ECONOMIC POLICY

WALKING THE PATH TO THE NEXT GLOBAL FINANCIAL CRISIS

Bryce Wilkinson and Leonard Hong
Foreword by Professor Arthur Grimes

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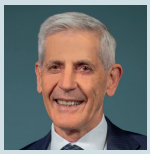
About the New Zealand Initiative

The New Zealand Initiative is an independent public policy think tank supported by chief executives of New Zealand businesses. We believe in evidence-based policy and are committed to developing policies that work for all New Zealanders.

Our mission is to help build a better, stronger New Zealand. We are taking the initiative to promote a prosperous, free and fair society with a competitive, open and dynamic economy. We are developing and contributing bold ideas that will have a profound, positive and long-term impact.

ABOUT THE AUTHORS



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Abbreviations

ARM	Adjustable-Rate Mortgages
BIS	Bank of International Settlements
CBO	Congressional Budget Office
CDS	Credit Default Swaps
CPI	Consumer Price Index
ECB	European Central Bank
EEC	European Economic Community
EFFR	Effective Federal Funds Rate
ESRB	European Systemic Risk Board
EU	European Union
FHA	Federal Housing Administration
GAO	Government Accountability Office
GDP	Gross Domestic Product
GFC	Global Financial Crisis
IMF	International Monetary Fund
JGB	Japanese Government Bond
LTCM	Long Term Capital Management
MMT	Modern Monetary Theory
OCR	Official Cash Rate
OECD	Organization for Economic Co-operation and Development
PAYG	Pay-As-You-Go
RBNZ	Reserve Bank of New Zealand

Foreword

A short walk?

The title of this monograph, *Walking the Path to the Next Global Financial Crisis*, is moot about the length of that path. There is reason to suspect that the walk may be short.

New Zealand and other countries have been affected by two major financial crises in the past quarter century, the Asian Financial Crisis and the Global Financial Crisis (GFC). Both were the result of an unsustainable build-up of financial liabilities through the combined actions of governments (fiscal deficits), central banks (lax monetary policies), and private sector financial institutions (imprudent lending practices).

Decisions of each of these agents through the pandemic period have mirrored those seen in the lead-ups to the previous crises. Governments have borrowed huge sums to keep activity buoyant, central banks have financed those deficits, and private sector institutions have used the resulting liquidity to lend for speculative asset purchases.

Policy agencies have in the past also acted in a short-sighted manner when financial bubbles have burst. For instance, the US Federal Reserve bailed out financial institutions following the 1998 collapse of LTCM (Long Term Capital Management). Shortly after that intervention, the US General Accounting Office (GAO) wrote that the rescue:

> … would encourage large financial institutions to assume more risk, in the belief that the Federal Reserve would intervene on their behalf … the Federal Reserve's involvement has raised concerns among some that the "too big to fail" doctrine has been expanded … if companies believe that the federal safety net has been expanded, it may encourage more risky business practices.[1]

This prescient observation was written prior to the unsustainable extensions of credit that led to the GFC. Governments, central banks and private sector financial institutions have together created the seeds of the next crisis on the assumption that policy actions will protect borrowers and lenders from downside risks. The result has been a one-way bet for those positioned for asset price rises, while those who have acted prudently have been left behind.

In New Zealand, we saw similar forces at work prior to economic reforms in 1984. The subsequent moves by both centre-left and centre-right governments to run 15 consecutive years of fiscal surpluses (from 1994 to 2008) and of the Reserve Bank to target price stability (or, at least, low inflation) saw New Zealand well-placed to weather the Asian Financial Crisis and the GFC–unlike countries in which governments had built huge mountains of debt.

New Zealand governments have, correctly, run expansionary fiscal policies through the GFC and the pandemic. Fiscal policy returned to prudence after the GFC and it will need to do so again. However, a major difference in responses across the two events has been the much greater increase in liquidity and asset prices caused by central bank actions through the pandemic. These actions have placed New Zealand at greater risk of an asset price collapse with ensuing economic pain; the risk is heightened by the unsustainable fiscal and monetary policies globally.

If there is one thing that four decades as an economist with close involvement in public policy has taught me, it is that the conclusion of this insightful monograph is correct: **"This time is not different"!**

Professor Arthur Grimes
Victoria University of Wellington

Executive summary

This report presents grounds for alarm about the stability of the global financial system. In particular, the United States, the European Union, the United Kingdom and Japan seem to be walking the path to the next global financial crisis. Opaque indebtedness in China is also a growing concern.

Major central banks have lowered their interest rates and purchased assets to unprecedented degrees (quantitative easing). Never since 1694 has the Bank of England's control discount rate been lower. Never has the value of its assets been so high relative to GDP.

Large government budget deficits and extreme peacetime public debt ratios have become the norm. They will be even larger if – or when – interest rates return to long-term average levels.

Public debt ratios have been higher, out of necessity, during major wars, and slowly reduced during peacetime. The major increases in these ratios in peacetime now is novel and disturbing.

The public debt now exceeds public sector assets in many advanced economies. These governments are mortgaging their taxpayers' future.

The current extremes exceed the extraordinary levels resulting from the authorities' responses to the Global Financial Crisis (GFC) from 2007. Those responses saw central banks slash their interest rates and expand their lending to extraordinary levels. Governments bailed out their financial institutions.

These measures were understandable, but they raised future risks. They weakened market discipline, affronted public opinion, and pumped-up public debt ratios. The authorities understood these costs. However, their immediate imperative was to sustain employment and economic activity.

No major country had restored its policy settings to pre-GFC levels before Covid-19 struck. (New Zealand largely had, but it is not a major country.) The pandemic saw public debt ratios and net financial liabilities ratcheted to new heights.

It is that ratchet that is walking us to the next global financial crisis.

The artificially low interest rates have perverse effects. They encourage people to borrow to buy risky assets at inflated prices. That will end in grief. They also sustain heavily indebted firms with no future – so-called zombie firms. Those firms lock up resources that others could use better. They also encourage governments to borrow more and spend less carefully. That has future costs.

These developments beg the following questions: how did the global financial system get into this state; how might it play out in the future; and what responsible actions should the New Zealand government and individuals take?

The short answer to the first question is that the system overly protects governments, financial institutions and investors from financial risks. People (including governments) take less care when they think taxpayers are underwriting their risks. The technical term for such behaviour is *moral hazard*.

The cause is changed circumstances rather than design. Peace-time inflation was minimal for countries adhering to the classical gold standard. Stagflation quickly followed the US's abandonment

that discipline in 1971. The painful process of reducing inflation (i.e. disinflation) followed.

In the 1990s, governments increasingly targeted monetary policy at low inflation of 0-2%. This change was successful. Moderate economic growth with lower inflation ensued.

However, the seeds for the GFC were being sown in the United States in the 1990s. Government policies encouraged excessively risky mortgage borrowing and lending. Investors more widely came to see the US Federal Reserve as being willing to step in to support financial institutions if asset prices plummeted.

Terms such as "too big to fail" and "the Greenspan Put" became common financial sector parlance. Giant US government-sponsored institutions took on mortgage-related security risks. Rating agencies failed to identify the extent of the risks. The GFC even saw the European Central Bank (ECB) pledge to "do whatever it takes" to avoid a crash.

Japan followed a different path to the GFC. It did not experience the stagflation of the 1970s. However, it experienced sharp property price inflation in the 1980s. Property prices collapsed in the early 1990s, along with economic growth.

Successive Japanese governments ran fiscal deficits to try to stimulate economic activity. The Bank of Japan resorted to increasingly extreme monetary policy measures to do the same. Economic growth remained weak.

Japan has stayed on this policy path since the GFC, and many other advanced economies have adopted many of the same measures. Spiralling public debt not backed by commensurate assets has become the norm.

As to the second of the earlier three questions, events could unfold very badly from here for asset prices, inflation, output and unemployment.

It has become difficult to see how governments and central banks can unwind their extreme peacetime policy settings. Japan got into this situation first and shows no convincing signs of being able to extricate itself.

Governments fear that cutting fiscal deficits would increase unemployment. Central banks fear that lifting interest rates would do the same. Zombie firms would go under, very visibly. Higher interest rates would also increase fiscal deficits. That would increase debt default concerns.

Monetary policy has become more intertwined with fiscal policy. This politicisation of monetary policy is dangerous for financial stability. Desperate governments want central banks to fund their deficits at historically low interest rates. The ECB's government bond purchases have exceeded the government budget deficits of Italy and some other countries for appreciable periods. This does not look sustainable, legally, morally or economically.

At the onset of another crisis, asset prices would plummet, causing financial panic. Bankruptcies on a large scale would ensue, as would unemployment. The value of bank deposits and cash could be destroyed if deflation is followed by extremely high inflation. In real terms, many people would lose a significant portion of their wealth.

When the next financial crisis occurs, everyone will again look to governments to bear the brunt of the losses to "keep the economy afloat." Governments may once again find it politically hard to act otherwise. Their capacity to do so is diminishing.

Voters will throw some hapless governments out of office. They may replace them with populist or authoritarian governments. Disappointment and unrest would follow. The policy responses are unpredictable.

This is the **worst-case advanced economy** scenario.

There is an **optimistic** scenario. It requires strong, sustained economic growth to emerge while interest rates and inflation stay low. It also requires governments to use the revenue growth to reduce budget deficits rather than to increase spending. Sadly, each aspect of this scenario looks problematic. That makes the optimistic scenario look like wishful thinking.

The report considers two other scenarios. One is that advanced economies generally limp along – as **Japan** has since the early 1990s. Economic growth stays low, and net public indebtedness ratios rise towards 200% of GDP. Inflation somehow remains minimal, allowing interest rates to stay low.

Should inflation become a problem, interest rates would need to rise, squeezing borrowers. If financial crisis is somehow avoided, this could be like a **1970s stagflation** scenario.

How can New Zealand best protect itself from global financial storms? People can hope for the best but should not rely on it. The overseas developments described above are unprecedented in living memory.

For small economies, prudent defensive measures are the only option. The New Zealand government should plan to restore Crown net worth and public net debt to prudent levels before the next crisis hits. That means avoiding where possible commitments that permanently increase spending. An independent fiscal council reporting to Parliament could assist. The composition of New Zealand's official overseas reserves should be reviewed, particularly in respect of gold. The Reserve Bank should have a clear path for reversing its emergency credit creation and lifting its control interest rate.

The less prudent the government, the more prudent individual New Zealanders will need to be. Borrowing heavily to buy property or shares at current prices is like playing Russian roulette with one's financial future. Portfolios should be diversified. There are risks of both deflation and inflation.

Introduction

This report addresses three questions:

1. how the global monetary system came to walk a path of increasing financial risk;
2. how it might play out from here; and
3. what prudent actions could the New Zealand government and individuals take?

Lasting prosperity requires self-discipline in spending. That is as true for governments as it is for individuals. Individual thrift counts for little if government squanders everyone's wealth.

Individuals who run out of money are in trouble. In Charles Dickens' day, debtors' prisons awaited defaulting debtors. His father had spent time in one. Dickens' Mr Micawber charmingly portrayed the difference between happiness and misery. Happiness was to be sixpence in the pound in the black; being sixpence in the red produced misery.

Disciplines on individuals who default on their debts are less severe these days because of the welfare state. But they are still material. Running out of money still hurts.

Disciplines on government are much weaker. There is no debtors' prison for government. There is no personal liability. Deficit spending is the new norm. Mr Micawber's call for fiscal prudence would be decried today as a call for austerity.

A spendthrift government might have run out of gold or silver in the past. These days, no government can run out of its own money. It is mere paper – or "fiat" – money (and typically, it is not even paper – most money today is digital). Governments have a legal monopoly on what counts as money or "legal tender," to use its technical name. Their central banks can create any amount of it with a mouse click and buy anything with an IOU, i.e. government debt.

Passing-the-parcel using debt comes naturally to governments. The pressing imperative for an incumbent government is to win the next general election. Spending borrowed money freely creates the illusion of continuing prosperity. The closer the next election gets, the more that illusion matters. The incumbent can always hope that after the election either it will be another government's problem or the economy will improve, lifting tax revenues and saving the day.

The pressures on governments to spend too freely are unrelenting. Interest groups keep lobbying governments for more money for their cause, caring little about the cost to those who worked to earn the money they want government to spend. Governments may not care even about that benefit. Political parties care more about votes and political success. A law could make the community as a whole worse off but still be popular because the costs are delayed.

It is also easier for governments to spend unwisely if they hide the likely lack of value from the public. Unclear objectives reduce accountability.

Governments will always proclaim good intentions for their policies. That is the easy bit. To prove that a policy will achieve its intended outcomes may not be that easy. To prove net benefits for the community is even harder. A professional impartial assessment of the policy might show embarrassing outcomes. Unfortunately, government controls a lot of the information needed to allow taxpayers to assess value for money.

These tendencies to excess are intrinsic to government. What is new is the scale of the problem. The 2007–08 Global Financial Crisis (GFC) started as a banking crisis. The response in Europe, the United States and the United Kingdom turned it into a public debt problem. That problem had not yet been resolved when Covid-19 struck. Unprecedented peacetime public debt ratios and central bank credit expansion resulted.

Public debt is usually assessed as a proportion to Gross Domestic Product (GDP). Net public debt has risen twice as fast as GDP since 2007 in many countries. It now exceeds an extraordinary 100% of GDP in some major economies. These include Japan, the United Kingdom and the United States. France is close to 100%. For Euro zone countries, it is 79%.[2] These are unprecedented peacetime public debt ratios for modern times.

Borrowing does not have to be a problem. Deficit spending is reasonable in emergencies and when there are good capital construction opportunities. Borrowing to purchase or construct assets is appropriate if the borrower has enough capital (i.e. equity or net worth) and income to cover adverse events. Unfortunately, this is anything but the case for the democratic countries and regions whose financial viability is most important for global financial stability.

Central government net worth is heavily negative in the United States, the United Kingdom, and the European Union (EU).[3] The fear that motivates this report is that public debt will not be unwound. Public debt ratios will still be high going into the next economic downturn. Governments would then raise them further. Central banks might further debase currencies by creating more money. Once again, governments might find it too hard to restore fiscal surpluses. Ratcheting debt is unstable. A devastating international economic crash would then be inevitable.

The optimistic outlook hopes for reasonably painless unwinding. Vaccines are turning Covid-19 into a manageable health problem. Borders are re-opening and travel bubbles are appearing. Economic activity is recovering strongly. The International Monetary Fund (IMF) expects 6% real growth in 2021. High public debt ratios are not a problem as long as interest rates are near zero. Central banks want to keep interest rates low. They can continue to do so if inflation stays low.[4]

This is a rosy scenario. How plausible is it? Zero interest rates cannot stop spiralling public debt ratios from increasing risk. The scenario also presumes the political will to reduce the fiscal deficits that increase debt. That will is not yet evident.

President Biden's May 2021 big spending budget plan would see federal government outlays exceed revenues by 16.7% of GDP (in 2021) and by 5.2% of GDP on average between 2022 and 2031. Federal debt held by the public rises faster than GDP all the way to 2031. In 2024 it is projected to reach 114% of GDP, a record high.[5]

Meanwhile, easy money is inducing people to borrow to buy risky assets at top prices. It is not just house prices. Stock market indices and cryptocurrency prices have been chalking up all-time highs. This is despite a major economic downturn due to Covid-19.

Stories of unsophisticated investors achieving spectacular gains abound.[6] But speculative exuberance is dangerous. Past booms have been followed by crashes that destroyed jobs and wealth.

As is shown below, central bank actions are propping up "zombie" companies. These are companies with otherwise unviable businesses. But for the artificially cheap credit, they would be wound up. That would allow labour and capital to be used more productively.

The immediate international political economy problem is obvious. Many people stand to lose If governments and central banks start tightening up. Asset markets could crash, along with zombie firms. Those who borrowed to buy risky assets would look for someone to blame. Most would blame the government of the day.

Yet not to take corrective action is to compound future pain. The bigger the debt not backed by assets, the bigger the potential future crisis. Zombie firms and others would crash together rather than progressively; unemployment would spike.

The first chapter in this report is a historical study. It reviews the history of monetary policy under the discipline of the gold standard, how it ultimately broke down in the United States, and how painful it was to restore monetary policy discipline in the United Kingdom, the United States, and elsewhere.

The second chapter traces the last US-driven financial disaster – the 2007–08 global financial crisis – whose origins lay in government-backed irresponsible lending in the US housing market, but quickly became a threat to global financial stability.

Central bankers and governments had not restored policy settings to normal levels before Covid-19 struck. The third chapter highlights the extent of the resulting monetary and fiscal policy excesses. Key concerns are the growing politicisation of monetary policy and the destabilising belief that governments will underwrite otherwise imprudent risk-taking.

The co-existence of a major recession in 2020 with record-high sharemarket indices, record gains in US household net worth, and falling bankruptcies is bizarre and unnerving.

Awareness of the awaiting danger is necessary to ask how best to avoid it. New Zealand cannot hope to avoid the fall-out from another international financial crisis. We can only hope the major economies will avert that. But hope is not a plan. What can New Zealanders do, individually and collectively, to reduce the risks? That is the topic of the final chapter.

CHAPTER 1

From Gold Standard to inflation-targeting

Successful societies seem destined to lose their way. Prosperity breeds entitlement and decadence. Civilisations rise with difficulty and decline at their leisure. This chapter briefly surveys over two hundred years of the history of inflation under evolving monetary systems, primarily in the United Kingdom and United States. The low rate of inflation under the Gold Standard System is striking, both absolutely and relatively.[7]

How the Gold Standard worked, until it did not

For much of human history, the public's need for money whose value is reasonably assured has been reflected in the use for coinage of rare metals such as gold, silver or copper. Of these, gold is the rarest.

The number of gold coins (guineas) that could be struck from a pound of gold was set in the UK in 1717. The UK Royal Mint's price of a pound for gold did not change for almost 200 years, except during the Napoleonic wars (1797 to 1821). The US fixed the US dollar to gold in 1834. It set its value at US$20.67 per ounce of gold. It did not change that value until 1933.

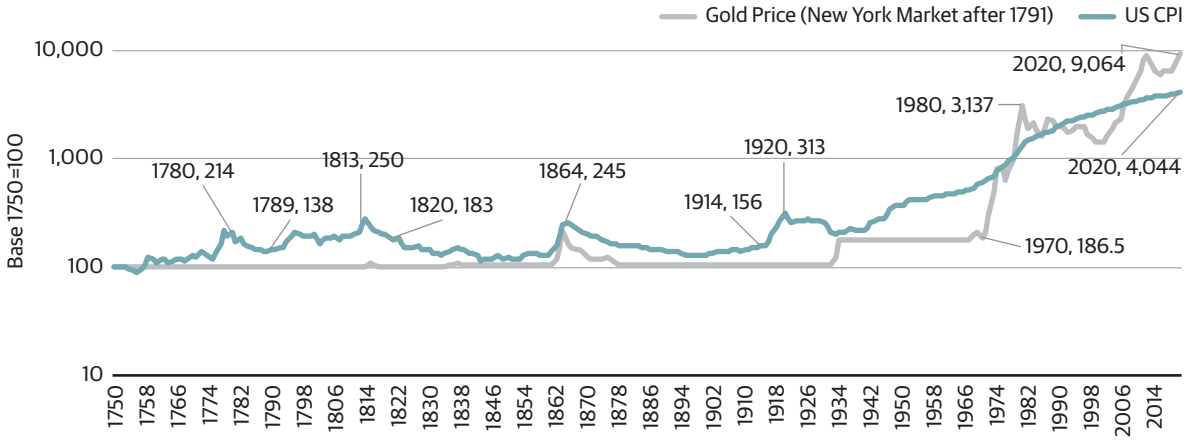
Britain finally abandoned convertibility in 1934, with the US following in 1971.

Figure 1 shows the US CPI and the US$ gold price between 1750 and 2021. It uses a logarithm scale to show the wartime periods of acceleration in these prices. (But for the logarithm scale, the charted lines from 1750 to 1914 would look flat.)

The most striking feature of Figure 1 is the marked consumer price inflation in the US after 1914 and the diminishing value of the representative bundle of consumer goods relative to gold. In 2020, it took US$4,044 to buy consumer goods that US$100 would have bought in 1750. US governments have issued far too many dollars for price stability. Government inflation has destroyed price and income intergenerational value comparisons for the common person.

Gold has been a much better store of value than the US dollar during this period.

Figure 1: US CPI and gold price 1750–2020 (logarithm scale)



Sources: Ian Webster, "CPI Inflation Calculator," Official Data Foundation, Website, https://www.in2013dollars.com/ (accessed on 10 June 2021); Measuring Worth, "The price of gold, 1257–Present," Website.

That long period of relative price stability to 1914 illustrates the discipline a gold rule imposes on governments.

Here is how the system disciplines governments and their central banks. If a country starts spending lavishly, imports will come to exceed exports. Gold would move from deficit to surplus countries.[8] The money supply would shrink in the former and rise in the latter. That automatic mechanism would work to reduce spending in deficit countries and expand it in surplus countries.

The system disciplines governments in two ways. If they print money excessively, they risk running out of gold as their own people, fearing inflation, increasingly convert paper to gold. Similarly, if they spent lavishly, at the expense of the balance of payments, gold would move to other countries.

The system prevented retail price inflation whenever it was sustained. The difficulty is to sustain discipline when exigencies or political pressures put it under great pressure.

On and off the gold-backed currencies (1750–1971)

History shows that price stability is seldom achieved in wartime and its aftermath. The Napoleonic wars and the 1812 war between the United States and Britain were largely in the past by 1820.

In 1914, retail prices in Great Britain and the United States were on average around 15% *lower* than in 1820. This was despite significant inflation in the United States during the Civil War in the 1860s.

Other countries joined the gold standard in the 1870s. The so-called classical gold standard period for these countries lasted until the onset of World War I in 1914.

Rapid technological changes and economies of scale in manufacturing during this period saw large income increases with slight retail price deflation overall. It is hard to understand the view in central banks today that a 2% per annum inflation is desirable.

Recession-based deflation and technology-induced deflation are two different outcomes. Then Bank of International Settlements' chief economist William White warned in 2006, that when low or zero inflation is benign, it could be destabilising for central banks to try to lift inflation by "persistently easy monetary conditions".[9]

Between 1925 and 1931, only the United States and Britain fully backed their currencies with gold (the Gold Exchange Standard). Other participating countries could back their currencies with gold, dollars or pounds. That allowed countries to avoid holding large gold reserves to back their paper money.

By 1931, Britain had run out of its gold reserves, forcing it out of the Gold Exchange Standard. In 1933, the United States nationalised the gold owned by private citizens and abrogated gold contracts. A new system was needed, but World War II intervened.[10]

The victorious countries agreed to new arrangements in July 1944 at a conference convened in Bretton Woods, New Hampshire. This "Bretton Woods" system operated from 1946 to 1971. Under it, most countries settled their international transactions in US dollars, but the United States was obliged to exchange, on demand, US dollars held by other central banks for gold at US$35 per ounce.

The system was not successful in preventing inflation. By 1971, the consumer price index (CPI) was almost three times higher than in 1946 for Great Britain and just over twice as high for the United States. Britain did not exit from wartime controls vigorously during this period.

