

PAYMENTS AND BANKING IN AUSTRALIA

FROM COINS TO CRYPTOCURRENCY:

HOW IT STARTED, HOW IT WORKS
AND HOW IT MAY BE DISRUPTED

Nikesh Lalchandani

First Edition, First Printing

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Songlines tell of an ancient connection with the land, and of trade across a vast continent. This book acknowledges the traditional custodians of Australia, and pays respect to elders past, present and emerging.

About the Author

Nikesh Lalchandani's parents migrated from India in the late 1960s to Australia, where Nikesh was born. His first home, located next door to a bank, was in Strathfield, Sydney, the land of the Wangai people of the Eora nation. Nikesh was educated at Sydney Grammar School, and later studied engineering, computer science, and finance. He has travelled broadly and has been an early member or founder of startups, some of which now are or have been acquired by multinationals. He has been a professional services consultant and worked directly on large and small transformation initiatives for traditional organisations, neo banks, fintechs and government. Nikesh has extensive experience in all the Australian Big Four banks, including the Commonwealth Bank of Australia, where he held executive and head-of positions in emerging technology, innovation and payments. Nikesh has had the good fortune of being in the middle of many innovations of our time, from mainstream payments to blockchain and artificial intelligence. He has held board positions with startups and is the Chair of the NSW branch executive of the Australian Computer Society where he is a certified professional member. Nikesh is also a member of the Australian Institute of Company Directors, and has taken the Banking and Finance oath. He now lives in the Sutherland Shire of Sydney with his wife, two daughters and their pet dog.

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1.

INTRODUCTION



COMMERCE, MONEY AND PAYMENTS are integral to our economies and systems and, for the vast majority of us, they shape and influence the very way we think and behave, yet most of us have very little idea about how they really operate.

We have been inextricably involved with these systems since humans understood how to use bartering and simple forms of money to trade and exchange between one another, and it has now permeated almost every corner of our lives, facilitating the majority of what we do, where we go and the very lives we choose to live — all needing payments of some kind.

So, are we slaves to the payment processes and systems that have evolved over the past 4 000 years or are we their masters? The answer, and our future opportunities, might surprise you.

It might also surprise you to learn that very little about how payments actually work is written down, and you would discover, as I have, through sheer hard work, application of payment models, and an unwavering curiosity about how things operate, that much of the information is not available through any publicly accessible means, which is why this book has been written.

Part of the reason is because today's highly interconnected financial markets and payment systems are underpinned by complex, sophisticated technology and processes, understood by the expert few who design these systems. This has added to the manual and technology payment systems that have incrementally evolved over centuries, and we now stand on the verge of a brave new payments universe: a universe seeking to adopt distributed ledgers and disruptive technology to massively transform the very ways things can and will be paid for, and, in doing so, moving us further away from our elementary concepts of what cash is and how to use it.

Most of society is not even aware, nor, frankly, wants or needs to be aware about how systems run, until, of course, they don't, because we now regard it as a utility, baked into our lives, always there and necessary to run an advanced, well-functioning society.

However, there is real value in understanding how it all works, and those who do that best will understand the supposedly immutable laws of these systems and recognise how to apply the lessons learnt over time on the evolution of payments. Those armed with this insight and knowledge will be at a distinct advantage when it comes to identifying and maximising the potential on offer, and particularly, to avoiding repeating the mistakes of the past.

This book, therefore, is intended for those of you who have a little, but not in-depth familiarity with common methods of payments and would like to learn more about why things are as they are, or perhaps for bankers and those in the financial technology ecosystem looking for an inside track on what may be possible.

For the expert, this book will build upon your substantial knowledge and allow you to focus on other dimensions of the payment landscape, its systems and their history — critical for understanding how best to maximise your influence and effect in this rapidly evolving arena.

In this book, you will find a privileged insight into the workings of this space and a unique body of knowledge that explores the breadth of this subject in a manner you can understand, so that you can properly evaluate your opportunities, be it in education, law or commerce.

For that definitive text, or detailed technical specification or deep financial know-how on some given topic, this book will point you in the right direction.

A little bit about me

I am not an academic, but a practitioner who has cut his teeth architecting payment systems in Australia's leading and emerging banks and has had the fortune to have worked directly on many of the facets covered in this book. Putting this together has afforded me a fascinating opportunity to approach this subject much like you might any anthology, researching and uncovering facts and topics and finding the best way to connect all the dots. And then I felt it needed a little splash of colour to brighten up a subject one might otherwise consider rather dry. My experience writing this book has helped dispel any such thoughts of this being dry, and I hope you too see this in a different light once you read it.

A great deal of the work is based on my own study, experience and interviews so much of the text, references and footnotes have been replaced with opinions and ideas.

I hope you find this story as interesting, informative and as inspiring as I found it when researching and writing it.

Definitions

Clear definitions are always useful, and a glossary in this book expands acronyms and provides basic meanings of many terms not explained in the body of the work. During my research, I was reminded of a parliamentary report of recent vintage begging for a proper definition of a bank, despite 700 years of banking and volumes upon volumes of legislation on the topic. (There is literally a Banking Act in Australia.)

The truth is that what constitutes a bank today differs massively from the past, and further differs depending on the context of the questioner. So, rather than provide a pedantic treatment of the words *bank*, *money*, *currency*, *payment* and *transaction*, and many other terms you will come across in this book, which even experts have seen as an exercise in futility, perhaps as my first insight: do not tie yourself up in knots trying to define them and be prepared to be liberal in your interpretations.

The Journey to Understanding Payments

This book will take you on a journey through the Australian world of payments and banking, from the earliest forms of money through to the potential transformation and disruption standing at our gates.

Starting with early trade and payments, you will travel through the evolution of our regulatory environment and the banks. There is a timeline in the appendix that can help guide you through the sequence of events.

You will then move on to and examine deeply the major payment methods: cash, paper instruments, cards, Direct Entry, international and high-value payments, the New Payments Platform in Australia, other regulated payments like CHES and PEXA. You will not find a more comprehensive treatment of this breadth.

On the next stage of the journey, you will take a look at the many innovations in payments, especially recently, that have notably taken place outside the walls of the banks — we look at these, such as the big tech companies, startups, fintech and the cryptocurrency industry. I provide an insight into this world of innovation based on an insider's view from Barangaroo to Mountain View.

We then take a philosophical view and summarise the developments and reflect on the journey so far.

Finally, this book invites you to complete the journey of disruption, and examine and really understand both the small and large steps that will change payments, banking and money as we know it.

2.

EARLY DEVELOPMENT



FOR YEARS, BUILDING DEVELOPERS attempted to redevelop the dilapidated buildings of Paddy's Markets in Sydney. It was a large plot on prime real estate, close to the Central Business District. In 1990, they got their way, with approval from the government. However, there was one more stumbling block. An archaeological survey of the demolished site was demanded, as the area was as old as the colony itself. The home of some of Australia's first industries, the site had been partly occupied by Indigenous Australians as late as the 1840s,¹ and was the location of the colony's early trade with the world, so there were plenty of reasons for the survey.

