

AUSTRALIAN MARKETS WEEKLY

Lessons from past recessions and depressions



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Analysis – The behaviour of GDP, unemployment and inflation in recessions and depressions

- The coronavirus pandemic has pushed Australia into a deep recession, where unemployment could reach a new post-WW2 high of 12% by mid year.
- Analysing past depressions and recessions in Australia – which have normally been triggered by global shocks and/or macroeconomic policy mistakes – we found that typically: (1) GDP experiences a short-lived decline in a recession taking about 2 years to exceed its pre-recession level (the decline is much steeper in a depression taking 8 years to recover); (2) unemployment rises sharply, up 2pp in a recession and 15pp in a depression, and stays high, taking 7 years to return to a pre-recession level and 13 years to a pre-depression level; and (3) inflation falls and stays low, dropping 5pp in a recession and 9pp in a depression, and taking 5-6 years to return to pre-downturn levels.
- Containment has seen a sharp slowdown in Australia's infection rate, but a stop-start economic recovery is likely as government balances relaxing health measures against the risk of renewed infection. An unprecedented easing of macroeconomic policy should assist recovery, but history suggests it will take a long time for unemployment to return to pre-pandemic levels, while lower inflation could reduce the effectiveness of monetary policy by raising real interest rates.

The week ahead – AU labour force survey; CH Q1 GDP

- **Australia.** Unemployment should rise sharply in March as COVID-19 starts to weigh on the labour market. NAB forecasts the unemployment rate to rise to 5.7% from 5.1%, well above the consensus estimate of 5.4%, with employment falling by 90k. Unemployment should rise much further in April given tougher containment measures were introduced from mid-March. Weekly consumer confidence picked up last week, but remains near its all-time low. There are no important NZ data releases this week.
- **International.** A few European countries are tentatively relaxing COVID-19 containment measures. In China, the consensus for Q1 GDP is for a 10% decline in the quarter. Chinese industrial production is expected to rebound with the year-to-date decline improving from 13.5% in February to 9.9% in March. US retail sales and industrial production are due Wednesday, while regional manufacturing surveys should remain weak. The US earnings season kicks off and should report COVID-19 impacts on earnings. JP Morgan is due Tuesday with BofA and Goldmans due Wednesday.

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Key markets over the past week

	Last	% chg week		Last	bp/% chg week
AUD	0.6411	3.9	RBA cash	0.17	-2
AUD/CNY	4.52	3.7	3y swap	0.37	-1
AUD/JPY	69.0	2.9	ASX 200	5,488	8.3
AUD/EUR	0.587	3.6	Iron ore	83	4.5
AUD/NZD	1.051	1.8	Brent oil	32.1	-3.0

Source: Bloomberg

The behaviour of GDP, unemployment and inflation during recessions and depressions

- The coronavirus pandemic has pushed Australia into a deep recession, where unemployment could reach a new post-WW2 high of 12% by mid year.
- Analysing past depressions and recessions in Australia – which have normally been triggered by global shocks and/or macroeconomic policy mistakes – we found that typically: (1) GDP experiences a short-lived decline in a recession taking about 2 years to exceed its pre-recession level (the decline is much steeper in a depression taking 8 years to recover); (2) unemployment rises sharply, up 2pp in a recession and 15pp in a depression, and stays high, taking 7 years to return to a pre-recession level and 13 years to a pre-depression level; and (3) inflation falls and stays low, dropping 5pp in a recession and 9pp in a depression, and taking 5-6 years to return to pre-downturn levels.
- Containment has seen a sharp slowdown in Australia's infection rate, but a stop-start economic recovery is likely as government balances relaxing health measures against the risk of renewed infection. An unprecedented easing of macroeconomic policy should assist recovery, but lower inflation could reduce the effectiveness of monetary policy by raising real interest rates.