Trade unions succeeded in getting substantial wage increases not funded by productivity growth.

Notice that the relationship between the gold price in US dollars and the US CPI is not tight. A low official price for gold can keep the market price of gold down for some years, even decades, while consumer prices rise.[11] But in the very long run they have largely risen together.

The Bretton Woods period was benign compared to what preceded and succeeded it.[12] There was considerable post-war economic recovery, particularly in Germany and Japan but also in the United States and other Western economies. According to University of Cambridge economist Ha-Joon Chang, real GDP in Western European countries as a group grew at an unprecedented 4.1% per capita between 1950 and 1973.[13] Harvard University economist Dani Rodrik sees it as a period of pragmatic globalisation that allowed national governments the policy space and flexibility they needed to participate in international trade and finance.[14]

Even so, not everyone was happy with this system. The US dollar became the world's gold-backed reserve currency. The French felt the Americans had received an "exorbitant privilege".[15] America could – and did – import more than it exported. It could pay for the difference in US dollar credits that cost it next to nothing. In contrast, other countries had to pay full value in gold equivalent for each dollar of imbalance.

A contributing factor to the demise of Bretton Woods was reduced fiscal discipline. English economist John Maynard Keynes had persuasively encouraged governments to run (temporary) fiscal deficits in response to the Great Depression of the 1930s. The implied offsetting discipline of surpluses in good times was less supported by politicians, and indeed some "Keynesian" economists.

Independently of Keynes, World War II entrenched larger government spending. Economic growth after World War II, combined with progressive income tax systems, filled government treasuries with revenue. That made it easy for them to spend even more.

Economists widely approved the big increases in government spending in many countries in the 1960s. On Vito Tanzi and Ludger Schuknecht's calculations, across the developed countries on average, government expenditure rose as a percentage of GDP from 28% in 1960 to 42% in 1980.[16] The ascendancy of support amongst economists and governments for government spending is reflected in President Richard Nixon's declaration when abandoning the gold standard: "We're all Keynesians now."[17] Again, what Nixon had in mind and what Keynes had in mind were likely two different things.

Fixed exchange rate regimes anchored on one currency's ties to gold depend on trust in those ties. Countries holding US dollar assets as reserves in place of gold were trusting the United States not to cheat them out of the gold-equivalent value. From the 1960s, continual US government deficit spending, funded by US dollar credits, started to undermine that trust.

Affronted by the inequity of a free lunch for deficit spending by the United States, French President Charles de Gaulle decided in February 1965 to exchange France's US dollar reserves for gold.[18] He even sent the French navy across the Atlantic to collect the gold. Some other countries also exchanged dollars for gold.

The Americans were not pleased. They needed to keep borrowing to finance the Vietnam War and President Lyndon Johnson's "Great Society" welfare spending. But their gold reserves were falling. In 1968, they had US$6 billion less than in 1961. This was a substantial decline from the US$17.8 billion at the end of 1960.[19]

Matters came to a head for the Americans in 1971. On 15 August 1971, Nixon abandoned

the obligation to exchange US dollars for gold. Ostensibly, it was a temporary measure:

> I have directed Secretary Connally to suspend temporarily the convertibility of the dollar into gold or other reserve assets, except in amounts and conditions determined to be in the interest of monetary stability and in the best interests of the United States.[20]

That event precipitated a new economic order. Harvard political scientist Stephen Walt decried this watershed measure for "blithely violating the rules of the system."[21] Money everywhere had lost its gold anchor.

The system soon changed to a more flexible and adjustable currency exchange system.[22] The US government promised only to exchange a US dollar for another US dollar.[23] What that dollar would soon be worth in terms of an hour's labour, a bag of groceries, or an ounce of gold was now in play.

Stagflation from the mid-1970s – the United States

The inflationary pressures created by excessive government spending under President Johnson, and Richard Nixon continued for much of the next two decades.[24]

In August 1971, Nixon declared a 90-day freeze on "all prices and wages throughout the United States."[25] He also put a surcharge on imports.

Such freezes are hard to unwind without embarrassing those who imposed them in the first place. Suppressed inflation is inflation waiting to break out. Nixon reimposed a temporary freeze in June 1973.

A provocative and controversial economist at the time, Milton Friedman correctly predicted that Nixon's freeze would end "in utter failure and the emergence into the open of the suppressed inflation."[26] People would pay the price. And they did.

The Americans were not the last to pay a price for suppressed inflation. New Zealand failed to learn its lesson when its government imposed a comprehensive freeze in 1982 while keeping interest rates low and borrowing heavily. A period of high inflation and high unemployment followed (see Figures 2, 3 and 4).

Global inflation rose in 1973–74 when the oil-exporting countries achieved nearly a four-fold increase in the world price of oil in US dollars. This was inflationary for all oil-importing countries. It was expansionary (lifting incomes, output and employment) in oil-exporting countries, and contractionary for oil-importing countries. It was a major global event with lasting repercussions.

World oil prices doubled further at the end of the 1970s.[27] This doubling was caused by the Iranian Revolution of 1979, cutting oil production in Gulf states, including Iraq and Iran.[28] Fortunately, this rise was short lived.

As shown in Figure 1, the US CPI accelerated from the mid-1970s. Between February 1970 and January 1979, the Federal Reserve was chaired by Arthur Burns. Under his leadership, US monetary policy accommodated inflation rather than reducing it. The Nixon tapes provide evidence that President Nixon pushed Chairman Burns to pursue expansionary monetary policies just before the 1972 election.[29] The Federal Reserve is supposed to be an independent monetary authority, however political interference prevented it from curbing inflation prior to its escalation.

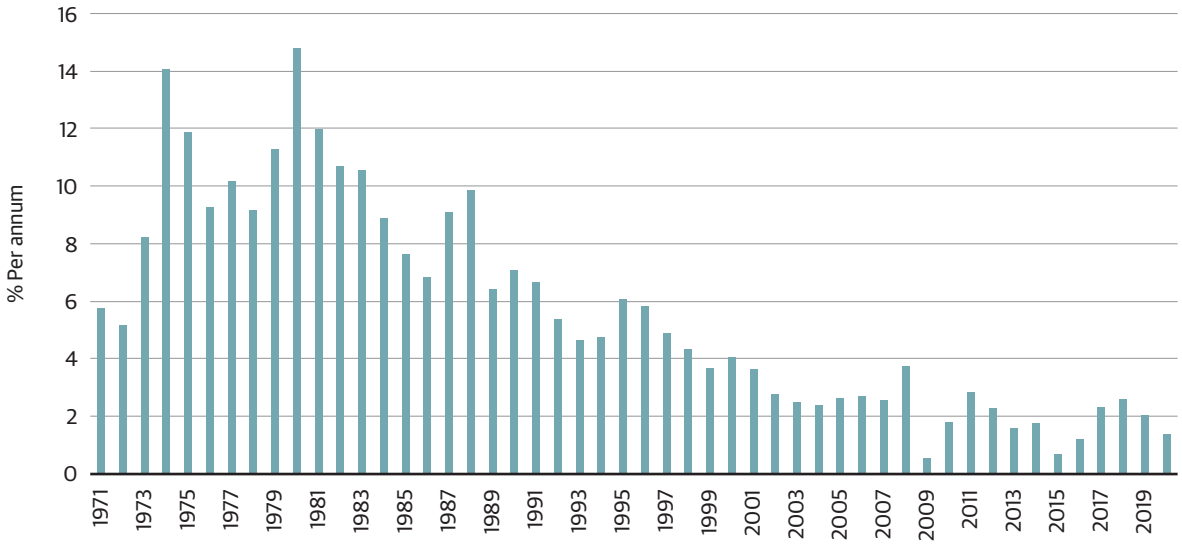
The US CPI in 1980 was 2.8 times higher than in 1960. To put this near trebling in perspective, in 1914, the index was only 1.6 times higher than in 1750, proving that the wheels of the market economy do not need to be lubricated by 2% per annum inflation.

Inflation was similar but faster in the United Kingdom. The UK CPI was 5.4 times higher in 1980 than in 1960. In 1914, it was only 1.9 times higher than in 1750.

The United States and the United Kingdom were far from alone in experiencing high inflation from the late 1960s. By 1979, at least seven countries had an inflation rate above 50%, and more than 60 countries had double-digit inflation. The latter included New Zealand, Australia, the United Kingdom, and the United States.[30] The average annual inflation rates from 1971 to 2020 for the member countries of the OECD are shown in Figure 2.

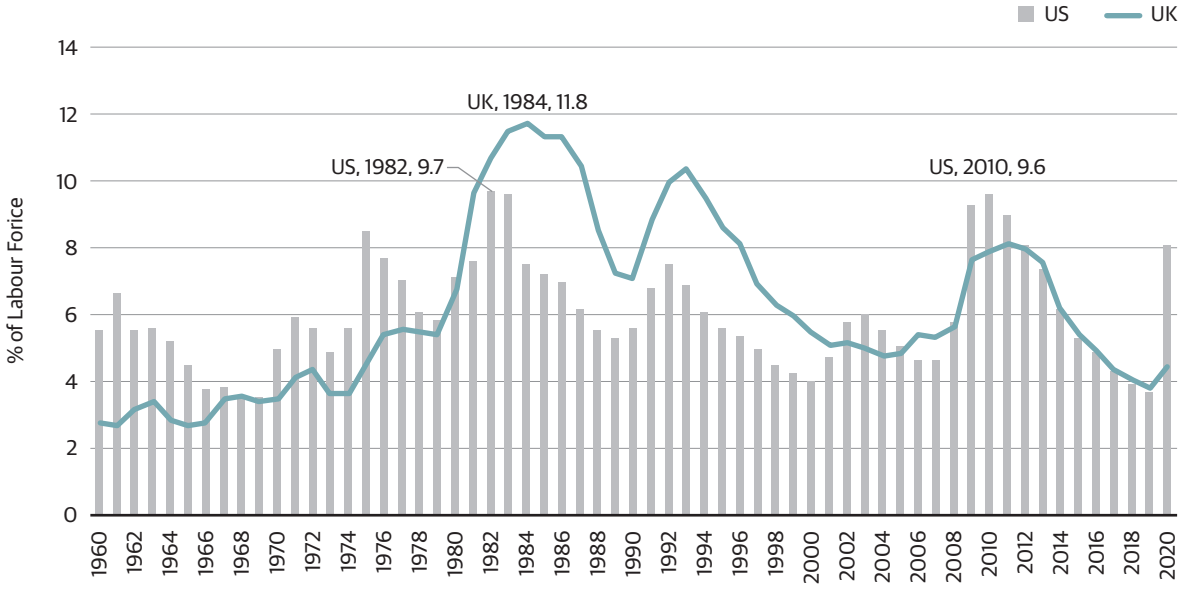
Unemployment was also a growing problem from the 1960s. UK and US unemployment followed a rising trend after the late 1960s. The US unemployment rate peaked at 9.7% in 1982, according to the OECD (see Figure 3).

Figure 2: OECD CPI inflation (1971–2020)



Source: OECD, "Inflation (CPI) (indicator)," Website (2021).

Figure 3: UK and US unemployment rates (1960–2020)



Source: OECD, "Economic Outlook" (June 2021).

Until the onset of both high inflation and high rates of unemployment after the first oil price shock, many economists thought inflation and unemployment would move in opposing directions – famously proposed by Auckland economist William Phillips and immortalised in the (now infamous) "Phillips Curve".[31] They thought inflation was caused either by demand for production growing faster than supply or by wage increases pushing up prices, or both at once. Low unemployment would indicate supply constraints, either way.[32]

Friedman was the most prominent public critic of this inflationary monetary policy. He argued cogently, and increasingly convincingly, that the key cause of inflation was not prices and wage rates chasing each other up.[33] The real cause was the Federal Reserve's failure to slow the growth in the money supply.

He famously focused debate on the proposition that: "Inflation is always and everywhere a monetary phenomenon."[34]

Stagflation (high inflation and high unemployment) in the United States and elsewhere in the second half of the 1970s discredited the earlier propositions and vindicated Friedman's counter view.[35]

The gold standard's considerable success in curbing inflation does not mean it is superior to the fiat system in all respects. There is evidence of greater instability in output and employment during the gold standard period than post-1971. Each system has its advantages and disadvantages. Fixed exchange rate systems that are adjustable in practice are not necessarily superior to floating exchange rates with different monetary restraint disciplines. The best system might be the one that most constrains excessive government spending in prosperous and peaceful times.

This report is not advocating a return to a gold standard system. The point it is making is that institutional arrangements matter for inflation outcomes and financial stability. The choice between them is of global importance, as the next subsections illustrate.

Stagflation from the mid-1970s – New Zealand

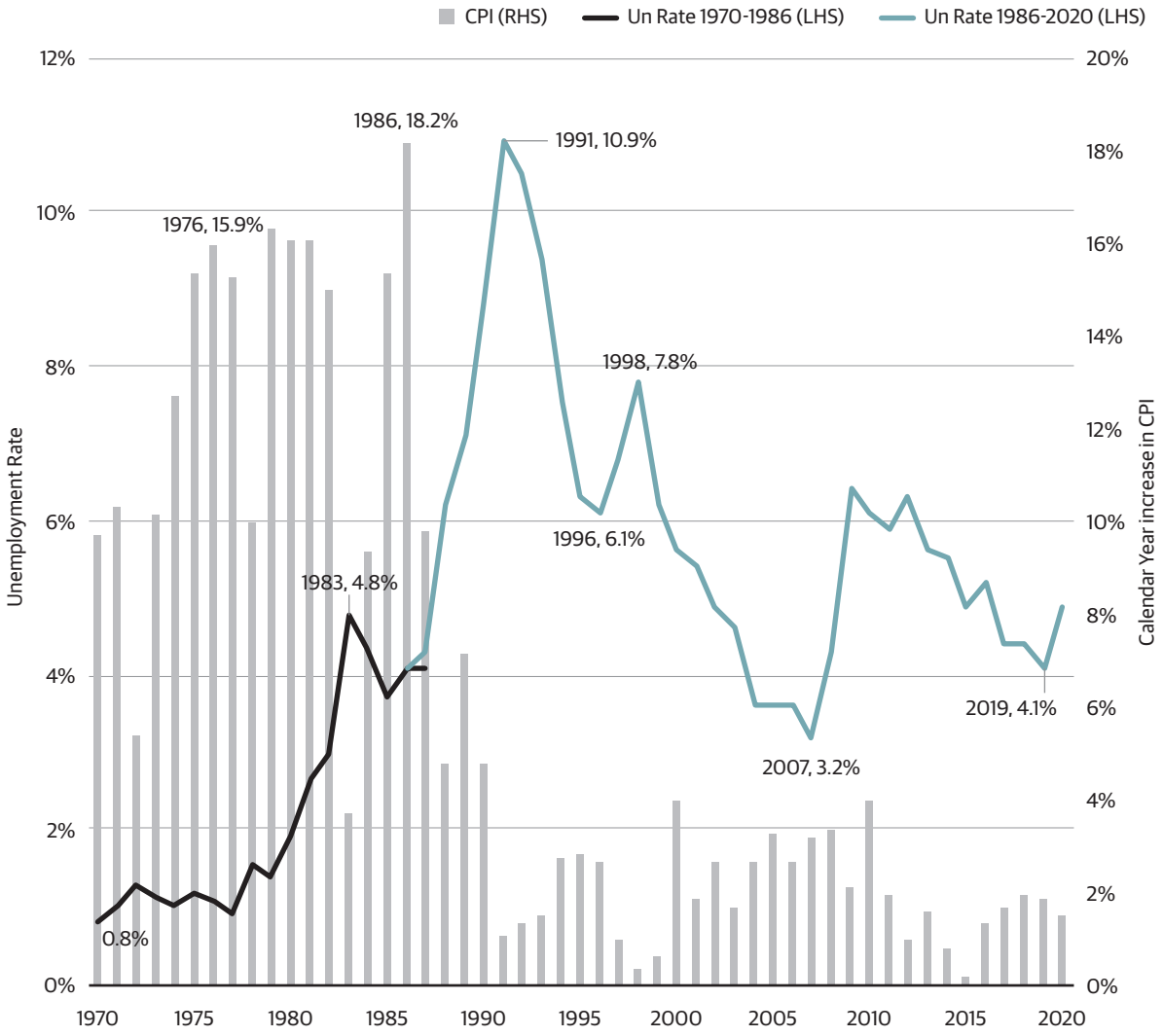
Inflation was a serious problem in New Zealand by 1970. A large devaluation in November 1967 galvanised trade unions to seek wage increase compensation. A nil general wage order decision in 1968 led to a major threat of industrial action. Big wage and price increases followed. CPI inflation in 1970 reached 10%.

Undeterred by inflation, governments increased spending and kept interest rates low. Between the 1973 and 1976 fiscal years, central government spending rose from 24.8% to 31.0% of GDP.[36] CPI inflation stayed in double digits from 1973 to March 1983. Unemployment started trending upwards after the first sharp rise in global oil prices.

Heavy overseas borrowing was needed to cover deficits in both the government accounts and the current account in the balance of payments. Private and public sector foreign debt increased from 11% of GDP in March 1974 to 95% of GDP by June 1984.[37] New Zealand's external gross public debt increased from 5% of GDP in March 1973 to 22.1% in March 1983.[38]

Figure 4 summarises New Zealand's experience with high inflation and a rising unemployment rate between 1970 and the early 1980s. The low point for inflation in the 1983 calendar year reflects the short-lived 'success' of a wage and price freeze in suppressing inflation. The peak rate of unemployment in 1991 occurred amidst an urgent drive to reduce inflation and fiscal deficits and free up economic activity.

Figure 4: Inflation and unemployment rates in New Zealand (1970–2020)



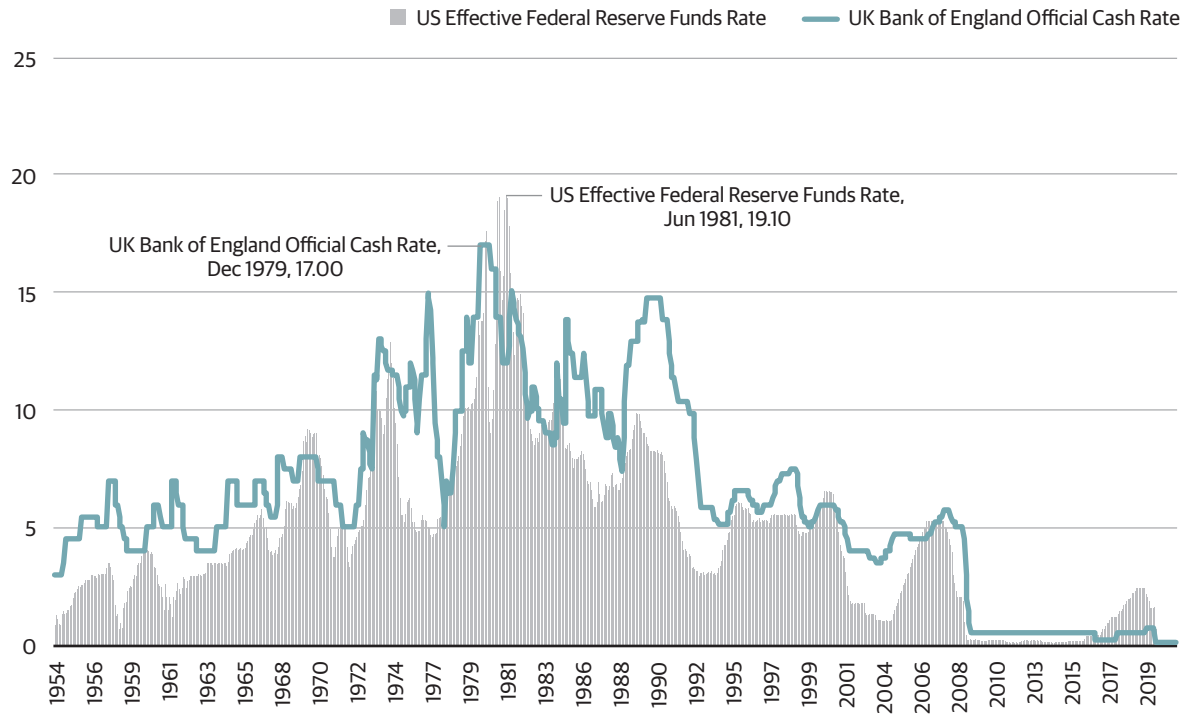
Source: Statistics New Zealand, Infoshare, CPI All Groups (Calendar Years) Unemployment rate 1970–1986, New Zealand Long Term Data Series (LTDS), Unemployment rate 1986-2020, Household Labour Force Survey, December values, not seasonally adjusted, Website.

Disinflation – stagflation's painful consequence in the 1980s

By the late 1970s, public dissatisfaction with high inflation, rising unemployment, and poor economic growth induced greater political willingness to act more decisively. The United Kingdom, under Prime Minister Margaret Thatcher (and Bank of England Governor Gordon Richardson), and the United States, under President Ronald Reagan (and Federal Reserve Chairman Paul Volcker from 1979), led the way. All four saw loose monetary policies and excess spending in their countries as causing the inflationary problem.

Backed by the resolute political leadership of Thatcher and Reagan, both the Bank of England and the Federal Reserve sharply increased their official interest rates from the late 1970s. The Bank of England's Official Cash Rate (OCR) peaked at 17% in January 1980. Under Volcker, the Federal Reserve's measure of its Effective Federal Funds Rate (EFFR) took its official interest rate even higher. It peaked at 19.1% during 1981 (see Figure 5).

Figure 5: Bank of England and US Federal Reserve official funds rates (1954–2021)



Sources: Simon Rogers, "Interest rates in the UK since 1694," *The Guardian* (10 January 2013); Bank of England Official Cash Rate month end from February 2013, Website; and Federal Reserve Board of St. Louis, "Effective Federal Funds Rate (FEDFUNDS)," Percent, Monthly, Not Seasonally Adjusted, Website.

These policies were successful in curbing inflation. Experiences and concerns were shared among OECD member countries because of the common need to curb inflation.[39] But the monetary constraint policies worked (see Figure 2). The reduction in inflation in the United States was particularly fast – from 10.4% in 1981 to 3.2% in 1983. Friedman's money control focus worked, whereas the earlier prescriptions of wage and price controls did not.

One of the costs of inflation is the unemployment that follows when disinflation becomes necessary. Inflation misallocates resources. Correcting that misallocation disrupts output and employment. As shown in Figure 3 above, the rate of unemployment peaked in 1982 for the United States and in 1984 for the United Kingdom – at 9.7% and 11.8% respectively on the OECD's measure. (The rate of unemployment in the US almost reached its 1982 peak in 2010, amidst the GFC.)

Under Volcker, the Fed's policies were a success – stock markets hit a new high, economic growth expanded, and unemployment dropped to 5.9% by the end of his term.[40] Inflation remained below 5% for the rest of the decade apart from 1990 when it was 5.4%.[41] The Fed's successful disinflation restored respect for its management of monetary policy and sustainable financial stability.[42]

New Zealand's world-renowned 'inflation-targeting'

Under a fixed exchange rate system, monetary policy needs to be targeted at defending the specified value for the exchange rate. Interest rates need to lift if money is fleeing overseas, and vice versa. Under this regime, domestic inflation tracks overseas inflation.

