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SOUTH AFRICAN RESERVE BANK



April 2024

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OBEN 2401* – March 2024

Are shifts in AE labour markets structural?

Mukovhe Takalani, Jean-Francois Mercier, Blessings Nkuna and Kagiso Mphahlele

Abstract

This note evaluates aspects of labour market tightness in AEs, examines whether they are resolving, and explores how they could potentially impede normalization of inflation. Recent years have seen a noticeable shift in the Beveridge curve within AEs, indicating a change in labour supply dynamics. The post-pandemic recovery in labour force participation has been slow and uneven among AEs. Persistent tightness in labour markets is evident through high job vacancies and recruitment challenges. Firms appear to engage in labour hoarding, which contributes to high wage growth. Encouragingly, labour market normalisation (mostly through improved supply) seems underway. Nonetheless, some shifts take longer to resolve, sustaining the risk of durable changes to wage-unemployment dynamics.

1. Introduction

In a stable macroeconomic environment, characterized by flexible and deregulated labour markets where demand and supply are in equilibrium, labour cost increases tend to correspond with productivity of labour inputs and expected inflation. This stability in inflation typically revolves around the central bank's inflation target. Such alignment prevents the emergence of wage-price spirals and limits the risk of inflation pressures, even when temporary shocks occur. However, there is a broad consensus among central banks and economists that this equilibrium does not apply right now. Real wages fell in 2021-22 in major economies as inflation surged, and central banks now accept that there will be some "catch-up" in the next year or two. However, this catch-up needs to be moderate and gradual, and accompanied by a compression in firms' profit margins, to remain consistent with a return of inflation to target.

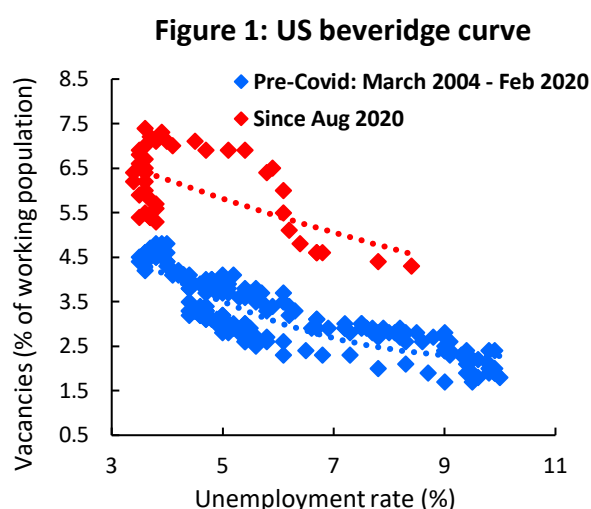
The recent state of advanced economy (AE) labour markets poses risks to that benign scenario. After the pandemic, there were signs of structural shifts in many AEs that affected labour supply and reduced the sensitivity of labour demand to tighter policy. This situation has the potential to fuel higher nominal (and in turn, real) wage growth. Presently, numerous factors have resulted in tight labour markets in AEs. This Note investigates what these factors are, whether they are in the process of resolving themselves, and how they might challenge the continued normalisation of inflation.

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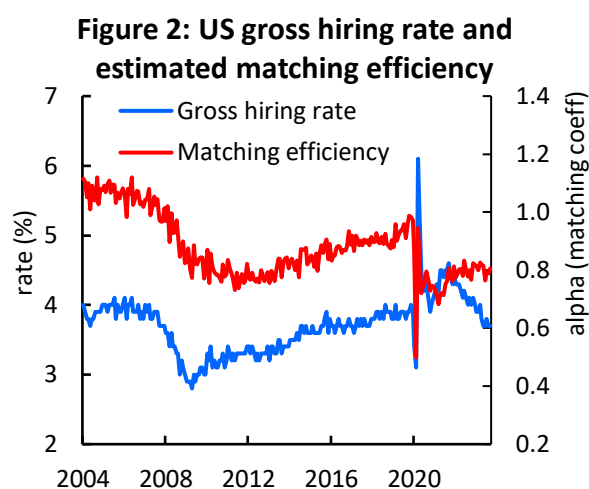
2. Back to the Beveridge curve