A \$10 cheque to volunteers to cover expenses was the reward for a day's work in the sun, with a brush and a tray to painstakingly unearth a part of Australia's history. This was no typical dig. The clock was ticking. The builders were waiting to pour concrete over what many thought was another delay tactic.

Sweeping through the rubble and sediment, one millimetre at a time, was frustrating. For many volunteers, the day would pass with little more than a bucket of dirt to show for their labour. Eventually, the archaeological work bore fruit:² 34 203 bags of artefacts revealed evidence of early Aboriginal use of the land, collectable or tradable cowry shells, copper and bronze store tokens used as payment for one or half a penny, our dealings with pandemics (the cleansing of Sydney during the bubonic plague that spread around the world even then), and evidence of early trade with China and Arabia. Australia's history and connection with the world through trade was deep, and all this was revealed under just a few metres of rubble.

From the shell to cheques to cryptocurrency — how Australia developed its money and payment systems — is an untold story central to the nation's history, and a significant part of the story of global payments and banking systems.

History of Money

Anatomically, modern humans are probably as old as 200 000 years.³ The use of tools predates this, and to enable the exchange of tools that has been observed, some trade must have taken place. Though it is not clear when such exchanges began, scientists agree that by 2000 BCE, people had engaged in long-distance trade.⁴

Australia's Indigenous people used songlines to describe trade routes that go back to ancient times, and the movement of ochre used in ceremonial paint across vast distances confirms the view that trade in Australia was well established and prehistoric,⁵ with evidence of trade in shells and blades clearly evident in the archaeological records.⁶

¹ Fitzgerald

² Crook

³ Relethford

⁴ Nelson

⁵ Kerwin

⁶ Hook

While many would say that before money there was barter,⁷ a study of human behaviour and anthropology indicates that perhaps there was an informal debt system⁸ in which a favour granted would be paid back. So an *exchange of value*, the precursor to money, was probably more loosely understood and possibly occurred over an extended period of time.

This informal debt system became more formal with the earliest ledgers dating back to at least 4 000 years ago.⁹ These ledgers were used to record both sides of these debts.

With the utilisation of domesticated animals, the cart and the boat, regular travel was possible, and a commercial counterparty could be a stranger from a distant land. Trade had to be transactional, that is, both sides had to complete as the parties may not meet for some time, perhaps not ever. Barter would have been the mode of commerce.¹⁰ Exchange of value in barter was the precursor to money. For millennia, it would have served its purpose. Barter had its drawback: direct exchanges limited the possibilities in commerce to occasions where supply and demand could be mutually fulfilled between two traders.

At some point, people must have noticed that certain goods could be standardised. A bag of wheat was a bag of wheat. Ten fresh coconuts were consistent from one sample to the next. These items were *fungible commodities*, meaning they could be exchanged for similar items from someone else, or at another time. They could be used more efficiently in trade than unique items.

The earliest currency, that is, the use of a valuable commodity to exchange value, may have begun by at least 2000 BCE.¹¹ By that time, Australia's first peoples were a thriving civilisation, and there is evidence of interaction and trade, especially towards the north. Barter-based trade with the Makassar people (in what is now Indonesia) happened well before European settlement. Metal tools were exchanged for trepang (a kind of sea-cucumber) valued by the Chinese.¹² Trade between Aboriginal nations would have been largely by barter; however, there is evidence that shell money may have been used.¹³

The *unit of account* would have developed within established trade routes. Five trepangs could buy one tool (say), while 10 could buy two tools or one large blade. Between Aboriginal Australians and the Indonesians, a fair system of accounting would likely have developed. Between visits, the unit of account was established, and the value of goods and services would have been generally static, though perhaps subject to relative inflation and supply and demand dynamics or, to put it simply, bargaining.

⁷ Smith

⁸ Graeber

⁹ Keister

¹⁰ Smith

¹¹ Balmuth

¹² Marks

¹³ Balme; Connell

» NOTE

The absence of metal coins in Indigenous Australia should by no means be taken as any indication of lack of advancement. Modern monetary policy regards employment, prosperity and welfare as cornerstones to success. There is no reason to suggest they did.¹⁴ As we will see, money and coins were not widely available among the early colonial arrivals either so, fundamentally, at least from a monetary policy point of view, Australian Aboriginal society was arguably ahead. An interesting note, though, is that 1 000-year-old coins from Africa were discovered on Northern Territory beaches during World War II.¹⁵



Some of the first objectified man-made currency was made between 2500 BCE and 1750 BCE and represented a tangible asset, such as a quantity of grain, rice or livestock.¹⁶ These proto-coins are not classified as money as they may have been established only for the duration of trade in a marketplace. Technically, these would have been used to represent units of account, but had one advantage: rather than carrying heavy bags of grain, objects that were representatives of the bag could be exchanged and then redeemed through the market authority (the local chief) at the end of the market period.

The discovery of metals and metal technology introduced a new commodity. Useful metals (copper and silver) were relatively rare. Unlike shells, which had limited utility, and bags of grain that were perishable, they were a better store of value.

In three separate parts of the globe, around 700 BCE to 500 BCE, the first coins appeared.¹⁷ Coins were difficult to make and, therefore, difficult to counterfeit. Only a lord or seignior-like authority had the means of production to strike a coin and, to this day, the equipment required to produce money remains with the government of the day. Rather than being used in just one trading session, coins had no expiry. As they were metal, they had their own intrinsic value. We generally say that this is when money was invented: with the confluence of a unit of account, the exchange of value and store of value.¹⁸

The foundation of the early European colonisation of Australia came at a turning point in trade and payments. By the middle of the 18th century, the importance of trade was well established.¹⁹ However, David Hume's vision of free trade was corrupted by his countrymen's desire to make a quid. The taxation of transactions, introduced by the Stamp Act in 1765, initiated the American Revolution. The British East India Company became less about trade

¹⁴ Webb

¹⁵ Owen

¹⁶ Pal

¹⁷ Dhavalikar; Kagan; Scheidel

¹⁸ Jevons's original definition of money has been refined over the years. The RBA (Doherty) uses a modern definition: unit of account, exchange of value and store of value.

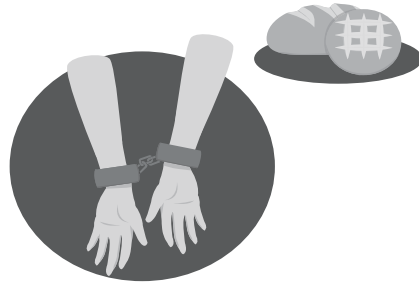
¹⁹ Hume

and more about occupation, and when the Tea Act was passed in 1773, ostensibly to enable trade by the East India Company directly to the colonies, the disruption of merchant trade triggered the Boston Tea Party, and the eventual demand for United States independence.

In 1788, the British colonised Australia as a penal settlement. London supposed that this military-ruled colony had little need for money, and so the early fleets were under-supplied with currency, perhaps only £300 in the hands of the governor in order to trade and to pay staff.