Australia has entered recession and unemployment could soon reach a post-WW2 high of 12%

With Australia entering recession, NAB has cautioned that the coronavirus pandemic could see unemployment reach 12% by mid year. The exact peak in unemployment is highly uncertain as it depends on the success of public health policies to contain the virus as well as the effectiveness of macroeconomic measures to support economic recovery, especially the centrepiece wage subsidy programme. That said, if unemployment reached 12% it will eclipse the post-WW2 peak of 11% reached in the early 1990s recession and in the past 160 years would only be surpassed by the 19% peak of the 1890s depression and the 20% peak of the 1930s depression.

By way of comparison, Treasury estimates a similar spike with unemployment reaching 10% by mid year. Treasury also calculates that unemployment would have reached 15% had it not been for the wage subsidy scheme. That scheme is expected to cost \$130b, or 6.5% of GDP and cover up to 6 million workers over six months. However, the Treasury counterfactual estimate of a 15% unemployment rate implies that the policy will shield about 0.7 million workers from job loss.

Past recessions have been driven by global shocks and/or macroeconomic policy mistakes

The fact that this recession has been driven by a health crisis makes it unique, with past recessions usually triggered by a mix of global economic shocks and macroeconomic policy mistakes, with downturns deeper and longer when the financial sector is under stress.

Another important difference is that this recession has had a very large immediate effect as public health containment measures have shut down some industries and many other companies have either wound back or temporarily halted operations.

Mindful of these key differences, we have looked at the behaviour of GDP, unemployment and inflation during key downturns.¹

- **Depressions.** The 1890s and 1930s depressions, where the 1890s depression included a severe banking crisis with widespread bank failures.
- **Post-WW2 recessions.** The recessions in the mid 1940s, early and late 1950s, early 1960s, mid and late 1970s, early 1980s and early 1990s. The mid 1940s recession was driven by the winding down of war production. The early 1960s and early 1990s recessions were characterised by a credit crunch, with two state banks and some non-banks going bust in the early 1990s.
- **The global financial crisis.** The near-recession of the global financial crisis.²

Recessions reduce output and lead to persistently higher unemployment and weak inflation

The main findings were that:

- **A relatively short-lived decline in real GDP in recessions.** Output nearly always falls in a recession, but typically for a short time, with a median decline of 2% in the post-WW2 period. Output typically exceeds its pre-recession peak in 2 years. The decline in a depression is more substantial with a median peak-to-trough decline of 12%. A depression lasts years and it can take 8 years before GDP overtakes its pre-depression peak.
- **A sharp and more lasting rise in unemployment.** Higher unemployment is the defining feature of recessions. The median increase of post-WW2 recessions is 2pp, although the most recent recessions have seen a 5pp rise in the jobless rate.

¹ The quarterly indicators were mainly sourced from the Australian Bureau of Statistics and its predecessor, with historical estimates derived from interpolating annual data.