Over recent years, several countries have displayed a shift in the Beveridge curve (that links vacancies to unemployment), which signals a change in the supply of labour. This was particularly obvious in the US, potentially suggesting a major structural shift. Under normal circumstances, the equilibrium of unemployment (u) versus vacancies (v) shifts along the curve, as demand for labour fluctuates: Thus, in a recession, u rises as v falls. However, since the pandemic, the whole curve has shifted to the right. This means that for given levels of u , v has been higher – firms find it harder to fill positions even if demand for labour is unchanged.

In the last few quarters, the US labour market has seen a decrease in job vacancies occurring without a substantial rise in unemployment, which could be a sign that the Beveridge curve is moving back to its pre-pandemic position (Figure 1). However, the initial shift in the curve has not yet fully reversed, and the normalisation seemed to stall in December/January.¹ Furthermore, there is still evidence of a decline in the matching efficiency within the US labour market. Using a formula² employed by Blanchard, Domash, and Summers (2022), which estimates efficiency by relating the number of hires to unemployment and vacancies, it is evident that matching efficiency experienced a significant decline during the pandemic. Despite some subsequent improvement in the matching process, the pandemic decline has not been fully reversed.



Source: Bureau of Labour Statistics



Source: JOLTS

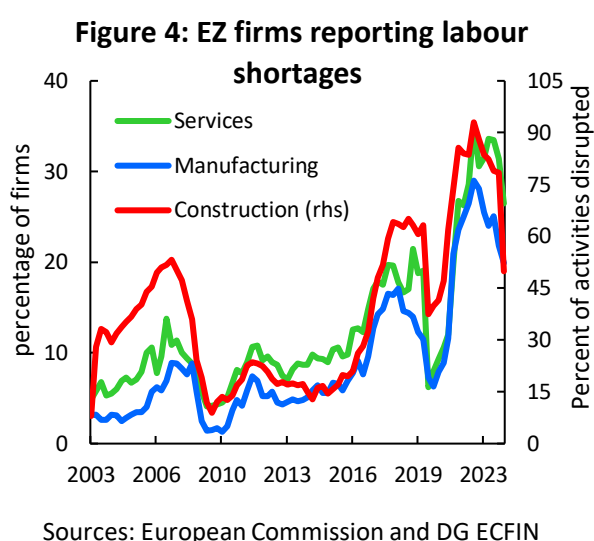
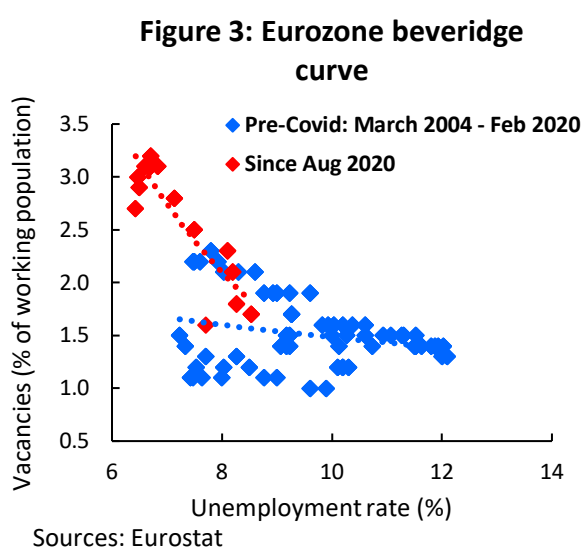
In contrast to the United States, the Eurozone Beveridge curve has not shown any notable inward or outward shifts since 2020, although it appears to have steepened. The apparent steepening of the curve may therefore be a sign of its non-linearity, made evident by the fact that unemployment fell to unusually low levels (Figure 3). Still, the pandemic has led to a

¹ Job creation re-accelerated in the last two months, while vacancies rose in December.

