

AUSTRALIAN MARKETS WEEKLY

Demographics and long-term inflation



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Analysis – Demographics and long-term inflation

- Inflation is expected to weaken materially in the near term. The large demand shock from the pandemic will weigh on inflation, both domestically and globally.
- In contrast, debate on the long-term inflation outlook has resurfaced. Influential economists Goodhart and Pradhan suggest that an aging global population will act to lift inflation. They argue that slower growth in the labour force and a higher dependency ratio will see savings fall and stronger wages growth. The argument is an interesting one, although we are yet to be convinced.

Week ahead – AU work done, capex, payrolls; Powell speaks at Jackson Hole

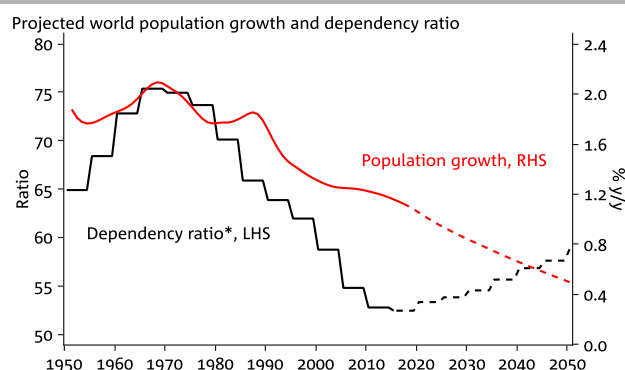
- **AU:** NAB forecasts a 7% fall in work done (Wednesday) and a 12% fall in capex (Thursday). We think these data will point to a 1.5pp subtraction from Q2 GDP, where NAB expects GDP fell 6.1% q/q amid the peak of the pandemic. Payrolls data on Tuesday will show how jobs fared in early August. We expect a small decline in jobs as losses in Victoria offset gains elsewhere.
- **Global:** The key event globally is Fed Chair Powell's speech on the Fed's policy framework review on Thursday at Jackson Hole. The highly anticipated review has been focused on the Fed's inflation targeting strategy, where the Fed could announce a more flexible approach, targeting an *average* inflation rate of 2%. The Jackson Hole Symposium runs online, 27 to 28 August, and will include speeches from BoE Governor Bailey and BoC Governor Macklem. Also on Thursday, President Trump is scheduled to speak, on the final day of the Republican national convention.

Key markets over the past week

	Last	% chg week		Last	bp/% chg week
AUD	0.7163	-0.7	RBA cash	0.13	0.0
AUD/CNY	4.96	-0.8	3y swap	0.20	0.0
AUD/JPY	75.9	-0.8	ASX 200	6121	0.8
AUD/EUR	0.607	0.0	Iron ore	121.2	3.7
AUD/NZD	1.097	-0.3	Brent oil	44.3	-2.3

Source: Bloomberg

Chart of the week: Demographic reversal may be a tipping point for inflation



* Ratio of population aged 0-14 and 65+ per 100 of those aged 15-64
Source: National Australia Bank, United Nations

Demographics and long-term inflation

- Inflation is expected to weaken materially in the near term. The large demand shock from the pandemic will weigh on inflation, both domestically and globally.
- In contrast, debate on the long-term inflation outlook has resurfaced. Influential economists Goodhart and Pradhan suggest that an aging global population will act to lift inflation. They argue that slower growth in the labour force and a higher dependency ratio will see savings fall and stronger wages growth. The argument is an interesting one, although we are yet to be convinced.

