

Labour markets: what explains the resilience?¹

The post-pandemic recovery features significant tightness in labour markets – a situation where jobs are plentiful and available workers scarce. This special feature discusses the possible role of supply and demand factors for this tightness and the attendant contrast between buoyant employment and lacklustre output growth. We find that labour hoarding on the demand side, and adverse demographic trends and pandemic-related preference shifts on the supply side, can go a long way in explaining these dynamics. Finally, we relate labour market developments and their persistence to the inflation outlook and monetary policy trade-offs.

JEL classification: E24; J1; J2; J3; J63; J64.

Introduction

One constant during the post-pandemic recovery has been the tightness of labour markets. The labour market is said to be “tight” when the imbalance between labour supply and labour demand manifests itself in an abundance of job opportunities along with a scarcity of workers available and willing to take those jobs. This phenomenon has gone hand in hand with a job-rich recovery as economies started reopening after the acute phase of Covid-19, with unemployment plummeting in many countries and employment growing surprisingly strongly given the path of output.

What supply and demand factors in the labour market could explain this labour market resilience? We seek to provide some answers to this question in order to shed light on how current tightness could affect the outlook for inflation. In particular, this outlook depends on unit labour costs, which are more likely to rise when strong labour demand chases workers against the backdrop of constrained labour supply.

Our findings are as follows. First, there is rather widespread tightness in labour markets – especially among advanced economies (AEs). This is the message of standard indicators, such as the unemployment rate and the vacancy-to-unemployment ratio. Second, a constellation of factors have led to labour demand outstripping labour supply. On the supply side, subdued growth in working age population and shifts in labour force participation have played a role. In addition, workers’ preferences have shifted in favour of fewer working hours. On the demand side, there are signs that uncertain hiring prospects in some sectors have led firms to

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Key takeaways

- *Labour markets recovered rapidly after the Covid-19 pandemic and remain tight: in many countries, jobs are plentiful and available workers scarce.*
- *Labour hoarding by employers, demographic trends and shifting attitudes towards work can explain labour market tightness and how it culminated in a job-rich recovery.*
- *Going forward, the strength and persistence of the shifts in supply and demand for labour will be an important determinant of inflation dynamics.*

hoard labour, ie that tightness begets tightness. Further, excess demand for labour has been concentrated in sectors shunned by workers during the pandemic. These factors can explain why labour markets have been surprisingly resilient even as growth has been losing momentum.

The rest of the feature is organised as follows. The next section takes stock of current labour market indicators to assess the degree of tightness in a large number of countries. It then seeks to explain changes in supply of and demand for labour and, in that context, the factors behind the job-rich recovery. The concluding section discusses the implications of the recent dynamics for inflation and monetary policy.

Taking stock of current labour market indicators

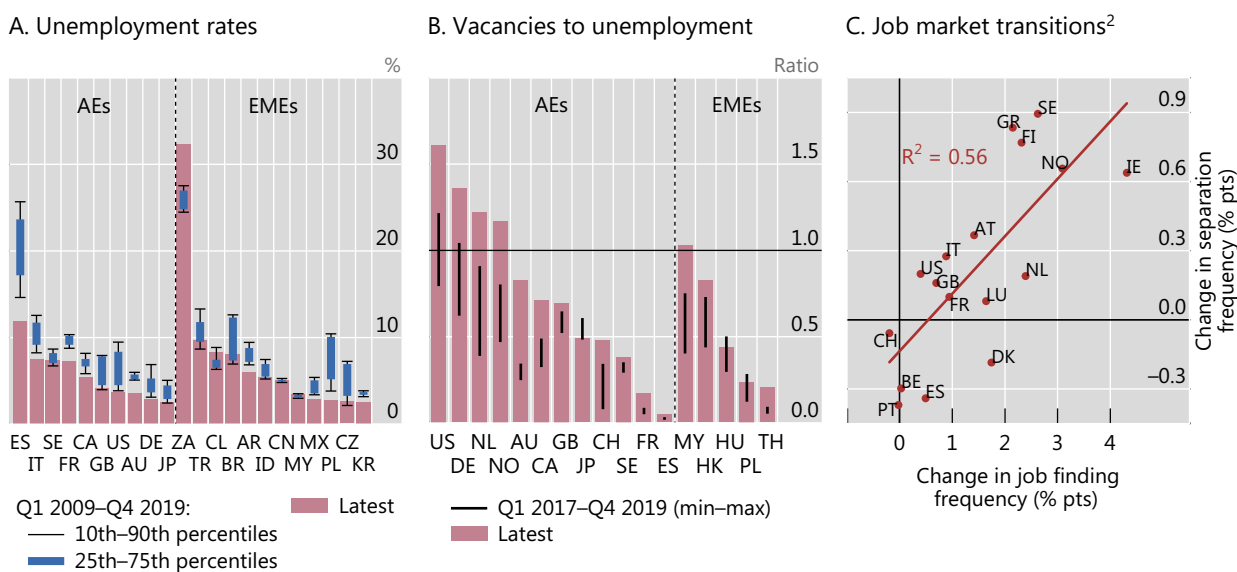
Evaluating the state of the labour market can be difficult, and usually relies on a holistic reading of various quantity (eg employment) and price (eg wage) measures. Labour market indicators are indeed subject to significant lags and uncertainty and may provide conflicting signals, in particular when they overlook composition effects across heterogeneous workers and employers. Such caveats aside, since the pandemic several measures do point on balance to widespread labour market tightness in relation to historical norms, albeit with some variation across countries.²