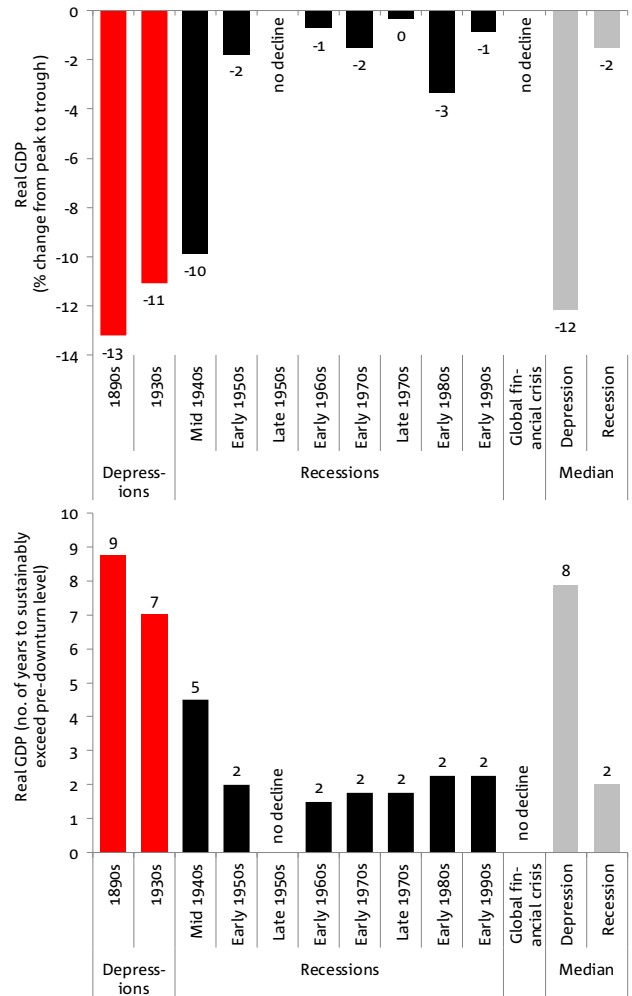
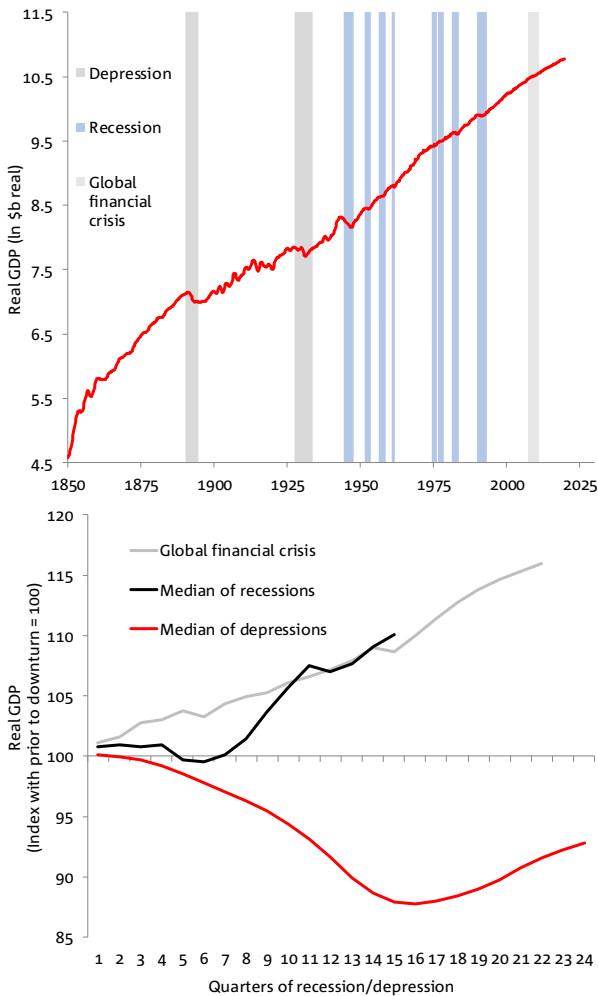
² Other candidates for mild recessions include the downturns in the late 1940s and the early 1970s. More recently, Reserve Bank Governor Stevens argued that the tax reform-induced

contraction in 2000 and the global financial crisis were recessions. See Reserve Bank of Australia Governor Stevens, *Transcript of Question & Answer session*, Committee for Economic Development of Australia, Melbourne, 18 November 2014.

Falling unemployment typically marks the end of a recession, although it can take 7 years for unemployment to broadly return to its pre-recession level (9 years for the early 1980s recession and 14 years for the early 1990s recession). The median increase during depressions is 15pp, taking 13 years to return to pre-depression levels. Note that policy-makers would not always have sought to return unemployment to pre-downturn levels as the economy overheated before some recessions.

