operators, ATM operators, and retailers. And they will need to touch every component of the cash system – the wholesale cash cycle, the retail cash cycle, commercial models, technology models, operating models. Change is not only inevitable, it has happened and continues to happen. We are now at a point that the cash cycle needs to catch up in order to be fit-for-purpose in the current and future environment.

About the CPT Group

The CPT Group is a highly specialised international consultancy focused on cash cycle transformation and optimisation. We provide strategic, commercial, and operational expertise across the entire cash and payments ecosystem. Securing the cash cycle is our mission. We unlock value for central banks, commercial banks, cash management companies, ATM deployers and other essential stakeholders, to drive innovation, enhance efficiency, and future-proof the cash cycle in diverse jurisdictions worldwide.

The team brings extensive experience in cash cycle transformation, automating cash operations, overseeing program management, and defining and implementing comprehensive change initiatives for operators and participants through to national cash cycles.

Our expertise spans all aspects of M&A and the creation of innovative cash products and solutions, including the design, deployment, and management of national ATM and transactional banking networks, and fintech solutions that enhance cash ecosystems. From developing secure facilities and fleets that adhere to complex regulatory requirements to delivering resilient and adaptable cash infrastructure, we combine first-hand operator experience, industry insights and regulatory engagement, to lead sustainable transformation.

Our background includes consulting, industry operator leadership, commercial responsibility, and research – we understand every perspective on the cash cycle.



Our leadership team



Scott Forster

Scott is a seasoned executive with 20 years of experience in the cash management industry, including leadership roles in operations, strategy, and business development.

With overarching responsibility for group transformation and growth at Australia's

largest cash management organisation, Scott played a pivotal role in driving strategic transformation programs and overseeing key divisions such as precious cargo and security fleet innovation. Scott was key to the transformation of the cash industry in Australia. He has also been actively involved in industry leadership, including as Chair of the Asian Cash Management Association's Security Committee.

Scott holds a Bachelor of Economics from Macquarie University, is a graduate of the Australian Institute of Company Directors, and is known for his pragmatic leadership and commitment to best practices.



Matt Sykes

Matt is an advisor with extensive expertise in driving growth, business transformation, and strategic direction across diverse industries.

Within cash and payments, Matt has broad experience in strategy, commercial deals and growth, along with organic and inorganic

transformation. This includes building a banking solutions fintech from the ground up and driving strategy and commercial direction at a large multinational.

Prior to this Matt held a number of senior roles across corporate and advisory. Over his 30-year career, Matt has successfully completed deals worth over \$2 billion in commercial, financing, and M&A. Matt holds a PhD in Management from Macquarie University and an MBA, and is a Chartered Accountant. He has presented his research at conferences including at the American Academy of Management and the European Academy of Management.

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