² The matching formula used: $h = a * (u^\alpha) * v^{(1-\alpha)}$, where h is gross hires, and a is a parameter of the efficiency of matching. u and v indicate the unemployment rate and vacancy rate, respectively, and have a convex relationship, the so-called Beveridge curve. Hence, if matching efficiency is high (a high level of a), hires can be elevated even with low unemployment and vacancy levels. The estimates for α in the literature range between 0.3 and 0.5. As in the Policy Brief by Bernanke et al. (2022), we use a value of 0.4, which has similar results for values in the range.

significant shift in the v versus u equilibrium, with an excess of job openings alongside low unemployment rates – implying a tight labour market.

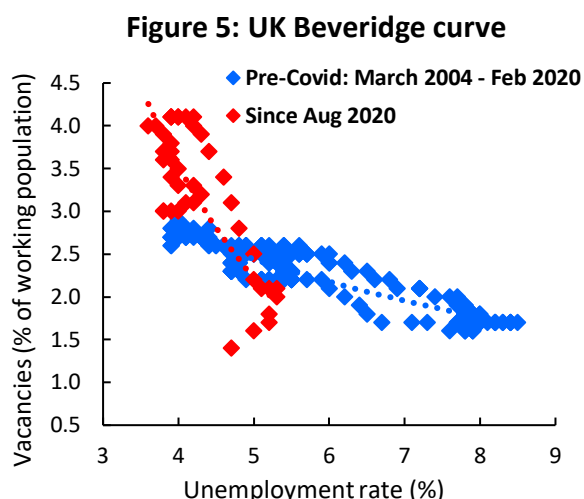
Further corroborating the existence of a tight labour market within the Eurozone bloc is the substantial prevalence of firms – in all major sectors – reporting labour shortages inhibiting production. A research brief authored by Colliac (2023) also highlights that over 15% of companies in the manufacturing and services sectors in the Eurozone face labour shortages, constraining their production activities. By comparison, since 2021, more than 25% of construction activities in this economic bloc have been disrupted due to labour shortages³ (Figure 4).



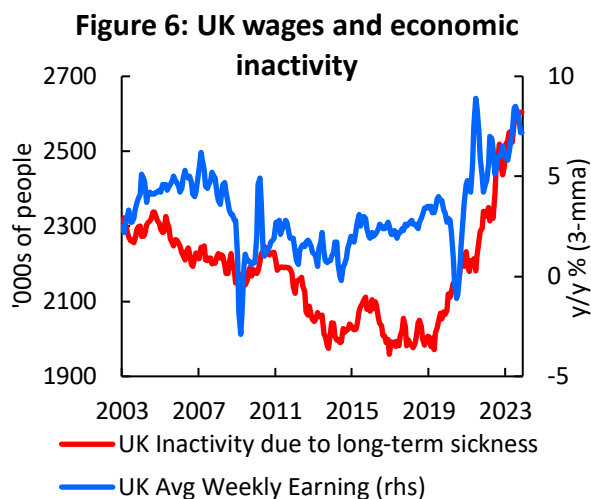
The Beveridge curve in the UK displays similar traits to that of the Eurozone, featuring a steeper incline post-pandemic (Figure 5). However, it lies somewhere between the US and Eurozone curves. Notably, job vacancies in the UK surged in 2021-22 and the vacancies-to-unemployment ratio was unusually high. In addition, unlike in the Eurozone, participation rates in the UK have been relatively slow in recovering to pre-pandemic levels. Although furlough schemes have ended in the UK, a persistent challenge lies in the substantial number of individuals remaining economically inactive due to long-term sickness. Additionally, net migration of EU citizens has been depressed since the pandemic and under more restrictive post-Brexit immigration rules⁴.

³ Monthly values are available for the construction industry, and aggregated to quarterly data, while quarterly values are available for services and manufacturing labour. For manufacturing and services industry, these are firms reporting labour shortages that are limiting their production, while for the construction industry, the percentage of building activities disrupted by labour shortages is illustrated in Figure 4.