NAB and the RBA expect inflation will stay below 1.5% to the end of 2022

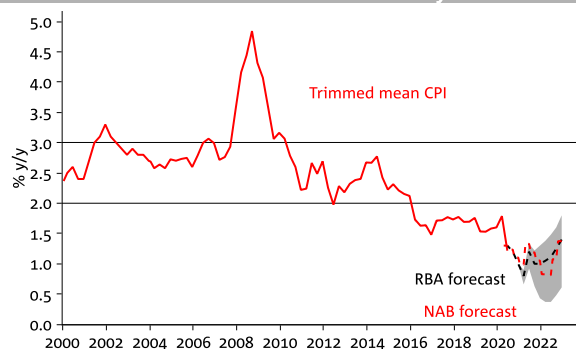
Inflation is expected to be quite low for some years, barring some volatility due to temporary supply chain disruptions and the introduction and removal of temporary government subsidies. This is because demand is expected to be weak for some time, while high unemployment means wages growth will slow, limiting price pressure.

- NAB forecasts economic activity will only recover to pre-virus levels in late 2022. As such, unemployment will rise sharply over the next 3-6 months and remain generally elevated for some time. This suggests that wages are likely to slow in the near term, given the elevated unemployment rate means job seekers and current employees will have limited bargaining power.

Additionally, we note little price pressure from abroad. Over the next few years a higher Australian dollar and weak economic activity overseas suggests the price of imports (including oil) will not rise sharply. This means there is likely only limited cost pressure from import prices.

Therefore, NAB forecasts core inflation to slow to 1% by the end of 2021. As economic activity recovers and unemployment falls, disinflationary pressure will ease. Eventually, following a sustained recovery in activity and unemployment, inflation will begin to rise again. But this will take some years, especially as the near-term path of the recovery remains highly uncertain.

Chart 1: The outlook for inflation is very weak



Note: Shaded region indicates range of RBA's upside and downside scenarios
Source: National Australia Bank, ABS, RBA

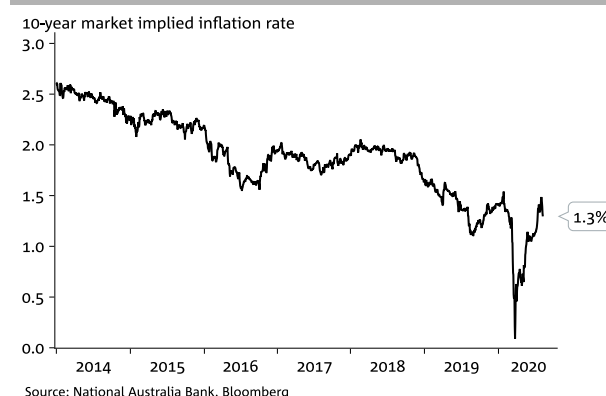
Inflation expectations have shifted dramatically over this year

Since the start of the coronavirus pandemic, inflation expectations have shifted dramatically. Short- to medium-term inflation expectations have fallen, while long-term expectations have collapsed then risen.

The fall in near-term expectations is unsurprising given the large economic shock from the pandemic, where demand has collapsed, unemployment has spiked, and oil prices have fallen sharply.

More interesting is the recovery in long-term expectations. In part, this may reflect the market expectation that the US Federal Reserve (Fed) will relax its inflation mandate to target an average inflation rate of 2%, thereby implying the Fed will tolerate periods of above-target inflation. The move also reflects a growing discussion in some quarters that long-term disinflationary forces have played out and may even reverse.

Chart 2: Long-term inflation expectations have collapsed and rebounded



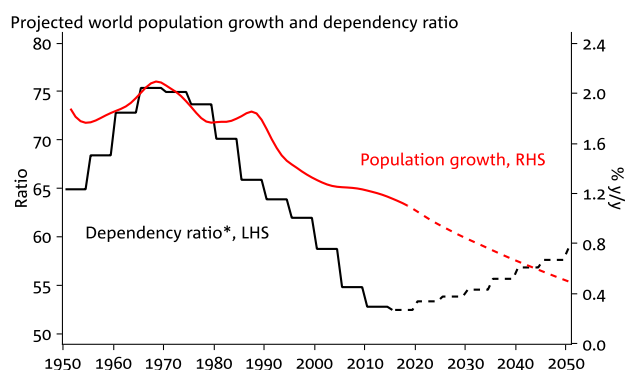
Long term outlook – demographic reversal to support inflation?