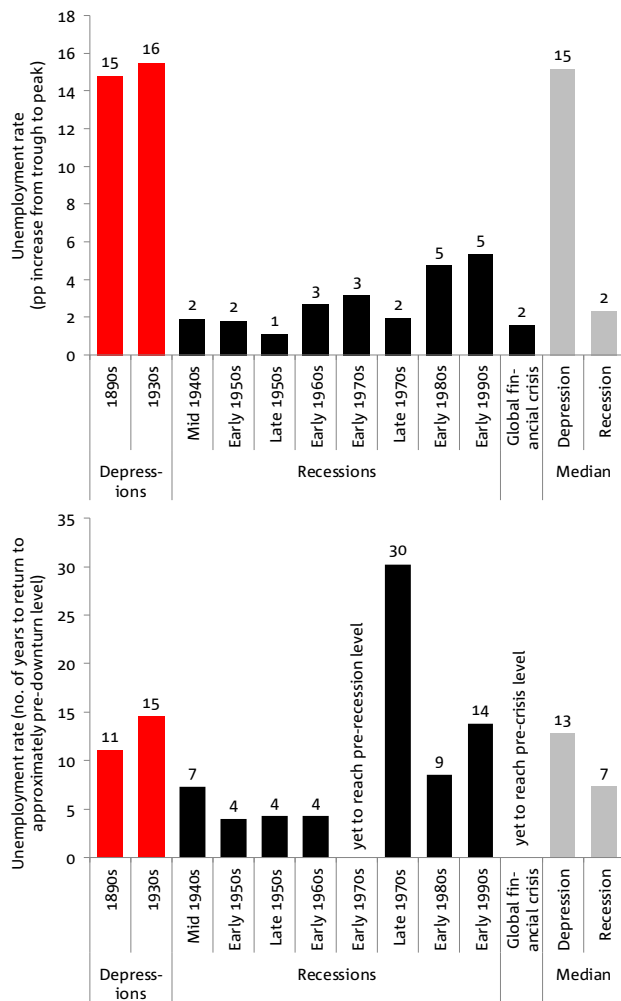
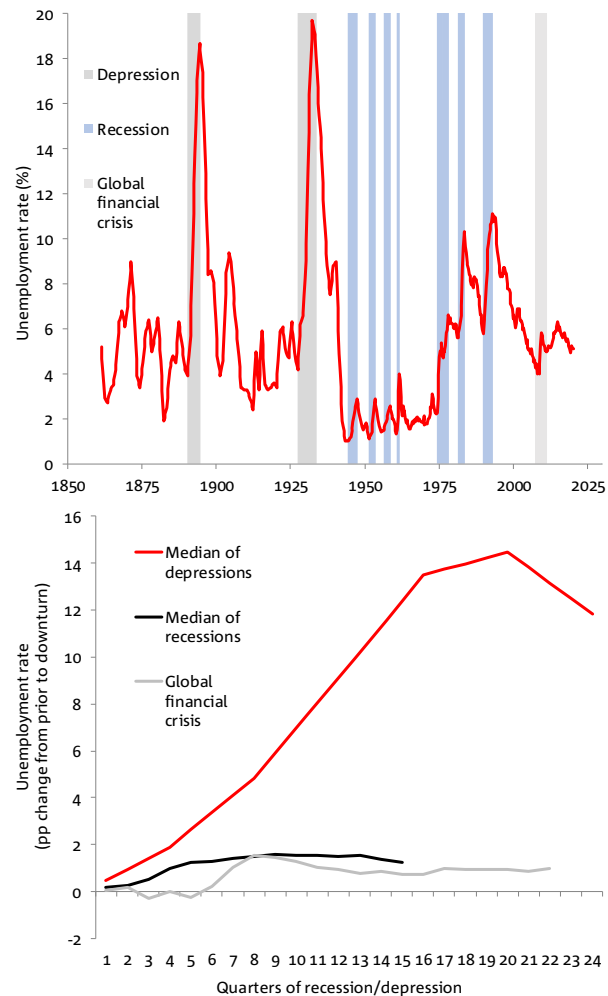
- A large and more durable fall in inflation.** Lower headline inflation is also common to recessions with a median decline during post-WW2 recessions of 5pp (6-8pp in the most recent severe recessions). During depressions, the median decline in inflation is 9pp. Inflation can take about 5 years to return to pre-recession levels or 6 years to reach pre-depression levels, not that policy-makers would have necessarily sought a return to pre-downturn levels as a recession was sometimes the economic cost of bringing double-digit inflation under control.