⁴ See: Cuibus, M., 2023. *EU migration to and from the UK*. London: The Migration Observatory at the University of Oxford. The author investigates immigration into the UK, and they find that between 2016 and 2022, immigration into the UK has fallen by almost 70%, affecting the supply of foreign labour in the country.



Sources: Office for National Statistics



Source: Office for National Statistics

While job vacancies have now eased back to near pre-pandemic levels, unemployment remains lower than before Covid-19. The number of economically inactive individuals has been steadily increasing since 2019, exacerbated by the pandemic. This upswing in inactivity poses considerable challenges for the UK, contributing to a higher inflationary environment compared to other developed economies, limiting output growth, and reducing tax receipts, thereby posing a risk to public finances. Furthermore, it is leading employers to offer higher pay to attract workers to fill open vacancies, which is contributing to the overall upward trend in wages (Figure 6).

Filling job needs has therefore faced significant challenges in many AEs⁵ post-pandemic, and lingering policies impeding a full return to work (as well as evolving work preferences and choices in the post-pandemic landscape) contribute to continued disparities between labour supply and demand. A surge in retirements remains a challenge for the US, while prolonged sickness among the older population in the UK also continues to suppress labour supply.

3. Slow and uneven recovery in participation

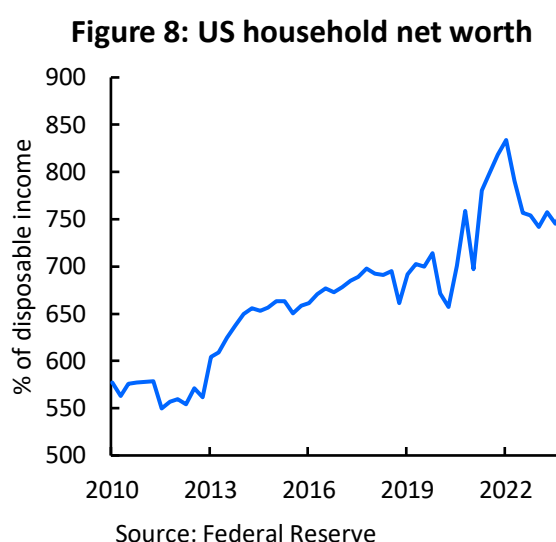
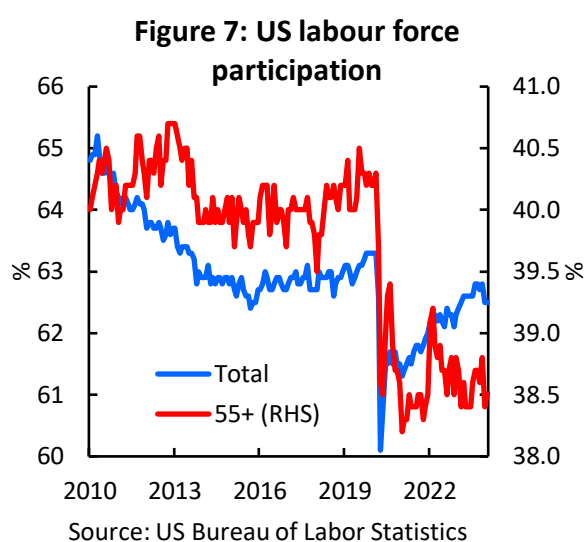
A recovery in workforce participation rates post pandemic is key to ironing out supply-demand mismatches in labour markets. However, not all countries are experiencing a similar rebound. In the US, the participation rate (LFPR) plummeted from 63.3% in February to 60.1% in April 2020, and despite a subsequent recovery, remained 0.8 percentage points below its February 2020 level as of February 2024 (Figure 7). This disparity is primarily attributable to a lasting reduction in the LFPR among individuals aged 55 and older, which fell from 40.3% in February 2020 to 38.5% in May 2020 and has stagnated since⁶. The LFPR for workers under 54, on the other hand, has surpassed the pre-pandemic (2010 – 2019) average of 81.5%, recently at 83.5% in February 2024.