Recently, debate on how inflation is influenced by long-term demographic trends has resurfaced. This has been sparked, in part, by an upcoming book *The Great Demographic Reversal: Ageing Societies, Waning Inequality, and an Inflation Revival* by Charles Goodhart and Manoj Pradhan. Goodhart was part of the Bank of England's monetary policy committee; Pradhan was formerly the head of the global economics team at Morgan Stanley. While the book is not yet released, we discuss an earlier 2017 working paper by the pair: [Demographics will reverse three multi-decade global trends](#).

Goodhart and Pradhan's central thesis is that the significant demographic shifts over the past 35 years are key to understanding the long-term declines in real interest rates and inflation, as well as the rise in within-country inequality. We focus on their discussion of real interest rates/inflation.

The authors point to two major changes over the past decades: (1) falling birth rates globally have seen the dependency ratio drop, (2) the integration of China and eastern Europe into the global economy has boosted the global workforce by 120%.

Chart 3: After falling for decades, the dependency ratio is at a turning point



* Ratio of population aged 0-14 and 65+ per 100 of those aged 15-64
Source: National Australia Bank, United Nations

Goodhart and Pradhan then argue that these forces have seen:

- A large increase in the global labour supply, which has resulted in a fall in the price of labour – wages. This weighs on inflation; and
- Labour has become cheaper, relative to capital, and therefore businesses globally are less inclined to invest, reducing labour productivity. This also weighs on wages. Further, this results in a fall in the equilibrium interest rate, as firms need a lower interest rate to trigger investment. As such, it is also harder for monetary policy to stimulate growth and inflation.

However, this demographic dividend has now ended. The world now faces an aging population and rising dependency ratio. Goodhart and Pradhan argue that this will cause savings to fall, relative to investment, lifting the equilibrium interest rate and inflation.

- **Savings will fall** as the share of older people rises. The authors argue that this effect will not be offset by young workers saving more to fund their longer retirements as life expectancy rises. This is because, while the authors note a sharp rise in spending as people get older due to large health costs, they assume these health costs are paid by government. So private savings are unaffected, although taxes will increase.
- **Investment will not fall as much as savings.** This is because residential construction will be supported by an older population that, all else equal, will have less people per household as the elderly are less likely to live with others or move in with their children. Separately, the authors argue that the smaller and more expensive labour force means corporates will shift more investment into capital.

A higher equilibrium interest rate should make it easier for monetary policymakers to stimulate inflation, reversing its multi-decade decline.

- Further, the authors argue that the slower labour force growth means increased bargaining power for workers, which can be used to gain pay rises. This is needed to support disposable income, as taxes will increase to cover the cost of increased healthcare expenditure. The stronger wages growth, in turn, supports inflation.

Importantly, Goodhart and Pradhan emphasise their theory is about *global* labour market dynamics. Therefore, they push back on criticism that cites country-specific examples of aging populations and weak inflation, such as Japan.

Caveats – why the aging population may not boost the equilibrium interest rate and inflation

Goodhart and Pradhan acknowledge some key risks to their outlook:

1. The degree of government social support could be reduced. That would mean savings rise as workers need to save more for their retirement, such that the aging population is disinflationary.
2. The global labour force may be supported by other factors: (1) participation by older workers could rise further, (2) the rise of India and Africa could see another boom in the global labour force and activity.
3. Large debt overhang could delay the transition. The authors state unprecedented indebtedness could take decades to unwind, where debt is weighing on real rates and inflation. It's not clear how this interacts with their other arguments.

We agree that these are major challenges to the authors' thesis, particularly their assumption that government social support remains unchanged.

Further, even if social welfare for older people remains unchanged, we question whether workers are able to gain the pay rises needed to provide this support. The growing health expenditure will need to be paid for, either through taxes or private savings (should the government support be reduced). Much lies in Goodhart and Pradhan's assumption that workers bargaining power will have increased due to slower growth in labour supply.

