

# Discussant remarks by Iain Ross\* on ‘Wage-Price Spirals: What is the Historical Evidence?’

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## 1. Introduction

Inflation in Australia has passed its peak and the monthly CPI indicator for July showed a further decline. But Inflation is still too high and will remain so for some time yet. Conditions in the labour market remain very tight, although they have eased a little. Wages growth has picked up over the past year but is still consistent with the inflation target, provided that productivity growth picks up. Against this backdrop, some have asked whether there is a risk of a so-called wage-price spiral. The paper by Alvarez *et al* (2022) on ‘Wage-Price Spirals: What is the Historical Evidence?’ speaks to this question. I commend the authors on writing such an interesting and topical paper.

In my discussion today, I will begin by providing some remarks on the paper by Alvarez *et al* (hereafter ‘the IMF paper’), before providing my personal views on the risk of a wage-price spiral in Australia. My overall thesis is that there is, to date, no evidence of the emergence of a wage-price spiral in the present circumstances and recent data suggests that such an outcome is unlikely.

### Defining wage-price spirals

The IMF paper defines a wage-price spiral as an episode where both price inflation and nominal wages growth (measured as year-over-year) increase successively for at least 3 out of 4 consecutive quarters.

The authors find that of the 79 episodes of accelerating prices and wages going back to the 1960’s, only a minority saw further acceleration after eight quarters. The ‘great majority’ of the episodes identified were *not* followed by a sustained acceleration in wages and prices; rather, inflation and nominal wage growth tended to stabilize in the following quarters leaving wage growth ‘broadly unchanged’. The authors conclude that ‘wage price spiralling dynamics appear to have short lives’.

In an attempt to assess the risk of an upcoming wage-price spiral, the IMF paper also looks at historical events that mimic the current macroeconomic circumstances, characterised by accelerating inflation, increasing nominal wages and falling real wages and employment. The authors find that similar past episodes were followed by a period of declining inflation while nominal wages growth increased. Wages growth eventually stabilized without triggering a wage price spiral.

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\* Board Member, Reserve Bank of Australia. Views expressed in this paper are those of Iain Ross and not necessarily those of the RBA. I would like to thank James Bishop for assistance in preparing this discussion, Jessica Geraghty for her graphs and analysis, and the Fair Work Commission for unpublished analysis on enterprise agreements (in particular, David Rozenbes and his team).

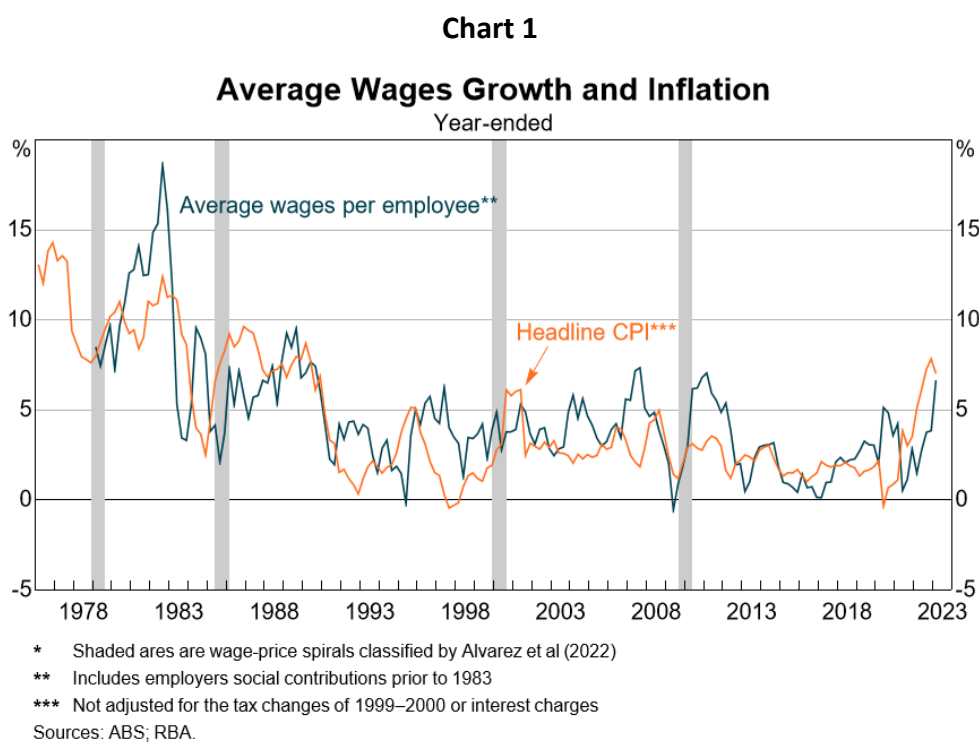
I note that the definition adopted in the IMF paper is simply an outcome where three consecutive quarters see accelerating increases in wages and prices; rather than as a dynamic process with a causal relation between changes in wages and prices.

**Measurement matters ...**

How the IMF paper identifies inflation and wages growth is important. Inflation is headline inflation, and no adjustments are made for the effects of the introduction of the GST and other tax changes in the early 2000s in Australia. Wages growth is growth in wage income per employee, and thus affected by changes in the average number of hours worked by each employee and other compositional changes.

For Australia, the IMF paper identifies four different episodes as a wage-price spiral: 1979, 1986, 2000 and 2010. The adoption of headline inflation and wage income per worker casts doubt on the characterisation of the episodes in the early 2000s and in 2009/10, as wage-price spirals.