Under a floating exchange rate regime, monetary policy can aim at a different target.

New Zealand was the first country in the world to set a target for domestic CPI inflation backed by legislation.[43] The initial target was to achieve and maintain 0–2% per annum inflation. Dr Don Brash, Reserve Bank Governor from 1988 to 2002, successfully pursued that objective. A new Reserve Bank Act in 1989 gave him the operational independence to do so. These institutional reforms for the Reserve Bank were designed to establish 'policy credibility' by clarifying the core purpose of monetary policy.[44]

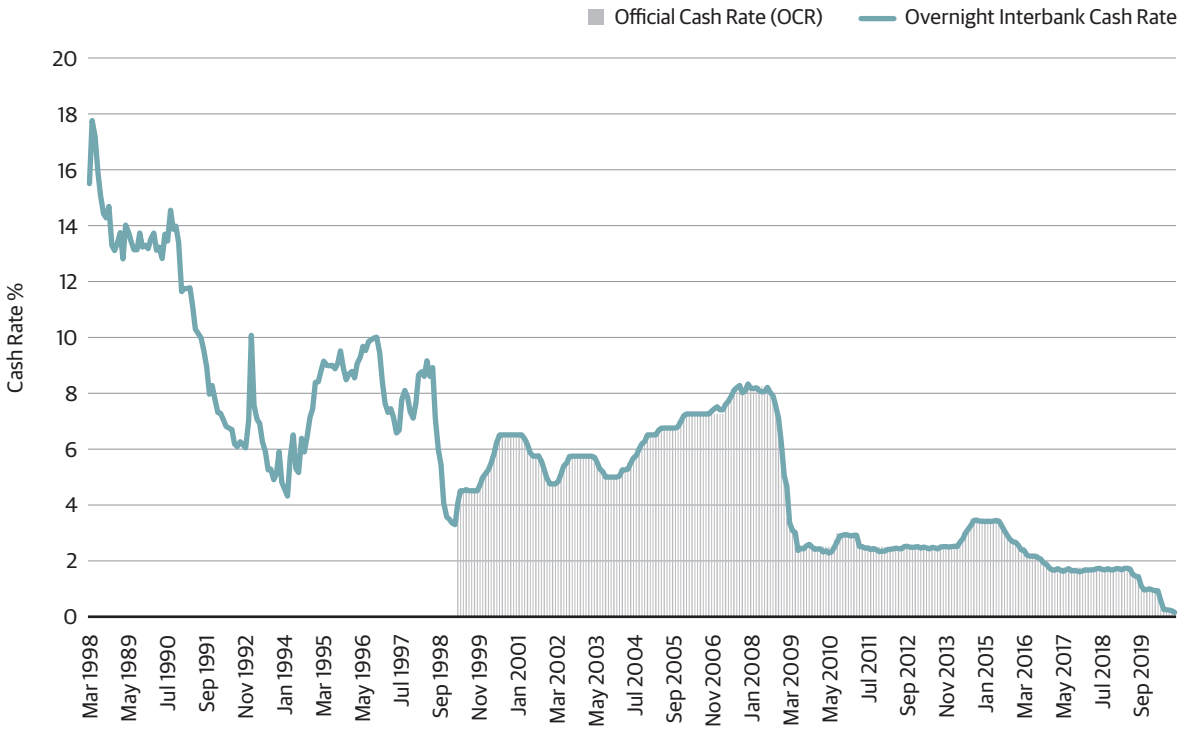
A very high official cash rate was necessary during the late 1980s (see Figure 6). Inflation was high following the large devaluation in 1984, a wage explosion coming out of the wage freeze, the introduction of a GST at 10%, and greater recourse to user-charges. The overnight bank rate was 17.76% in April 1988 and remained above 12% through 1990.

While the central bank was reducing inflation, Ministers of Finance focused on turning fiscal deficits into surpluses.[45] Doing so successfully would support New Zealand's sovereign credit rating and reduce the scale of government bond tenders. Both would help achieve lower interest rates for an unchanged inflation objective.

CPI inflation dropped from the 10–17% per annum range during the 1970s and 1980s, to a 0–2.2% range between December 1991 and June 1995. The average annual rate of CPI inflation from June 1995 to June 2021 was 2.0%.[46]

New Zealand experienced a nasty recession from December 1988 to March 1992.[47] The unemployment rate rose from 6.3% in December 1988 to 11.2% in September 1991. Contrary to the publicly expressed expectations of many academic economists at the University of Auckland, strong economic recovery followed from budget deficit-reducing policies announced in 1990–91. The unemployment rate was down to 6.2% in December 1996 (seasonally adjusted).

Figure 6: Official Cash Rate (OCR) and overnight inter-bank cash rate in New Zealand (1988–2020)



Source: Reserve Bank of New Zealand, "Official Cash Rate (OCR) decisions and current rate" and "Wholesale interest rates (B2 Monthly (1985–current)," Website.

Concluding comments

The over 200 years of economic history briefly reviewed in this chapter tells a story of disciplined constraints, followed by excesses for which the only remedy was the painful restoration of discipline.

It is understandable that governments could not adhere to the gold standard during a war that required major mobilisation. But this was not President Nixon's reason for ending the gold standard in 1971. He did it to stop a run-on gold amidst rising inflation.[48] As Friedman had predicted, Nixon's wage and price freeze did not work. Painful inflation came later.

While it lasted, the gold standard and to a materially lesser extent the Bretton Woods system did control inflation – to a degree that few alive today may appreciate. Perhaps other circumstances, such as fast productivity growth, were favourable to the retention of the discipline.

In the event, those who feared that its abandonment would be inflationary were proven right. Governments spent too freely; central banks lost credibility. Interest rates rise and remain high when investors stop believing that the central bank is determined to curb inflation.

As the designers of the US Constitution recognised, prudence and constraint do not come naturally to governments. It is something that goes more easily than it comes – but governments alternate from one to the other. The problem is governments that spend freely are popular – at least initially. Many economists have encouraged them and opposed governments seeking to reduce fiscal deficits and inflation.

Following the tumultuous disinflation period, many countries have put in place regulatory and other measures to improve fiscal disciplines on governments.[49] New Zealand's major new measures were put in place in 1991.

Measures in New Zealand aim to ensure incumbent governments report to Parliament and the public regarding the level of debt they deemed prudent for public debate and what they are doing to achieve and sustain it. Professor Emeritus Bob Buckle of Victoria University of Wellington found that the measures "largely succeeded in shifting the balance of fiscal decision-making towards strategic and longer-term objectives."[50]

Certainly, the measures did see central government net worth rise strongly into positive territory and this provided buffers that were used to respond to the GFC and Covid-19. The current concern is whether they will suffice to ensure a return to earlier prudent levels before the next economic crisis arrives.

The stagflation of the 1970s needs to be seen in the context of the rise in world oil prices. That increased both inflation and unemployment in oil importing countries. As Chapter 3 shows, the more recent shocks – the global financial crisis and Covid-19 – have been of a different nature.

The disinflation during the 1980s through using monetary policy to achieve low inflation targets was successful. But the high transitional rates of unemployment show that it is very costly to allow expectations of high inflation to become entrenched. The credibility of the policy is critical. When it is lacking, the costs of disinflation are very significant.[51] Central bank credibility, once lost, is only painfully regained.[52]

CHAPTER 2

The path from disinflation to the GFC

After the successful disinflation of the 1970s and 1980s, low inflation and moderate economic growth returned globally.[53] This "Great Moderation" lasted from the mid-1980s to 2007.[54]

Japan was an exception to the Great Moderation. It did not experience the stagflation of the 1970s and 1980s. Its exceptional rate of post-war economic growth continued through the 1980s. Japan quickly passed the oil price rises of the 1970s into consumer prices as price spikes. It did not allow double digit rates of inflation to persist.

Japan is of further interest because its response to the crash in its economy in the early 1990s blazed a new trail of fiscal support and monetary policy easing. Post-GFC, much the same path has been trodden by the United States, the United Kingdom and the European Union. It is the path that this report fears is leading to the next global financial crisis. But we can learn from Japan's longer experience following this path.

This chapter therefore starts with the story of Japan. Thus informed, the narrative returns to the build-up to the GFC in 2007. One of the causes of the GFC was a boom-and-bust in the US housing market. That was also a factor in Japan's post-1991 relative stagnation.

Japan's "Lost Decade" — or two or three

Japan's rate of growth in GDP per capita was well above the OECD average in the 1970s and 1980s. It subsequently plummeted – both absolutely, and relatively to most other member countries of the OECD (see Table 1). Three decades of relatively low growth in real income per capita occurred.

Commentators in the early 2000s widely coined the term "the lost decade" as shorthand for the slump in Japan's rate of economic growth in the 1990s. Later commentators, noting the continued slow absolute and relative rate of economic growth, have talked of "the lost 20 years" and now, "the lost 30 years."[55]

On a more positive note, during the same decades, Japan's annual rates of inflation and unemployment have continued to be much lower than the OECD average.

Table 1: Japan's "lost" decades in OECD perspective

	Decadal Outcomes				
	1970s	1980s	1990s	2000s	2010s
Real GDP per capita decadal increases (not annual rates)					
Japan	37%	48%	11%	6%	10%
OECD-Total	27%	26%	22%	10%	14%
Average Annual CPI Rate of Inflation					
Japan	9.0	2.6	1.2	-0.3	0.5
OECD-Total	8.6	11.1	6.2	2.6	1.9
Average Annual Unemployment Rates					
Japan	1.7	2.5	3.0	4.6	3.6
OECD-Total	4.2	6.7	6.8	6.8	7.0

	1970s	1980s	1990s	2000s	2010s
Japanese government finances					
Average Financial Balance (% GDP)	-3.4	-2.0	-3.1	-5.8	-5.5
Increase in Net Financial Liability (% GDP)	29.2	-4.7	37.2	56.9	35.4
Average Net Interest Expense (% of GDP)	0.0	1.6	1.1	0.6	0.7
Monetary Policy Indicators					
Average Bank of Japan Policy Rate (%)	6.0	4.6	2.1	0.2	0.0
Average of annual increases in M1	16.0%	5.3%	7.0%	6.4%	5.1%

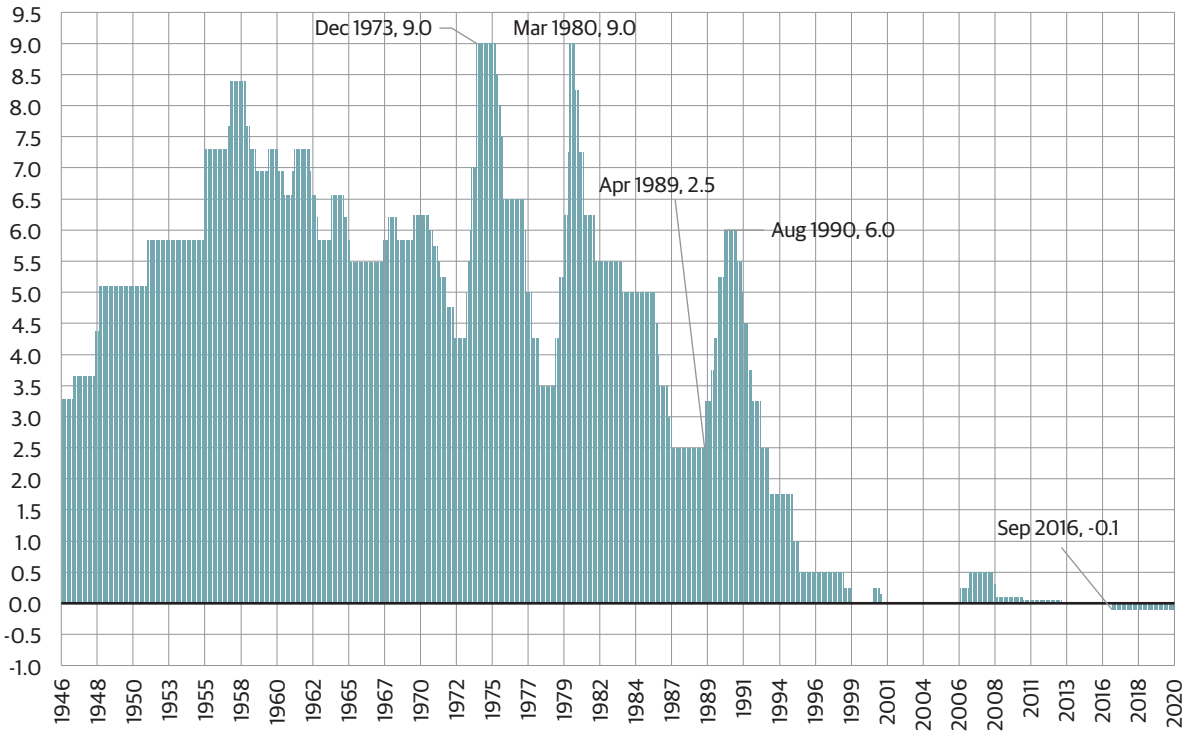
Source: OECD database except for the monetary policy indicators, which are from the Bank for International Settlements (BIS). Authors' calculations.

One factor that contributed to the crash in 1991 was the Bank of Japan's decision in 1989 to use monetary policy to lean against inflation, particularly asset price inflation. It progressively raised its policy rate from 2.5% in April 1989 to 6.0% in August 1990 (see Figure 7).

The associated collapse in asset prices was as dramatic as the preceding asset price boom. By August 1990, Japan's Nikkei stock market index was half its earlier peak level.[56] In the 24 years between 1977 and 1991, house prices in Japan rose 80% in real terms, according to OECD data. By 2009, they had fallen so much that they were only 1% higher in real terms than they had been 42 years earlier. New Zealanders who think house prices are a one-way bet to get rich should take heed.[57]

Asset prices fell so much because they had risen to boom levels. US economist Ken Kuttner says Japan's monetary policy was excessively expansionary during the late 1980s.[58] IMF economists Kenneth Kang and Murtaza Syed attribute those levels to "excess liquidity, lax financial regulation and over-optimistic projections of asset prices."[59] Kang and Syed noted the parallels with the causes of the GFC.

Figure 7: Bank of Japan Policy Interest Rate (1946–2020 – month end)



Source: Bank for International Settlements, "Central bank policy rates," Website, (accessed on 11 June 2020).

The fall in asset values crippled borrowers. Debt-crippled, non-performing companies weakened economic activity. Non-performing assets weakened bank balance sheets.

The authorities expanded fiscal deficits to an extent that increased general government's net financial indebtedness each decade (see Table 1). The Bank of Japan progressively reduced its 6.0% policy interest rate to 2.5% between June and February 1993 (see Figure 7).

The economic response was still sluggish and by September 1995, the Bank of Japan had reduced its policy discount rate to an unprecedented low (at that time) of 0.5% pa. The Bank also injected liquidity into the banking system by purchasing financial assets.

The Bank funded these purchases by borrowing from domestic banks. The term for this central bank activity is "quantitative easing". It occurs when central banks purchase assets and give the seller an IOU on the central bank. The seller deposits the credit with his or her bank. The bank records this as a liability it owes the depositor. The bank's asset is the IOU it deposits in its account with the central bank. The deposits of commercial banks at the central bank are called settlement balances.

So quantitative easing in this form is central bank credit creation. It is sometime called 'printing money' but in fact no bank notes are printed. It is all done by electronic book entry credits.

That borrowing increases the money supply measure "M1". M1 measures notes and coin in the hands of the public plus the banking systems' deposits at the Bank of Japan. It is the latter component that increases when the Bank of Japan undertakes quantitative easing. As shown in Table 1, the growth in M1 has appreciably exceeded the inflation rate since the 1980s.

These measures did not prevent a recession in Japan in 1998/99, triggered by the Asian Financial Crisis in 1997. Those who had borrowed heavily in US dollars to invest locally in Asia were in financial trouble when the United States raised interest rates – and Asian exchange rates weakened. Share prices slumped.

The authorities 'doubled up' on the expansionary policies. The Bank of Japan cut its call interest rate to close to zero in late 1998. In 2001, it reduced it to zero and increased its quantitative easing. Meanwhile the government continued to run budget deficits, substantially increasing outstanding government debt.

The Japanese economic response has been disappointing for income growth and surprising for the lack of inflation. Economists expected wage and consumer price inflation to re-emerge but, unexpectedly, that has not yet happened. A less positive observation is that neither the government nor the Bank of Japan have been able to unwind these policies of ever-increasing public debt, near-zero interest rates, and much increased quantitative easing.[60]

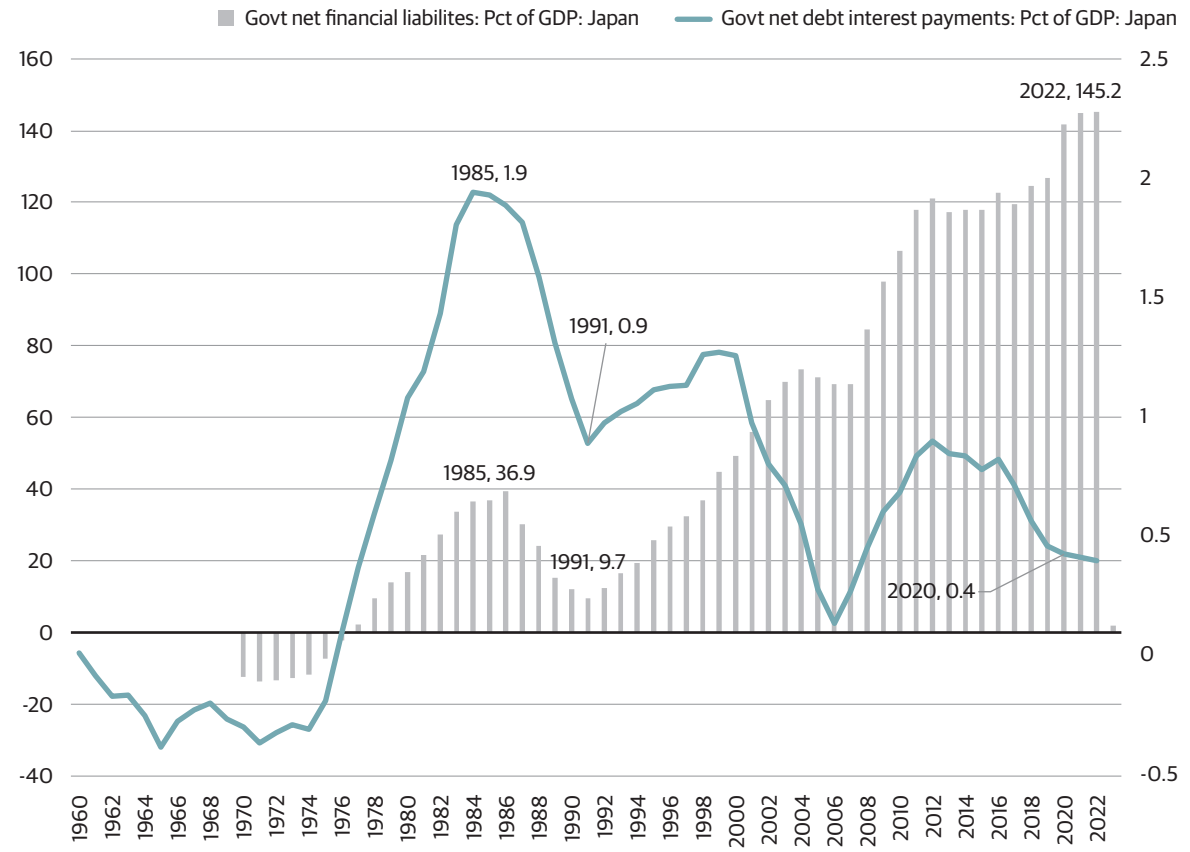
Reflecting the decadal increases shown in Table 1, general government net financial liabilities have risen sharply since 1991 when they were only 9.7% of GDP. The OECD projected in June 2021 that they could reach 145% of GDP in 2022 (see Figure 8).

This rising net financial indebtedness markedly exceeds additional investments in physical assets such as roads and other infrastructure. IMF researcher Yugo Koshima assessed the public sector's net worth in Japan at around 100% of GDP in the late 1980s. It has since progressively declined to around zero between 2010 and 2016 (when their time series ends).[61]

In normal times, rising net indebtedness not covered by commensurate increases in income earning assets would see interest payments starting to take an increasing share of GDP

(and thereby of tax revenues). In fact, the lower interest rates being presided over by the Bank of Japan, and lower global rates more generally, have seen the net interest cost ratio to GDP decline in recent decades (see Table 1). The annual statistics are shown in Figure 8.

Figure 8: Japan general government net interest costs and net financial liabilities (1960–2022)



Source: OECD, "Economic Outlook" database, including June 2021 forecasts to 2022, Website.

The upshot for Japan is massive public debt and relatively low economic growth.[62] It looks near impossible for Japan to return to normal interest rates and sustainable public debt levels.[63] Its public accounts are vulnerable to any return globally to more normal levels for interest rates. An important point in Japan's favour, however, is that 90% of Japanese Government Bonds (JGBs) are owned domestically.[64]

It is difficult to take much comfort from the Japanese experience with these policies. Borrowing to fund current spending is pain deferred. Perhaps one day government debt ratios will return to their late 1980 levels, and it will be possible to judge the extent of the deferred pain.

The path to the GFC and its significance

While Japan was going through its very difficult time between 1991 and 2007, most other advanced economies were doing well with low inflation and moderate-income growth. This period of the "Great Moderation" lasted from the mid-1980s to 2007.[65] Nevertheless, as described below, the United States was developing institutions and expectations during this period that blew up in the GFC.

The GFC was a combination of an asset price crash and a banking crisis that started in the United States and spread through the global financial system. The economic collapse cost

millions of ordinary people their jobs, their livelihoods, their savings, their homes, or all four.

The GFC started with a weakening of the US housing market in mid-2006. Increasingly, US homeowners were failing to meet their mortgage payments. At-risk investors in these loans got into financial difficulties, domestically and globally. By 2007, major financial firms showed signs of failing and major share price indices were falling. US consumer spending slowed.

By 2008, there was a full-scale global financial crisis. As described below, central banks and their governments started taking extreme measures to stem failures and sustain their financial systems.

In 2008, US real GDP was 2.5% down on 2007, and US unemployment was the highest since 1983 –9.3%. In Europe (17 countries), the unemployment rate was 9.6% and real GDP was down 4.5% on its 2007 level. Real GDP in the United Kingdom fell 4.1% and its unemployment rate rose to 7.6%.

The government bailouts and assistance created serious public debt problems, particularly in Europe. Towards the end of 2009, Greece, Portugal, Ireland, Spain and Cyprus required financial support from other European lenders, or the IMF. This European debt crisis became a threat to the future of the euro currency. The rate of unemployment in Europe (in 17 countries) peaked at 12% in 2013; in Greece, it peaked at 27% in 2013.

The GFC had its origins in increasingly risky lending practices to expand the US suburban housing market. The threat this lending posed to the US economy was widely under-appreciated, and those who had concerns faced weak incentives to take adequate preventive action. To understand why the GFC occurred, it is necessary to understand "moral hazard".