We question whether that will be the case, given we think other factors, such as globalization have also worked to flatten the Phillips curve. In a low growth environment, due to slow population growth that is not offset by large productivity gains, it may be hard for firms to lift pay rates, even if labour supply is growing more slowly.

Future discussion – peak globalisation?

Goodhart and Pradhan's arguments are interesting, though we are yet to be convinced that an aging global population will see savings fall and inflation rise sharply. Perhaps more evidence will be presented in their upcoming book. As noted earlier, we think the near-term pressure of the demand shock and increased unemployment will be more important factors restraining inflation.

In our view, a potentially equally important discussion will be the impact of globalisation trends. Some economists argue that supply chain integration has reached its peak, with this effect also a significant disinflationary force for decades. We intend to revisit this topic in a future weekly, where we will also take a look at Australia's exposure to global inflation factors.

Kaixin Owyong

CALENDAR OF ECONOMIC RELEASES

Country	Economic Indicator	Period	Forecast	Consensus	Actual	Previous	GMT	AEST
Monday 24 August 2020								
NZ	Retail Sales Ex Inflation QoQ	2Q	-19.1	-16.3		-0.7	21.45	8.45
US	Fed's Daly speaks	Aug		--		--	18.25	5.25
Tuesday 25 August 2020								
AU	Payrolls	early Aug		--		--	0.30	11.30
GE	GDP WDA YoY	2Q F		-11.7		-11.7	5.00	16.00
GE	IFO Business Climate	Aug		92.4		90.5	7.00	18.00
US	New Home Sales	Jul		775		776	13.00	0.00
US	Conf. Board Consumer Confidence	Aug		93		92.6	13.00	0.00
Wednesday 26 August 2020								
NZ	Trade Balance NZD	Jul	285	283.5		426	21.45	8.45
AU	Construction Work Done	2Q	-7	-5.8		-1	0.30	11.30
US	Durable Goods Orders	Jul P		4		7.6	11.30	22.30
Thursday 27 August 2020								
US	Jackson Hole Policy Symposium			--		--	27 to 28 August	
US	US president Trump speaks at last day of Republican convention			--		--	27 August	
AU	Private Capital Expenditure	2Q	-12	-7.9		-1.6	0.30	11.30
JN	All Industry Activity Index MoM	Jun		6.3		-3.5	3.30	14.30
EC	M3 Money Supply YoY	Jul		--		9.2	7.00	18.00
US	Initial Jobless Claims	Aug 22		--		1106	11.30	22.30
US	GDP Price Index	2Q S		-1.8		-1.8	11.30	22.30
US	Core PCE QoQ	2Q S		--		-1.1	11.30	22.30
US	GDP Annualized QoQ	2Q S		-32.5		-32.9	11.30	22.30
CA	Current Account Balance	2Q		-11.78		-11.1	11.30	22.30
US	Fed's Powell speaks at Jackson Hole on Policy Framework Review			--		--	12.10	23.10
CA	BoC's Macklem speaks at Jackson Hole			--		--	14.15	1.15
Friday 28 August 2020								
NZ	ANZ Consumer Confidence Index	Aug		--		104.3	21.00	8.00
JN	Tokyo CPI YoY	Aug		0.6		0.6	22.30	9.30
US	PCE Core Deflator MoM	Jul		0.47		0.2	11.30	22.30
US	PCE Core Deflator YoY	Jul		1.2		0.900004	11.30	22.30
CA	GDP YoY	Jun		-9.4		-13.8	11.30	22.30
US	Wholesale Inventories MoM	Jul P		-1		-1.4	11.30	22.30
US	BoE's Bailey speaks at Jackson Hole			--		--	12.05	23.05
US	U. of Mich. Sentiment	Aug F		72.8		72.8	13.00	0.00
Upcoming Central Bank Interest Rate Announcements								
Australia, RBA	Sep 1	0.25	0.25			0.25		
Canada, BoC	Sep 9	0.25	0.25			0.25		
Europe, ECB	Sep 10	-0.50	-0.50			-0.50		
Japan, BoJ	Sep 17	-0.10	-0.10			-0.10		
US, Federal Reserve	Sep 16	0/0.25	0/0.25			0/0.25		
UK, BOE	Sep 17	0.10	0.10			0.10		
New Zealand, RBNZ	Sep 23	0.25	0.25			0.25		