Chart 1: GDP usually falls 2% during a recession



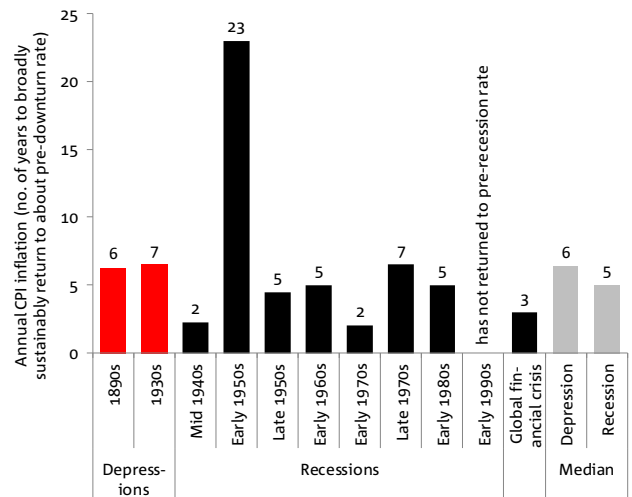
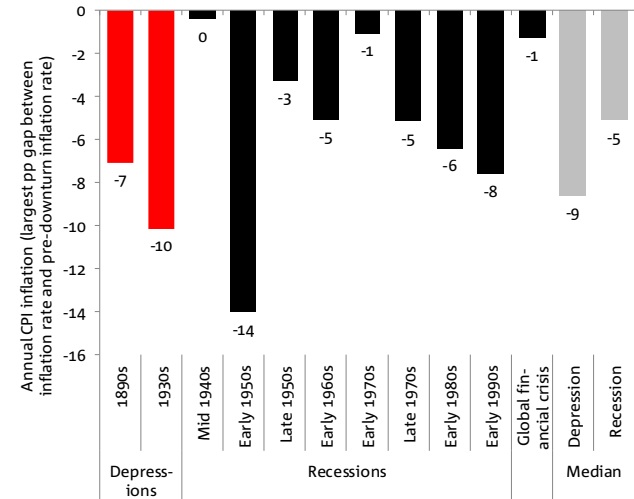
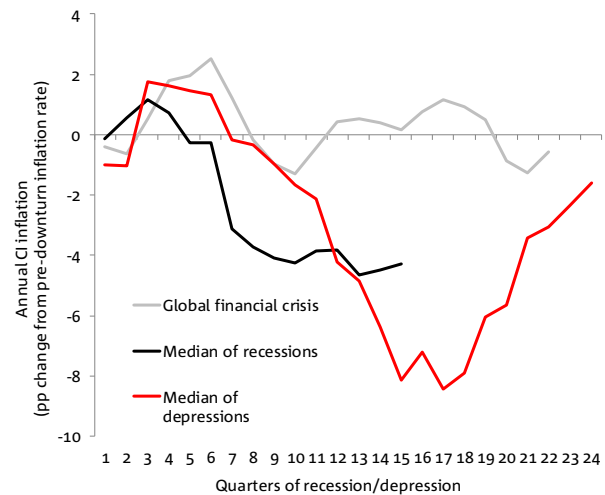
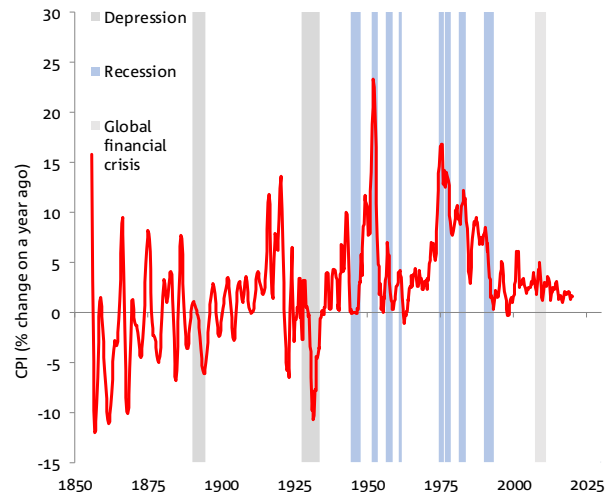
Note: The median recession series in the second chart excludes the mid 1970s episode given there was only a short time between it and the late 1970s recession.
 Source: Australian Bureau of Statistics, Melbourne Institute, Ville and Withers (2015), Waterman (1972), National Australia Bank