Unemployment rates – the most standard measure of labour market slack – are currently close to the lows seen in the past decade in all major AEs as well as in several emerging market economies (EMEs) (Graph 1.A). In some jurisdictions, such as the euro area, they are at historical troughs. Exceptions to this pattern are China and Malaysia, where unemployment rates are in line with long-term norms and, South Africa, where the unemployment rate is running high by historical standards.

Other metrics generally confirm and, in the case of several AEs, reinforce this picture of tightness. Vacancy-to-unemployment ratios – which capture the availability of jobs relative to those actively looking for one – have generally increased relative to the three-year period preceding the pandemic (Graph 1.B). In EMEs, where data on vacancies are limited, the picture is more mixed than in AEs.³

² The assessment abstracts from unemployment gaps, ie the difference between the actual and natural rate of unemployment (u^*), implicitly assuming a constant u^* for the horizon under consideration.

³ The ratio of vacancies to unemployment remains below one in most jurisdictions. But, since data for unfilled vacancies are subject to large uncertainty, changes in the ratio are more informative.



¹ See technical annex for details. ² Over Q1 2021–Q4 2022 relative to Q1 2017–Q4 2019.

Sources: International Labour Organization; OECD; Eurostat; Refinitiv Datastream; national data; authors' calculations.

Another set of indicators focusing on labour market flows, the so-called labour turnover, or “churn”, also point to significant labour market tightness.⁴ In AEs, gross flows in and out of employment, ie the rates at which those without a job find one and those with a job leave it, have increased since the pandemic (Graph 1.C). This is consistent not only with falling unemployment rates but also with people feeling more comfortable switching jobs, in search of better opportunities, as the risk of long unemployment spells looks limited.

Switching from quantity to price indicators and turning to wage growth, the picture is less clear-cut.⁵ Wage growth has picked up in nominal terms (Graph 2.A) but has mostly fallen short of inflation, leaving real wage growth in negative territory (Graphs 2.B and 2.C).

Several factors could be at play here. One is the big element of surprise in current inflation, which has made it hard for wages to catch up after a long period of price stability.⁶ In addition, wages can be slow-moving since they are often set for a horizon of multiple years. It may just be a matter of time before they pick up and workers recoup accumulated losses. Finally, decisive central bank actions have helped to keep inflation expectations, especially the longer-term ones, in check. This, in turn, may have curbed incentives to negotiate for even higher nominal wages or for indexation mechanisms to protect against erosion of real wages by realised inflation.

⁴ Although timely data on job transitions in EMEs are limited, evidence for 2021 also points to labour market tightness in eg Brazil, Chile, Mexico and South Africa (see Donovan et al (2023)).