» NOTE

The United States War of Independence ended in 1783, and stopped the transportation of convicts from early industrialising England to the US. Another location was required. The settlement in New South Wales in 1788 brought over 750 convicts to the country, along with 550 crew, soldiers and their families. Most of these convicts were transported by a zero-tolerance legal system for trivial crimes, such as theft of a loaf of bread or minor personal theft (larceny). A retrospective analysis may suggest that economic challenges in England were the root cause (salaries were not keeping up with the price of food), so Australia was born in tough economic times and, as we will see, many challenges of the British Empire brushed off on the new colony, such as a shortage of money and resources. Indeed, despite the distance, the economy of Australia was greatly impacted and shaped by the British economy for many years.



In addition to the few coins, the first governor, Governor Arthur Phillip, was authorised to fund modest expenses on bills drawn on the British Treasury. These were simply letters with the governor's seal that could be redeemed in London. While they allowed government expenditure, they did not create currency for general use in the colony.

By the late 1790s, a community of free settlers had emerged from freed convicts, retired marines and free immigrant settlers from Great Britain. Most trade was with the Spanish and the other nearest British colony, India. An amount of coins, but supplies and a significant amount of rum, arrived with these ships, and both these items — coins and rum — became the new currencies.

Foreign Currency in the Colony

As a British colony, New South Wales should have adopted British money and coinage. At the time, the currency was pounds (£), shillings (s) and pence (d), with one pound equal to 20 shillings, and one shilling equal to twelve pence.

By the late 1790s, there was a serious shortage of British coins in the colony. There was no recourse to the Bank of England as, due to a shortage of bullion, the banks there had stopped gold and silver payments on bank accounts. Paper notes under £5 (over one

troy ounce of gold) were not legal even in England until 1797.²⁰ Even then, there were no banks in New South Wales to issue banknotes.

Currency was central to the problems of the new colony. In the final days of Governor John Hunter's tenure, Philip Gidley King, the incoming governor, requested copper coins (pennies) be sent to the colony. The problem of accumulation of money was an issue — with Governor King declaring that £5 of payment in coins would not be regarded as legal tender, and the import or export of this amount would result in a penalty of four times the amount.²¹ Unfortunately, there were not enough Spanish dollars and copper coins to go around so, in 1800, a table of conversion of popular coins, from the Indian rupee to the Dutch guilder, was decreed.

This proclamation (Table 1) can be regarded as the first foreign exchange sign, something that now frequents the streets of Sydney and other cities of Australia. It declared Sydney as a truly international city, recognising the coins of any passing trader and ready to do commerce. Every shop was a dealer in foreign currency.

It is interesting to note that, in the proclamation, the values of the three British coins were inflated. A guinea (then a gold standard) was not £1. 1s. as in England, but inflated to be £1. 2s. Likewise, an English shilling was 1s.1d in New South Wales. The purpose of this was likely to encourage the retention of British currency in the colony, where it was officially worth more than the rest of the Empire, rather than take the limited currency abroad. This simultaneously created Australia's own currency and started a centralised pegged foreign exchange that would last 183 years.

Table 1
Proclamation of coins.

Coin	Origin	Pounds	Shillings	Pence
Guinea	Great Britain	1	2	0
Johanna	Portugal	4	0	0
Half-Johanna	Portugal	2	0	0
Ducat	Netherlands	0	9	6
Gold Mohur	India	1	17	6
Pagoda	India	0	8	0
Dollar	Spain	0	5	0
Rupee	India	0	2	6
Guilder	Netherlands	0	2	0
English shilling	Great Britain	0	1	1
Copper coin of one ounce	various (including Great Britain)	0	0	2

²⁰Cobbett

²¹Butlin

Commissariat

In order to distribute food and provisions to people, a commissariat (a kind of general store), was established by Governor Hunter around 1796. Goods produced could be taken there and, due to a shortage of money, a receipt would be given. This was the first official publicly usable currency issued by the colony.²² The receipt could be passed around as a payment in the colony. The foundation stone of the second commissariat (now demolished) is still visible in First Fleet Park, The Rocks, Sydney, on the west side of Circular Quay near the Museum of Contemporary Art.

Promissory Notes

Between "gentlemen", promissory notes were a common way of making or receiving payments. The promissory note was quite simply a piece of paper with the amount owed, and the name and signature of the debtor. If the payer was not specified, that note could be passed around, and the ultimate holder could call on the original debt. However, just how effective an instrument these were came into question early on.

Promissory notes could be circulated indefinitely. They could be written on any scrap of paper, and the ingenuity of the early convict settlement in using these features for fraudulent payments was remarkable. The bottom of letters would be torn off, and the signature would be prepended by a promissory declaration. Fading ink would be used to render the note unusable after some time. Several notes from the same payer could be cut up and pasted together to be worth more than the original.²³

Early Monetary Policy

By the time of Governor William Bligh's arrival in the colony, the monetary system was out of control. Bligh was a character. Earlier, as a naval officer, his ship, the HMS Bounty, was subject to a mutiny. This should have been a warning sign for London.

His problem was not that he lacked empathy but that he took sides. On a ship literally in the middle of the Pacific Ocean, and in a colony, again literally at the other end of the world, one needed to take the more powerful side.

In the black market, the real currency was the bottle of rum. Bligh saw the widespread use of rum and quite logically banned it as a payment.

²² Booker

²³ Butlin

» NOTE

So desperate was the need for rum that when one ship from Calcutta was shipwrecked off the coast of Tasmania, the crew travelled hundreds of kilometres to Sydney. On arrival, a party was sent back to the wreckage to rescue the remaining crew and, of course, the cargo.



In addition to the use of rum, some promissory notes were written (with Bligh's predecessor, Governor King's blessing) in wheat, wool or other farm produce. After the floods of 1806, the price of wheat went from a level of 7s. 6d. per bushel to 30s.²⁴ This meant that a promissory note would be subject to an exorbitant interest rate as the note needed to be paid back in produce. Bligh sought to ban the practice.

Former NSW Corps officer, and later self-appointed leader of the free settlers, John Macarthur was disappointed with the way the colony was being administered. Macarthur, incidentally, is credited with playing a part in developing another of Australia's pseudo-currencies through his involvement in the wool industry. A showdown between the belligerent Macarthur and the authoritarian Bligh was not going to go down well.

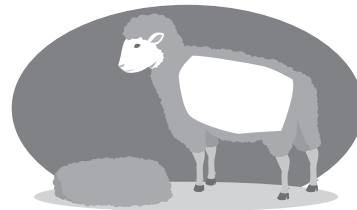
In 1806, the order was made to outlaw the use of rum as a currency and ban other produce in promissory notes. These, along with other issues, prompted Macarthur and associates in the NSW Corps to stage the only successful coup in Australia, the Rum Rebellion.

Eventually, Macarthur's day in court arrived. He objected to the judges. The Chief Judge, Richard Atkins, Macarthur claimed, was his debtor and, as such, biased against Macarthur and not fit to try him. John Macarthur had acquired a promissory note signed by the judge, and it was unclear about interest so Macarthur was able to avoid trial.