Chart 2: The unemployment rate normally increases by 2pp in a recession and takes a very long time to return to return to pre-recession levels



Note: The median recession series in the second chart excludes the mid 1970s episode given there was only a short time between it and the late 1970s recession.
 Source: Australian Bureau of Statistics, Melbourne Institute, Ville and Withers (2015), Waterman (1972), National Australia Bank

Chart 3: Inflation regularly slows sharply during a recession



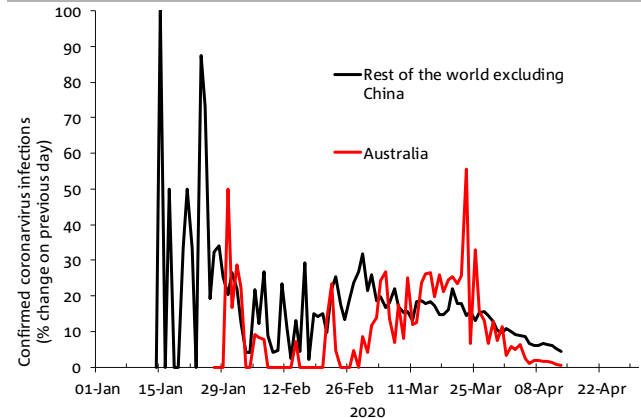
Note: The median recession series in the second chart excludes the mid 1970s episode given there was only a short time between it and the late 1970s recession. The CPI was spliced with its retail price index predecessor.
 Source: Australian Bureau of Statistics, Melbourne Institute, Ville and Withers (2015), Waterman (1972), National Australia Bank

The shape of the current recession and recovery is highly uncertain

Although analysing past recessions provides a useful guide to their key features, underscoring the fact that unemployment is high and inflation is low long after a recession has ended, the shape of this recession and recovery will be heavily influenced by the path of the pandemic, both here and overseas.

In this respect, health measures to date appear to have significantly slowed growth in new infections in Australia, thereby avoiding the disastrous pressure on the health system seen in other advanced economies. The government has regularly stressed that these measures will be in place for six months, but it will also have to construct a strategy for relaxing some constraints to restore activity and reduce unemployment.

Chart 4: Containment measures have produced a sharp slowdown in Australia's infection rate



Source: World Health Organisation, National Australia Bank

Some other countries are at the point where governments are relaxing their containment measures. These measures were generally tougher than the steps taken in Australia and have sometimes had to be reimposed as infection rates have rebounded.

The inherent tension between relaxing containment measures and further waves of infection point to a stop-start recovery, at least until antiviral treatments and/or a vaccine is developed. Although many countries are racing to develop a vaccine, the consensus among epidemiologists is still that a vaccine is unlikely for another 12 to 18 months at the very earliest.