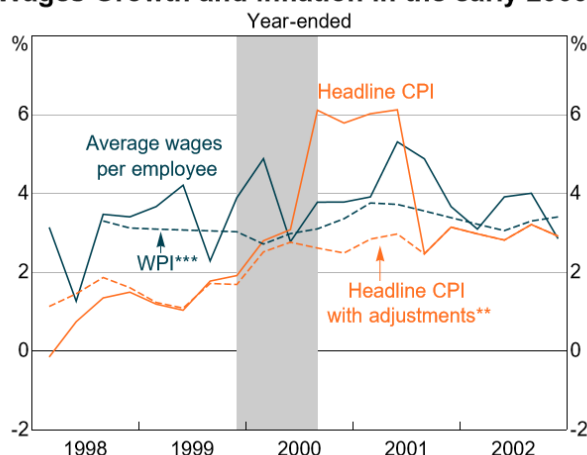
Chart 1 shows the two series the IMF paper use to identify wage-price spirals, with the spiral periods shaded in grey.



The episode in the early 2000s coincided with the introduction of the GST. Adjusting for the effects of the tax changes on the CPI, the IMF’s criteria for a wage-price spiral are no longer satisfied. Similarly, the wages growth part of the criteria adopted by the authors also appears to be driven by volatility in the IMF’s measure of wages. During this period, the growth in the wage price index was broadly flat at around 3 per cent (Chart 2).

Chart 2

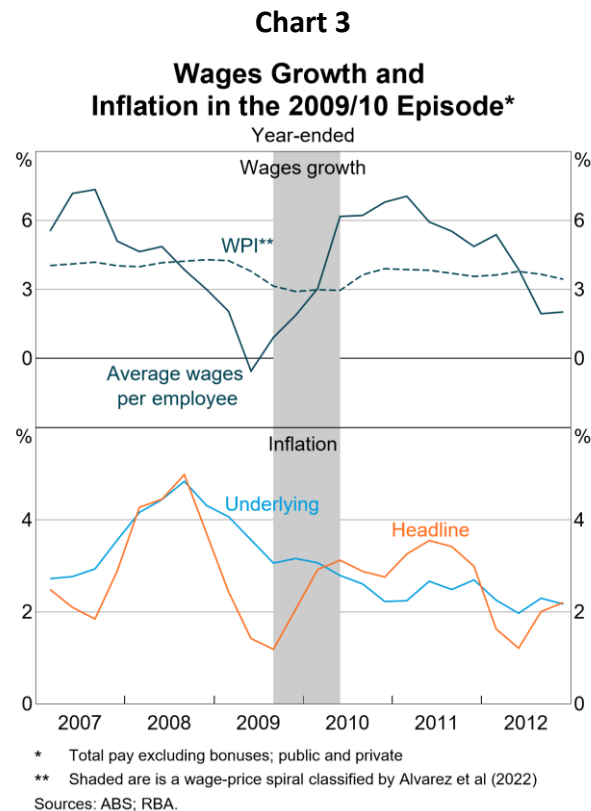
## Wages Growth and Inflation in the early 2000s



\* Shaded area is wage-price spiral classified by Alvarez et al (2022)  
 \*\* Excludes interest charges prior to September quarter 1998 and adjusted for the tax changes of 1999–2000.  
 \*\*\* Total pay excluding bonuses; public and private  
 Sources: ABS; RBA.

Turning to the 2009-10 period, the increase in year-ended inflation reflected that the earlier sharp declines in automotive fuel and deposit & loan facilities items started to drop out of year-ended calculations. This can be seen by looking at the evolution of underlying inflation, which mostly abstracts from the sharp movements in these volatile items (Chart 3, bottom panel). The RBA's August 2010 *Statement on Monetary Policy* commented that 'inflationary pressures have moderated substantially since late 2008'.

Growth in average wages per worker rebounded in 2009-10, after slowing during the Global Financial Crisis. In part this reflected a decline, and subsequent recovery, in hourly wages growth. However, the cycle in average wages per worker growth also reflected cyclical adjustments in average hours worked per employee during the GFC and other changes in the composition of employment. This muddies the interpretation of the wage measure used in the IMF paper. This can be seen in the top panel of Chart 3, which compares average wages per worker (the measure in the IMF paper) against growth in the WPI, which abstracts from changes in the quality and composition of labour inputs over time. The August 2010 *Statement on Monetary Policy* noted that 'labour cost growth has been picking up this year, after a period of unusually low outcomes in 2009, particularly in the private sector'. It will also be recalled that the Australian Fair Pay Commission decided to leave the federal minimum wage and award rates unchanged in 2009.



### Stagflation in the 1970s and 1980s

Turning then to the episode of stagflation in Australia in the 1970s and 1980s in more detail; as Borland (2022) has pointed out, this episode involved several main phases:

- 1969-1974: involving a large increase in price inflation, from 3 per cent to over 16 per cent, with unemployment increasing slightly, by about ½ per cent.
- 1974-1981: the onset of stagflation, unemployment increased from 2.5 per cent to 6 per cent and inflation averaged almost 11 percent.
- 1981-1983: unemployment increased to 10 per cent, inflation remained high, averaging about 10 per cent.

There is a broad consensus in the research as to the potential causes of this episode of stagflation; with the debate focussed on the relative importance of those causes.

There seems little doubt that the strong growth in nominal wages in the 1970s was an important contributing factor to inflation. As Borland (2022) notes, the main explanations for what was known at the time as the '1974 wage explosion' appear to have been:

- The strength of labour demand
- Increasing inflationary expectations
- Institutional features of wage setting. Large award wage increases granted to metal trade workers subsequently flowed to much of the rest of the workforce based on the application of the principles of 'comparative wage justice' (Plowman 1980).