GMT: Greenwich Mean Time; AEST: Australian Eastern Standard Time

FORECASTS

Economic Forecasts																
	Annual % change				Quarterly % change											
	2019	2020	2021	2022	2019				2020				2021			
Australia Forecasts					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Household Consumption	1.4	-5.0	1.7	2.9	0.4	0.3	0.1	0.5	-1.1	-7.0	1.5	0.9	0.8	1.0	1.1	0.4
Underlying Business Investment	-1.7	-23.6	-26.5	3.2	0.8	-0.2	-1.7	-1.5	-1.0	-17.6	-15.5	-8.7	-7.7	-1.8	0.6	0.1
Residential Construction	-6.9	-16.0	-7.9	14.5	-1.7	-3.5	-0.7	-4.1	-1.7	-10.5	-4.5	-3.8	-2.8	0.9	2.6	3.5
Underlying Public Spending	4.9	4.7	3.8	3.1	1.1	1.7	1.8	0.4	1.5	1.1	1.0	1.0	0.9	0.9	0.8	0.8
Net Exports (a)	0.9	1.7	-0.5	-0.8	0.2	0.6	0.1	-0.1	0.5	1.6	-0.2	-0.1	0.0	-0.2	-0.3	-0.1
Inventories (a)	-0.2	-0.5	0.8	0.1	0.0	-0.4	0.1	0.2	-0.2	-1.5	1.4	0.3	0.2	0.1	0.0	0.0
Domestic Demand (q/q %)	--	--	--	--	0.3	0.4	0.4	0.2	-0.5	-6.0	-0.5	-0.1	0.1	0.8	1.0	0.7
Dom Demand (y/y %)	1.3	-4.8	-0.5	3.6	1.2	1.3	1.2	1.3	0.5	-5.9	-6.8	-7.0	-6.4	0.4	1.9	2.6
Real GDP (q/q %)	--	--	--	--	0.5	0.6	0.6	0.5	-0.3	-6.1	0.5	0.3	0.6	1.0	0.9	0.5
Real GDP (y/y %)	1.8	-3.8	0.8	2.9	1.7	1.6	1.8	2.2	1.4	-5.4	-5.5	-5.7	-4.8	2.4	2.9	3.1
CPI headline (q/q %)	--	--	--	--	0.0	0.6	0.5	0.7	0.3	-1.9	1.6	0.7	0.4	0.3	0.3	0.4
CPI headline (y/y %)	1.6	0.8	1.6	1.4	1.3	1.6	1.7	1.8	2.2	-0.3	0.7	0.5	0.6	2.9	1.5	1.4
CPI underlying (q/q %)	--	--	--	--	0.2	0.4	0.4	0.4	0.5	0.0	0.4	0.3	0.4	0.3	0.2	0.2
CPI underlying (y/y %)	1.4	1.3	1.1	1.0	1.4	1.4	1.5	1.4	1.7	1.3	1.2	1.1	1.0	1.3	1.2	1.1
Private wages (q/q %)	--	--	--	--	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.5	0.5
Private wages (y/y %)	2.3	1.8	1.2	2.0	2.4	2.3	2.2	2.2	2.1	1.9	1.6	1.3	1.1	1.0	1.3	1.5
Unemployment Rate (%)	5.1	7.5	8.6	7.0	5.1	5.1	5.2	5.2	5.2	7.1	8.4	9.2	9.6	8.9	8.2	7.6
Terms of trade	5.1	0.1	2.2	1.3	3.3	1.4	0.2	-5.2	2.9	0.1	1.1	1.0	0.1	0.9	0.2	0.2
Current Account (% GDP)	0.6	2.8	2.9	2.2	-0.6	1.0	1.4	0.3	1.7	3.4	3.2	3.2	3.1	3.1	2.8	2.7