Moral hazard

Moral hazard occurs when people take less care than otherwise because they expect someone else to bear the losses.[66] For example, homeowners insured against theft may take less care to lock their back door. Moral hazard is an ever-present consideration in the design of state welfare programmes.

Moral hazard is a particularly serious issue for the design of government support for banks and financial markets. Banks may invest more riskily if deposit guarantees remove the risk of a "run on the bank" – when depositors rush to withdraw money from the bank. Investors will invest more riskily if they think central banks will pump liquidity into the financial system whenever sharemarket indices start to plummet.

This dynamic is dangerous. In the extreme, the global financial system could be brought down by a crash that follows extreme overpricing of risky assets and is too big for central governments to avert. Economists widely see the onset of the GFC as an outcome of moral hazard – the belief that the authorities would bail out those who borrowed heavily to take big risks.[67]

A key thesis of this chapter is that moral hazard has become a serious concern for global financial stability. It arises when banks, corporations, hedge funds and the public think that their governments will support asset prices if they start to falter.

The concern is not with orthodox government monetary and fiscal actions smoothing out normal fluctuations in economic activity without bailing anyone out. Monetary and fiscal policies are commonly eased during economic downturns. Done in moderation, asset prices can still fall – disciplining those who borrowed excessively. The dangers arise if investors start to perceive that it will be done to a degree that stops asset prices from falling much, no matter how high they have risen. The more they perceive this to be the case, the more likely it is that risky

investments will become dangerously overpriced, *en masse*. The concern is instead with ratcheting expansionary policies.

Concerns about moral hazard have always accompanied the existence of government, but they were heightened by the advent in the United States of the "Greenspan Put"[68] in the 1980s.

The Greenspan Put

Alan Greenspan was chairman of the US Federal Reserve from 1987 to 2006. He was Volcker's successor. Greenspan was enormously respected and influential partly because his term coincided with broad economic prosperity and long-term global financial stability under the Great Moderation.[69] He also successfully dealt with several financial challenges.

Greenspan's more notable challenges included the 1987 stock market crash. The following statement from that period illustrates how it could be seen as inducing moral hazard:

> The Federal Reserve, consistent with its responsibilities as the Nation's central bank, affirmed today its readiness to serve as a source of liquidity to support the economic and financial system.[70]

Subsequent challenges included the 1994 Mexican peso crisis, the 1997–98 Asian Financial Crisis, the Long-Term Capital Management collapse in 1998, and the dotcom bubble in 2000.[71]

When faced with such challenges, Greenspan commonly eased monetary conditions. For example, between 10 March 2000 and 4 October 2002, the US Nasdaq sharemarket index fell by 77%. The Federal Reserve progressively reduced its discount rate from 6.00% pa in August 2000 to 0.75% pa in November 2002. By also providing liquidity to the banking system, Greenspan could oversee lower Federal Funds inter-bank borrowing rates and thereby support confidence, share prices and economic activity.[72]

James B. Stewart and Daniel Hertzberg later characterised the message investors thought the Fed was giving them as: "We're here. Whatever you need, we'll give you."[73] The term the "Greenspan Put" encapsulated that expectation.[74]

Greenspan was perceived to be giving investors free insurance against such declines. Risk averse investors did not need governments to provide such insurance. They could buy 'put' options on the market. These shifted the risk of an excessive price decline to the issuer of the option – at a price. The difference between Greenspan's 'put' and a market 'put' was that Greenspan's was free to the investor, creating the moral hazard concern.

Until 2007–08, Greenspan's policies appeared to be beneficial, overseeing reasonable economic growth with an acceptable 2–3% consumer price inflation. However, the later crash in the US housing market exposed the weaknesses in US mortgage lending and the financial system that had developed under his watch. That has tarnished his reputation. At a House Committee hearing in October 2008 on the Great Recession in the US Congress, Greenspan acknowledged he should have acted differently.[75]

The development of the 2008 global financial crisis

The 2008 global financial crisis originated in the US housing market. The weaknesses were government driven. The Clinton administration, using the *Community Reinvestment Act 1977*, channelled mortgage lending more to minorities with low to middle incomes, and poor credit.[76] The US term "subprime mortgage loan" refers to a loan to a borrower with a poor, incomplete or non-existent credit history.

In addition, the Federal Housing Administration (FHA) began to provide zero down-payment

loans at very low starting interest rates. Such loans are a potential time bomb for unsophisticated borrowers.

Trillions of adjustable-rate mortgages (ARM) were loaned between 2005 and 2007. That created major financial risk for lenders and borrowers. Mortgage loans under the *Community Reinvestment Act* ballooned from 3% of housing loans to low- and middle-income Americans in 1998 to 50% within a decade.[77] In extreme cases, loans were being made to people with no income, no job and no assets.[78] Lenders and rating agencies thought this would be fine because house prices would never fall, so the loan value was not at risk.

Federally backed home mortgage enterprises created by the US Congress, Fannie Mae and Freddie Mac, backed this activity by promoting a secondary market for these loans.[79] That meant the lenders in the primary market could lend indefinitely to poor credit risk people while passing the risk onto those investing in mortgage-backed securities. Indeed, Fannie Mae and Freddie Mac were increasingly *underwriting* these risks, along with securities firms and banks. The bigger the quantum of lending the more house prices could be bid up.

US financial markets developed sophisticated instruments to convert bundles of mortgage loans into securities that had different risk categories and could be traded.[80] The higher the risk category, the larger the required return. The issuers of these securities hired credit rating agencies to rate the risk for investors. The rating agencies failed to get this right. Investors bought too much risk because of over-optimistic ratings. Fannie Mae and Freddie Mac played a major role in supporting this system.

Issuing banks and traders were earning large fees and commissions from this excessive activity. They expanded their borrowing and exposure to these assets. They knew it was risky, but perhaps most did not realise how risky it was. There is always some conflict between the interests of managers and owners – the "principal-agent problem". By 2007, it seems to have become rife in the US financial sector. Top executives were pocketing big bonuses relative to many people's lifetime earnings.[81]

In anticipation of a financial crisis, some financiers purchased billions of credit default swaps (CDS).[82] In contrast with the $22 trillion value of the US stock market, the CDS market was valued at $45 trillion.[83] Shareholders' funds were increasingly at risk, but shareholders could enjoy the immediate profits and hope – expect even – that governments would bail them out if enough banks were in trouble simultaneously.

Financial institutions across the world were buying these overpriced securities. Central banks were keeping interest rates low and US investment banks in particular were borrowing heavily to fund and generate these securities. These policies led to bad incentives with profits and management bonuses being extraordinarily high.[84]

Prominent monetary economist Anna Schwartz later sharply criticised Greenspan for pushing long-term interest rates to record low levels, "Monetary policy was too accommodative. Rates of 1 percent were bound to encourage all kinds of riskier behaviour."[85] While true, then as it is today, this was not the only point of weakness. Other experts criticised the Fed's regulatory policies for being too passive.[86]

Chuck Prince, chief executive of Citigroup, perhaps unwittingly summed up the irresponsibility that short-term incentive structures can induce:

> When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance.[87]

In other words, do not stop when the going is good and when other people bear the end-game risks. The future is a problem for another day (and a successor chief executive).[88]

The early warning signs that this spectacular level of mortgage lending was in trouble came in 2006. Defaults in loan repayments started to grow. Lenders found they had houses they had to sell if they wanted to retrieve the amount lent. Lenders started to fail.

- **April 2007:** New Century, a US real estate trust specialising in subprime lending and securities filed for bankruptcy.
- **August 2007:** American Home Mortgage filed for bankruptcy. It was the tenth-largest retail mortgage lender in the United States.
- **January 2008:** Countrywide Financial, the largest single mortgage lender in the United States, was saved from failure by the Bank of America.
- **March 2008:** Failed US investment bank Bear Stearns with US$46 billion of mortgage assets received federal support to facilitate its purchase by JP Morgan for one dollar.
- **September 2008:** Washington refused to give similar assistance to Lehman Brothers, bankrupting it. That unexpected shock to moral hazard saw the Dow Jones sharemarket index drop 504 points on the same day, its biggest daily decline since the dot-com bubble in 2001.
- **September 2008:** The two state-sponsored giants backing funding for home ownership in the United States, Fannie Mae and Freddie Mac, were put under US Treasury control with concomitant assurance of state backing. Together, they owned US$5 trillion in mortgage-related securities and debt.[89]

House prices peaked in 2007. Those who thought house prices could never fall learnt something. In 2007, the median price for houses sold in the United States was US$257,400. In 2009, it was US$208,400.[90]

Loan defaults quickly spread across the global financial system. One of the earliest major non-US failures (September 2007) was Northern Rock, a British bank.[91] Icelandic banks failed spectacularly; even two Swiss banks (Credit Suisse and UBS AG) had to be rescued.

The global financial system started freezing up. It nearly collapsed, in good part because sound banks did not know who else was sound. The complexity of the risk-spreading provisions in the myriad securities on offer, and the speed with which they could be traded made it hard for anyone to know just how much risk another institution was holding.

Sharemarkets plunged across the world. On 24 October 2008, many sharemarket indices had their largest ever daily declines.[92] In October 2008, the IMF declared that the global financial system was on the "brink of systemic meltdown."[93] The US dollar, Swiss franc and Japanese yen rose against other currencies.

A 639-page report for the US Senate in 2011, the Levin-Coburn report, concluded the GFC was the result of "high risk, complex financial products; undisclosed conflicts of interest; the failure of regulators, the credit rating agencies … to rein in the excesses of Wall Street."[94] This was not the final word. Larry Summers, former US Treasury Secretary, and eminent US economist, concluded that the rapid inflation of the housing bubble and substantial investment into the residential market were the result of excessively expansive fiscal policies and loose monetary policies.[95]

Policymakers' "do whatever it takes" responses to the GFC

> Central banks create the instabilities [by keeping interest rates too low in order to support or bolster economic activity], then they have to save the system during the crisis, and by that they create even more instabilities.
> **— William R. White (former BIS chief economist)**[96]

By today's dismal standards, government financial deficits and indebtedness were relatively moderate towards the end of the Great Moderation period, except for Greece and some other European countries. Reasonable economic growth following the disinflation period had improved matters. That made effective government responses to the GFC more affordable than would be the case today.

During 2007 and 2008, the fiscal and monetary authorities took increasingly desperate measures to prevent a local and global financial collapse. In September 2008, Federal Reserve Chairman Ben Bernanke and the US Secretary to the Treasury, Henry Paulson, jointly sought approval from Congress for US$750 billion to buy toxic mortgage assets. Bernanke said: "If we don't do this we may not have an economy by Monday." Paulson reportedly said: "If it [the approval measure] doesn't pass, heaven help us all."[97]

Of course, these experts realised that the bailout money they sought could aggravate future moral hazard problems. However, they (reasonably) pointed to the imperative to stop global financial meltdown.

> The only way to contain the economic damage of a financial fire is to put it out, even though it's almost impossible to do that without helping some of the people who caused it.[98]

That, in a nutshell, is why moral hazard is an enduring concern, and a focal point of concern for the post-Covid future.

Central banks worldwide cut interest rates to very low levels and purchased government bonds by issuing IOUs that ended up as banking system claims on the central banks. This "credit creation" expanded central bank balance sheets remarkably.

- Bernanke lowered the Federal Funds rate from 6.25% pa to 0. 50% pa between July 2007 and December 2008.[99]
- The US Treasury spent up to US$700 billion on its Troubled Assets Relief Program to purchase toxic assets and equity held by troubled financial institutions.[100]
- The Federal Reserve purchased US$300 billion of Treasury securities, US$1.25 trillion of Agency Mortgage-Backed Securities, and US$175 billion of agency debt obligations.[101]

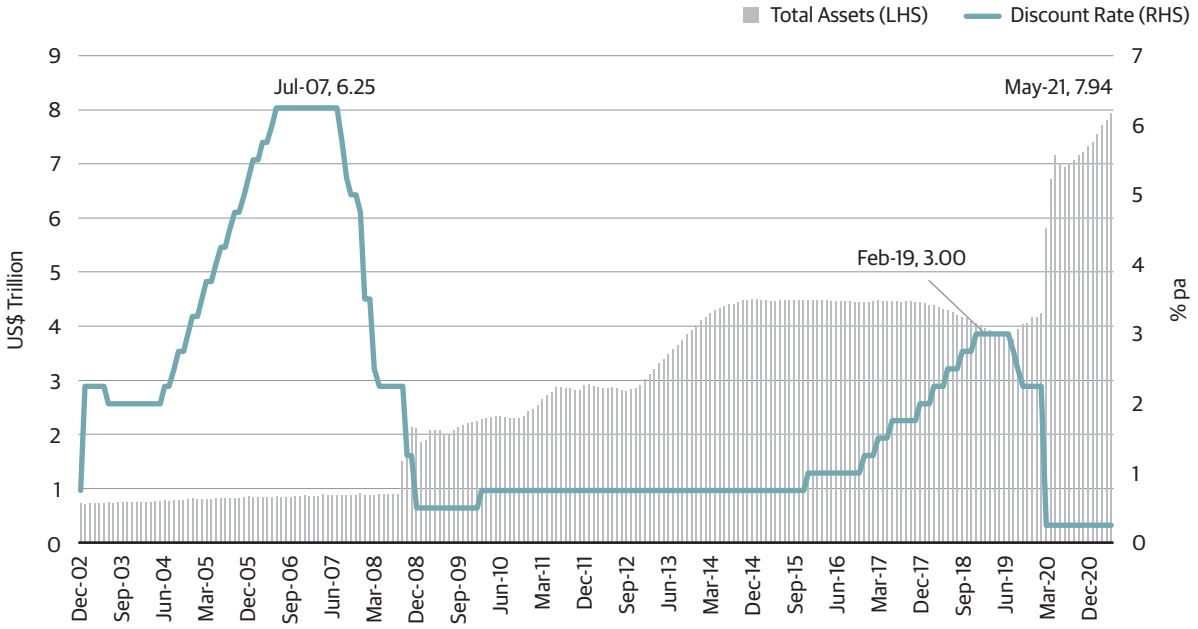
The Federal Reserve borrowed to purchase assets to such an extent that its total assets more than doubled from $1 trillion to US$2.2 trillion between 17 September 2008 and 12 November 2008 (see Figure 9). Much more of the same was to come.

While the Federal Reserve was taking these drastic actions, the US government was borrowing heavily to bail out troubled banks and securities firms. US gross federal debt in the hands of the public rose to from 35.7% of GDP in 2008 to 47.5% of GDP in 2009 as a result. Subsequent programmes ballooned the debt to 63.2% by January 2011. (Government net financial liabilities did not change much because the financial assets being purchased were an offsetting factor.)

US general government net financial assets subsequently started rising sharply as fiscal deficits were expanded to fund spending initiatives such as the *American Recovery Reinvestment Act 2009* under President Barack Obama. By 2014, the US Congressional Budget Office (CBO) assessed that fiscal stimulus programmes would add almost US$840 billion to the government budget deficit.[102]

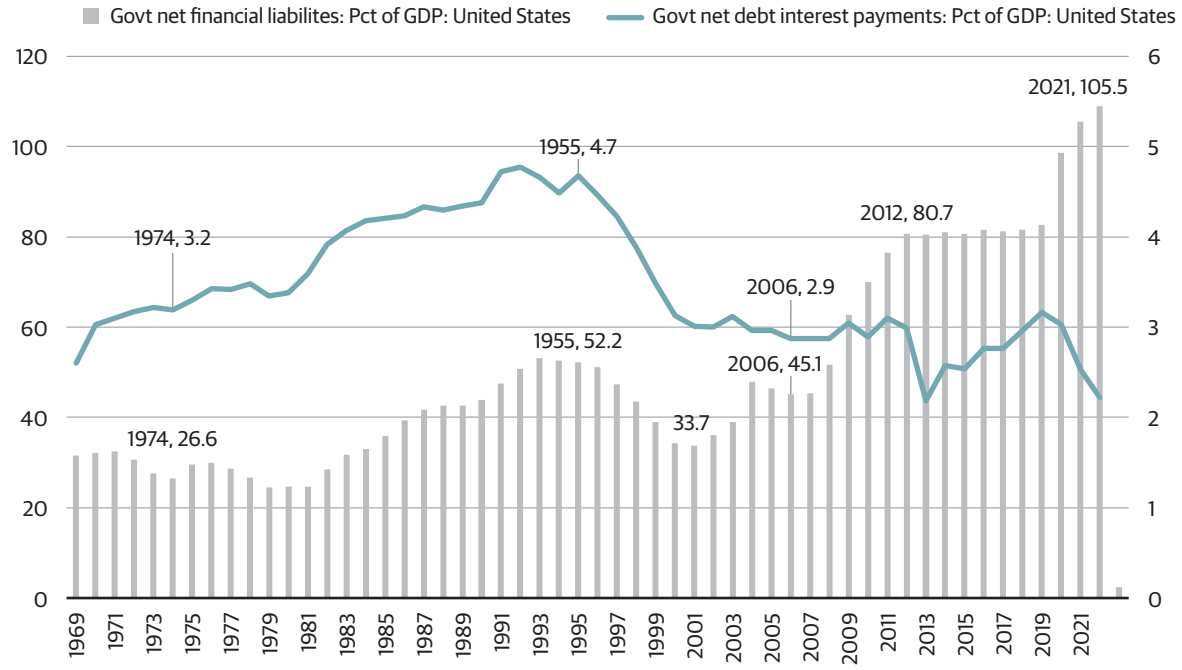
Unusually, the net interest cost of servicing US general government net financial liabilities has fallen relative to GDP while the latter now exceeds 100% of GDP (see Figure 10). This is a result of the much-reduced interest rates being presided over by the Federal Reserve and the major central banks globally. This degree of US general government net financial indebtedness is unprecedented in the available statistics. The peacetime rise might be unprecedented in US history.

Figure 9: US Federal Reserve: Total assets and discount rate (2002–2021)



Source: US Federal Reserve, "Credit and liquidity programs and the balance sheet," Website.

Figure 10: US general government net interest costs and net financial liabilities (1969–2022)



Source: OECD, "Economic Outlook" database, including June 2021 forecasts to 2022, Website.

Such a drastic public policy response to the GFC is understandable. Some European countries were too indebted to be able to bail out their banks and service their debts (see Chapter 3). The financial crisis of 2008 induced many central banks to pursue unorthodox and unconventional monetary policies in a major way.[103]

In US Treasury Secretary Timothy Geithner's view, the federal government's actions helped avert global economic recession. But it did so by creating more public debt, which has yet to be unwound.[104]

These policy responses saw the United States and other countries taking Japan's earlier path with central bank interest rates close to the zero bound, and continual monetary and fiscal stimulus to support economic activity.[105]

New Zealand's banks were far less exposed to the securities that brought down so many overseas financial firms. The risks to the local banking system arose instead from exposure to the freezing up of global interbank wholesale lending.

The RBNZ under Governor Alan Bollard and the New Zealand government provided liquidity support under the Crown Retail Deposit Guarantee scheme. It did not pursue unorthodox monetary policies such as quantitative easing at the time. It did however lower interest rates by 575 basis points (5.75% drop in the OCR) to support economic activity.[106]

Concluding observations

The responses in the United States and Europe transformed a banking crisis into a public debt problem across the developed world. As will be seen, that problem was far from solved before Covid-19 struck.

The bailouts of banks whose activities had done so much to fuel the borrowing excesses understandably aggrieved public opinion. At the same time, it gave bankers and markets reason to think they would almost surely be rescued by future governments. The GFC bailouts arguably exacerbated the moral hazard problem that had noticeably developed during the Greenspan era.

Central banks and other international financial and domestic policy organisations are, of course, fully aware of the dangers of moral hazard for global financial stability. Regulators have widely taken measures to increase the reserve assets their banks must hold. The problem is the powerful tide moving in the opposite direction – the flood of cheap money, excessive liquidity, and governments desperate to sustain economic activity during their term in office.

CHAPTER 3

Post-GFC, secular stagnation, and Covid-19

I believe there are real costs to keeping rates at zero for a prolonged period of time. Keeping rates at zero can adversely impact savers, encourage excessive risk taking and create distortions in financial markets. Excessive risk taking and distortions in financial markets could lead to greater fragilities, excesses and imbalances which could ultimately jeopardize the attainment of the Fed's objectives.

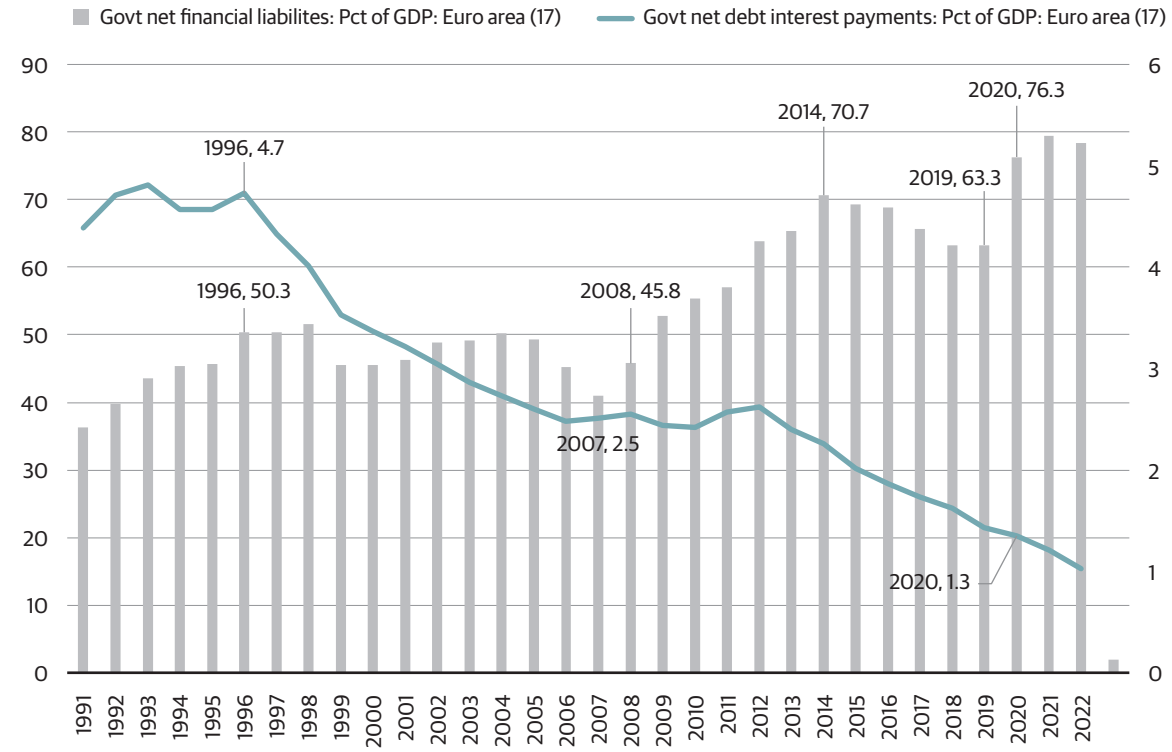
— Robert S. Kaplan, President of the Federal Reserve of Dallas[107]

The evolving European debt crisis

Government debt was rising in some European countries even before the GFC. In 2007, government net financial liabilities were 87%, 80% and 41% of GDP for Italy, Greece and the Euro zone, respectively.