The need for a monetary system in the colony became increasingly important. Australia was growing fast in both economy and population. Melbourne, Brisbane and Hobart were established in 1797, 1799 and 1804 respectively.

» NOTE

In 1890, wool accounted for 54% of Australia's exports, so the adage was born that "Australia rides on the sheep's back". The value of a bale (120 kg or more) of wool was a key economic indicator. Today, wool accounts for just 1.4% of exports, while the price has seen a resurgence in recent years. Neither wool nor rum took off as a lasting currency, and, in a posthumous sign of victory, John Macarthur's portrait appeared on early federal Australian £20 notes and was later printed again, along with his Merino sheep, on the newly decimalised \$2 note (Figure 1).



²⁴ Ibid.

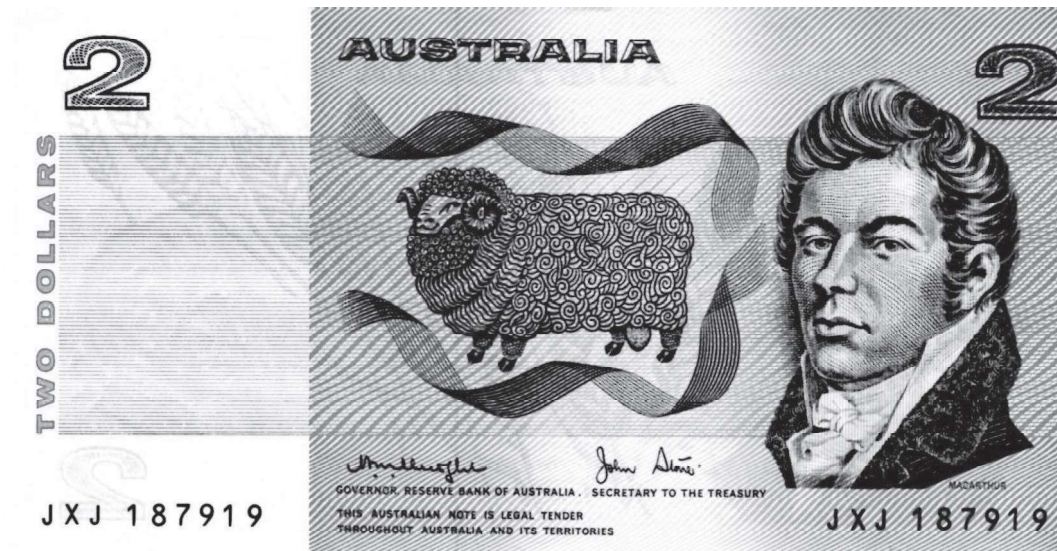


Figure 1. Australian \$2 note.

First Coins

Governor Lachlan Macquarie restored some stability to the colony after the rebellion, and took important steps in the evolution of currency and of the financial system in Australia.

First, he took less of a high-handed approach to rum. He had the exchange of rum limited to licensed dealers, banned on Sundays (supported by the church) and, in a move that indicated a talent in monetary policy, he increased the supply of rum, thereby reducing its value, through legitimate contracts in the import of rum to the colony (which he bartered for construction contracts such as the construction of Sydney Hospital). His request for permission from England to complete the transaction was denied, but by the time word returned from London, it was too late — the deal was done.

The shortage of coins was not unique to Australia. Between 1797 and 1804, in the middle of the Anglo-Spanish war, the British Treasury was re-stamping acquired Spanish dollars with the head of King George III on the neck of the Spanish King Charles IV.²⁵

In the quest for a new coin for the colony, in 1812, Macquarie ordered £10 000 worth of Spanish dollars (40 000 coins) from Madras (now Chennai), India. He hired a forger to create new coins: a hole was punched through and both parts became legal currency, the *holey dollar* worth 5s. and the *dump* worth 15d. (Figure 2). The colony's attempts at recycling its enemy's coins was far more elegant and productive than London's — an innovation edge that would continue for centuries.

²⁵ Manville



Figure 2. 1813 Holey dollar and dump stamped on and through an 1809 Spanish dollar
Images courtesy of Coinworks.

By 1822, after the British Great Recoinage of 1816, and after commercial exports were maturing, Australia could receive coinage from Great Britain and the holey dollar was removed from circulation.

» NOTE

There are believed to be about 300 holey dollars remaining. The value of these coins could be as much as \$300 000 each these days. However, in the 1820s, turning the coins in for sterling currency was better value than keeping them for their silver content



Early Banking in Australia

Banks, or a practice facilitating the safe storage of valuables and providing loans, and later, promissory notes, originated in the Middle East, India and China,²⁶ and later appeared in Greece and Rome.²⁷ European banking that can be related to modern practices emerged in Rome in the 13th and 14th centuries.

In 1816, the first bank in Australia, the Bank of New South Wales (now called Westpac), was inaugurated by Governor Lachlan Macquarie. It was a central bank of sorts as it had the power to print notes. However, it did not hold that position exclusively for long.

The denominations of notes issued were five shillings, 10 shillings, one pound and five pounds. Paper tokens for one shilling, one shilling sixpence, two shillings and two shillings sixpence were also issued. Later, curiously, the bank also issued Spanish dollar notes (*Figure 3*) as late as 1824.

²⁶ Eidem; Roy; Liu & Chai

²⁷ Barnish



Figure 3. Bank of NSW Spanish dollar note.

Image courtesy of Coinworks.

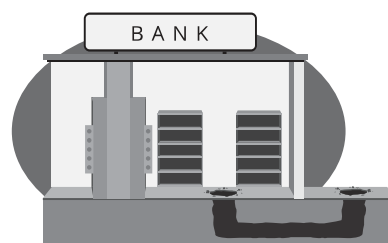
» NOTE

The Bank of NSW could hold deposits and issue notes without oversight — this gave the bank great power. However, with that unchecked power came corruption, for in 1821, the chief cashier of the bank was accused of embezzling £12 000. This was, at the time, a significant portion of the subscribed capital of the bank. The discovery was made when the sealed bags of notes did not tally and deposits were found to have been faked by Williams.

A rival bank was soon set up. The Bank of Australia, known as the Pure Merino Bank, representing honest settlers and excluding (as they put it) ex-convicts accepted by the Bank of New South Wales, was set up in 1826.

The convicts had the last laugh, for in a daring robbery, tunnelling through a sewer and into the vault, £14 000 was stolen. This remains, in relative terms, the largest bank theft in Australia's history.

Since this time, Australian banks have been regarded with a certain amount of mistrust by both the public and the government.



Following the Bank of New South Wales, early banks were established rapidly, sometimes by the governor's proclamation (and later parliamentary acts), and sometimes directly from the United Kingdom.

Over time, two distinct kinds of banks were formed: *trading banks* (dealing with international trade, or cross-bank payments, supporting institutions and companies) and *savings banks* (whose primary purpose was the holding of funds and issuing notes).