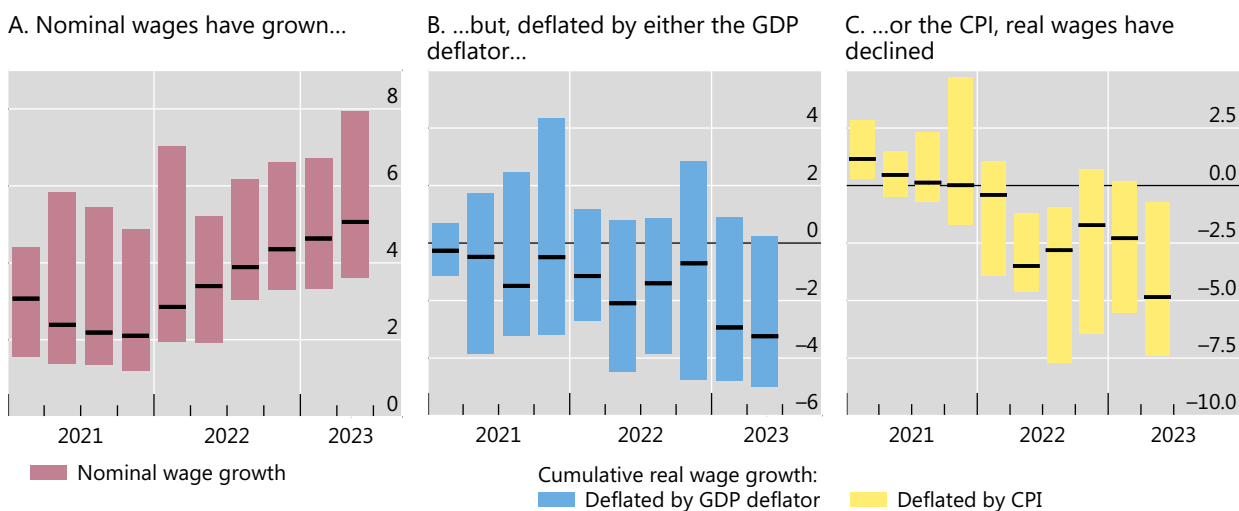
⁵ Wages are both an indicator to assess labour market tightness, as well as an outcome variable of labour market tightness. We focus here on the former aspect. The policy section discusses the latter.

⁶ Borio et al (2023) investigate how institutions adjust to a low-inflation environment, for instance by reducing workers' bargaining power.

Nominal wage growth picks up, real wages fall behind¹

Cross-country distributions, year on year, in per cent

Graph 2

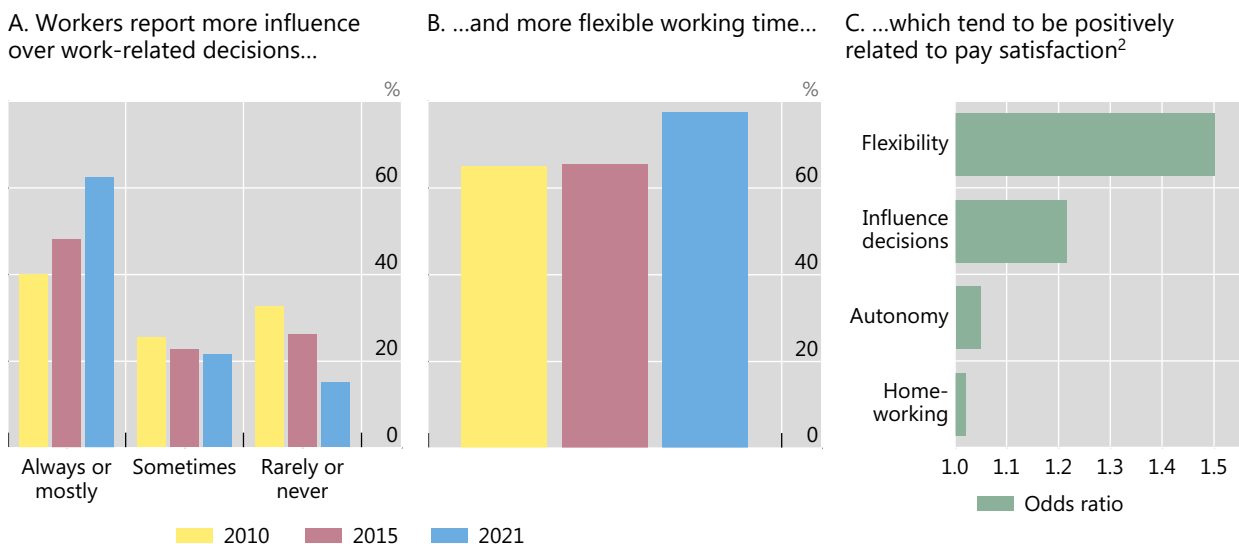


¹ Bars represent the interquartile ranges and horizontal lines denote the medians. See technical annex for details.