The fiscal response of Euro zone member countries to the GFC and more recently to Covid-19 has greatly increased the region's public indebtedness. The interest cost relative to GDP of servicing those net financial liabilities fell from 4.7% of GDP to 1.3% of GDP between 1996 and 2020, while net financial liabilities rose from 50.3% of GDP to 76.3% of GDP (see Figure 11).

Figure 11: Euro zone general government net interest costs and net financial liabilities (1991–2022)



Source: OECD, "Economic Outlook" database, including June 2021 forecasts to 2022, Website.

The utter perversity of the current situation is epitomised by the fact that the Euro zone's overall government net financial indebtedness has never been higher and the net interest cost lower relative to GDP. In other words, borrowing became cheaper with lower interest rates, inducing governments to borrow *even more*.

Large net government financial indebtedness may be sustainable if it has been used to fund public assets of comparable value to the community. Public sector net worth could then still be positive. Negative net worth implies that future taxes will have to be higher than currently and spending lower, in some combination. Citizens are worse off than they might think by looking at their own affairs in isolation.

Up-to-date statistics on public sector net worth are not easy to locate outside the most prosperous English-speaking countries. The IMF has compiled balance sheet estimates for around 63 countries from 2000 to 2016, but the coverage of European countries is patchy. Net worth for central government as a percentage of GDP in 2016 for the 11 countries shown in Table 2 ranged between *minus* 141% and +384% of GDP. Based on other indicators in the same database, the estimates for France, Italy, Spain and other countries would be more negative, if the figures existed, than the figure for Germany. It is a sad commentary on the lack of transparency in Europe that public information on this matter is so limited.

Table 2: Central government net worth for 11 countries (2016) (% of GDP)

Country	2016
United Kingdom	-141
Finland	-109
United States	-69
Austria	-41
Canada	-29
Germany	-22
Australia	-21
Switzerland	12
South Korea	41
New Zealand	46
Norway	384

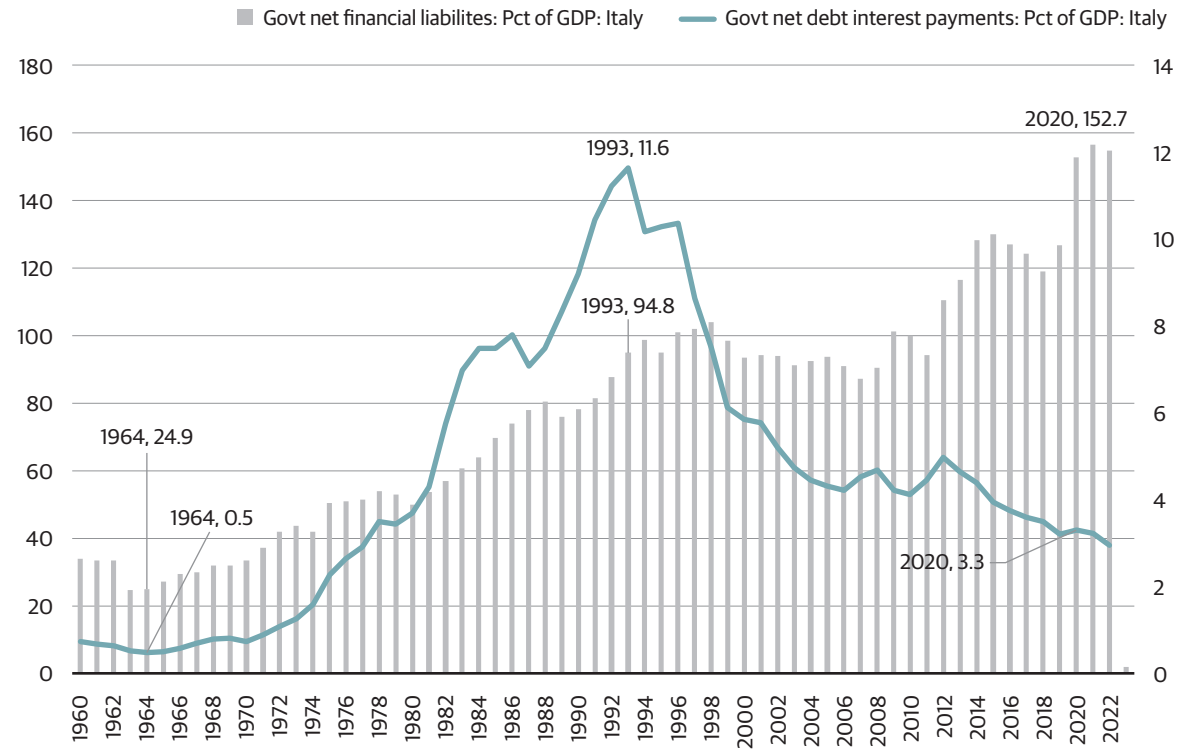
Source: IMF Public Sector Balance Sheet Statistics: Database, Website (accessed on 24 September 2021).

A European think tank, CEPS, estimated in 2019 that for the EU countries (a larger group than the Euro zone countries), aggregate government net worth was *minus 14* trillion euros. That represented a potential claim of 28,100 euros for each European citizen.[108]

Italy is a particular potential source of future instability because of its parlous debt position (see Figure 12) and its large size relative to most other EU member countries. It is part of the G7. Its net public debt ratio to GDP, at 152.7% at the end of 2020, is more than twice that for the Euro zone countries overall. Its general government net worth in 2016 was negative.

Given their relative levels of indebtedness, one might expect yields on Italian public debt to be much higher than those for Germany, but this is not the case. Significant support from the ECB is keeping Italian bond yields artificially low. That represents a hidden subsidy to support Italian government spending. There is an alarming potential for Italy's net interest burden to rise should faith in this support falter.

Figure 12: Italy general government net interest costs and net financial liabilities (1960–2022)



Source: OECD, "Economic Outlook" database, including June 2021 forecasts to 2022, Website.

The origins of the European Union and the euro

The government debt problems in the EU go back to its formation in 1992 by the Maastricht Treaty and the monetary union.[109] A major motivation was to prevent another European war. In a major speech in May 1950, French Foreign Minister Robert Schuman proposed merging Franco-German coal and steel production so that "war between France and Germany becomes not only unthinkable but materially impossible."[110] The Treaty of Paris (1951) achieved that goal.

Schuman's speech was seen as a first step towards achieving "a fusion of interests" and building a "wider and deeper community" in Europe. He would not have been disappointed. The subsequent Treaty of Rome (1958) secured greater economic integration, in part by forming the European Economic Community (EEC). It moved to create a common market internally, albeit one that was sheltered by a protectionist customs union structure. Globalisation, liberal democratic values, and economic interdependence were rising outside the communist countries.[111]

The drive to achieve free movement of people, goods, services and capital within EU member states came to fruition with the Maastricht Treaty. Economically, achieving such free movement of people, goods, services and capital within member states is a major plus for economic freedom and prosperity, even if the prime motivation for "ever closer union" was political.[112]

The much more problematic concept of monetary union occurred in 1999, but only for some of the member countries of the EU. The euro was issued on 1 January 1999 and came into full force in 2002. The "euro" common currency area now comprises 19 member states.[113] That is up from six countries in 1998.

The ECB was established in 1998 as part of this change and has been operating with full powers since the introduction of the euro on 1 January 1999.[114] The ECB was to be a completely non-partisan, apolitical public monetary institution. Its prime target was price stability within the Euro zone. Until 2007, it largely kept inflation to its 2% pa guideline.

Prior to the ECB, national governments had their own central banks, currencies and monetary policies. Germany's central bank, the Bundesbank, had by far the best reputation for sustaining low inflation. That meant Germans could borrow at relatively low interest rates because lenders could be confident the government would not cheat on inflation. The removal of the deutschmark likely reduced future monetary discipline relative to that standard. That was a real concern for Germany.

The problem with the euro is that its value will be too high for some members to be competitive and too low to curb destabilising booms amongst other members. This problem can only be resolved by cost structures falling relatively in the uncompetitive country. With national currencies, exchange rates can adjust to achieve that. A single currency eliminates this adjustment option.

An uncompetitive country will stay uncompetitive unless it can reduce its relative prices by cost cutting or productivity gains at home. The more competitive country (Germany) will run trade surpluses. The uncompetitive countries (predominantly southern European countries) get stuck with trade deficits and rising debt burdens. Therefore, the German economy had the highest trade surplus across the EU in 2014.[115]

The rising asset and debt burdens are troubling for both sides – the Germans may not get paid full value because the burden becomes too great in the debtor countries.

These problems were foreseen by many economists at the time.[116] In an article in 1997, Harvard's Martin Feldstein explained why the monetary union was an economic liability and a source of future intra-European tension and conflict. The euro was likely to exacerbate structural unemployment and increase economic instability.[117] Feldstein also acknowledged that the forces behind the monetary union formation were political, not economic.

The euro zone also gives governments perverse incentives, particularly in Southern Europe. The move to the euro, backed by German opposition to inflation, meant countries like Italy and Greece could borrow more cheaply than before.[118] That allowed them to borrow even more heavily, and unsustainably, than before. They could even hope that in a crisis, the EU and/or the ECB would bail them out – at the expense of more prudent and prosperous countries, such as Germany.[119] This is moral hazard at the *national political level*.

The EU's Stability and Growth Pact aimed to curtail such behaviour. Originally (in 1997), it set two hard limits for government budgets. Deficits cannot exceed 3% of GDP, and gross national debt cannot exceed 60%. Disastrously, both France and Germany breached the 3% limit in 2003, without incurring any penalty. That spelt the end of discipline and set a bad precedent. By 2007, gross public debt under the Maastricht criterion exceeded 60% of GDP in Austria, Belgium, France, Germany, Greece, Hungary, Italy and Portugal. The ratios for Greece and Italy exceeded 100% of GDP. The median ratio across the 22 countries was 42% of GDP.[120]

The GFC revealed excess borrowing. Greece, Portugal, Ireland, Spain and Cyprus proved by the end of 2009 to be unable to repay or refinance their public debt or to bail out their own banks. They had to look to other Euro zone countries or the IMF for assistance.[121]

Initially, the ECB felt its governing rules did not permit it to assist countries by buying government bonds. On 10 May 2010, it reversed this position and started buying Italian and Spanish government bonds. It committed itself to providing 1.2 trillion euros for struggling European economies.[122]

The Italian, Spanish, Greek and Irish governments were forced to accept bailout programmes and structural reforms.

The economic and political turmoil in Greece is worth recounting given public debt remains a massive potential source of financial instability in Europe and beyond.

From 2010, Greece received bailouts of 110 billion euros between the EU and the IMF,[123] and then another 130 billion euros in 2012.[124] The Greek government got bailed out three times from 2010 to 2018.[125] The government officially defaulted in 2015.

Yields on Greek bonds rose from 4.9% in 2009 to 29.2% by 2012. Their credit rating slumped as the problem became increasingly serious – reaching junk bond status.[126] The unemployment rate in Greece peaked at 27% of the labour force in 2013.

That Greece might have to pull out of the Euro zone and start issuing its own currency ("Grexit") became a real possibility. Real GDP fell in 2008 and in eight of the following nine years. In the June quarter 2016, it was 29% lower than in the June quarter 2008. The popularity of the governing parties collapsed for a period and political fragmentation increased.

Other European countries too were facing difficult circumstances. The ECB became increasingly politicised. In July 2012, ECB President Mario Draghi promised to "do whatever it takes" to save the euro from collapsing.[127] He promised unlimited support to financial institutions, markets and countries across the Euro zone. Draghi's promises helped calm markets, but likely *increased* moral hazard.

In apparent clear violation of the rules, the ECB has been largely funding the budget deficits of euro member states. In 2020, it reportedly bought 95% of new bonds issued by member states. It purchased more Italian and Spanish government bonds than their governments issued.[128] This de facto funding of government budget deficits has continued into 2021. According to a Reuters report, in July and July 2021, the ECB bought 135 billion euros of Italian, German, French and Spanish bonds compared to net issuance of only 89 billion euros.[129] Legal challenges are occurring.

To fund these purchases, the ECB borrowed heavily from the banking system. Its total assets rose from 4.7 trillion euros at the end of 2019 to 8.2 trillion euros in August 2021. Prior to the GFC, at the end of 2006, its total assets were only 1.2 trillion euros. These increases are unprecedented.

Former Bank of Japan Governor Masaaki Shirakawa observed that when Japan was adopting unorthodox monetary policies in 1997, he did not expect the rest of the advanced world to follow suit.[130]

English-speaking countries' public indebtedness and central banks

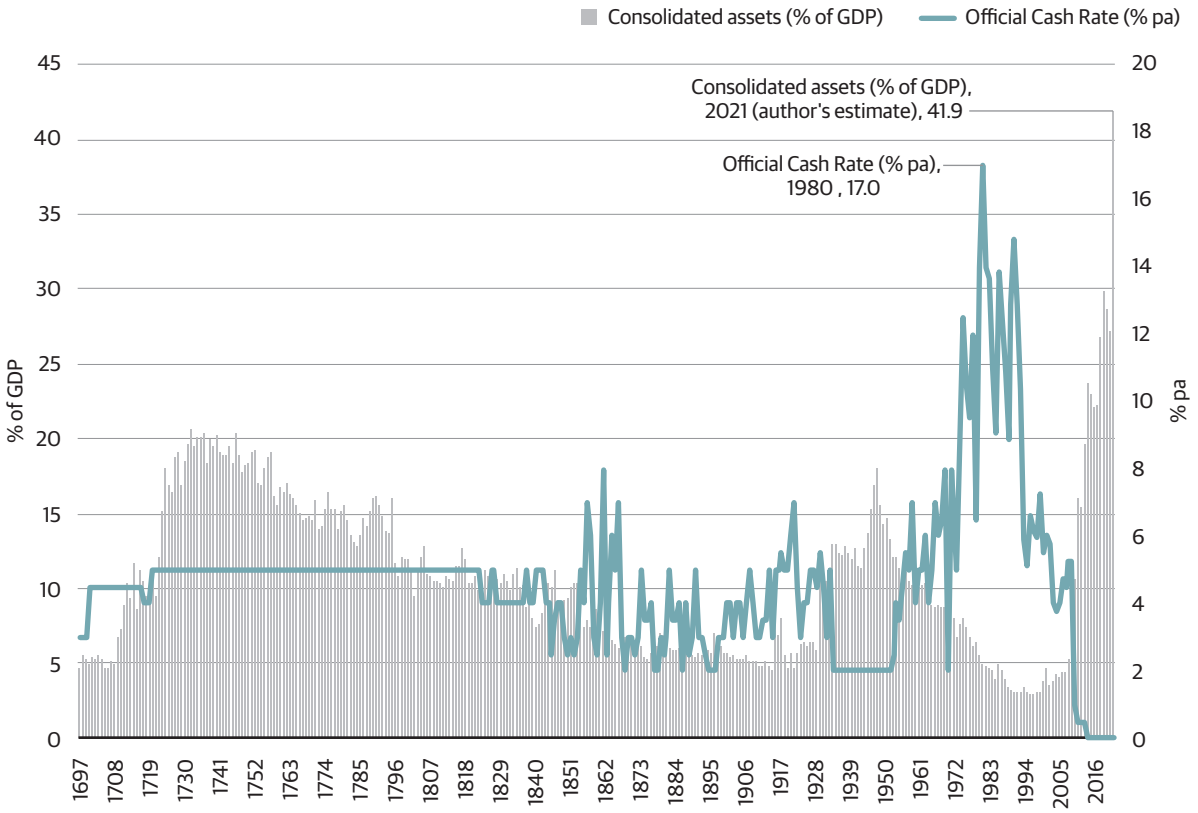
Australia, Canada, Ireland, New Zealand, the United Kingdom and the United States have been following a similar track to the European countries with respect to budget deficits and central bank responses to the GFC and Covid-19. One point of difference is that they have more accessible statistics on the degree to which public sector assets exceed or fall short of their spirally public debt.

Central bank balance sheet expansion and interest rate reductions

The Bank of England is the world's oldest central bank. It was established in 1694. Never in its long history has its official cash rate been set as low as 0.1% pa, as it is today. Nor has its balance sheet been as large as it is today, when scaled by GDP. On the authors' estimate based on the Bank's 2021 Annual Report in February 2021, its total assets were just short of 42% of GDP (see Figure 13).

In short, it is not an exaggeration to say that current policy settings are stimulatory to an unprecedented degree, on these measures.

Figure 13: Bank of England's assets and cash rate (1697–2021)



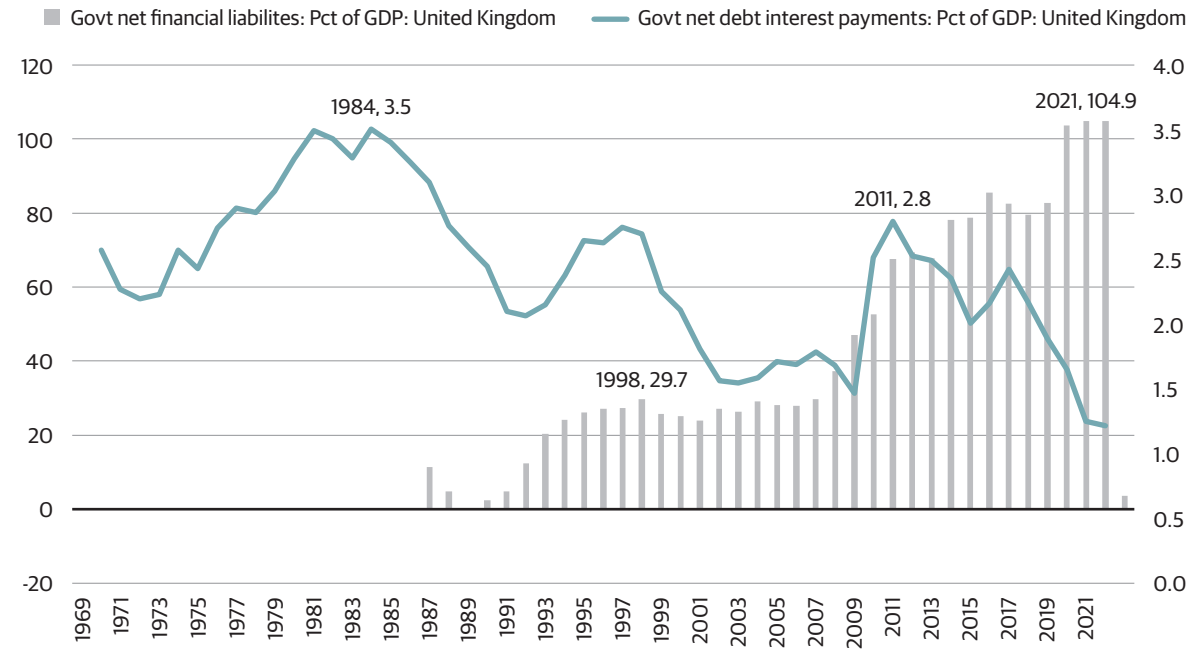
Source: Bank of England Total Assets (millennial data set) to 2019, updated unofficially by the authors using the Bank's 2020 and 2021 annual reports and OECD GDP estimates for the United Kingdom. Bank of England Official Cash Rate 1694–2013 from Simon Rogers, "Interest rates in the UK since 1694," *The Guardian* (10 January 2013), and 2013 at Bank of England, "Official Bank Rate history," Website (accessed on 13 August 2021). Also, OECD, "Economic Outlook" database (June 2021), including forecasts for 2021 and 2022, Website.

Much the same applies to the actions of the US Federal Reserve. The current US Federal Reserve official discount rate is 0.25% pa, the lowest since World War II at least. It has also expanded its total assets to about 36% of GDP. Prior to the GFC, the ratio was typically in the 6–6.5% range.[131]

Government debt and net worth

As discussed above, general government net financial liabilities in Japan, the United States, and the Euro zone countries (especially Italy) have risen sharply relative to GDP, while net interest payments have fallen as a percentage of GDP in recent years (see Figures 8, 10, 11 and 12, respectively). The same is true for the United Kingdom (see Figure 14). General government financial liabilities have come to exceed financial assets by over 100% of GDP in the United Kingdom, the United States, Japan, Italy and several other European countries, but not for the Euro zone countries as a whole.

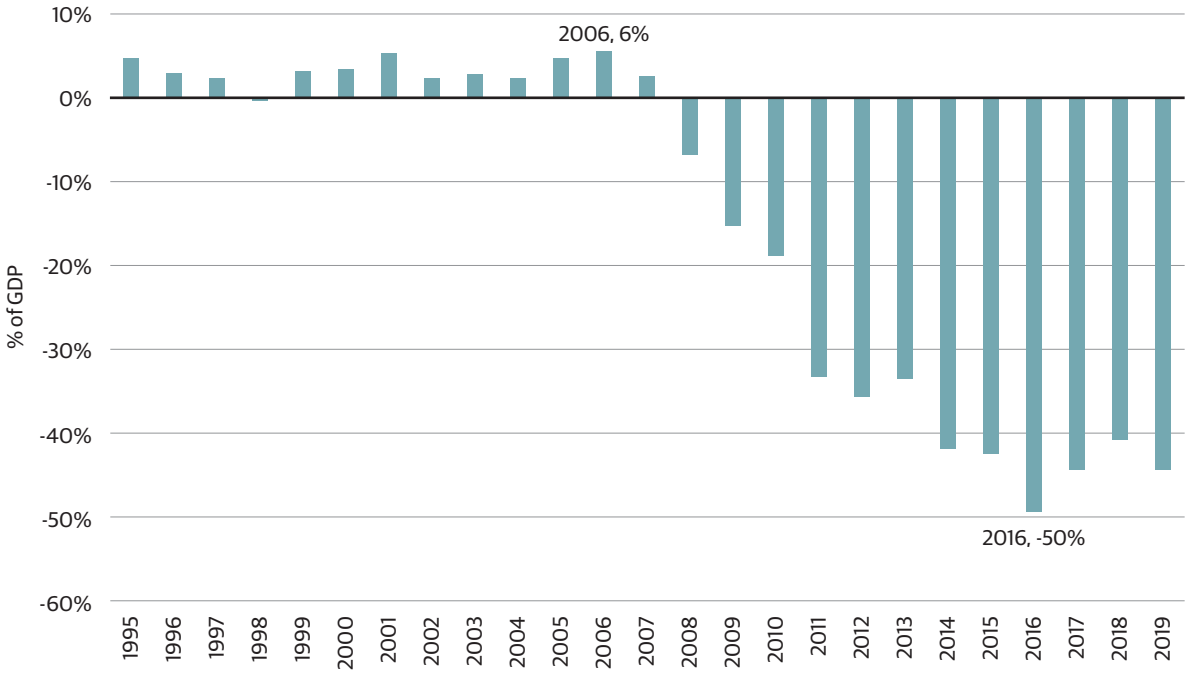
Figure 14: United Kingdom general government net interest costs and net financial liabilities (1969–2021)



Source: OECD, "Economic Outlook" database, including June 2021 forecasts to 2022, Website.