The Gold Rush

California had just been annexed by the US. During the next year, 1848, almost the entire population of San Francisco's 1 000 people headed to the American River in search of gold, starting a period of movement known as the Gold Rush. Many supplies and prospectors came from New South Wales,²⁸ one of the closest settlements to the then relatively unknown frontier state of California (sea travel was faster than land travel). The population of San Francisco had increased to about 25 000 by 1849. Many of the Forty-Niners, as the new migrants were called, were Australian and stayed on to develop what would become the largest state of the US.

Some fossickers returned. With their new-found skills, they turned their attention to Macquarie River near Bathurst. The Gold Rush in New South Wales started in 1851. The impact on the economy was significant. Moderate amounts of alluvial gold were enough to keep people interested, and not too much to lead to mass wealth. Whatever was dug up was invested back into the economy. New towns were created in the middle of seemingly nowhere. Just like California, immigration and commerce increased in New South Wales, and helped establish a vibrant economy. Some of the wealth found its way back to the big cities, and regional and city banks formed and multiplied.

With an abundance of gold in Australia, it was possible to produce bullion coins.

The gold rush quickly spread throughout the country. In Adelaide, locals sought to withdraw their money from bank accounts and headed to the Adelaide Hills. In order to stave off a run on the banks, the South Australian Government passed a Gold Bullion Act in 1852 that allowed the governor to temporarily construct "a smelting, assay, and bullion establishment for the purpose of making ingots". The ingots could be accepted as deposits, and any call on the bank could be met through the issue of these ingots (*Figure 4*). The fear was that the Queen (i.e., London) would reject it, for the establishment was not a Royal Mint. The move was successful, with two to three times the expected volume of gold returning to the banks, saving the Bank of Australasia from an early extinction. The Bank of Australasia was formed in England and established in Sydney, Melbourne, Tasmania and South Australia in the late 1830s. Its survival ensured the eventual creation of the ANZ Bank.



Figure 4. Australia's early minted coins (South Australia): ingot, left, and pound, right

Images courtesy of Coinworks.

²⁸ Monaghan

In 1855, a branch of the Royal Mint was established in Sydney, largely to produce gold sovereigns (Figure 5). During the Great Recoinage of 1816, the 22-carat gold sovereigns were designed to weigh approximately the value of £1 sterling. Slightly smaller than the £1. 1d. guinea, but more precise, they remain a popular bullion coin today. These coins, and the half sovereign, were minted post-haste at the Sydney Royal Mint.

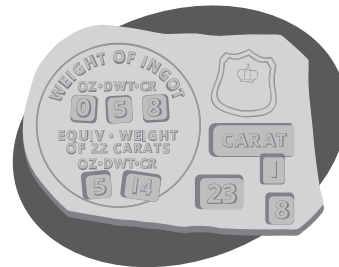


Figure 5. Royal Sydney Mint gold sovereign, 1855.

Images courtesy of Coinworks.

» NOTE

Somewhat curiously, the oddly shaped ingots of Adelaide's Government Assay Office recently sold for \$1.35 million — 3 000 times the gold value. By 1853, the office was minting high-quality £1 coins (Figure 4), also highly valued at \$475 000. On the other hand, the more official Sydney and Melbourne Royal Mint coins are generally barely worth more than their gold content.



As the Gold Rush moved to Victoria, the Royal Mint established a branch in Melbourne in 1872.

Melbourne, with its booming economy, turned out to be far more appealing to European settlers than the less temperate Sydney and, by 1888, it was becoming bigger and just as financially active as Sydney, if not more so. New banks were forming and loans for property were sought. Very soon there was a housing boom in Melbourne.

The Banking Crisis of 1893

In the 19th century, Australia was a frontier country with lots of rewards, but also lots of risks. Droughts, crop infestations or floods could break an investment, and if the impact was portfolio-wide, it could be disastrous for a financial institution. London financiers complained of the risk as, back home in the old country, a new building or a new factory was a standard and well-documented investment. However, an investment in the colonies was exposed to other significant variables.

Sure enough, in 1890, loans began defaulting²⁹ as a significant drought had impacted the economy and demand for wool, the majority export, had dropped. Assets were worth nothing. A number of banks with their capital in London had cut the colony branches loose, causing a major banking failure in 1893 with at least 11 banks permanently closing and others temporarily shutting their doors.

Federation and Centralisation of Currency

In 1901, the separate states of Australia were federated to form the Commonwealth of Australia. Section 51(vii) of the new constitution gave the power to the government to legislate on matters concerning currency, coinage and legal tender. Section 115 prevented states from coining legal tender. There was one exception. The states could (and did) continue to mint silver and gold coins.

Curiously, perhaps foreseeing the loss of sovereignty, or perhaps coinciding with their own gold rush starting in 1893, the Perth Mint was established as a branch of the Royal Mint in 1899, while the federation was being negotiated. In fact, there was talk of Western Australia seceding or, rather, failing to join the union. Self-sufficiency gave them a strong footing either way.

To this day, the Perth Mint continues to make gold and silver coins supplied by the resource-rich state miners. These coins are largely used for bullion and collections, though they do have legal tender value. Interestingly, a one troy ounce gold coin with a metal value of over \$2 500 is worth \$100 as legal tender. The Sydney Royal Mint closed in 1926 and the Melbourne Royal Mint in 1969.

For the first 10 years of the federation, with banks issuing private notes and the royal mints producing coins, the currency needs of the new country were met.

Central Banking

In the Australian Notes Act of 1910, the Federal Treasury made it an offence for banks to print notes and it took over this function. For the following three years, existing notes were endorsed by the treasury with it eventually printing its own notes. The treasury was required to publish information on notes issued and on gold reserves (*Figure 6*) in the government gazette on the last Wednesday of every month.

²⁹ Merrett

AUSTRALIAN NOTES.		
STATEMENT ISSUED IN PURSUANCE OF SECTION 11 OF THE "AUSTRALIAN NOTES ACT 1910."		
THE number and amount of Australian Notes issued and not redeemed at this date are as follow :—		
Denomination.	Number.	Amount.
£1	1,243,599	£1,243,599
£5	207,509	1,037,545
£10	80,500	805,000
£20	10,875	217,500
£50	6,725	336,250
£100	1,168	116,800
Totals ...	1,550,376	£3,756,694
The amount of gold coin held by the Treasurer for the purposes of the Act at this date is £1,232,358.		
Notes to the value of £188,000 have been issued and included above, in respect of which one-third in gold will be received within the next few days.		
ANDREW FISHER. Treasurer.		
GEO. T. ALLEN, Secretary to the Treasury.		
JAS. R. COLLINS, Accountant to the Treasury.		
Treasury, Melbourne, 25th January, 1911.		
C.18882.		

Figure 6. Australian notes on issue, 1911. Commonwealth of Australia Gazette, NLA.

In 1911, the federal government, under Labor Prime Minister Andrew Fisher, established the first federal bank, the Commonwealth Bank of Australia (CBA) and, later, the closely associated Commonwealth Savings Bank of Australia.³⁰

The CBA had two purposes: first, to act as the central bank, a bank to the other banks and their regulator and, second, to act as a secure savings bank in its own right, offering services directly to retail customers.