Source: NAB Group Economics; (a) Contributions to GDP growth

Exchange Rate Forecasts						
	24-Aug	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21
Majors						
AUD/USD	0.716	0.72	0.74	0.76	0.77	0.77
NZD/USD	0.65	0.66	0.68	0.69	0.70	0.71
USD/JPY	105.9	105	103	103	100	100
EUR/USD	1.18	1.18	1.22	1.23	1.25	1.26
GBP/USD	1.31	1.31	1.36	1.40	1.40	1.43
USD/CNY	6.92	7.00	6.90	6.85	6.70	6.70
USD/CAD	1.32	1.36	1.34	1.33	1.30	1.23
USD/CHF	0.91	0.91	0.91	0.91	0.91	0.91

Australian Cross Rates						
AUD/NZD	1.10	1.09	1.09	1.10	1.10	1.08
AUD/JPY	75.9	76	76	78	77	77
AUD/EUR	0.61	0.61	0.61	0.62	0.62	0.61
AUD/GBP	0.55	0.55	0.54	0.54	0.55	0.54
AUD/CNY	4.96	5.04	5.11	5.21	5.16	5.16
AUD/CAD	0.94	0.98	0.99	1.01	1.00	0.95
AUD/CHF	0.65	0.66	0.67	0.69	0.70	0.70

Interest Rate Forecasts						
	24-Aug	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21
Australian Rates						
RBA cash rate	0.25	0.25	0.25	0.25	0.25	0.25
3 month bill rate	0.11	0.10	0.15	0.20	0.20	0.20
3 Year Swap Rate	0.20	0.18	0.18	0.17	0.15	0.15
10 Year Swap Rate	0.77	0.85	0.90	1.00	1.15	1.25
Offshore Policy Rates						
US Fed funds	0.25	0.25	0.25	0.25	0.25	0.25
ECB deposit rate	-0.50	-0.60	-0.60	-0.60	-0.60	-0.60
BoE repo rate	0.10	0.25	0.25	0.25	0.25	0.25
BoJ excess reserves rate	-0.10	-0.20	-0.20	-0.20	-0.20	-0.20
RBNZ OCR	0.25	0.25	0.25	0.25	-0.25	-0.50
10-year Bond Yields						
Australia	0.86	0.95	1.05	1.15	1.25	1.35
United States	0.63	0.70	0.80	0.90	1.00	1.10
New Zealand	0.58	0.88	1.03	1.28	1.38	1.63

Sources: NAB Global Markets Research; Bloomberg; ABS

Global GDP			
	2019	2020	2021
Australia	1.8	-3.8	0.8
United States	2.3	-5.9	4.2
Eurozone	1.2	-7.4	5.7
United Kingdom	1.4	-8.2	6.5
Japan	0.7	-6.2	3.0
China	6.1	1.5	9.5
India	4.9	-1.5	8.0
New Zealand	2.3	-7.8	3.0
World	3.0	-3.5	6.0

Commodity prices (\$US)						
	24-Aug	Sep-20	Dec-20	Mar-21	Jun-21	Sep-21
Brent oil	44.3	45	49	53	55	55
Gold	1933	1725	1725	1750	1775	1800
Iron ore	na	93	87	85	90	80
Hard coking coal*	107	115	120	125	140	135
Thermal coal	50	55	59	59	61	62
Copper	6512	5750	6000	6250	6500	6750
Aus LNG**	10	7	7	7	8	8

* FOB quarterly contract prices (thermal coal is JFY contract)

** Implied Australian LNG export prices

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