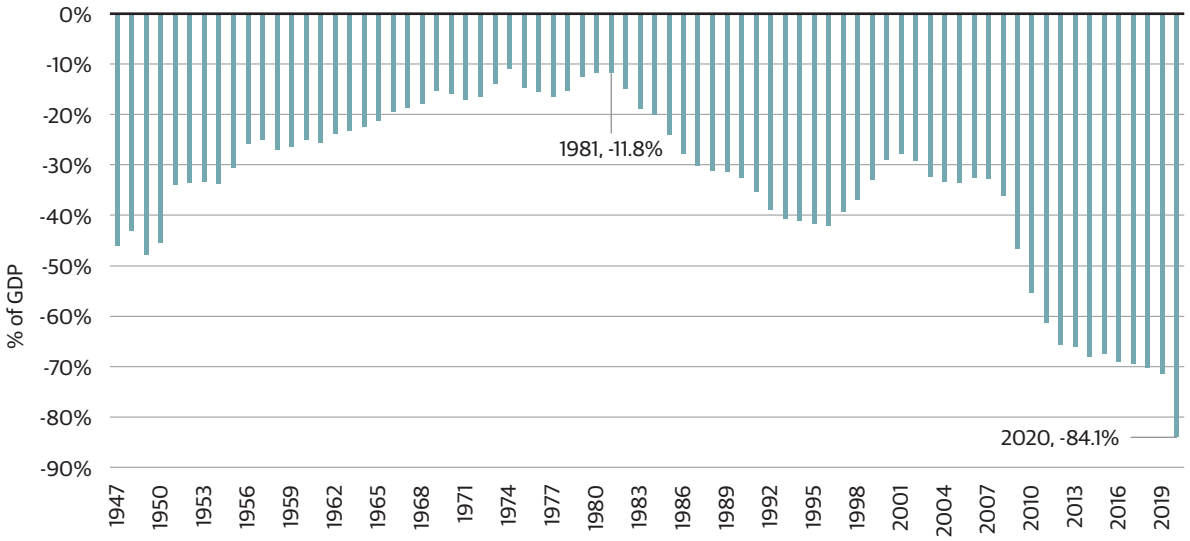
The greatly increased net borrowing has not been used commensurately to buy or construct real assets such as public infrastructure. Instead, it has been used to a considerable degree to fund current spending. This is reflected in plummeting general government net worth in the United Kingdom (see Figure 15) and the United States (see Figure 16).

Figure 15: General government net worth in the United Kingdom (1995–2021)



Source: UK Office for National Statistics.

Figure 16: Federal government net worth in the United States (1947–2019)

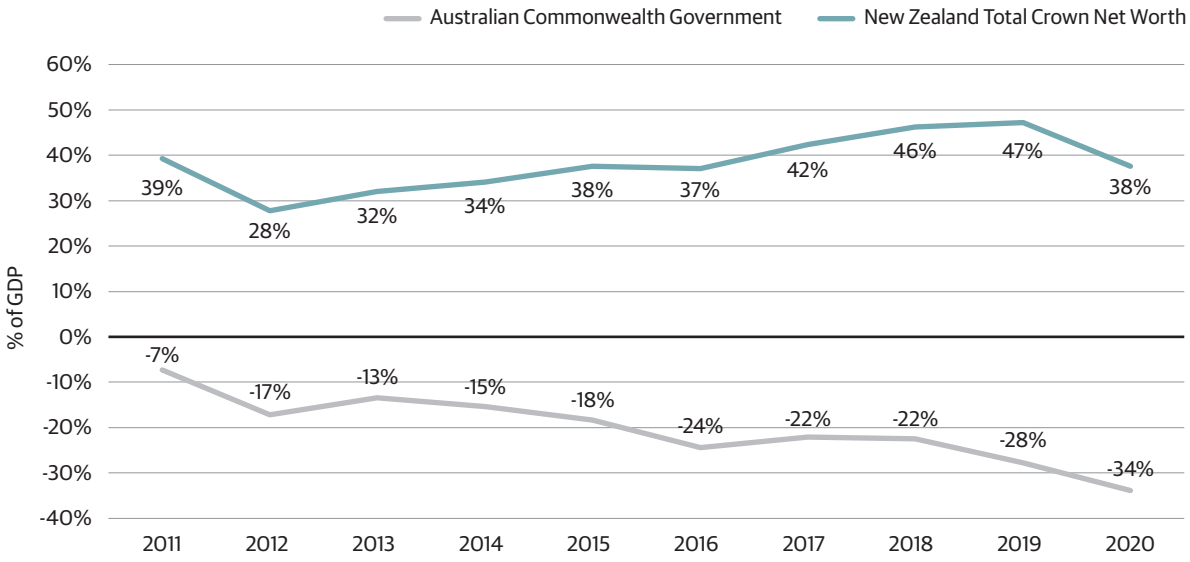


Source: Authors' calculations from US Federal Government Net Worth (IMA), Level [FGNETWA027N], retrieved from Federal Reserve Bank of St. Louis (FRED).

Federal government net worth is also seriously negative in Canada, at minus 35% in 2021. In Ireland, public sector net worth was positive until the GFC but has been negative since 2011.

Central government net worth has also been negative in Australia at least since 2011. New Zealand is a distinctive exception, with markedly positive net worth since the mid-1990s (see Figure 17). Our desirable levels for public net worth need to recognise our higher risk of natural disasters, including earthquakes.[132] The Fiscal Responsibility Act of 1994 helped build net worth and reduce public debt, thereby providing a buffer against future adverse external shocks.[133]

Figure 17: Central government net worth in Australia and New Zealand as a % of GDP (2011–2021)



Sources: Australian Bureau of Statistics, "Government Finance Statistics" (June 2021); New Zealand Treasury, "Long-term fiscal series," Website.

Demographic ageing

An aged population exacerbates the public debt problem. In 2021, the median age for major developed countries was in the high 40s. This is high by historical standards. It is also high by current global standards.

Ageing began with what Dirk J. van de Kaa termed the second demographic transition in the 1960s and '70s.[134] (He says the first transition began with the Industrial Revolution with countries able to sustain populations without needing immigration.)

The second demographic transition refers to the reducing birth rates, eventually falling below the replacement rate, and better healthcare in Europe. This demographic shock spread from the West to the rest of the developed world, including East Asia, with the median age increasing rapidly.

These and other demographic changes have had macroeconomic consequences in the long term.

Charles Goodhart and Manoj Pradhan expect population ageing to increase interest rates and fiscal deficits, thereby making it harder for governments to meet their debt obligations.[135] All can look to Japan and Germany in these respects as the average ages of their populations are much higher than in many countries, including New Zealand.

When populations were younger in the 1960s and 1970s, governments widely introduced pay-as-you-go (PAYG) social welfare systems. Such programmes can be a demographic time bomb as "unrealised liabilities" for governments. The burden on those in work rises with the proportion of those not in work.

An ageing workforce could reduce productivity growth. That would reduce the growth in income per capita. This would make it hard to reduce the burden of servicing public debt.

Both aspects make it harder to achieve the fiscal surpluses needed to reduce public debt. State-dictated retirement benefits are hard to remove. Governments can hardly induce people not to save for retirement based on state provision and then remove that provision from them when it is too late for people to change their saving behaviour.

Low interest rates and the savings glut hypothesis

The persistence of very low interest yields on government bonds despite very high levels of public debt is a puzzle. Of course, low inflation is a factor, but interest yields are low relative to inflation. Ongoing injections of liquidity and very low discount rates by central banks also play a role. But overall, market yields reflect overall supply and demand considerations. Central banks have some influence, but much less control over the global levels of savings and investment, let alone the changing balance between them.

Another possible explanation was a high rate of global saving of income relative to capital spending (e.g. investment in buildings and infrastructure). In 2005, Bernanke said there was a "global savings glut."[136] Incomes in China were growing far faster than growth in consumer spending. China's saving ratio to income was very high.

China's investment spending was also high but on balance it was a net saver, running balance of payments surpluses with other countries. America continued to run balance of payments deficits. Niall Ferguson and Moritz Schularick call the economic relationship between America and China as "Chimerica". American consumers borrowed Chinese capital to augment their standard of living.[137]

In 2013, Summers proposed that a savings glut was causing economic growth to be sluggish. This proposal reinvokes US economist Alvin

Hansen's proposal in 1938 that economies could be subject to what he termed "secular stagnation".[138] Secular in the sense that the phenomenon was permanent. Stagnation because of inadequate consumer demand.[139]

In line with the Japanese experience in the late 1990s, Summers highlights the ongoing problem for many prosperous countries of sluggish growth, low inflation, and near-zero interest rates.[140] Those low interest rates encouraged excessive borrowing to purchase existing assets. Household debt ratios rose.

Greater globalisation through the entry of China and Eastern European countries into world trade contributed enormously to their current prosperity. It also benefited consumers in prosperous countries. But both sides have experienced adjustment problems.[141] Goodhart and Pradhan saw the relocation of manufacturing away from prosperous nations as a source of some of their stagnation of real wages, declining interest rates, and sustained low inflation.[142]

In short, many factors affect global market interest rates. Economists continue to debate why global interest rates are currently so low. Meanwhile, central bankers are naturally obliged to assert strongly that their expansionary measures have reduced them materially, with materially beneficial effects for output and employment. This does not dispose of the longer-term concerns.

Covid-19: Doubling up on the GFC response

With already unsustainable fiscal positions, and central banks keeping interest rates close to zero since the GFC, the world was not prepared for another disaster. But the global pandemic of Covid-19 forced many governments across the world to shut down their economies and close their borders.

Where they could, central banks lowered their key interest rates below their GFC levels and pumped yet more liquidity into global financial markets. Whether easier monetary policy is the right response to the income losses from shutting down economic activity is debatable. Former BIS Chief Economist William White expressed strong scepticism on that perspective in his recent 2021 paper for the Institute for New Economic Thinking (INET).[143]

At the same time, governments increased their deficit spending markedly to support economic activity. As mentioned above, under the Maastricht Treaty, the prudent upper limit for gross public debt was set at 60% of GDP. On the May 2021 OECD forecasts for 2021, 15 of the 22 treaty countries will be above 60%. The median forecast for all Euro zone countries was 74% of GDP. For seven countries, it was over 100% (over 200% for Greece and 160% for Italy). The notion that 60% of GDP should be an upper limit, implying prudence requires less, has long been dead and buried in the Euro zone.

The OECD secretariat publishes gross public debt ratios for a much larger set of countries, but it uses a more comprehensive measure – gross financial liabilities – as a percentage of nominal GDP. For the region as a whole and for the Euro zone, the average ratio is more than twice the 60% ratio. It is 141% for the United States and 146% for the United Kingdom (see Table 3, column 3).

For the member countries of the OECD as a whole, the forecast gross debt ratio in 2021 is 61% of GDP higher than in 2007. Greece, Spain, the United Kingdom, Italy and the United States have experienced the biggest increases in their debt ratios during this period (Table 3, column 4).

The fifth column in Table 2 – "Financial Balance (% of GDP)" – indicates the degree to which countries are continuing to add to their debt burdens. Regrettably, the issuer of the world's reserve currency – the United States – has the largest budget deficit of all under this measure

– 15.9% of GDP for 2021. It is in a worse state in this respect than Greece, Italy and Iceland.

The final three columns in Table 2 show general government net interest payments (% of GDP) in 2007 and 2021 and whether they have risen or fallen. The striking thing is that they have fallen for the OECD and Euro zone countries overall, despite the major increases among the largest economies in net financial liabilities.[144]

Table 3: OECD general government deficits and debt (2007–2021)

	Gross Financial Liabilities (% GDP)		Increase (+) 2007-2021	Financial Balance (% of GDP)	Net Interest Payments (% of GDP)		Increase (+) 2007-2021
	2007	2021		2021	2007	2021	
OECD	73.5	134.5	61.0	-10.1	2.0	1.5	-0.5
Euro Area	72.8	124.6	51.8	-7.2	2.5	1.2	-1.3
New Zealand	25.1	49.1	24.0	-4.2	-0.1	0.5	0.6
Australia	14.3	67.7	53.4	-6.6	-0.4	0.1	0.4
Countries below in descending order for 2021 debt ratio							
Japan	151.5	241.2	89.8	-6.7	0.3	0.4	0.1
Greece	114.3	237.4	123.1	-10.2	4.3	2.5	-1.8
Italy	111.3	189.7	78.5	-11.4	4.5	3.2	-1.3
Portugal	81.2	155.3	74.0	-4.8	2.6	2.5	-0.1
France	76.0	149.3	73.3	-8.4	2.5	1.0	-1.5
Spain	42.4	146.6	104.2	-8.6	1.1	1.8	0.7
UK	53.1	145.6	92.5	-9.1	1.8	1.2	-0.5
Belgium	94.6	144.6	49.9	-7.2	3.6	1.5	-2.1
USA	64.4	140.5	76.1	-15.9	2.9	2.5	-0.4
Canada	70.6	130.5	59.8	-6.0	0.5	0.1	-0.5
Austria	74.9	119.1	44.2	-7.3	2.2	1.0	-1.2
Slovenia	30.3	102.4	72.0	-8.5	1.0	1.3	0.3
Hungary	72.7	99.4	26.7	-7.5	3.7	2.3	-1.5
Finland	40.0	91.9	52.0	-4.2	-0.3	0.0	0.4
Germany	66.3	83.8	17.5	-4.5	2.4	0.3	-2.0
Poland	51.6	81.2	29.6	-6.7	1.9	1.1	-0.8
Slovakia	36.1	80.3	44.2	-6.8	0.9	1.0	0.1
Iceland	29.7	78.7	49.0	-10.3	-0.8	2.4	3.1
Israel	73.0	76.9	4.0	-8.2	4.0	#N/A	
Ireland	28.1	75.1	47.0	-4.8	0.6	0.9	0.3
Netherlands	50.5	73.9	23.4	-6.1	1.3	0.4	-0.9
Lithuania	19.4	62.7	43.3	-7.8	0.3	0.6	0.2
Denmark	34.6	61.8	27.2	-2.8	0.9	-0.2	-1.1
Latvia	13.2	60.4	47.2	-7.0	0.0	0.0	0.0
Czech	31.1	54.8	23.7	-8.7	0.6	0.7	0.0
Sweden	48.1	51.9	3.9	-3.3	0.7	-0.2	-0.8
Switzerland	45.7	46.8	1.2	-3.5	0.6	0.0	-0.6
Luxembourg	17.4	33.4	16.0	-3.6	-1.0	1.0	2.0

Source: OECD database and forecasts (9 June 2021).

Since the beginning of Covid-19, the US Government's total stimulus package in response to the global pandemic comes close to $5 trillion.[145] The US Congressional Budget Office (CBO) expects the federal debt held by the public under President Joe Biden's policies to reach 202% of GDP by 2051.[146]

Prior to Covid-19, major central banks were holding their key policy rates far below their pre-GFC levels. The Bank of Japan's policy rate has been negative since 2016. The ECB decided not to join it in this respect, holding its policy rate at zero, but the Bank of England and the US Federal Reserve had the scope to lower their rates further towards zero – and did so (see Table 4).

Table 4: Key policy rates in major central banks (2007–2021)

	31-Dec-07	31-Dec-12	31-Dec-19	31-May-21
United Kingdom	5.50	0.50	0.75	0.10
United States	4.25	0.125	1.625	0.125
Euro zone	4.00	0.75	0.00	0.00
Japan	0.50	0.05	-0.10	-0.10

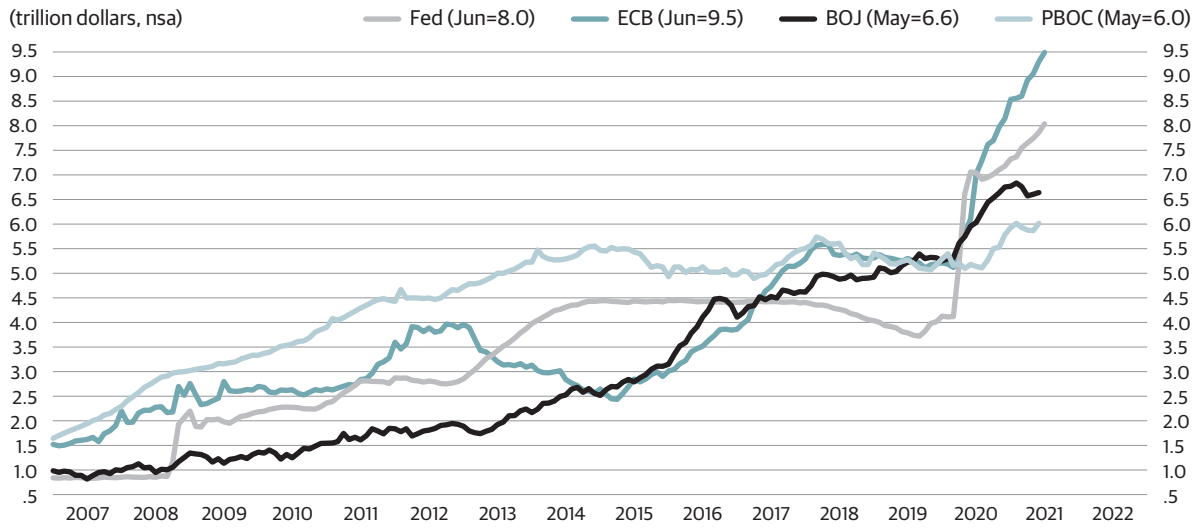
Source: Bank for International Settlements, "Central Bank Policy Rates," Website, https://www.bis.org/statistics/cbpol.htm, (accessed on 11 June 2020).

All the major central banks too had the scope for further quantitative easing – and did so. The Federal Reserve rolled out more than US$7.3 trillion by December 2020, up from US$4.2 trillion in January 2020. Aggregate money supply of M2 – M1 + the public's current deposits with commercial banks – went from US$15.3 trillion to US$19.2 trillion.[147]

In the 2009 US recession, about half of newly issued US Treasury bonds were sold to foreign buyers. In the year to March 2021, foreigners were net sellers of US government debt. The Fed bought almost all the increased US Government debt. US Government fiscal deficits of 16% of GDP (Table 2) require trillions of dollars of additional borrowing. The amount of Fed support to fund these deficits is unprecedented, and the situation is a serious threat to the international status of the US dollar.[148]

Figure 18 from the US-based firm Yardeni Research shows major increases in the assets held by four major central banks since before the GFC (i.e. since 2007). The ECB did manage to shrink its balance sheet materially after 2012, but not to its pre-GFC level. But it could not sustain this reduction and has in fact expanded its balance sheet the most since 2015. The People's Bank of China is an exception. It has not expanded its balance sheet to the degree of other central banks since 2015 on this measure.

Figure 18: Total assets in major central banks (2007–2021)



Source: Edward Yardeni and Mali Quintana, "Central Banks: Monthly Balance Sheets" (Yardeni Research, Inc. 2021).

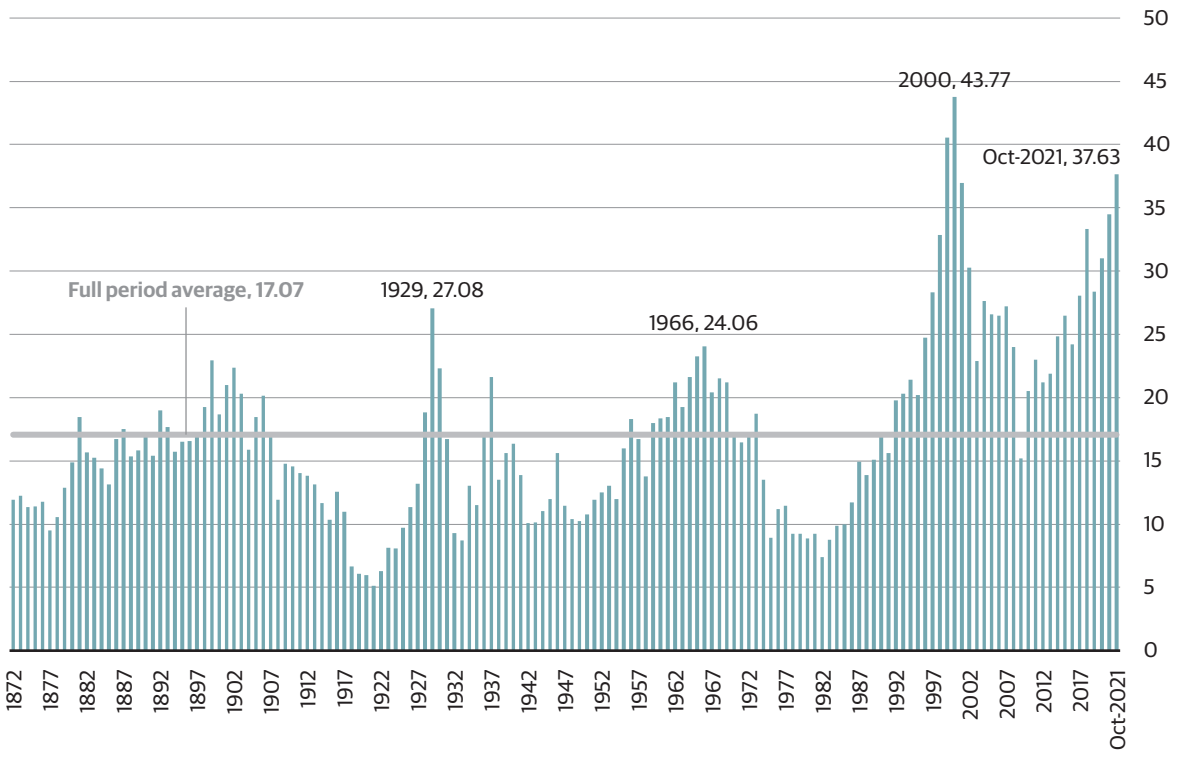
Usually, recessions are associated with weaker sharemarkets and reductions in household net wealth. In 2020, the IMF said the global economy had entered a recession for the first time since 2008.[149] Yet amidst the recession in 2020, we were reading of sharemarket indices achieving record highs.

Low (real) interest rates will be an important factor behind high share prices. It will not be the only factor. Sharemarket prices incorporate expectations about future earnings growth relative to interest rates. The higher share prices are relative to current, or recent earnings, the more optimistic investors are about future earnings. Optimism could be based in part on confidence that the authorities will continue to 'do whatever it takes' to support asset prices and economic activity.

Financial analysts have long developed measures of the degree to which share prices are departing from some measure of fundamental value. Yale University economist and Nobel Laureate Robert Shiller examined a range of such measures in his 2000 book *Irrational Exuberance*. He called one proposed measure a cyclically-adjusted PE ratio. It is calculated by dividing the average price per share for the Standard & Poor's 500 sharemarket index at each date by the (inflation adjusted) average earnings during the previous 10 years.

This time series is being updated continuously. Figure 19 below shows that the average ratio since 1872 was 17.07, meaning that the share price was 17.07 times higher than the historical earnings per share measure. It has only been lower than this average once since 1992. That was in 2009 (during the GFC). Prior to the famous 1929 Wall Street crash that preceded the Great Depression, the ratio was 27.08. One might have thought that Covid-19 would drop the measure below that long-term average. This has not happened. On 1 October 2021, was 37.63, over *twice* the 17.07 average.