In 1920, the CBA took over note printing from the treasury.³¹

» NOTE

The governor of the CBA was treated with pomp and ceremony. Bearing robes and a chain, similar to a mayor, his portrait would be commissioned and, until recently, adorned the hallways to the offices of the board and CEO. No longer fashionable, these portraits have been relegated to the archives as modern executives prefer a more down-to-earth look, while their salaries have reversed the trend



³⁰ Commonwealth Bank Act 1911

³¹ Commonwealth Bank Act 1920

A note or payment greater than £2 was really nothing other than a promissory note backed by gold. In fact, that is what the notes actually said. A £50 note around 1918, as shown in Figure 7, stated "THE TREASURER OF THE COMMONWEALTH OF AUSTRALIA Promises to pay the Bearer FIFTY POUNDS in gold coin on DEMAND at the Commonwealth Treasury at the Seat of Government." It was signed by the assistant secretary and secretary to the treasurer. This contract implied that Australian paper currency was *hard currency*.



Figure 7. Fifty-pound note, hard currency, 1918.

Image courtesy of Coinworks.

The minimum gold required to be held by the central bank was eventually set as 25% in the Commonwealth Bank Act of 1920.

Known as a specie payment, exactly how many people took up the offer to walk into the treasury and walk out with gold coins is unknown. To keep their promise, the treasury and, later, the Commonwealth Bank would keep the reserves in a high security vault in the basement, first at 120 Pitt Street, Sydney and later up the road at 48 Martin Place.

The Government Savings Bank of NSW became a significant state bank; however, the state government used the money to fund payments during the Great Depression. With six times the deposit holdings of the emerging CBA, the Government Savings Bank closed its doors at 48 Martin Place at this critical economic time. Eight months later, it reopened its doors as a part of the Commonwealth Bank.³² The building at 48 Martin Place was magnificent, built during the boom times. It had a classical bank facade, elegant ceilings and a grand vault. The safe of 48 Martin Place is still in use today by customers of the CBA to keep their personal valuables. The building became the offices of a newer bank: Macquarie Bank.

The physical buildings were very secure with metal bars and iron doors. In the event of an emergency (like a run on the bank), the governor and his aides could escape through an iron stairwell that would come crashing through the windows onto Elizabeth Street.

³² Sykes

Painted-over gun cabinets are still embedded in the sandstone walls of the upper floors. Even up to the late 1990s, senior bank staff were trained and licensed in the use of firearms. The era saw its fair share of robberies, armed and otherwise.

Australian Currency Pegging

With some slight deviations, such as the Proclamation Coins of 1800, efforts were made to align the Australian pound to its British equivalent.

The Coinage Act of 1909 specified the production of Australian coins that imitated their British counterparts. These consisted of two bronze coins: the penny (famous even today from the ANZAC game of Two-Up) and the half penny. There were also five 92.5% silver coins: a small threepence, a sixpence (that would later be used as a 5 cent coin), the shilling itself, the bigger florin (face value 2 shillings), and a larger coin, the crown, worth 5 shillings (only produced in two runs, in 1937 and 1938). The other coins continued to be produced until around 1963, with production ceasing in anticipation of the new currency.

The value of the Australian pound was effectively pegged to the British pound one-to-one. This changed in 1930 after the Great Depression and a currency devaluation. Specie payments could not be honoured. Australia's high debt and its financial profile meant that an Australian pound was not worth much gold.

To prevent a run on the banks (remember the promise on the note above), in 1930, the government took the Australian pound off the gold standard. A move that devalued the dollar against the sterling by perhaps 30%. Around this time, the promise had disappeared from the notes as well. Fortunately, old habits die hard and the notes held their value.

From this point in Australia's history, the government set the official currency value against the pound sterling. From 1930, the value was 80% for many years and, in 1949, when the British pound was devalued against the United States dollar, Australian Prime Minister Robert Menzies followed suit, declaring that the Australian economy was tied to that of the United Kingdom.

Technology and Early Payment Systems

The sheer size of Australia meant communication needed to become more efficient. By 1858, the first Australian telegraph lines were established. Originally along the east coast, and later across the country, with the Australian Overland Telegraph Line from Adelaide to Darwin completed in 1872, and with the British-Australia Telegraph Company connecting an undersea cable to Indonesia — connecting Australia to the world.

The telegraph, or cablewire as it was then known, was used to communicate transfers between banks and accounts, to request notes and so forth.

A typical visit to a bank in Australia consisted of filling in a form and taking it to a cashier or clerk. The teller, as they came to be known, had a collection of ink stamps, uniquely issued to the staff member with their serial number. The appropriate ink stamp would

be impressed on the form. There was little talking, and the sound of stamps rhythmically indicated the business of the branch and provided a satisfying feeling that the work was complete. If a customer was making a withdrawal, they were then given a number and asked to wait. While they waited, a clerk would check the ledger and approve the withdrawal.

A branch tended to have a large office, with clerks running around entering items in one ledger and taking them off another. The branch controlled the ledger, and often was a bank in itself. In some banks, this continued until 2000, the customer's signature file was still stored in their home branch, meaning that going to another branch was like visiting another bank where they did not have the customer's records.

Account numbers adopted a numbering system: first the state, then the branch, then the branch ledger record number. Each branch could create an account number. To ward against the bank losing the ledger, they gave the customer a copy: a savings passbook — their own personal ledger. The use of a branch number today, and a branch address when addressing payments, is a legacy of the past, when the payment could only be processed in the home branch of the account.

The original form of payment was the direct exchange of coins and notes. Legally, this was the statutory way to pay for goods and services (*legal tender*).

In the Bills of Exchange Act of 1909, the government stipulated the format of paper agreements, including cheques to pay between parties. They also introduced a revenue stream (stamp duty) to give the bills *legal recognition*.

Treasury bills were also introduced in the Australian Notes Act of 1910. These could be issued for various periods and had an associated interest rate.

Payments typically consisted of cash and cheques.

Inflation and Hyperinflation

Inflation is the tendency of a currency to lose value over time.

Many economists believed that modest inflation is a good thing. The logic was that some inflation encourages spending and growth in an economy, and that fulfilling the need for increased wages is more achievable in an environment that has some inflation.

In the transition to a fiat currency (a currency without recourse to gold), many countries discovered they could print money freely. This was a necessary measure in times of recession. However, if done too quickly, people could lose confidence in the value of the currency and, together with oversupply, this leads to very high inflation and hyperinflation.

Fortunately, Australia avoided hyperinflation; however, images of the German hyperinflation at a staggering 300 times during 1923, and the even larger Greek and Hungarian inflation rates at the end of World War II (when it was better value to burn notes for heat than to buy the little firewood the same currency could buy) created fear in the hearts of treasuries and governments. Strong monetary policy was necessary.