To these one could add the equal pay decisions of 1969 and 1972 which had the effect of raising the minimum wage for women from 75 percent of that of males to 100 percent. As Glenn Stevens (1992,p14) notes : ‘The moral and social aspects of this issue aside, it seems clear that moves to increase females’ wages to be commensurate with males’ resulted in a substantial rise in aggregate labour costs’.

The impact on real wages of the nominal wage increases up to the mid 1970s was ‘locked in’; to some extent by the introduction of quarterly wage indexation from early 1975 (shifting to partial indexation, then 6 monthly indexation before being abandoned completely in early 1980, as show in Table 1 below).

**Table 1: Wage Adjustments under Wage Indexation**

		1975q1 to 1979q3	
	Quarter	Wage Variation	CPI increase
1975	March	Full 3.6%	3.6%
	June	Full 3.5%	3.5%
	September	None	0.8%
	December	(0.8%+5.6%)	5.6%
1976	March	Full 3.0% to \$125 p.w Flat \$3.80 thereafter	3.0%
	June	Full 2.5% to \$98 p.w Flat \$2.5, \$98 - \$166 p.w Partial 1.5% thereafter	2.5%
	September	Full 2.2%	2.2%
	December	Flat \$2.90 for Medibank Partial 2.8% to \$100 Flat \$2.80 thereafter	6.0%
1977	March	Partial 1.9% to \$200 p.w Flat \$2.80 thereafter	2.3%
	June	Partial 2.0%	2.4%
	September	Partial 1.5%	2.2%
	December	Partial 1.5% to \$170 p.w. Flat \$2.60 thereafter	2.3
1978	March	Full 1.3%	1.3%
	June/September	Full 4.0%	4.0%
1979	December/March	Partial 3.2%	4.0%
	June/September	Partial 4.5%	5.0%

Sources: ???

In July 1981, the Commission decided to abandon the indexation system.

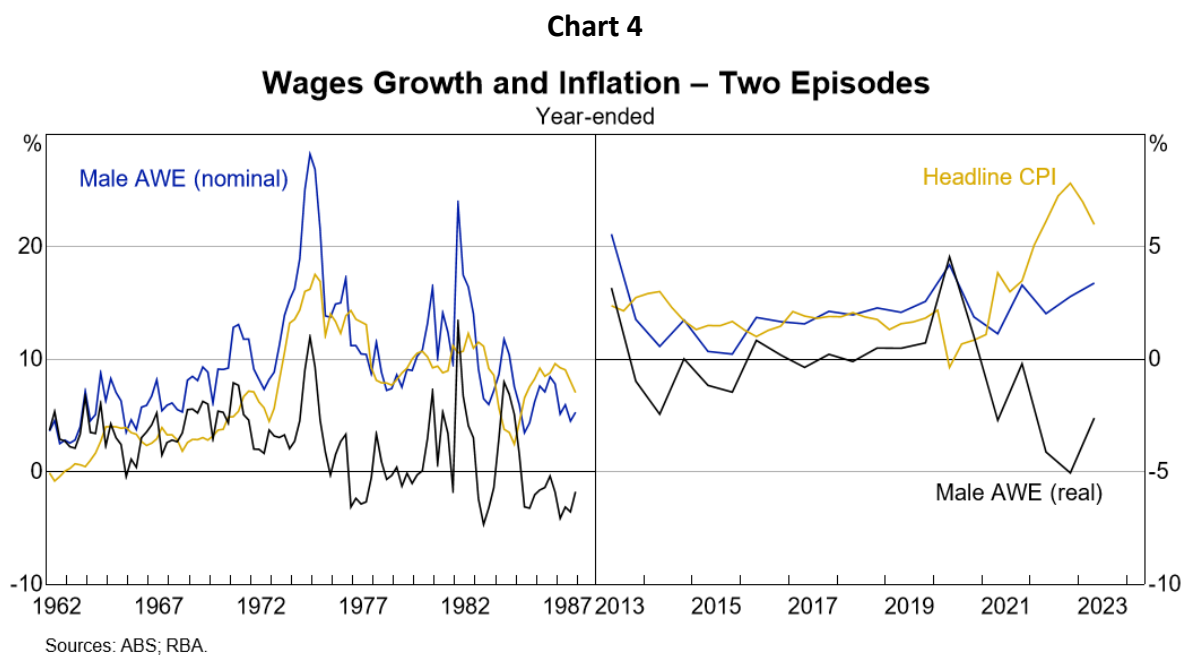
As Borland correctly observes the concept of comparative wage justice was pervasive in the 1970s and 1980s. The doctrine of comparative wage justice was defined by the Commission to mean:

‘... employers doing the same work for different employers or in different industries should by and large receive the same amount of pay irrespective of the capacity of their employers or industry’ (F. 134 CAR, p 165)

Further, as pointed out by Plowman (1980, p85), to union’s, comparative wage justice conveyed something more, it was ‘an iron law or wage relativity rigidity which causes wage movements in one group to be transmitted to others’.

**Labour market institutions are very different today**

Chart 4 compares wages growth and CPI inflation in the 1970s and 1980s (LH panel) to the current episode (RH panel). It uses growth in male average weekly earnings (AWE) to measure wages, which is similar to the series used by Jeff Borland in his [labour market snapshot on the 1970s period](#).<sup>1</sup> The WPI is not used in this graph because it was not available prior to 1998. However, the overall story is robust to using the WPI for the current episode and minimum award wages growth for the earlier period.



The risk of a similar wage price spiral in the present circumstances has been the subject to media speculation and commentary. For example, on 1 June 2022, shortly before the 2021-2022 AWR decision the AFR’s John Kehoe wrote:

‘Indexing wages to inflation would risk repeating the mistakes of the 1970s when an oil price shock - which we are again experiencing- collided with the Whitlam government approving large pay rises.