The unprecedented easing of macroeconomic policy will assist the economy's eventual recovery, where restoring consumer and business confidence will be critical. However, it is worth noting that the effectiveness of monetary policy will be reduced by the lower inflation usually triggered by a recession as this will *increase* real interest rates. Given that conventional monetary policy has been exhausted and the Reserve Bank has already adopted unconventional policy measures, this raises the risk that further fiscal stimulus will be required.

Kieran Davies

Appendix – Recession and depression dates

In Australia, recessions are usually narrowly defined as two or more consecutive quarterly declines in GDP. Rather than rely solely on GDP, we used recession dates based on work by Anthony Waterman and by the Melbourne Institute. Waterman and the Melbourne Institute examined trends in a broad range of economic indicators, similar in spirit to the long-established work by the National Bureau of Economic Research (NBER) in identifying US recessions.³

The NBER takes a broad approach, defining a recession as a “significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales”.⁴

There is no accepted definition of a depression other than a more severe recession.

Given that the unemployment rate is the best shorthand measure of NBER recession dates, we aligned the Australian recession and depression dates with the trough and peak of the quarter unemployment rate.⁵

³ See Anthony Waterman, *Economic fluctuations in Australia*, Australian National University Press, 1972 and Melbourne Institute of Applied Economic and Social Research, *Phases of business cycles, Australia*, Webpage, 2005. The Melbourne Institute’s more recent chronology is based on applying Harding and Pagan’s Bry-Boschan quarterly (BBQ) algorithm to the Westpac-Melbourne Institute lead index of economic activity.

Other candidates for mild recessions include the downturns in the late 1940s and the early 1970s. More recently, Reserve Bank Governor Stevens argued that the tax reform-induced

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⁴ See The National Bureau of Economic Research, *US business cycle expansions and contractions*, Webpage, 23 April 2012.

⁵ See Christina and David Romer, *NBER business cycle dating: Retrospect and prospect*, ASSA annual meeting, December 2019. Romer and Romer are members of the NBER’s Business Cycle Dating Committee.