⁵ Some other AEs not covered in this note also experienced a surge in vacancies, especially relative to unemployment, since 2020-21. In Canada, however, this surge has by now largely unwound, whereas vacancies remain unusually high in Australia or Sweden.

⁶ Extrapolating the pre-pandemic peak LFPR to the civilian noninstitutional population aged 16 and above as of December 2022 implies the existence of approximately 3.73 million "missing workers" in the U.S. economy.

Because of population ageing, and larger cohorts falling into older age groups with lower participation, the overall participation rate probably would not have continued its prior upward trend even in the absence of Covid (Hornstein et al., 2023). Still, a surge in retirements occurred post-pandemic. Faria e Castro and Jordan-Wood (2023) analyse its role in contributing to the decline in LFPR and its incomplete recovery. They compare the actual retirement rate to the expected numbers under normal circumstances in the last months of the COVID-19 emergency period, concluding in May 2023⁷.

The retirement trend closely followed expectations until February 2020. During the initial months of the pandemic, the actual retirement rate sharply exceeded predictions, indicating an excess of just over one million retirees in May 2020. From 2023 onward, the model projects a stabilisation in anticipated retirements, levelling off after a consistent rise from around 16% in 2012 to slightly over 18.6% in early 2023⁸.



In a separate article, Faria e Castro and Jordan-Wood (2023) contend that wealth effects stemming from surging household asset returns in 2020-21 explain part of the decline in the LFPR during that period, particularly among older workers nearing retirement⁹. Furthermore, fears of falling ill with Covid-19 were higher for older individuals, amplifying incentives, particularly for those engaged in contact-intensive occupations or unable to transition easily

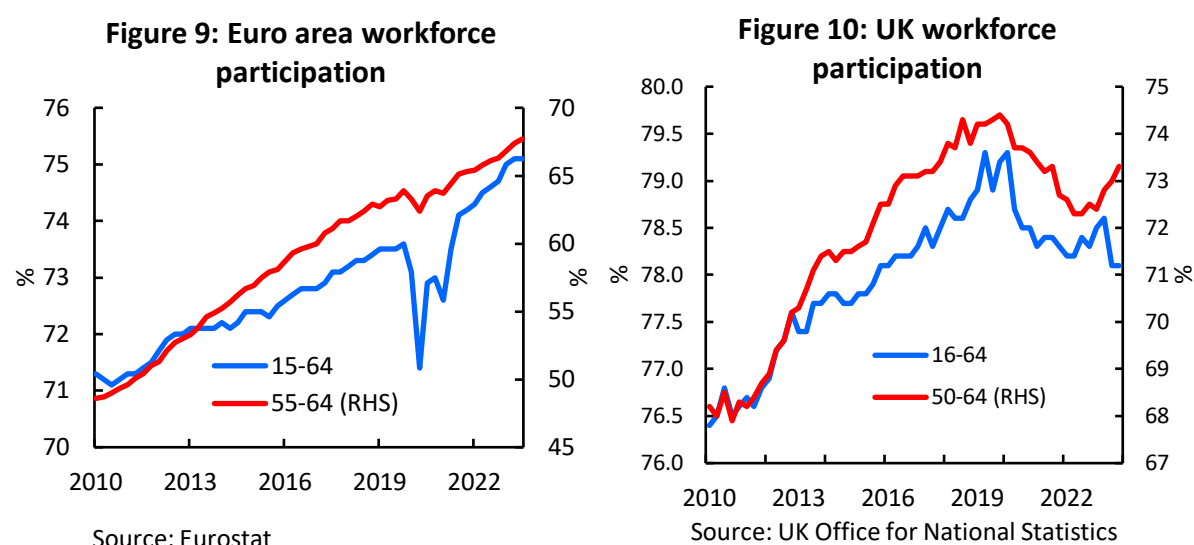
⁷ In this retirement model, retirement decisions for a particular demographic group, delineated by a combination of age, ethnicity, education, and gender, are presumed to be influenced by several factors. These factors include prevailing labour market conditions, the level of generosity associated with Social Security retirement benefits applicable to the specific age group, and temporal trends that encapsulate other enduring shifts in how various demographic groups navigate decisions related to the labour market.