Stagflation arrived with inflation surging to 15 percent in 1974 from 3.5 percent in 1970, and the jobless rate jumping to 5 percent by 1975 from just 1.6 percent. Hence, the Fair

<sup>1</sup> Chart 4 uses quarterly frequency while Borland used financial year averages of male AWE and also included a measure of average earnings from the national accounts, but the story is similar.

Work Commission must be responsible in weighing up the real cost of living pressures facing employees and the broader macroeconomic consequences of its decision.'

in his June 2022 Labour Market Snapshot Borland addresses this debate, concluding that, 'very different circumstances today mean that it should be possible to sustain steady wage growth without this happening as it did in the 1970s'. As to the 'different circumstances' Borland pointed to 3 broad considerations:

- labour market factors, namely, upward pressure on wages is being limited on the supply side by drawing extra hours of work from under-employed workers and increases in participation;
- changes in the institutional environment since the 1970s with a reduced emphasis on the principle of comparative wage justice and the scope for it to affect wage setting; and
- a decline in union density and a range of other factors have reduced worker bargaining power, limiting the size of wage increases likely to be obtained.

I want to spend a little time on the changes in the institutional environment since the 1970s. These changes have been profound and substantially reduce the likelihood of a wage price spiral.

Returning for a moment to the 1970s. It is important to appreciate that the institutional settings at that time had the effect of facilitating the transmission of wage increases bargained at the enterprise level across the relevant sector and ultimately to the economy more generally. What happened in the manufacturing sector in the 1970s and 1980s serves to illustrate this point.

The metal trades unions embarked on a campaign of collective bargaining at the enterprise level in pursuit of their claim for significant flat dollar wage increases and the 38 hour week. Agreements were reached at the enterprise level – these agreements were usually of short duration and were not required to be approved by the Commission. Importantly, entering into an agreement did not prevent the union from engaging in industrial action or seeking to reopen the agreement in pursuit of a higher wage outcome. Once the number of enterprise level agreements had reached a 'critical mass' the metal trades unions and the relevant employer organisation, then the Metal Trades Industry Association, would reach an agreement which then applied to all of MTIA's members. The parties would then seek to vary the metal trades award, by consent. The Commission had limited capacity to refuse the approval of such a consent arrangement. Once the parties' collective bargain was reflected in the award it became, in practical terms, an industry wide arrangement. Given the centrality of the metals trades award at that time and the operation of comparative wage justice, the increases then spread throughout the award system.

For example, in December 1982 the Commission endorsed a new Metal Trades Award reflecting a consent arrangement between the metal unions and the Metal Trades Industry Association which involved a \$20 per week wage increase, acceptance of a 38 hour week, a \$14 mid-year adjustment (a projection of likely inflation over the first half of the one year agreement) and a 12

month 'no extra claims' cause. At that time the Metals Award was generally accepted as a 'pattern setter' (Wright 1982, p76).

Similar consent arrangements were endorsed in other sectors, notably those pursued by the Meat Industry Employees Union, the Federated Storeman and Packers Union and the Transport Workers Union.

In some respects the union campaigns of the 1970s and 1980s may be seen as a precursor to the pattern bargaining which is evident in some sectors today, notably construction. But the central difference is that in the 1970s and 1980s the institutional arrangements facilitated the transmission of wage increases bargained at the enterprise level to the relevant industry sector and then ultimately to the broader economy. As we shall see, the present institutional arrangements are very different.

1979 also saw the transmission of across-the-board work values increase in many industries where wage increases were granted to award classifications which had not demonstrated the requisite change in work value, and in many instances had not even been subjected to a work value arrangement. This also operated to facilitate the spread of wage increases.

As mentioned above, the subsequent indexation of award wage rates served to lock in these increases; though initially quarterly indexation also took some of the 'heat' out of collective bargaining.

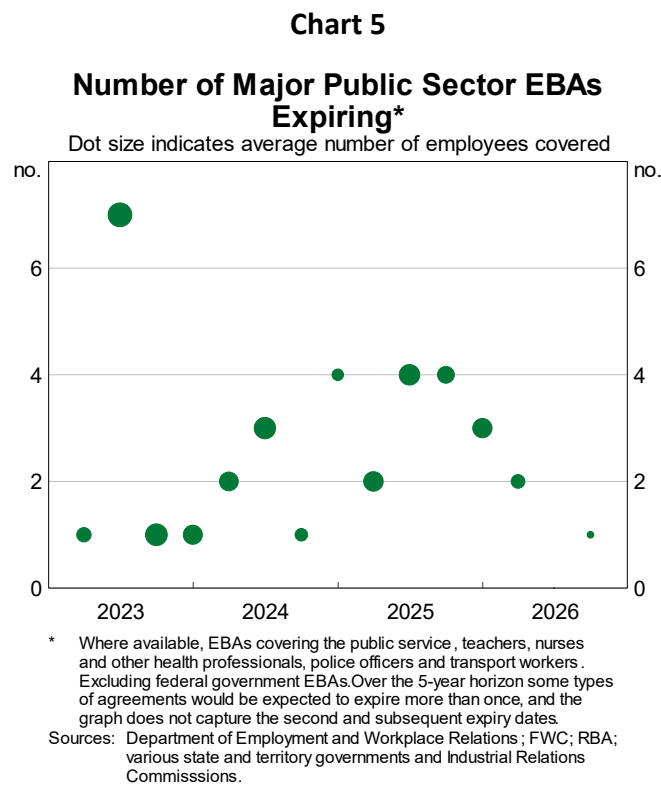
The present institutional arrangements are very different, importantly:

- Modern awards operate as a minimum safety net and the circumstances in which modern award minimum wages may be adjusted are limited. There is effectively no scope to adjust minimum award rates to reflect the outcome of collective bargaining at the enterprise level.
- The Fair Work Act limits the general adjustment of all modern award minimum wage rates to one annual wage review.
- Enterprise agreements acquire legal force upon approval by the Commission. The average nominal term of agreements lodged from 1 January to 11 August 2023 was 3 years (weighted based on the number of employees covered by each agreement) during that term the employees covered by the agreement cannot lawfully engage in industrial action in pursuit of further claims.
- The sanctions for engaging in such industrial action are readily accessible and effective.