CALENDAR OF ECONOMIC RELEASES

Date Time	Country	Economic Indicator	Period	Consensus	Previous	AEST
Tuesday April 14						
04/14/2020 22:30	US	Import Price Index ex Petroleum MoM	Mar	--	0.20%	22:30
04/14/2020 22:30	US	Export Price Index MoM	Mar	-2.00%	-1.10%	22:30
04/15/2020 01:05	US	Fed's Bullard Holds a Covid-19 Briefing Via Zoom				01:05
04/15/2020 02:30	US	Fed's Evans Speaks in Pittsburgh				02:30
Wednesday April 15						
04/15/2020 08:45	NZ	Food Prices MoM	Mar	--	0.00%	08:45
04/15/2020 09:30	AU	ANZ Roy Morgan Weekly Consumer Confidence Index	Apr-12	--	71.9	09:30
04/15/2020 10:30	AU	Westpac Consumer Conf Index	Apr	--	91.9	10:30
04/15/2020 10:30	AU	Westpac Consumer Conf SA MoM	Apr	--	-3.80%	10:30
04/15/2020 21:00	US	MBA Mortgage Applications	Apr-10	--	-17.90%	21:00
04/15/2020 22:30	US	Empire Manufacturing	Apr	-29	-21.5	22:30
04/15/2020 22:30	US	Retail Sales Ex Auto and Gas	Mar	--	-0.20%	22:30
04/15/2020 22:30	US	Retail Sales Control Group	Mar	--	0.00%	22:30
04/15/2020 23:00	CA	Existing Home Sales MoM	Mar	--	5.90%	23:00
04/15/2020 23:15	US	Industrial Production MoM	Mar	-4.10%	0.60%	23:15
04/16/2020 00:00	US	Business Inventories	Feb	-0.40%	-0.10%	00:00
04/16/2020 00:00	US	NAHB Housing Market Index	Apr	60	72	00:00
04/16/2020 00:00	CA	Bank of Canada Rate Decision	Apr-15	0.25%	0.25%	00:00
04/16/2020 03:00	US	Fed's Bostic to Speak via Zoom to Birmingham Clubs				03:00
04/16/2020 04:00	US	U.S. Federal Reserve Releases Beige Book				04:00
04/16/2020 06:00	US	Total Net TIC Flows	Feb	--	\$122.9b	06:00
Thursday April 16						
04/16/2020 11:00	AU	Consumer Inflation Expectation	Apr	--	4.00%	11:00
04/16/2020 11:30	AU	Employment Change	Mar	-30.0k	26.7k	11:30
04/16/2020 11:30	AU	Unemployment Rate	Mar	5.40%	5.10%	11:30
04/16/2020 11:30	AU	Participation Rate	Mar	--	66.00%	11:30
04/16/2020 11:30	AU	RBA FX Transactions Market	Mar	--	A\$548m	11:30
04/16/2020 16:00	GE	CPI EU Harmonized YoY	Mar F	1.30%	1.30%	16:00
04/16/2020 18:30	UK	Bank of England Bank Liabilities/Credit Conditions Surveys				18:30
04/16/2020 19:00	EC	Industrial Production SA MoM	Feb	0.00%	2.30%	19:00
04/16/2020 22:30	US	Building Permits	Mar	1300k	1464k	22:30
04/16/2020 22:30	US	Building Permits MoM	Mar	-10.50%	-5.50%	22:30
04/16/2020 22:30	CA	Manufacturing Sales MoM	Feb	--	-0.20%	22:30
04/16/2020 22:30	US	Housing Starts	Mar	1317k	1599k	22:30
04/16/2020 22:30	US	Philadelphia Fed Business Outlook	Apr	-25	-12.7	22:30
04/16/2020 22:30	US	Initial Jobless Claims	Apr-11	--	--	22:30
04/16/2020 22:30	US	Continuing Claims	Apr-04	--	--	22:30
Friday April 17						
04/17/2020 12:00	CH	GDP YoY	1Q	-6.00%	6.00%	12:00
04/17/2020 12:00	CH	GDP SA QoQ	1Q	-10.00%	1.50%	12:00
04/17/2020 12:00	CH	Industrial Production YTD YoY	Mar	-9.90%	-13.50%	12:00
04/17/2020 12:00	CH	Retail Sales YTD YoY	Mar	-14.40%	-20.50%	12:00
04/17/2020 12:00	CH	Fixed Assets Ex Rural YTD YoY	Mar	-15.00%	-24.50%	12:00
04/17/2020 12:00	CH	Surveyed Jobless Rate	Mar	--	6.20%	12:00
04/17/2020 14:30	JN	Tertiary Industry Index MoM	Feb	--	0.80%	14:30
04/17/2020 14:30	JN	Industrial Production YoY	Feb F	--	-4.70%	14:30
04/17/2020 16:00	EC	EU27 New Car Registrations	Mar	--	-7.40%	16:00
04/17/2020 19:00	EC	Construction Output YoY	Feb	--	6.00%	19:00
04/17/2020 19:00	EC	CPI Core YoY	Mar F	1.00%	1.00%	19:00
04/18/2020 00:00	US	Leading Index	Mar	-7.00%	0.10%	00:00
04/18/2020 04/23	JN	Tokyo Dept Store Sales YoY	Mar	--	-12.80%	04/23
Upcoming Central Bank Interest Rate Announcements						
Europe, ECB		Apr 28	-0.50	-0.60	-0.50	
Japan, BoJ		Apr 29	-0.10	-0.10	-0.10	
US, Federal Reserve		Apr 29	0.50/75	0.50/75	1/1.25	
		Apr 29	1.00	1.00	1.00	
New Zealand, RBNZ		May 13	0.25	0.25	0.25	
UK, BOE		May 7	0.25	0.25	0.25	
Australia, RBA		May 5	0.25	0.25	0.25	

GMT: Greenwich Mean Time; AEDT: Australian Eastern Daylight Time

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