⁸ Concurrently, the actual share in 2023 has decreased from its peak of 19.8% in December 2022. By April 2023, estimates suggest there were approximately 2.4 million excess retirees in the U.S. The persistent elevation of excess retirements beyond the projected trend is likely a contributing factor to the sustained tightness in the labour market and the low unemployment rate since the rebound from the pandemic-induced recession.

⁹ In conjunction with the previously mentioned trends in the LFPR and retirement share, there were notable fluctuations in the valuations of major asset classes during the pandemic. These shifts in asset valuations likely had significant implications for households' overall net worth. Faria e Castro and Jordan-Wood estimate that changes in net worth account for 28.7% of the LFPR decrease in the 2019-21 period and 18.13% in the 2019-2022 period for individuals aged 55-70.

to remote work environments, to stop working (Famiglietti et al., 2020)¹⁰. With household net worth still high (see Figure 8), LFPR for individuals 55 and above may well remain near current levels unless net worth starts plummeting in coming years.

In contrast to the US, the COVID-19 pandemic did not have a long-lasting impact on participation rates in the Eurozone, even among older workers (Figure 10). Research identified a front-loading of retirement decisions for approximately 175 000 workers (Botelho & Weißler, 2022). This relatively modest number suggests that, unlike in the U.S, the pandemic did not have a pronounced impact on the retirement choices of older workers in the Eurozone. Nevertheless, health concerns appeared to influence the timing of their retirement.



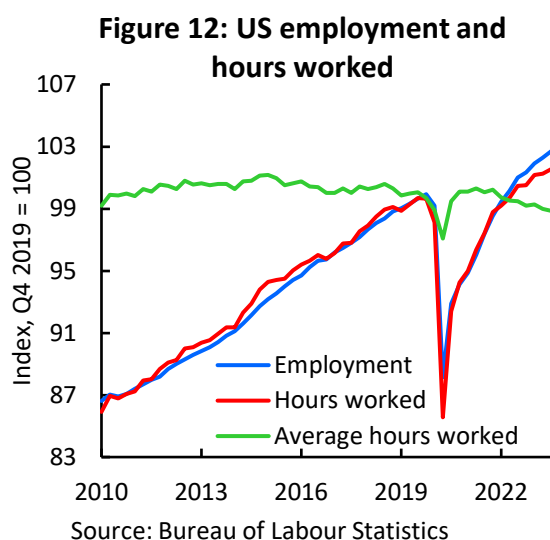
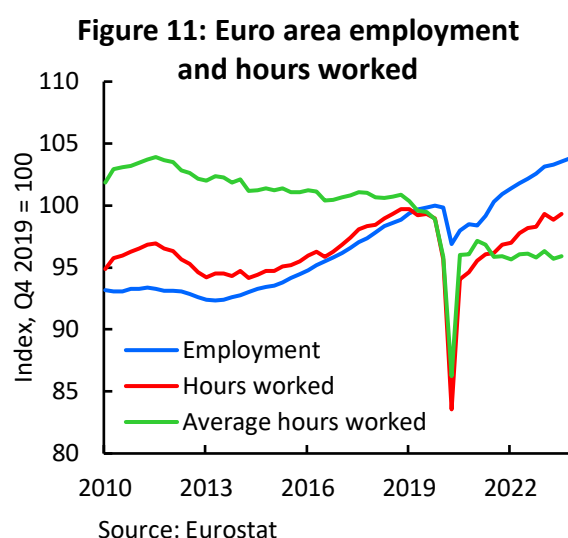
The Eurozone is the one AE region where labour supply appears to have normalized the quickest. With 75.1% of the population in the labour force as of the third quarter of 2023, this is the highest percentage ever for individuals between ages 15 and 64. The euro area's increased labour supply is bolstered by migration. In recent years, the proportion of foreign workers in the working population has increased considerably¹¹. In the UK, by contrast, the LFPR is not fully back up to its pre-pandemic peak despite picking up to 78.1% in the fourth quarter of 2023 (see Figure 10). The primary catalysts for subdued participation appear to be retirement and long-term sickness, particularly chronic health issues, which continue to distinguish the situation from that of other advanced economies.