As to the third point above, the current enterprise bargaining arrangements effectively operate as a shock absorber by constraining the bargaining capacity of those who are the subject of enterprise agreements. Such employees are unable to pursue claims for increased wages until the enterprise agreement to which they are subject has passed its nominal expiry date. The variation in the nominal expiry dates of major state public sector EBAs serves to illustrate this point.



Chart 5 shows the number of employees covered by major agreements in the state public sector, by quarter of expiry. A major public sector agreement is loosely defined as an agreement covering one of the major occupation groups within the public sector, such as the public service, teachers, nurses and other health professionals, policy officers and transport workers. It excludes federal government agreements. More than 300,000 employees were covered by agreements that expired in the June quarter 2023, largely driven by expiry of agreements in the NSW public service.



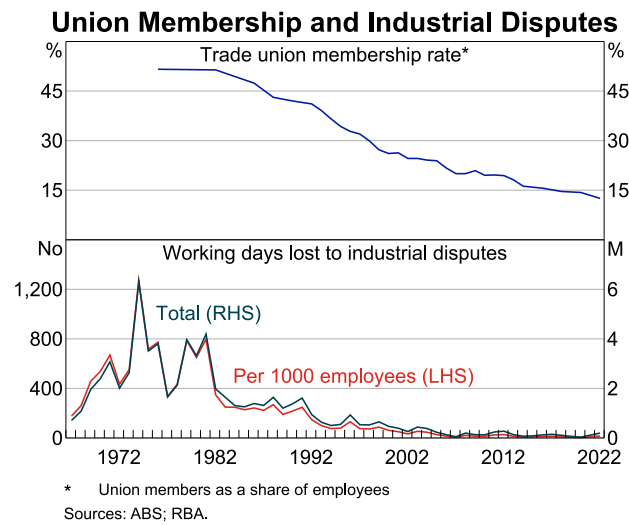
The other ‘different circumstances’ identified by Borland are also significant.

### Declining union density

Union density, the share of all employees who are members of a union, has fallen dramatically since the 1970s. It was slightly above 50 per cent in the late 1970s, has trended down since and is now 12½ per cent (Chart 6). Only 8.2 per cent of private sector employees were members of a union members in 2022, while union density in the public sector was higher, at 33.6 per cent.

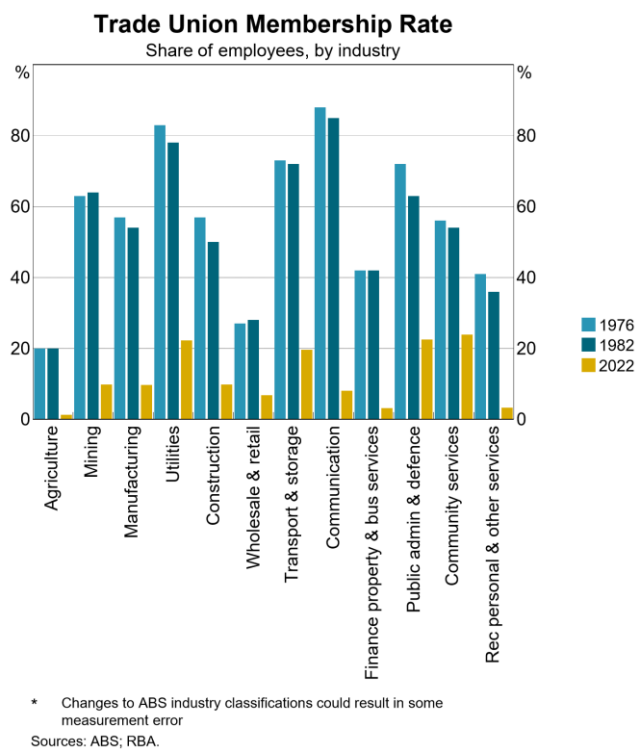
The number of working days lost due to industrial disputes has also fallen sharply over time, essentially flatlining since 2012 (Chart 6).

**Chart 6**



Declines in union density have been broadly based across industries (Chart 7).

**Chart 7**



Given the importance of the manufacturing sector in the wage-price spiral of the 1970s, it is worth noting that manufacturing accounted for 20 per cent of employment in the late 1970s, but now only accounts for 6 per cent of employment (Table 2). Union density in manufacturing has also declined – from around 55 per cent in the late 1970s to 10 per cent in 2022.

As a result of the declining contribution of manufacturing to aggregate employment and a relatively large decline in union density in manufacturing, the share of union members in Australia who work in manufacturing fell from around 25 per cent in the late 1970s to 5 per cent in 2022.