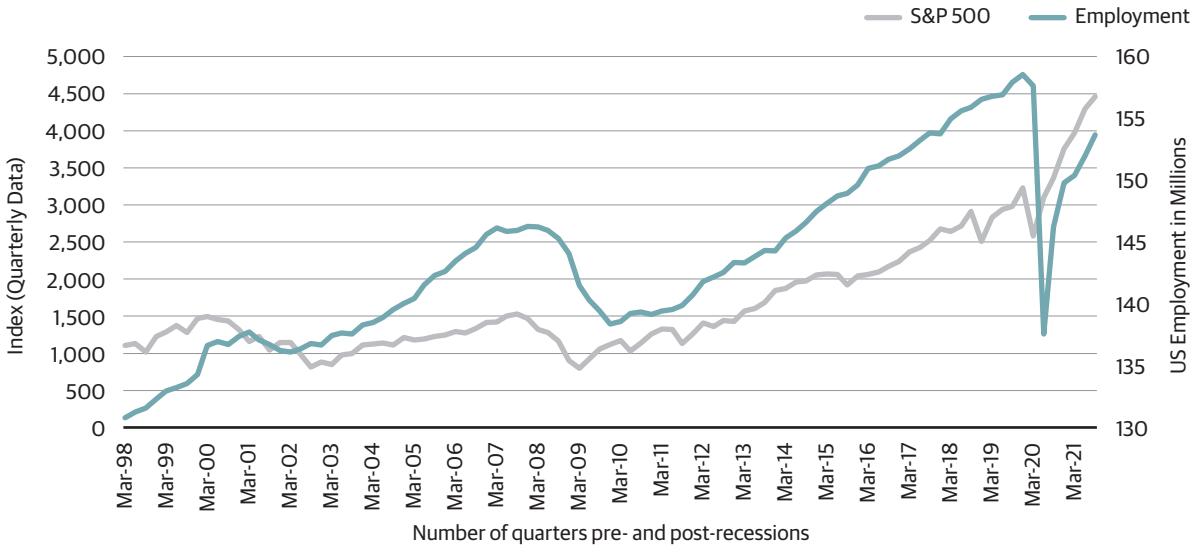
Figure 19: Shiller's US Sharemarket exuberance indicator (1872-October 2021)



Source: From Robert Shiller, *Irrational Exuberance* (Princeton University Press, 2000). The S&P 500 sharemarket index divided by average sharemarket earnings per share during the previous 10 years. Website Downloaded 2 October 2021.

The same concern applies to US household wealth. Normally it would fall during a recession. Instead, it rose by an extraordinary US$26 trillion (23%, not adjusted for inflation) in 2020 according to Federal Reserve statistics.[150] The strong suspicion is that the monetary policy easing, and historically low interest rates have fuelled asset price inflation (sharemarkets and property values) rather than wage and consumer price inflation. Figure 20 shows a much smaller drop in the S&P 500 relative to employment in 2020, compared to during the GFC.

Figure 20: US Employment Rate vs S&P 500 Index

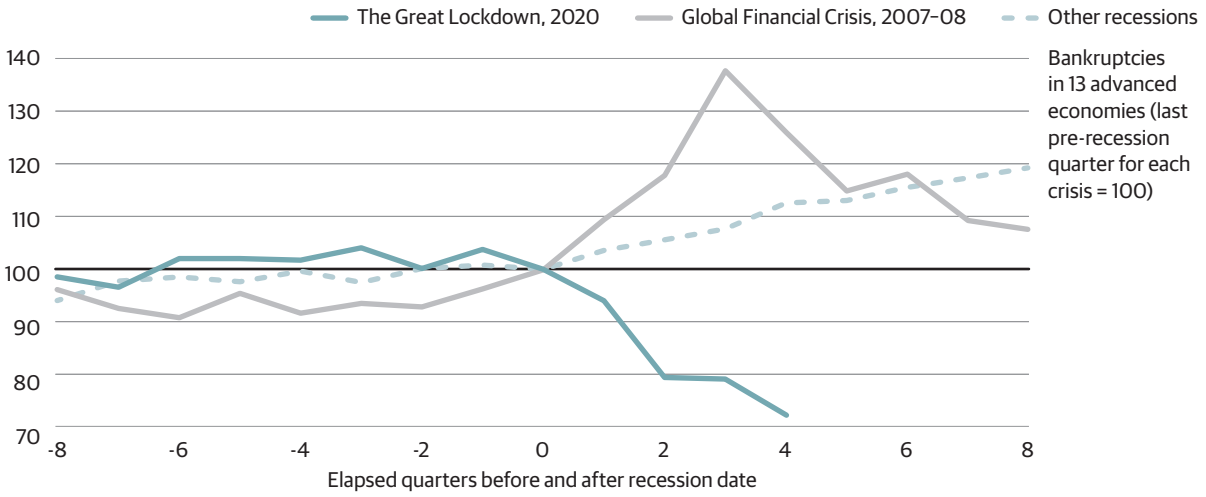


Sources: Yahoo Finance, "S&P 500 (^GSPC)," Website, https://finance.yahoo.com/quote/%5EGSPC/history/, and the OECD's country database for US employment.

Low interest rates and zombie firms

Economic recessions usually see bankruptcies and unemployment rise. In 2020, the OECD region experienced the biggest decline in economic activity in any one year since (at least) 1961.[151] Naturally, unemployment rose. Counterintuitively, business insolvency rates *slumped* (see Figure 21).[152]

Figure 21: Insolvency rates during recessions



Source: European Systemic Risk Board (ESRB), "Prevention and Management of a Large Number of Corporate Insolvencies," (2021), 5.

This outcome would be welcome were it not for the fear that this is adjustment delayed, making future adjustment more painful. Artificially low interest rates and excessive global liquidity could be keeping resources locked up in firms that do not have a future. That would be holding back firms that could put those resources to better use.

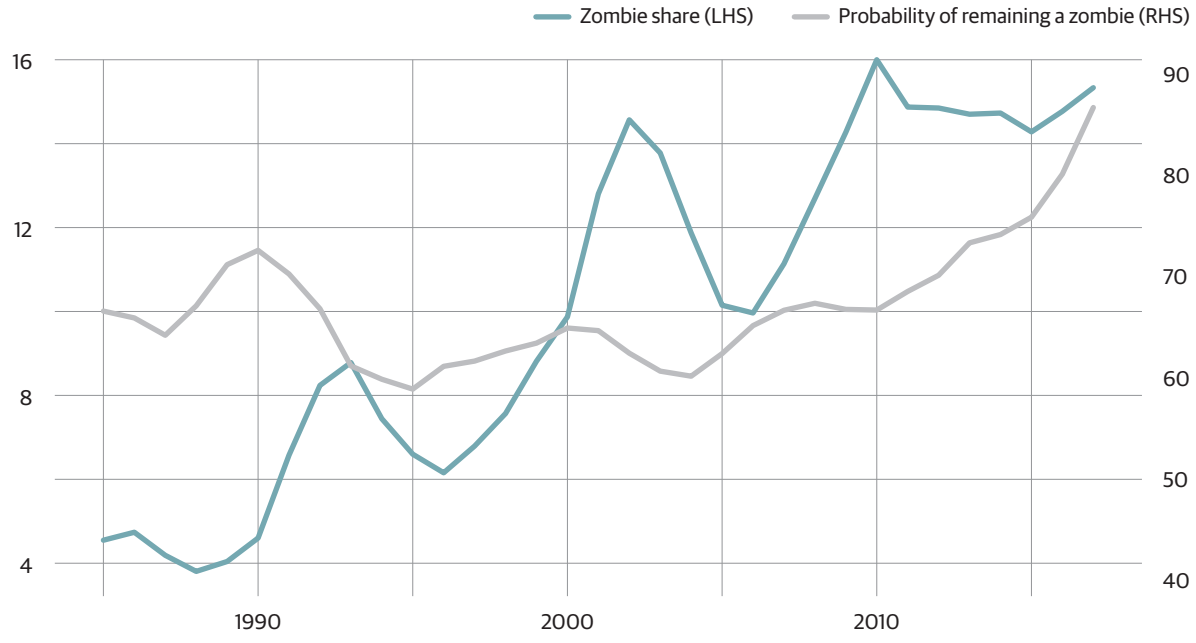
Low interest rates have prevailed globally since the GFC. Firms that have no future as things stand but continue to limp along at the mercy of those financing them are now called "zombie firms".[153]

Such firms are significant. A 2021 IMF working paper assessed that around 16% of all firms in Japan are zombie firms. Quantitative easing does not seem to induce them to increase production capacity. Instead, they use the cheaper finance to restructure their debt. Quantitative easing is better accompanied by policies to improve bankruptcy and solvency processes.[154]

The proportion of zombie firms might be particularly high in Japan. A 2020 Bank of International Settlements (BIS) paper found that in the mid-1980s, around 4% of stock market listed firms in 14 advanced economies were zombie firms. By 2017, this had risen to 15% (see Figure 22).[155] The paper also found that a zombie firm in one year will also tend to be a zombie firm the following year. That measure of persistence has increased sharply. In 2017, it was close to 90%. Those proportions will surely have increased in 2020 due to Covid-19.

The BIS report also found that a country's rate of growth in productivity declines when the proportion of zombie firms rises.[156]

Figure 22: Zombie firms across 14 advanced economies: Share and persistence (%) (1985–2017)



Source: Ryan Banerjee and Boris Hofmann, "Corporate Zombies: Anatomy and Life Cycle," BIS Working Papers No. 882 (2020); Ryan Banerjee and Boris Hofmann, "The Rise of Zombie Firms: Causes and Consequences," BIS *Quarterly Review* (2018), 67.

Politicisation of central banks

> Economic reality is one thing. But political impressions are something very different — and all too often it is the political impressions which determine the fate of an administration and the fate of a nation.
> **— Thomas Sowell (The Hoover Institution)**[157]

Once government has given itself a monopoly over the supply of money as legal tender, its use of that power is inevitably political. That discretionary power can be delegated to technocratic administrators for as long as it pleases politicians. But to do so, they must specify an objective goal that technocrats could pursue independently of political processes.

Under the gold standard, politicians could potentially delegate to administrators the task of adjusting monetary policy settings to preserve parity with gold, in peacetime at least. Since 1971, the replacement technical goal of note has been to achieve low consumer price inflation. The desirability of such delegation is clear. Interest rates have pervasive effects on long-term investment decisions. Operational changes to central bank interest rates need to be made for predictable, non-partisan reasons. (Politicians set the targets for these operational changes, so *overall control* is nevertheless political.)

Central bank operational independence would be lost if they were required to fund fiscal deficits by creating money. (The inaccurate but common term for this is "printing money". Actually, bank notes are not printed. Banks merely find that they have bigger deposits at their central bank than before.) This increases the money supply (M1). Pumping up the money supply is inherently inflationary, although the last three decades have demonstrated that how and when it will manifest itself is not easily predictable.

Unexpected central bank credit creation is akin to counterfeit money. Those who produce counterfeit money can use it to purchase goods and services without having to provide value in return. They commandeer resources they could not do otherwise. They cheat on everyone else by not offering equal value in return. When central banks create money to fund government spending, they allow government to do exactly that.[158] They may of course do it for good reasons, just as a counterfeiter might, or they might to it for other reasons. Throughout history, sovereigns have sought to debase their money by stealth, particularly when at war.

But major central banks today are heavily purchasing government debt through credit creation while keeping controlled interest rates low. They are giving the impression that they will 'do everything it takes' to keep interest rates low and liquidity high. Fiscal policy has always been political but merging monetary and fiscal policies makes monetary policy implementation political.[159]

Nevertheless, some economists internationally have achieved public prominence for advocating what in New Zealand used be called "social credit" – funding government spending by borrowing from the central bank, or just printing more bank notes. Their proposition is now known as Modern Monetary Theory (MMT).[160]

MMT argues that counterfeit money is good when government is the counterfeiter. The history of inflation proves it is not that simple. Former Bank of India Governor Raghuram Rajan recently warned that "any 'theory' that promises a free lunch should be approached with scepticism."[161]

Printing money is wrong in principle because it cheats on the purchasing power of those who have accumulated money balances lawfully through productive activity and thrift.[162] It gives counterfeiters something for nothing, but their victims initially do not know they have been cheated.

It can be said in defence of funding government deficit spending by central bank credit creation

that it is acceptable if it is temporary and helps cushion economic activity. But unlike the illegal counterfeiter, the central bank can subsequently suck all the extra money it has created out of the banking system. For example, it could sell all the assets it bought with created money.

Under the classic gold standard, governments would be much less able to fund their spending by central bank credit creation. That is why governments commonly suspend convertibility during a major war.

The difficulty in practice with the fiat money system is that reversing the monetary injections risks precipitating an economic downturn, or worse. An incumbent government would prefer to see its political opponents taking that risk. As political opponents, they could decry it as a return to "austerity". Nor do central banks want to get the blame for rising unemployment. Having claimed that their largesse "saved" the economy, they can hardly claim that doing the opposite will have no effect.

Central banks and their governments are in a debt trap. The problem with the credit creation route is the political difficulty of reversal.

The onset of enduring wage and price inflation above their mandated targets would make it harder for central banks to keep interest rates low for the benefit of those who are heavy net borrowers. The latest statistics for CPI inflation in the US, the UK and the EU raise the likelihood of an imminent clash between central bank's inflation targets and their other concerns.

The increasing politicisation of central banks is also indicated by the degree to which they are advocating policy positions that are not related to their core functions of stable prices and financial stability.[163] Following are some examples:

- ECB President Christine Lagarde: "As the pandemic passes, we need to shift focus from preserving the economy to transforming it. To do that we must redirect investment towards the green and digital sectors."[164] That is a task for the EU's emissions trading system, not the ECB.
- Ninety central banks and bank regulators have set up a Network for Greening the Financial System to expand regulatory controls on private lending and investing from a 'green' investment point of view.[165] The conceit is that central bankers can assess these risks better than those whose money is at risk.[166] The Reserve Bank of New Zealand is a member of the network.[167]
- RBNZ is an "an inaugural member of new, international Central Bank Network for Indigenous Inclusion" with the Australian and Canadian central banks.[168] The links with its prime duties to prevent inflation and preserve financial stability are not clear.
- The Reserve Bank of New Zealand tweeted about the Climate Commission's report, "Great to see the @ClimateCommNZ's final advice to Government released today. A climate-resilient future for Aotearoa New Zealand is possible, and the mahi must start now."[169] Climate change is a global issue, but it should be the focus of *government* policy, not the main regulator of our financial system.

These matters are inherently political. If central banks take the same political positions as the government of the day their positions will have to change when changes in government change public policy. On the other hand, if they take political positions that are at odds with those of the government of the day, they will be in trouble.

The Hoover Institution's John Cochrane has examined the proposition that the financial system could be brought down by the climate crisis due to insufficient "green" lending and investing by central banks as "a fantasy unsupported by

scientific evidence."[170] He is not the only one to question these central bank pretensions.[171]

Tackling climate change requires balancing between national-level priorities and global needs.[172] As highlighted by Nobel Laureate William Nordhaus, the best way to lower emissions is through a direct binding price on carbon on the international level.[173] Solving the global problem requires effective government policies such as a binding global carbon tax or emissions trading scheme – not by central bankers.[174]

These political statements surely distract central banks from their core functions of price stability and financial stabilisation. Potential financial instability from loss of monetary and fiscal discipline is surely a much more immediate and pressing concern.

Concluding observations

> Political pressures may force central banks to hold short-term rates below the level consistent with inflation targets, thus keeping short real rates low, while market pressures lead to stronger increases in long rates, both nominal and real.
>
> **—Charles Goodhart and Manoj Pradhan**[175]

The story to this point is one of institutional decline from the 1990s and increasing desperation among monetary and fiscal authorities.

It used to be understood and accepted that central banks should not fund their government's fiscal deficits. Nor should central banks keep interest rates artificially low to help an incumbent government win the next general election. Instead, central banks should focus monetary policy on achieving and sustaining low inflation, with or without the gold standard. That focus required considerable independence of action.

Today, such notions have largely been lost. The current blurring of monetary policy (inflation control) with fiscal policy (funding government borrowing) has undermined central bank operational independence. Some major central banks appear to act as all-powerful users of monetary policy instruments to 'save the economy' by 'doing whatever it takes'.

The notion of central banks are powerful saviours who can ward of economic recessions is at odds with the compelling reasons for doubting the ability of authorities to use monetary policy instruments successfully to fine-tune the business cycle.[176]

The difficulties facing central bankers are growing. They do not want to be blamed for the next recession, let alone the next global financial meltdown. But rising wage and consumer price inflation will increasingly force them to act, putting what remaining independence they have at risk.

CHAPTER 4
The potential consequences

By definition, an unsustainable fiscal position will not be sustained. Debts may have to written off or inflated away, and/or revenue lifted relative to spending. Such actions would offend many voters.

There is a benign possibility that national income increases faster than the growth in the cost of servicing the public debt. This reduces the burden of servicing that debt relative to income. In time, the burden might become sustainable. No marked pain to voters may occur.

So, are the current fiscal positions in the major economies of the world sustainable? Is there serious economic disruption and pain ahead for the likes of the United States, Europe, the United Kingdom and Japan? And for New Zealand? Answers depend on assumptions about how the future unfolds. Even experts differ about which assumptions are the most plausible. For example, is a projected fast rate of national income growth plausible, or mostly wishful thinking?

This section cannot hope to do justice to the complexity and diversity of such assessments. Instead, it settles for the easier task of illustrating the considered views of one or more relevant authoritative institutions in each case.

The US Government Accountability Office (GAO) has said the fiscal outlook in the United States is unsustainable under current policies.

> The truth is our rate of debt growth can't be maintained indefinitely. In fiscal year 2020, debt held by the public reached about 100 percent of gross domestic product, up from 79 percent a year earlier … Under our projections, the debt will reach its highest point in history in 2028 and continue to grow faster than GDP thereafter … According to the Congressional Budget Office, rising federal debt increases the likelihood of a fiscal crisis. This could bring a large drop in the value of the dollar or a loss of confidence in the government's commitment to debt repayment.[177]

However, in May 2020, a European Commission report saw no sustainability problems with the public debt in any Euro zone member state.[178] For example, it projected that Italian government debt would rise from close to 135% of GDP in 2019 to almost 154% of GDP by 2021, but considered that with economic recovery and "gradual fiscal adjustment", it could reduce towards 140% of GDP by 2030. It concluded that Italy could sustain its government debt position over the medium-term.[179] In fairness, the period of the first wave of the Covid-19 pandemic in May 2020, was not a good time for the European Commission to signal to financial markets to sell down government bonds in Italy and other cot case countries. Nevertheless, its assessment illustrates that with enough appeal to faster economic growth, low interest rates and the political will to adjust, extreme levels of debt is seen to be sustainable.

Germany's government-funded think tank Siftung Wissenschaft und Politik (SWP, or the German Institute for International and Security Affairs) published a much more cautionary view in March 2021. It saw public debt as being one of the most pressing issues for the Euro zone. Structural deficits cannot be sustained permanently by monetary policy. The Euro zone is now vulnerable to debt crises "in its most indebted member countries."[180]

In *Süddeutsche Zeitung*, a German newspaper, former leaders of the SPD and CDU/CSU,

and other policymakers across the German business and political establishment have recently expressed concerns about incoming "massive social upheavals". They expect rising inflation – caused by fiscal deficits of the European Commission, ECB quantitative easing, and zero-bound interest rates – to seriously undermine the credibility of the euro. Political polarisation would increase unless drastic fiscal and monetary reforms occur.[181] For them, it is imperative to unwind the policies that responded to Covid-19 and return to more normal policy settings. The political eminence in Germany of those making this statement makes it highly significant. Germany's tolerance may be running thin.[182]

The OECD secretariat projects Japan's gross government financial liabilities to be over 240% of GDP by 2022; its projected net financial liabilities are over 140% of GDP. An OECD economics working paper published in 2017 saw even the region's pre-Covid public debt ratios as putting member countries into "uncharted territory".[183] Their ageing populations reduced the chances of achieving strong economic growth to reduce the debt ratios. A point in Japan's favour was that most of that public debt was owned within Japan and denominated in the yen.

The United Kingdom's public debt ratios also look parlous. The OECD's projections put its gross and net financial liabilities in 2022 at 160% and 120% of GDP, respectively. Even Chancellor of the Exchequer Rishi Sunak sees his government's current borrowing requirement as unsustainable.[184] An earlier assessment by the UK Office for Budget Responsibility projected three scenarios for the net public debt to the mid-2020s. It concluded that "[i]n all cases the public finances would clearly be on an unsustainable path, with interest costs taking up an ever-larger share of GDP."[185]

How might it play out from here?

> If I am right about the forces behind the fiscal transformation, it has set the stage for a long period of economic decline and zero-sum, political rancour. We may hit a wall as abrupt and unheralded as the 2008 collapse. A revival of 1970s levels of currency inflation, which may be underway today, may produce marginal corrections but at serious cost. A significant increase in interest rates—prompted by the loss of the dollar's reserve status, the accumulation of debts so large they finally rattle credit markets, or the arrival of a major war or other crisis—could lead to precipitate benefit reductions and widespread personal hardship. Gloomiest of all is the prospect that our indebted circumstances will tempt our enemies and make war more likely.
>
> **— Christopher DeMuth (Hudson Institute)**[186]

Some scenarios

Under an optimistic scenario, governments will rein in their financial deficits as vaccines get on top of Covid-19, and economic growth will exceed the interest rate on public debt. Public debt ratios across the 'developed world' may progressively reduce to under 50% of GDP. Optimistically, central banks or treasuries may be able to sell bonds to suck excess liquidity out of the banking system without raising interest rates, thereby reversing the vast expansion in banks' settlement balances.

Central banks cannot realistically predict the latter will happen. The flip side of asserting that pumping global financial markets with liquidity with good effect is to accept that doing the opposite will have the opposite effect. The optimistic (or short-sighted) hope is that strong economic growth will allow them to do this gradually amidst rising prosperity.

What do less optimistic scenarios look like? Options include:

- **'Japan'.** Public debt ratios to GDP stay well above wartime highs, but interest rates stay low, along with inflation. Economic growth limps along as the population ages.
- **'1970s-stagflation'** but with governments slowly reducing deficits and debt. Some decades of macroeconomic difficulty are involved, with reducing zombie firm difficulties, low economic growth, financial repression,[187] debt restructuring and write-offs, higher effective tax rates, and expropriation of private wealth. Inflation is one of the alternative tax options for governments.
- **'1930s-Great Depression'.** A calamitous global asset market collapse occurs. It is much worse than the 2008–09 GFC. Investors panic, liquidity dries up. Central banks and governments discover that promises to 'do everything it takes' no longer reassure. Economic activity implodes. Deflation followed by galloping inflation or even hyperinflation is possible. The last would make even bank deposits in a government-owned bank worthless. Unprecedented economic distress and unemployment, in living memory, would spark public anger and unrest. The public could well elect populist and authoritarian governments, whose oppressive policies would aim to suppress symptoms rather than address causes.