Still, firms continue to experience recruitment difficulties, even in those AEs where labour force participation has recovered. This appears to have prompted instances of labour hoarding, as

¹⁰ While the impact of COVID-related fears on labour supply has diminished over time, there is a growing discourse regarding the potential role of long COVID. Even after the initial recovery, a notable portion of individuals who contracted COVID-19 continued to grapple with debilitating symptoms, including difficulties in thinking or concentrating ("brain fog"), headaches, sleep disturbances, and mental health issues such as depression or anxiety. It would not be unexpected if some individuals dealing with long COVID, who might otherwise have remained in the workforce, chose to withdraw or reduce their working hours (Abraham & Rendell, 2023).

¹¹ Increased participation rates are also supported by labour mobility inside the EU, whose nationals frequently relocate within the eurozone for employment purposes. In the second quarter of 2023, the LFPR for immigrants from within the EU jumped from 68.8% in 2005 to 74.7%. The majority of those responsible for the increase in the LFPR are older, female, highly educated and foreign workers.

indicated by the quicker slowdown in hours worked relative to jobs. This is particularly evident in the Eurozone, where even three years after the initial pandemic shock, overall hours worked continue to lag employment, meaning that average hours worked per employee still fall short of pre-pandemic levels (Figure 11). In the US labour market, while initial adjustments during the pandemic occurred via layoffs rather than lower working hours, hours worked have also been rising less than employment since Q2 of 2022 – also suggesting some labour hoarding (Figure 11)¹². Firms showed reluctance to release workers despite economic headwinds, especially retaining skilled employees deemed essential for future needs, as noted by Arce et al. (2023)¹³.



Hence, despite (uneven) recoveries in participation rates, evidence of labour hoarding persists across major AEs, and may be contributing to wage pressures. While wage growth has eased recently as labour markets cooled, it remains stronger than pre-pandemic trends, and generally inconsistent with inflation targets.¹⁴ Furthermore, economists and central banks are concerned that after the shock of recent years, linkages between labour market tightness and wage growth (the “wage Phillips curve”) may have changed. We look at this in the latter section of this Note, studying the case of the US, where shifts to the curve appear at first glance more likely than in other jurisdictions.

4. The Phillips curve – shifting or non-linear?

In the US, despite a relatively long period of price stability, the slope and position of the Phillips curve has continued to change over time. A point density plot of the unemployment gap (actual joblessness minus the CBO’s estimate of the natural rate of unemployment) and core PCE inflation (lagged 12 months) with a fitted line shows a non-constant intercept for the periods

¹² When comparing the US and the euro area, both economies underwent similar adjustments in total hours at the onset of the pandemic, although a notable contrast lies in the average hours.

¹³ Although average hours worked increased between the second half of 2021 and 2022, the euro area witnessed unusually high levels of sick leave, with most cases being temporary sick leave, allowing employees to remain on the payroll of their employers.

¹⁴ In fact, in the US (where wage growth slowed earlier than other AEs), different measures suggest this slowdown has stalled in recent months.

2000Q1 – 2007Q4 (2.2), 2008Q1 – 2016Q4 (4.5), 2017Q1 – 2020Q1 (1.9) and 2020Q2-2023Q4 (3.8). This would imply that equilibrium wage growth – i.e. when the labour market is neither tight nor loose – has changed over time.