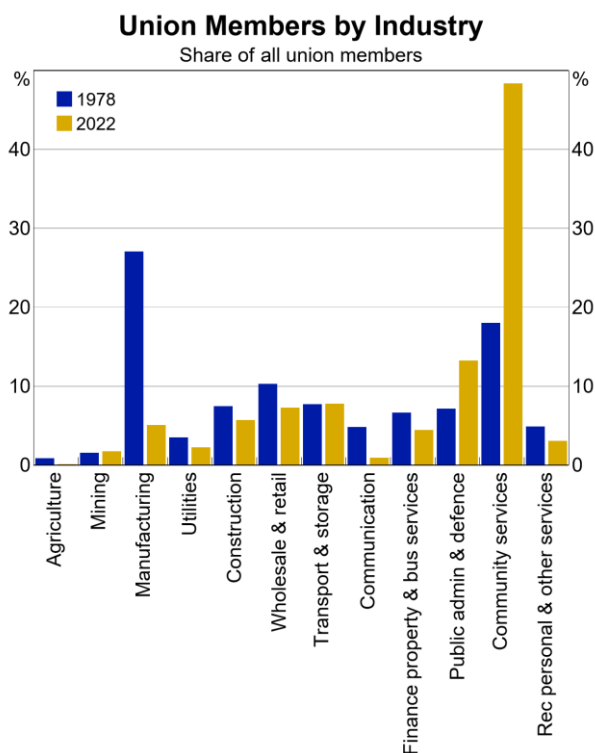
**Table 2: Manufacturing Industry<sup>(a)</sup>**

	Share of employment	Union density	Share of all union members
	%	%	%
1976	22	57	27
1982	18	54	25
2022	6	10	5

(a) Not adjusted for changes in industry classifications over time  
Sources: ABS; RBA

At the same time, the share of union members who work in the ‘community services’ industry – defined below to include education and health – has risen substantially, from 18 per cent in 1978 to 48 per cent in 2022 (Chart 8). The change in the industry composition of union members over this period reflects broader structural changes in the economy. Further, generally speaking employees in the community services sector can be said to have lower bargaining power than employees in manufacturing, mining and construction.

**Chart 8**



\* Changes to ABS industry classifications over time could result in some measurement error  
Sources: ABS; RBA.

As a general proposition the decline in union density can be said to contribute to a fall in employee bargaining power, in turn leading to lower wages growth. The extent to which the

decline in the union membership rate has contributed to low wages growth is contested. A paper by Bishop and Chan (2019), using microdata covering all federal enterprise agreements registered between 1991 and 2017, found there had been no decline in the share of employees covered by enterprise agreements negotiated with union involvement, even as union membership declined, and that the 'union wage premium' in the private sector had been stable over time.

### **Declining competition and dynamism**

It is also worth noting that decreasing competition in product market and increased labour market concentration among employers can exert downward pressure on wages, by increasing monopsony power, lowering productivity growth, and reducing labour mobility.

There has been a broad increase in product market concentration in Australia over the period from 2007 to 2020. Alongside declining competitive pressures, we have seen declining firm dynamism, with firm entry rates falling. These two phenomena are likely linked. Lower net entry rates hamper the emergence of young firms, reducing pressure on incumbent firms to innovate and reduce alternative options for workers seeking new jobs.

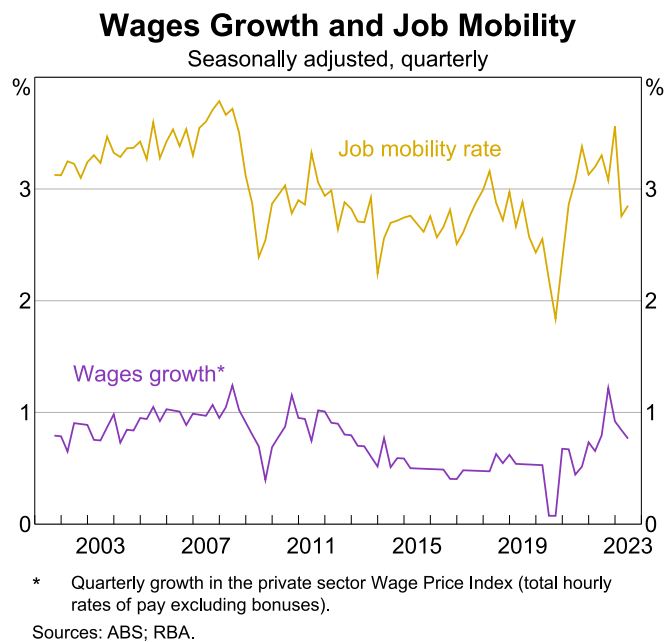
Hambur (2023a) documented that many sectors in Australia have higher levels of concentration than the United States and that there has been a broad increase in concentration between 2004 to 2017 in Australia. Andrews et al (2023) documented that this continued over the rest of the pandemic period, with the average CR4 measure – the market share of the top four firms – across industries rising from 2007 to 2020 by approximately 2.5 percentage points.

While not inferring causality, Andrews et al observe that,

'Our findings suggest that increases in industry concentration during the 2007-14 period are associated with a lower rate of net entry in the following period (2015-21) ... we observe that the conditions linked to concentration growth in one period are correlated with diminished net entry of firms in the subsequent period.' (p7)

Declining competitive pressure and business dynamism appear to have weighed on wages by lowering aggregate productivity growth. In addition, the decline in job mobility may also have weighed on aggregate wage growth. Deutscher (2019) finds that a 1 percentage point increase in the rate at which workers switch jobs is associated with a ½ percentage point increase in growth in average wages. This can arise from two channels: directly, because workers typically experience a pay bump from changing jobs; and indirectly, because an employer may offer a pay raise to retain a worker in their current job due to competition for labour (Chart 9).