Of course, no two countries are the same. Each country must find its own path. What is politically tenable will depend on public opinion and other country-specific circumstances. (For example, if much public debt is owed to foreigners in foreign currencies, options for writing off its real value are more limited. Also, older populations might find adjustment harder.)

Much would depend on the quality of leadership at the time. Leaders may promise to avert recession with enhanced deficit spending. Some may promise to force lenders to keep lending at terms of the borrower's choosing. Unlike King Canute with tidal waters, they can try to defy global financial currents.

The end point of the "Japan scenario" has yet to be revealed. Government budget deficits remain large, despite the artificially low interest rates.[188] The public debt problem continues to get larger rather than smaller. An estimated 16% of firms are unproductive zombie companies. One mitigating factor is that over 90% of Japan's public debt is owned internally. Less encouraging is that much of it is owned by the Bank of Japan, which has funded it by borrowing. Despite Japan's ageing population and very low interest rates, households and companies in Japan have been heavy net savers. Those savings have exceeded the government's borrowing needs. Japan has been increasing net overseas assets as a result. In contrast, New Zealand's overseas liabilities greatly exceed its overseas assets.

In short, the Japan scenario looks like a case of unresolved mounting public indebtedness, with distinctive Japanese characteristics. It shows that prolonged deficit spending is a recipe for achieving astronomical public debt, but not necessarily much else. When global interest rates rise, Japanese governments will have to address the public debt problem. It might morph into the 1970s stagflation scenario.

While the 1970s stagflation scenario is grim, the third global scenario would be a calamity. Unfortunately, the trends outlined in this report suggest the odds of some unexpected event triggering a major global financial catastrophe are alarmingly high.

New Zealanders can hope that something like the third scenario does not occur. But hope is not a plan, and internationally, New Zealanders

do not get a choice. We can certainly choose to avoid the Japanese route of futile prolonged deficit spending that takes public debt to crippling levels. The second scenario is more promising for future prosperity in that respect. The third scenario is by far the most fearful for global peace and stability, not to mention New Zealand's prospects as a trading nation.

20th-century debt reduction episodes

Insights can be gleaned from past experiences globally. Carmen Reinhart and M. Belen Sbrancia reviewed the history of public debt reduction pathways in a 2015 IMF working paper. High public debt has commonly been a consequence of wartime borrowing.

> Throughout history, debt/GDP ratios have been reduced by (i) economic growth; (ii) substantive fiscal adjustment/austerity plans; (iii) explicit default or restructuring of private and/or public debt; (iv) a surprise burst in inflation; and (v) a steady dosage of financial repression accompanied by an equally steady dosage of inflation.[189]

They comment that countries with high public debt ratios tend to have low rates of economic growth. Fiscal austerity lies outside the scope of their paper, but it is relevant to this inquiry. World War I and the public debts after the Great Depression "were importantly resolved by widespread capital default or restructurings" or largely forced conversions.[190] Violent hyperinflation occurred but not on a widespread basis. Options (iv) and (v) are means of reneging on domestic currency debts.

Financial repression refers to government coercive measures to expropriate private wealth by inducing people to lend to government at a lower return than they would be willing to accept otherwise. Central banks across the developed world are exercising financial repression by forcing down yields on government bonds by buying them in unprecedented numbers and reducing their base interest rates to an unprecedented degree.[191] But governments have many other means to achieve financial repression. Reinhart and Sbrancia classify them as follows:

- Measures that raise the demand for government securities by reducing some of the risks that would otherwise apply.[192]
- Measures that induce investors to swap shorter-term liquid government paper for longer-term less liquid paper at repressed yields.[193]
- Imposition of interest rate ceilings bank deposits. In the 1960s, this control was extended in the United States to cover thrift and non-thrift institutions.
- State-imposed limits on bank loans as a proportion of asset value (e.g. borrowing to buy a house or shares).
- Limiting the range of non-government securities the public could own. (Foreign exchange controls can do this, as can discriminatory taxation of overseas investments. A dramatic US example is the ban on private ownership of gold between 1933 and 1974.)
- "Moral suasion" coerces private banks to cooperate with government goals using implicit or explicit regulatory threats.

This list does not include inflation, explicit default or restructurings, which force investors to write off some or perhaps much of the value of their government securities.

World War II capital controls made it easier for governments to subsequently reduce their debt burdens by financial repression and inflation. Healthy economic growth post-war also helped.

Reinhart and Sbrancia estimated the extent of financial repression for each of the 12 countries between 1945 and 1980. Their measure was the reduction in the annual interest cost of servicing public debt. The lowest estimate for this financial

repression 'tax' was 1% of GDP; the highest was 5% of GDP. The average annual debt reduction due to negative real interest rates ranged from 0.3% to 4% of GDP.[194] These are substantial sums. Periods of negative real interest rates were common prior to the financial market liberalisation of the 1980s.

The tax base for financial repression is the stock of government securities held by the public denominated in the government's own currency. If that stock is 100% of GDP, an annual average "financial repression tax" of 1–5% of GDP is a tax of 1–5% per annual on the wealth held in that form. The wealth tax can be very serious for holders, even in advanced economies.

From past to future

Government-led forecasts seldom predict a sharp economic downturn or worse. Governments that forecast a collapse are blamed for precipitating it. The IMF's World Economic Outlook forecasts to 2026 released in April 2021 illustrate this. For advanced economies, the central forecasts for output, inflation and unemployment from 2023 is very encouraging.[195] Meanwhile, the gross public debt forecast for these countries overall holds above 120% of GDP. To be fair, the IMF does stress the uncertainties and challenges. But its central forecasts are for steady, reassuring recovery.

How large are forecast uncertainties? Compare the same publication's pre-global finance crisis forecasts for real GDP growth in 2009 with subsequent outcomes. In July 2007, forecast GDP growth in advanced countries for 2009 was 2.9%. By October 2007, the global financial crisis was developing. By October 2008, its seriousness was not in doubt, and the forecast *growth* for 2009 was reduced to 0.5%. By October 2009, it was further reduced to minus 3.4%.

As explained in Chapter 3, the current situation looks much more fragile than the pre-global financial crisis situation. Central bank and government support arrangements are over-extended. There are ample signs of over-exuberant behaviour in some asset markets. Share prices in the United States are being sustained by expectations of continuing fiscal largesse and central bank stimulus. The potential for a default largely depends on overall government debt levels.[196] According to Carmen Reinhart and Kenneth Rogoff, the problem is the government's tendency to overborrow during good times, leaving it vulnerable in the event of a downturn.[197]

Overall, the current public debt and credit creation situation in the United States, Europe and the United Kingdom looks like a slow-motion train wreck. The major central banks are putting back the day of reckoning for their heavily indebted governments. Their official cash rates are at unprecedented lows and their balance sheets at unprecedented highs. If they let interest rates rise, government debt servicing costs will blow out. There would be a fiscal crisis.

Nor are the public being prepared for future difficulties. Governments have fed the public the sweet nectar of ongoing large increases in spending, funded by central bank credit creation, particularly in the United States. They are assuring the public that these measures have saved people from calamity and do not represent immediate gain for greater pain later. To turn off the tap of central bank credit creation and stop big increases in deficit spending would be to risk major recession and political disaster.

As explained in Chapter 3, events and policy responses have undermined the political independence of monetary policy, and thereby of central banks. Central banks are now widely funding fiscal deficits by injecting cash into the banking system. They are arguing that their actions is consistent with a dual mandate to keep

inflation and unemployment low. Some are also advocating fiscal policy expansion, but fiscal decisions are political rather than technocratic.

Central bank credibility for putting controlling inflation ahead of political and fiscal considerations is very costly to restore once lost. Yet it is already in doubt. Here is a recent valiant Federal Reserve rejection of the notion that credibility could be swayed by issues of fiscal expediency.

> Because of the large fiscal deficits and rising federal debt, a narrative has emerged that the Federal Reserve will succumb to pressures (1) to keep interest rates low to help service the debt and (2) to maintain asset purchases to help finance the federal government. My goal today is to definitively put that narrative to rest. It is simply wrong. Monetary policy has not and will not be conducted for these purposes … My colleagues and I will continue to act solely to fulfil our congressionally mandated goals of maximum employment and price stability … **Deficit financing and debt servicing issues play no role in our policy decisions and never will.**[198]

However, raising interest rates to meet the price stability objective aggravates the fiscal deficit/public debt problem and would undermine the employment objective. The Fed's dual mandate obliges it to make fundamentally political choices.

In our view, governments will widely resort to financial repression to keep the interest cost of the public debt low while keeping the level of debt high.

Forcing financial institutions to hold large reserves in government stock and claims on the central bank is an existing technique. Limits on borrowing to finance asset purchases, such as housing, is another. Penal tax arrangements for overseas investments is a third. Government guarantees and backing for financial institutions that invest heavily in government securities add to the list.[199]

Financial repression was actually the norm in New Zealand from the late 1930s until the mid-1980s. The Post Office Savings Bank dominated retail savings with 3% per annum savings accounts. Governments widely issued Interest on Deposit orders to limit institutional interest rates. Government security ratios forced a wide range of financial institutions and funds to invest in government stock, even at negative real interest rates. New Zealanders do not have a tradition of opposing financial repression. The reforms of the mid-1980s were the exception. Repression is usually 'justified' on the basis that each method promotes financial safety and/or protects the borrowing public from high interest rates. But the conflict of interest for the government is palpable.

Inflation is already happening in New Zealand if the growth in the money base or in asset prices are used as the measure.[200] Government policies towards landlords promise to inexorably increase market rents. The government's response looks increasingly repressive. One repressive measure is the increasing recourse to state ownership and state housing. Limits on landlord leverage and discriminatory tax arrangements are also ad hoc repressive measures.

The recent moves to force a return to centralised wage-fixing mechanisms based on relativities should also been seen as an inflationary move. When government mechanisms produce material economy-wide wage increases, there is a tacit arrangement that the same government will allow easy monetary policy to fund those price and wage increases. Faster transmission of wage and consumer price inflation is enabled.

What about another Great Depression? The big danger with the current arrangements is that investors will lose faith in their continuance. Sooner or later, fears of wage and price inflation will rise. Bond yields will start rising accordingly. Governments and central banks will respond with alarm, given the scale of the public debt problem. At that point, more of the same medicine (central

bank credit creation and near zero or below central bank cash rates) could merely exacerbate the inflationary fears. Higher bond yields hurt those who have borrowed most heavily to invest in risk. Risky asset prices fall. Bankruptcies and unemployment rise. Government tax revenues fall.

Given the current interventionist extremes, documented above, another financial crisis seems plausible. The worst recession since the 1930s, at the very least. That prognosis is so dire because it envisages a global loss of confidence in the world's reserve currency – the US dollar. The US dollar is much more vulnerable than it was before the GFC. The United States has since flooded financial markets with US dollar assets. They are assets in the hands of their owners – central banks, sovereign funds, fund managers, etc. – but they are US government and US Federal Reserve liabilities. By 2020, US claims on the rest of the world were $32 trillion, but its liabilities were $46 trillion. The net liability was US$14 trillion (67% of US GDP). At its peak during the GFC, the net liability was US$4 trillion (27% of US GDP).

Sovereign default is a disaster for financial arrangements in the defaulting country. Domestic assets are widely priced relative to government bonds and domestic bonds cannot have a higher credit rating than the bonds of the home government. For the US government to default would be a global financial disaster.

The issue arises, periodically, in the United States when the US Congress is called upon to raise the federal government's borrowing limit. For example, CNN reported on 8 September 2021 that the US "Treasury is taking extraordinary measures to avoid a default." The US Secretary of the Treasury, Janet Yellen warned publicly that the United States was heading for sovereign default by October 2021 if Congress did not lift the debt cap.[201] Yellen said not to lift the cap would lead to "catastrophic" implications on the global economy. Moody's chief economist Mark Zandi predicted that the default of the government would cost 6 million jobs, undermine asset prices, and wipe US$15 trillion off household wealth; unemployment would skyrocket to 9%.[202] Former Citibank Chief Economist Willem Buiter claimed Zandi's estimation was "optimistic".[203] American sovereign debt default would likely be "financial Armageddon".[204]

China is also a major potential source of financial instability with its speculative housing bubble. Debt ratios are high and opaque.[205] In December 2020, the IMF advised it that steps to contain financial stability risks were "urgently needed".[206] In September 2021, a debt crisis at its second largest property company, Evergrande was significant enough to attract world attention. Harvard economist Kenneth Rogoff and Tsinghua's Yuanchen Yang highlight the importance of the real estate market in China's economic growth. At 29% of China's GDP, China's housing market is potentially of global financial significance.[207] Between 2015 and 2021, Chinese households increased their indebtedness by US$6.4 trillion. This amount is comparable to the housing boom in the United States between 2003 to 2008.[208] Rogoff and Yang see China's housing boom as unsustainable.

Disasters are better avoided than remedied. When economic activity turns sour, people get angry and look for someone to blame. They may elect populist political leaders, perhaps those blaming foreigners, immigration, capitalists and globalisation. Inward looking responses are commonly impoverishing responses, with North Korea's extreme example being far more dramatic than New Zealand's from 1938 to 1964.

Under all scenarios, governments will surely seek to address their public debt problems by some combination of private wealth expropriation and higher income and/or expenditure tax rates. People with assets, retirement savings and higher incomes are direct targets, but the most vulnerable will be those who are least employable or most dependent on government spending for their livelihood.

Possible solutions

New Zealand cannot affect global financial developments We can only respond to whatever develops.

The government can help shelter New Zealanders from international recessions in many ways. Laws and regulations that promote independence, resilience and the scope for flexibility will help. For example, an early government response to the Christchurch earthquakes was to suspend many inflexible planning requirements.[209]

Fiscal policy should be prudent. It should not rely on rosy growth scenarios that assume no possible adverse economic shocks from natural disasters, disease, wars or offshore economic excesses. Both sides of politics should recognise that prudent behaviour by government can be less unnerving than continuing imprudent behaviour, especially considering long-run demographic factors.

The government's projected public debt ratios to 2033 for New Zealand are far above what it declared to be a prudent level prior to Covid-19. Moreover, these projections implausibly assume no further adverse financial shocks.

Some years ago, The New Zealand Initiative suggested that a fiscal council could help parliament better control the quality of government spending and enforce fiscal prudence.[210] In 2020 an IMF Fiscal Affairs paper suggested that the task of determining what was prudent could usefully be given to a fiscal council staffed by experts and independent of ministerial control.[211]

The government has spent borrowed money freely in response to Covid-19, declaring that doing so has saved a lot of jobs and prevented national income loss.

The flip side of the view that spending borrowed money saves jobs is the assertion that the opposite – fiscal prudence or austerity – will cost jobs. Academic economists expressed this view when Ruth Richardson was Minister of Finance in New Zealand. She set out to cut fiscal deficits. In the event, economic recovery was strong.

Subsequent intense empirical research supports what common sense would anticipate – policies that can extricate a country from over-spending are less costly than policies that continue or exacerbate the problem.[212] Policies that cut low-value spending can preserve output and employment more than policies that raise tax burdens.

Crown management of balance sheet and contingent risks is a third way by which government can protect New Zealanders from adverse economic events. The US dollar has been the world's reserve currency since World War II, and many governments and fund managers have invested a material portion of their overseas reserves in US dollar assets. Those actions have allowed the United States to run chronic balance of payments deficits with the rest of the world.[213] That situation is changing. Private investors in US dollars are becoming less prevalent. People are favouring other asset classes. Even central banks have markedly reduced the proportion of their overseas reserves invested in US dollar securities.[214]

Overall, the US dollar has depreciated enormously against gold, a long-standing competitor as a store of value. In early 1971, US$35 would buy one troy fine ounce of gold (31.1 grams). Today it is a bit over US$1,800. On current policies, this devaluation of the dollar seems likely to continue, albeit with the volatility shown in Figure 1. The question is whether New Zealand should be reviewing the level and composition for overseas reserves given unprecedented and unsettling events chronicled in Chapter 3. The US dollar is losing its lustre as a reserve currency.

Most countries invest some of their overseas reserve assets in gold.[215] New Zealand held

12% of its overseas reserves in gold in 1960 but none since 1993. Of the 43 countries in Table 5, only three other countries were at zero in 2019 – Canada, Israel and Norway. The United States held the highest proportion in 2019 – 77%, with Portugal and Germany close behind. For the Euro zone overall, the proportion was 58%. Australia was at 4%.

More generally, recent developments are undermining both the independence of central banks and the credibility of post-1971 global fiat or "printed" money. Digital currencies (CBDCs) with capped issuance are a new potential means of exchange. Their extreme price instability makes them unsuitable as a stable store of value.

Central banks naturally want to keep their monopoly over the discretionary issuance of money. They will resist competition from private money and are assessing options for issuing their own digital currencies. China is leading the charge with its own digital yuan, a claim guaranteed by its central bank. Other central banks are also looking into issuing their own digital currencies. These developments will reduce the anonymity of transactions – and eventually the use of notes and coins. There is a sharp contrast here with the new private cryptocurrencies that use blockchain technology and secure anonymity. The Chinese government declared that all transactions using cryptocurrencies – such as Bitcoin – illegal.[216]

In short, the future anchor for a means of exchange with a stable unit value is in play. The post-1971 experiment with pure fiat money based on the US dollar has run into headwinds. China is looking to become the reviving great power globally.[217] Cryptocurrencies such as Bitcoin or Ethereum have the potential to satisfy many of the functions of money and there are potential future financial challenges and prospects.[218] However, for now cryptocurrencies are very speculative products.

Just as each country's monetary authorities should continually re-evaluate the assets needed during a domestic or international financial crisis, so should individuals. Companies, fund managers and private individuals should take government risk-averting or risk-enhancing arrangements into account when making their own risk-management decisions. For example, if a country's banking system is borrowing heavily in US dollars to lend freely in domestic currency, without cover for the exchange rate risk, a banking crisis must be expected when the exchange rate plummets for any reason. Private responses to such a risk can take many forms, but a common theme would be to invest more in foreign currency assets, and less locally.

By the same token, if the monetary authorities do not invest in gold, private parties might invest more heavily in gold, cryptocurrency or other rare, durable commodities than otherwise.[219] Absent anonymity, however, a private party can do little to shelter net worth from a predatory government that has botched its own finances and seeks to raid the income and net worth of others to restore its own ability to spend.

Table 5: Proportion of gold in reserves by country (2019)

Value of Gold in Overseas Reserves as a % of total reserves in 2019		Rank
United States	77.1%	1
Portugal	74.9%	2
Germany	73.6%	3
Netherlands	69.2%	4
Italy	68.4%	5
Greece	65.3%	6
France	63.1%	7
Austria	58.1%	8
Euro area	57.7%	9
Belgium	38.4%	10
Turkey	25.6%	11
Slovak Republic	21.6%	12
Finland	21.1%	13
Russian Federation	20.0%	14

Table 5 (cont.)

Value of Gold in Overseas Reserves as a % of total reserves in 2019		Rank
Spain	18.4%	15
Slovenia	15.3%	16
Romania	12.1%	17
South Africa	11.1%	18
Sweden	11.1%	19
United Kingdom	8.8%	20
Poland	8.7%	21
Iraq	6.9%	22
India	6.7%	23
Switzerland	6.0%	24
Ireland	5.1%	25
Denmark	4.9%	26
Australia	4.1%	27
Mexico	3.2%	28
Saudi Arabia	3.1%	29
China	3.0%	30
Japan	2.8%	31
Singapore	2.2%	32
Malaysia	1.8%	33
Iceland	1.4%	34
Korea, Rep.	1.3%	35
Brazil	0.9%	36
Czech Republic	0.3%	37
Chile	0.03%	38
Hong Kong SAR, China	0.02%	39
Canada	0.00%	40
Israel	0.00%	41
New Zealand	0.00%	42
Norway	0.00%	43
Median	6.9%	
Average	20.3%	

Source: World Bank Database (May 2021).

Concluding observations

It is deeply ironic how the pendulum has swung. The abandonment of the gold standard and the Bretton Woods system in 1971 combined with an unrelated surge in world oil prices to produce stagflation from the mid-1970s. The reaction to that saw central banks become the anti-inflation champions and competent managers of sound money.

Today, we are seeing the opposite. Major central banks have taken unprecedented steps to create credit and reduce interest rates. Their hope is to regenerate consumer price inflation even though low wage and price inflation has no identified adverse effects. Instead, we have global sharemarket indices and house prices at record highs despite the economic disruption caused by Covid-19.

Bankruptcies are low when they should have been high. Resource that needed to be released by failed firms are not being released. Government interest payments on public debt have gone down despite sharply rising debt. Central banks are becoming politicised and trapped by the need to keep interest costs on public debt low.

There is no convincing evidence of determination or ability to reverse the unprecedented reductions in central bank interest rates or unwind the excessive central bank credit creation from most of the developed world.[220] Nor are governments noticeably taking active measures to reduce highly elevated public debt ratios. These are features of a public debt trap.

The optimistic proposition that "all will be well," and that the authorities will unwind all the excesses before the next disruptive global event occurs looks little more than wishful thinking at this stage.

As a result, the global financial situation looks fragile and unsustainable. "Doing whatever it takes" whenever instability threatens, while not subsequently reversing the debt and liquidity injections, is not a tenable long-term strategy. Financial repression will be exacerbated as governments have ever-increasing incentives to see people buying government debt at negative real interest rates.

New Zealand can do nothing about the overseas financial situation. New Zealanders can hope that the New Zealand government will seek to protect its own finances and balance sheet from the next global financial crisis. Fiscal prudence matters now. The level and composition of official overseas reserves should be reviewed. A plan should be in place to guard against an unlikely event that the US dollar plunges in value, wrecking the value and utility of US dollar reserves.[221]

As individuals, New Zealanders are responsible for protecting their own wealth from adverse overseas events and domestic government folly. The temptation is to borrow at low interest rates to invest in risky assets. This is the financial equivalent of playing musical chairs. When the next crash happens, the latecomers to the "borrow and buy" party will most likely be wiped out financially.

For the prudent investor, the outlook is slightly less grim. Holding money in cash or near-cash investments guarantees watching its purchasing power decline, given negative real interest rates. On the other hand, cash is good when asset prices are plummeting and credit is short because banks are worried about their losses.

We do not know which of the scenarios we have sketched out will eventuate for New Zealand.

But there is potential for a much more crushing event than the GFC.

In short, the report's answers to the three opening questions might be summarised as:

1. The global financial system came to walk the path of ratcheting up public debt and central bank credit creation in good part by encouraging and rewarding moral hazard – in the form of excessive private borrowing and risk taking.
2. Bloated central bank balance sheets, ultra-low interest rates, and greatly indebted governments could see events play out very badly thereon in terms of wealth destruction and unemployment.
3. People can hope for the best but should not rely on it. How hard it might become for people and governments will depend in good part on how well they have built net worth, diversified their assets and minimised their borrowing prior to the next global financial crash. The more heavily indebted is one's government, the bigger the risks to one's own affairs.

Of course, history does not exactly repeat itself. This report has identified unprecedented features of the current time, in terms of central bank actions and peacetime public debt. But to draw the conclusion that "this time is different" in respect of likely outcomes from big debt burdens and monetary policy extremes would be a big mistake.[222] Debt not backed by assets is pain deferred.

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