The Great Depression

A stock market crash on Wall Street triggered a global depression that impacted Australia heavily in 1930 and 1931, and overshadowed the economy for years to come.

Demand for Australia's limited exports (such as wool) slumped. The unpegging of the pound to gold further eroded confidence in the economy.

» NOTE

The human toll of a failing economy is significant. The Great Depression affected all sectors of the economy. A successful investor with stocks, property, perhaps an investment in agriculture, and plenty of money in the bank found all their assets were devalued, perhaps by as much as 80%, including the pounds that were meant to be as good as gold. Someone else, living to make ends meet, found themselves out of work. The once rich, and the poor, the young and the old all found themselves on the same queue a mile long, hoping to get the one or two jobs that were on offer. Similar sights have been visible with the COVID-19 pandemic



There were two schools of thought at the time on how to deal with a recession or depression. Australia, still under the wing of Great Britain, sought the official position of London. Labor Prime Minister John Scullin invited Otto Niemeyer of the Bank of England to Australia to advise. The advice was to pay back debt (in hindsight, which debtor would not give that advice?) and balance the budget (effectively reducing spending). The alternative would be to see hyperinflation, the government believed.

This ran counter to the emerging Keynesian economic philosophy that progressives were suggesting (and would be the dominant approach to this day): to increase spending to buffer the economy during difficult times, always tolerating modest inflation.

Clearing and Settlement

Moving currency instantly is not always possible. At the time of the deal, the coins and notes may not be readily available or transferable. A transaction may take place via mail, telex, phone, and, more recently, through the Internet.

Due to the constraints of moving currency, there has been a separation of concerns between the payment instruction and the actual movement of money.

Banks tended to operate on an honour system. A commitment by a bank was as good as the currency itself, whether by an order on telegram, a letter of credit, or a verbal cry in a money market. Eventually, though, with every commitment, came the request to close the deal or "Show me the money".

» NOTE

There have been numerous cases where banks have had to honour mistakes by their staff, either through mistaken data entry or fraud. A staff member making a commitment on behalf of a bank needs to be honoured under the “My word is my bond” principle. In 2012, a JP Morgan trader caused a \$6 billion loss for his company.



Clearing is the initial commitment and the transfer of instruction from the payer to the payee (and often back again), while settlement is the actual movement of money to back it up.

In the case of a cheque, the cheque may take time to make its way through the system — it may be written on day one, given to the payee on day two, deposited in the account on day three, and cleared for withdrawal (settled) on day four. The payer and payee banks may not settle until day five when they exchange institutional checks drawn on the central bank (interbank settlement) and receive value on their ledger account on day six (central bank settlement).

The flows for clearing and settlement can be quite different from each other, and can vary between payment types.

Differences in clearing and settlement also introduce risk. What if one of the banks in the chain fails after clearing but before settlement? What if the clearing files don't reconcile with the settlement files; for example, if a paper slip is lost? These risks are compounded when dealing with overseas payments and, in addition, there is currency fluctuation risk between clearing and settlement.

There are different kinds of settlement:

- Batch settlement: transactions are totalled up and only the grand total is settled in one go.
- Real-time settlement: the settlement happens at the same time as the clearing message.
- Bilateral settlement: each bank settles with each counterparty, separately.
- Net settlement: a trusted party like a card scheme or the central bank calculates the total amount owing or receivable by each bank so each bank only makes one payment.
- Deferred settlement or, commonly, deferred net settlement: settlement takes place on a net basis after the day of transaction, with the net off of each payment normally first thing in the morning.
- Merchant settlement or scheme settlement: generally for cards, a stage before financial settlement when the day's totals are tallied to calculate total amounts due. This is then reconciled with transactions to ensure nothing was missed. The merchant sends this settlement to the scheme, which splits (or switches it) to the issuer.

- Financial settlement: the final movement of money to settle clearing debts.
- T+2 settlement (or T+1, T+3, etc.): a protocol where settlement takes place after the specified number of days from the transaction date (e.g., FX spot and ASX share settlements are T+2, cheques and cards are T+1 though, in the case of cheques, clearing is not complete until T+2).

Computerisation

The earliest computers installed in Australia were in the CSIRO, universities and banks. By the mid-1960s, major banks were starting on their transformation journey.

The cost of these machines was substantial, but the pay-offs made them worthwhile.

Gradually, central computerised ledgers were updated with branch records. Branches were still king, but the head office could keep a watchful eye on operations throughout its empire.

From 1972, starting with the St George Building Society and then through to the 1980s, mainframe-based terminals were installed in branches. Most were connected through X.25 landlines, others through satellite connections. The computer itself was still in the head office, but it could be accessed remotely. Telling functions could now access a central ledger.

3.

REGULATION IN BANKING AND PAYMENTS



CENTRAL TO AN UNDERSTANDING OF PAYMENTS is a deeper understanding of the regulations that govern them. In this section, we present a listing of regulators, their purpose in payments and banking, and their key impacts.

Early Banking Regulation

Initial steps at centralisation of note and coin issuing, while initially effective, failed to regulate the diversifying banks. The federal government had little control over the economy, as demonstrated by the Great Depression.

Royal Commission Appointed to Inquire Into the Monetary and Banking Systems at Present in Operation in Australia (1935–1937)

In the aftermath of the Great Depression, there was concern over the conduct of both the private banks and the CBA.

The government of Joseph Lyons initiated a royal commission in 1935.³³ In those days, royal commissions were not entirely independent and the government would choose representatives to sit on them. One of the representatives, who would eventually become prime minister, was Labor politician Ben Chifley.

The commission, despite being conservative, recommended stronger regulation:

- A considerable increase in central banking functions and the powers of the Commonwealth Bank.
- That private trading banks should be licensed so that a decisive sanction would lie with the Commonwealth Bank and with government to enforce observance of statutory and central bank requirements.
- That trading bank credit should be controlled by requiring trading banks to deposit a portion of customers' deposits in the central bank.

» NOTE

The commission did not address nationalisation, but Ben Chifley dissented and put forth an eloquent case for how banking affected most elements of the community and that it was wrong to put profits first. His views ended up becoming a central platform of a future government he was to lead. Chifley Square and Chifley Tower, in Sydney, ironically became the centre of up-town institutional banking, where all the money was made, especially in the 1990s. A giant statue casts his shadow on the square ... a ghost or a warning?



³³ Napier

Aftermath of the Royal Commission

World War II prevented the full implementation of the review; however, in 1941, as an emergency measure, banks were required to deposit funds earned from 1939 in the Commonwealth Bank in a *Special Account*. The purpose, as the Prime Minister, John Curtin put it, was to ensure investment of funds was in line with war-time policy (i.e., that the government would get the money) and that profit was not higher than the profit incurred in the three years preceding the control through the Special Account receiving a fixed fee.