Chart 9



In addition, Hambur (2023) found that despite labour market concentration remaining broadly unchanged between 2005 and 2016, the impact of concentration increased over time:

‘For any given level of concentration, its impact on wages has more than doubled compared to the mid-2000s. So despite concentration remaining broadly unchanged over the period, it may still have weighed on wages growth pre-COVID. Simple back-of-the-envelope partial equilibrium estimates suggest wages were a little under 1 per cent lower on average from 2011 to 2015 than they would have been had the impact of concentration not increased.’ (pp 1-2)

A key driver of the increased impact of concentration appears to be declining firm entry and dynamism; declining occupational mobility and union coverage may have also played some role, but declining entry appears to be the major driver. Hambur concludes that

‘... these results do suggest that declining firm entry and dynamism had a substantial negative impact on workers’ wages by lowering their bargaining power and increasing the power of incumbent firms.’ (pp 20-21)

### The risk of a wage-price spiral in Australia

I would like to conclude by observing that there is, as yet, no evidence of the emergence of a wage price spiral in the present circumstances and recent data suggests that such an outcome is unlikely. Four points may be made in this regard:

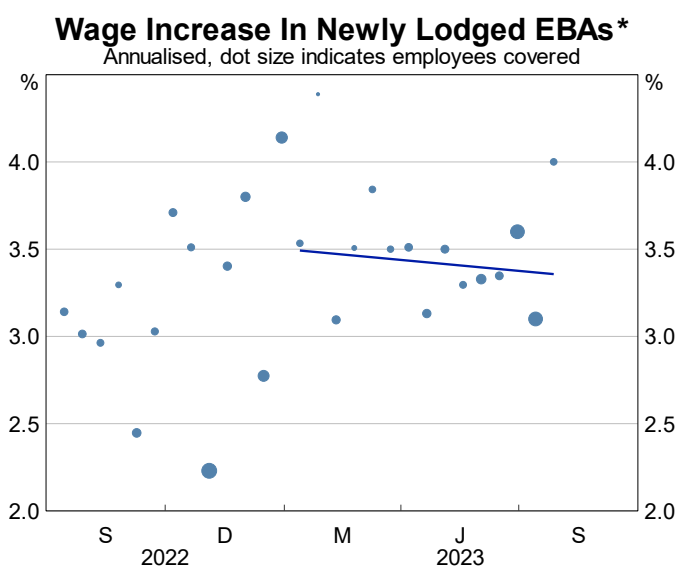
1. Wage increases in newly lodged EBAs are flat or trending down.

2. The data on wage increases in EBAs lodged with the FWC in the first six months of this year shows that 24% of those agreements provide a higher wage increase on commencement than in subsequent years.<sup>2</sup>
3. The data on EBAs lodged with the FWC in the first six months of this year shows that 4.4 per cent of those agreements stipulated wage increases linked to rises in the CPI.<sup>3</sup>
4. Most medium- and long-term inflation expectations measures remain consistent with the Bank’s inflation target.

(i) Wage increases in recently lodged EBAs

Chart 10 below shows the average annualised wage increase in lodged agreements over time. The size of each bubble is proportionate to the number of employees covered by agreements lodged in the fortnight.

**Chart 10**



\* The line of best fit is weighted by the number of employees covered per fortnight.  
Source: FWC, RBA

(ii) EBAs with lower wage increases in subsequent years

2 Weighted by the number of employees covered by each agreement.  
3 Weighted by the number of employees covered by each agreement.

Table 3 and Chart 11 presents data on enterprise agreements lodged with the FWC in the first half of 2023 that had lower wage increases in subsequent years.<sup>4</sup> This analysis was provided by staff of the FWC.

**Table 3: Enterprise Agreements with Lower Wage Increases after Commencement<sup>(a)</sup>**

1 January 2023 to 30 June

	<b>Total No.</b>	<b>Lower subsequent wage increases No.</b>	<b>Proportion %</b>
Agreements	1 744	424	24.3
Employees covered	294 772	65 397	22.2

Notes (a) Agreements lodged with the FWC. Total includes 143 greenfields agreements lodged for which there were no employees at the time the agreements were made, including 12 with a higher wage increase on commencement.

Sources: Fair Work Commission (unpublished analysis provided by FWC staff)

A quarter of all agreements lodged with the FWC in the first half of 2023 had lower wage increases in the years after commencement (or 22.2 per cent of employees covered by lodged agreements). However, this is only slightly higher than what was observed in the first half of 2022 and in the years leading up to the pandemic.<sup>5</sup>

For enterprise agreements with a higher wage increase on commencement, the average wage increase was 3.6 per cent,<sup>6</sup> with an average wage increase on commencement of 4.5 per cent and an average wage increase of 3.1 per cent for all subsequent increases.

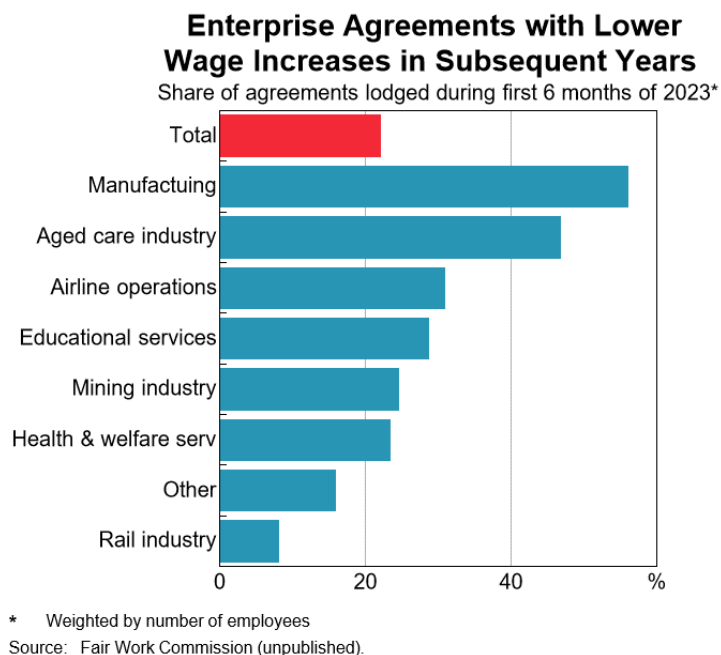
Chart 11 presents the industries with over 1000 employees covered by enterprise agreements lodged with a higher wage increase on commencement. The industries presented in the table are those captured in the Commission's case management system.