Moreover, examining the standard relationship between the unemployment rate and wage growth indicates a rightward shift in the Phillips curve since 2020 (Figure 13). If that were indeed the case, equilibrium wage growth would have increased. However, the unemployment rate may not be the most precise gauge of labour market slack at present, given the observed shift in the Beveridge curve. Following the analysis of Bernanke and Blanchard (2023), we substitute u with u/v as the measure of labour market slack in our Phillips curve analysis. The resulting plot suggests that the curve may not have shifted much, but rather may exhibit non-linear characteristics. Due to unusually low levels of unemployment, the US labour market found itself in the steep segment of the curve in 2022-23 (Figure 14).

This holds fundamental implications for inflation. If the curve is merely non-linear, it explains why inflation has been more responsive to shifts in the labour market in recent years, but equally, it suggests that provided u/v normalizes, the US should eventually return to a wage-slack relationship that resembles more what prevailed pre-2020. And with vacancies falling in recent quarters, the risk of a lasting deviation of u/v from norms – which could, over time, force an outright structural shift in the Phillips curve – is receding.

Were the Phillips-curve to have shifted to the right, this would be reflective of an increase in the natural rate of unemployment (formerly known as the Non-Accelerating Inflation Rate of Unemployment, or NAIRU). While the debate over whether the natural rate has increased or not remains open, it is noticeable that the Congressional Budget Office (CBO), which provides frequently updated estimates, has not projected a rise in the natural rate in coming years.

Figure 13: US wage Phillips curve

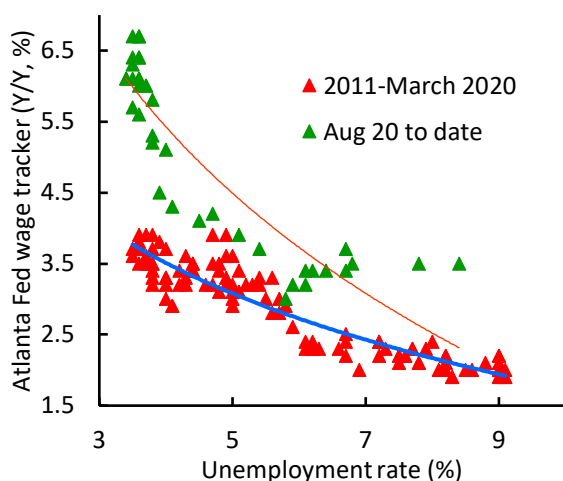
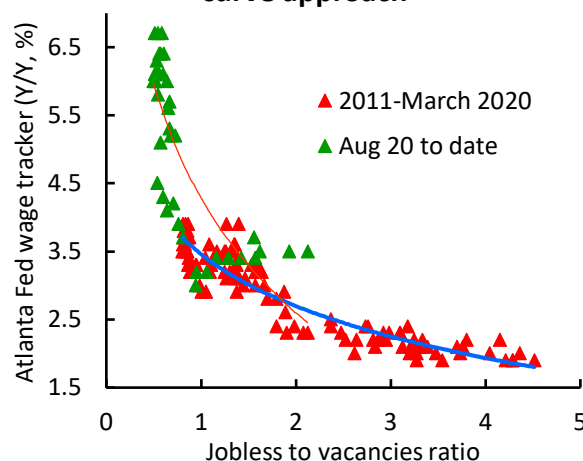


Figure 14: Alternative US Phillips curve approach



5. Conclusion

The Covid-19 pandemic, resulting lockdowns and policies put in place to mitigate the shocks had a durable impact on AE labour markets. Labour force participation fell significantly, and its recovery has been slow and uneven. High vacancies and recruitment challenges attest to

ongoing tightness in labour markets, many firms have responded by hoarding labour, reducing average working hours and offering more attractive pay to retain workers. These measures probably contributed to the sustained high wage growth. That said, wage growth in the US has decelerated and there are signs of it peaking in the Eurozone and the UK. Additionally, declining vacancies are helping to mitigate supply-demand mismatches in labour markets even without a marked rise in unemployment. Assuming these trends persist, and the Phillips curve remains stable, they are expected to support continued disinflation throughout 2024-25. Nonetheless, persistent uncertainties about how long some of the impact of recent years' labour market shocks will last, are likely to keep central banks cautious about how quickly they can unwind recent policy tightening.

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