In 1941, National Security (War-time Banking Control) Regulations were issued. This regulation recognised 14 banks (not counting the Commonwealth Bank or the state banks):

- Ballarat Banking Company
- Bank of Adelaide
- Bank of Australasia
- Bank of New South Wales
- Bank of New Zealand
- Brisbane Permanent Building and Banking Company
- Commercial Bank of Australia
- Commercial Banking Company of Sydney
- Comptoir National d'Escompte de Paris (later a part of BNP)
- English, Scottish and Australian Bank
- National Bank of Australasia
- Queensland National Bank
- Union Bank of Australia
- Yokohama Specie Bank (established in Sydney in 1915 until the Japanese attack on Pearl Harbour in 1941 when, soon after, staff were interned and the bank closed. Later it merged into the Bank of Tokyo.)

Missing from the list were the state banks of the day — the constitution prevented federal control of these banks:

- Rural Bank of New South Wales
- State Savings Bank of Victoria
- Rural and Industries Bank of Western Australia
- State Bank of South Australia
- Savings Bank of South Australia.

Banking Act 1945, and the Proposed Nationalisation of Banks

The newly recognised banks were required to hold a Special Account with the Commonwealth Bank as a central deposit of funds in excess of the balances held by the bank in August 1939, report profit and loss, and file a balance sheet with the treasurer.

The Special Accounts initiated in the middle of the war were formalised in 1945, along with the other recommendations of the royal commission, by the Labor Government of Ben Chifley in a Banking Act.

This was to set in motion the biggest political war over banking in Australia's history, and that brought down two governments: one state and one federal.

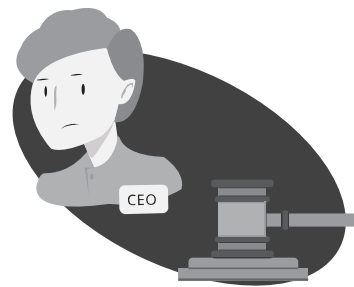
Australians had just returned from the war victorious. They returned to a country that had not advanced industrially since the depression. In fact, it would take 30 years (until 1967) before Australian shares recovered. Fingers pointed to the banks.

The Special Account regulations were formalised in the Banking Act of 1945 with the addition of the Bank of China, Hobart Savings Bank and Launceston Bank for Savings. In addition, payments between banks were to be made through cheques drawn on the Commonwealth Bank, a precursor to the Exchange Settlement Accounts. Reporting requirements were extended and made more onerous.

The distinction between savings banks and trading banks was not always clear, though trading banks tended to support complex investments and payment methods including cheques, while savings banks would only allow deposits and withdrawals.

» NOTE

There has been recent criticism that bank executives are highly paid, but take no personal responsibility if there are issues or faults. With that in mind, it is interesting to note that the Banking Act of 1945, section 57 held the CEO directly liable for penalties not the bank. This was dropped from the Banking Act of 1959.



Two parts of the new act came into immediate question: first, section 48, which required states and local councils to effectively bank with the Commonwealth Bank or their state bank, rather than with a private bank. Melbourne City Council, supported by the Melbourne-based National Bank of Australasia, instigated a challenge. They also challenged sections 18-22 which dealt with the Special Accounts and were quite central to the act. Prime Minister Ben Chifley told the banks, it seems, to provide assurances that they would not object to sections 18-22. Section 48, he could understand and would accept the court's opinion, but the removal of the Special Accounts would defeat the purpose of the act and he would propose stricter laws on private banking (nationalisation), which the federal parliament had the right to do. Section 48 was put into hibernation until 1947. At this point, the High Court

was invoked (notably with objections to sections 18-22 dropped by the lawsuit, possibly with some deference to Chifley), and in *Melbourne Corporation v Commonwealth* 1947, the judges found section 48 unconstitutional and explicitly did not make any judgement on the rest of the act. Sections 18-22 were a time bomb; no assurance was given that they would not be challenged again in the future.³⁴ Why they dropped objects, no one really knows. As Chifley himself said, "You can never know what really happened. Each side tells its own story."³⁵

Banking Act 1947: Nationalisation of the Banks

Later in 1947, Ben Chifley made good his promise and proposed a replacement Banking Act 1947 that would nationalise the private banks. This act was vigorously and passionately debated by Ben Chifley and Robert Menzies, the opposition leader.

While it was being debated, the newly forming Liberal Party used the nationalisation of the banks proposed by Labor as an election issue. In Victoria, the 1947 state election was lost on this issue, despite it being a federal concern. Private bank officers and the Australian Bank Officers' Association had helped in the canvassing of voter support against the Labor Government.

The legislation passed both houses and was assented to. The private banks were to be controlled by the Commonwealth Bank.

The High Court case *Bank of New South Wales v Commonwealth* overturned much of the legislation. It was then appealed to the British Privy Council. London backed the High Court. Nationalisation had failed. This may have been a contributing factor to the Chifley government's eventual loss in 1949.

The Reserve Bank of Australia

Private banks remained concerned about the CBA's position as both a central bank and a savings and trading bank. There was concern that this gave it an unfair market advantage, and also a conflict of interest in administering its own compliance. An initial attempt to set out controls in the Banking Act 1953 amendment was insufficient and, in 1959, the Reserve Bank Act was passed along with a replacement banking act, and all central bank functions moved to the new body, the Reserve Bank of Australia (RBA).

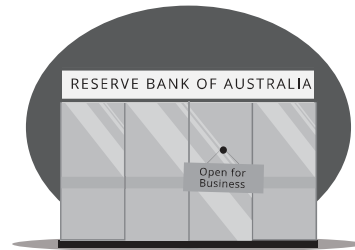
Along with more stringent reporting requirements, the Reserve Bank had almost complete discretion over the regulation of banks. The Special Accounts became the Statutory Reserve Deposit Accounts and the bank moved up the road to Martin Place, Sydney.

³⁴ Lenihan

³⁵ Hasluck, 40

» NOTE

One criticism of the Reserve Bank is that it still provided banking services to government agencies and responded to tenders issued to the private bank sector. Institutional bankers complained that the regulator competes with them in this segment, something that could be a conflict of interest and was reminiscent of the CBA central bank days.



Monetary Policy

John Maynard Keynes was a macroeconomist who influenced much of the world's economic policy and directly guided policy in various countries, including Australia, corresponding with and being quoted by economists and politicians on all sides of politics. He challenged treasuries to consider the dilemma of inflation and employment. Keynes took an unconventional, softer approach to both the German reparations after World War I (unsuccessfully arguing for less compensation at Versailles), and recommended more employment during the Great Depression rather than wage reduction.³⁶

» NOTE

Australia was quick off the mark during the COVID-19 pandemic with JobKeeper payments that paid employers to cover wages rather than unemployment benefits, and assistance for businesses from the outset, together with general easing of monetary and fiscal policies, perhaps the opposite of what happened in the depression. John Keynes would have been proud.



Arguably, the cost of ignoring Keynes was one depression and one world war. By the end of World War II, everyone was paying attention to the economist. Modern monetary policy is traced back to this time.

The Bretton Woods System

Bretton Woods is an area in New Hampshire, USA, near Mount Washington. Even today, it is an idyllic retreat amid expansive natural views, away from the busy city life and, in 1944, away from a horrific war.

³⁶ Keynes 1936