4 The focus is restricted to enterprise agreements with quantifiable wage increases. Quantifiable wage increases are those that are consistent for all employees and are known at the time the enterprise agreement was made. For some enterprise agreements, wage increases occur more frequently than annually. This analysis only considers the wage increases and not the time period between increases. Enterprise agreements with a higher wage increase on commencement must have more than one quantifiable wage increase.

5 Estimates for the historical share of agreements with lower subsequent increases are based on agreements that are certified by the FWC and thus captured in the Department of Employment and Workplace Relations' Workplace Agreements Database.

6 Calculated as an average of all wage increases across these enterprise agreements and weighted by the number of employees. As such, the 12 greenfields agreements with a higher wage increase on commencement are given a weight of zero. Average wage increase does not account for the length of the enterprise agreement and is different to the average annualised wage increase (AAWI).

**Chart 11**



(iii) EBAs with wage increases linked to the CPI

Chart 12 and Table 4 show the number of enterprise agreements lodged with the Commission where the stipulated wage increases are linked to increases in the CPI.

**Table 4: Enterprise Agreements with Wage Increases Linked to the CPI<sup>(a)</sup>**  
1 January 2023 to 30 June 2023

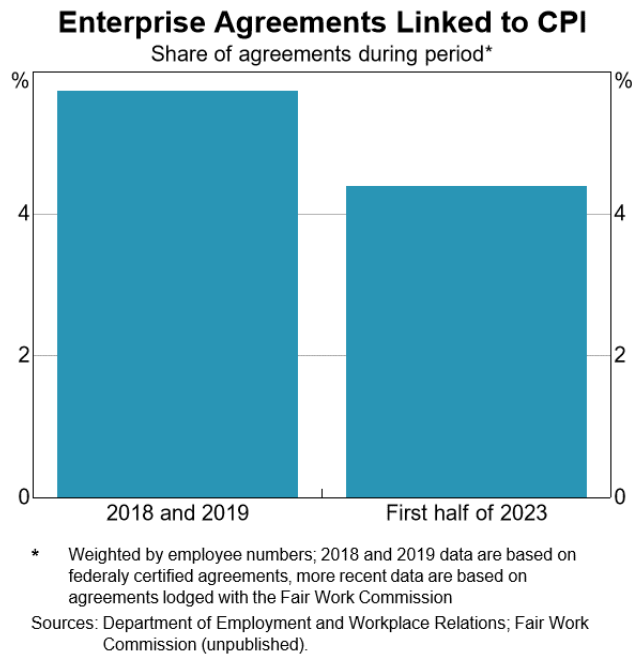
	Total No.	With wage increases linked to the CPI No.	Proportion %
Agreements	1 744	89	5.1
Employees covered	294 772	12 958	4.4

Notes (a) Agreements lodged with the FWC. Total includes 143 greenfields agreements lodged for which there were no employees at the time the agreements were made, including 2 with wage increases linked to the CPI.

Sources: Fair Work Commission (unpublished analysis provided by FWC staff)



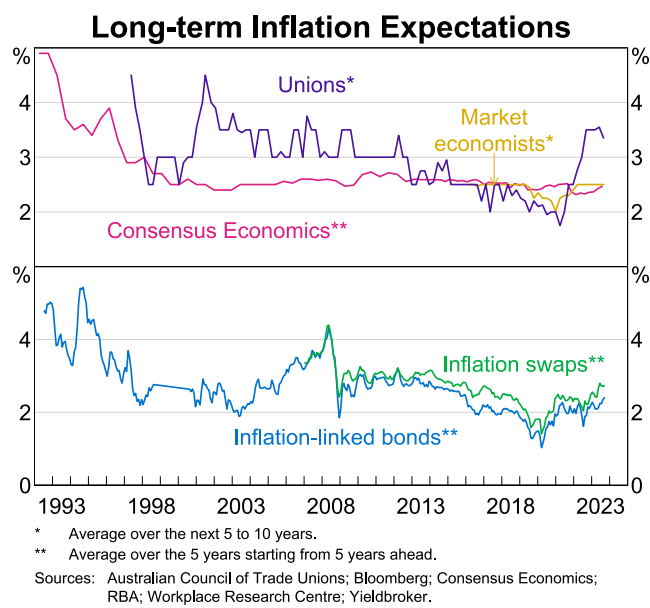
**Chart 12**



(iv) Long-run inflation expectations

Finally, most medium- and long-term inflation expectations measures remain consistent with the Bank’s inflation target (Chart 13). It is important that remains the case.

**Chart 13**



## Concluding remarks

The circumstances of the 1970s and early 1980s which contributed to the stagflation of that period are very different to our present circumstances. The institutional arrangements are very different and the current enterprise bargaining arrangements effectively operate as a shock absorber by constraining the bargaining capacity of employees while subject to an enterprise agreement (within the nominal term of that agreement). Union density has fallen sharply, from just over 50 percent to 12½ percent and decreasing competition and increased labour market concentration among employers is likely to have exerted downward pressure on wages.

To date there is no evidence of the emergence of a wage-price spiral in the present circumstances and recent data suggests such an outcome is unlikely.

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