Sources: OECD; Refinitiv Datastream; national data; authors' calculations.

Better work arrangements take centre stage in Europe¹

Graph 3



¹ Answers to questions "Which best describes your work situation – You can influence decisions that are important for your work?" (panel A) and "Would you say that for you arranging to take an hour or two off during working hours to take care of personal or family matters is easy?" (panel B). See technical annex for details. ² Odds ratio of higher wage satisfaction when the particular job characteristic improves (Box A).

Sources: Eurofound, European Working Conditions Survey (EWCS); authors' calculations.

To investigate what could blur the signals from wages as regards labour market tightness, we consider the growing importance of non-pecuniary benefits. Mandatory telework during the Covid crisis has left its imprint on working practices. According to the 2021 European Working Conditions Survey (EWCS), workers now report more autonomy and influence over decisions (Graph 3.A). They also mention more flexible

hours (Graph 3.B).⁷ Three quarters of workers now find it easy to arrange to take an hour or two off during working hours to take care of personal or family matters, about 15 percentage points improvement compared with the period before the pandemic.

Empirical analysis confirms that flexible work arrangements come hand in hand with higher levels of pay satisfaction (Box A). The odds of higher pay satisfaction are higher for employees benefiting from flexible working arrangements (Graph 3.C). More specifically, the likelihood that an employee belongs to the “highest pay satisfaction” group is 20 percentage points higher if that employee reports “very flexible” rather than “very inflexible” work time. Confirming these large empirical magnitudes, Maestas et al (2023) estimate that the value of non-pecuniary benefits can be the equivalent of wage increases as large as 4–9%. This cross-sectional evidence suggests that nominal wages may not have grown as fast as they otherwise would have after the pandemic as more employers substituted pay rises with non-pecuniary benefits.⁸

Box A

The relationship between pay satisfaction and work time flexibility

To investigate how flexible work arrangements relate to pay satisfaction, we use data from the European Working Conditions Survey for 2021. This survey covers over 70,000 employees from 36 European countries. In particular, it includes responses to question on pay satisfaction, ranging from 1 (highest satisfaction) to 5 (lowest satisfaction) and working time, ranging from 1 (working time is very flexible) to 4 (working time is very inflexible). It also includes information on job features such as the ability to influence decisions, the degree of work autonomy and the ability to work from home.

We employ these data in an ordered logit model, also known as the proportional odds model. The dependent variable is the level of pay satisfaction, PS , at the individual survey respondent level. The main regressor is the degree of working time flexibility, F , for that same person. In addition, we control for job features that are reported in the survey and could influence pay satisfaction. Denoting the vector of control variables X , the level of pay satisfaction s , and the residual u , the empirical specification for individual i is as follows:

$$Pr[PS_i = s] = F(\beta_F F_i + \beta_X X_i) + u_i$$

We estimate this empirical specification and report the results in Table A1. Figures in the main text pertain to the odds ratios, obtained by exponentiating the coefficients. Specifically, $\beta_F = 0.4$ implies an odds ratio of roughly 1.5, meaning that a one-notch increase in working time flexibility raises the likelihood of improving pay satisfaction by about 50%. To illustrate, we start from 8% – the share of highest pay satisfaction in the data – and consider a scenario in which a respondent changes his/her answer to the working time flexibility question from 1 to 2 to 3 and then to 4. This would imply that the probability of this respondent enjoying the highest pay satisfaction would increase from 8% to 12% to 18% and (with rounding) to 28% – overall, a 20 percentage point increase.

⁷ Between 2019 and 2022, several other non-monetary aspects of job quality improved. In particular, the share of temporary contracts declined while that of job postings offering health-related benefits, retirement schemes and paid time off increased (OECD (2023)).

⁸ In addition, to the extent that non-pecuniary benefits are associated with reduced job mobility, they would also contribute to lower aggregate wage growth because pay rises tend to be larger for job-to-job transitions. Engbom (2022), for instance, documents that higher labour market fluidity in the form of voluntary quits and job-to-job transitions is associated with higher wage growth.

Dependent variable: pay satisfaction ¹			Table A1
Explanatory variables	Coefficient	Odds ratio	p-value
Working time flexibility	0.407***	1.503***	0.000
Ability to influence decisions	0.196***	1.217***	0.000
Work autonomy	0.048***	1.049***	0.000
Ability to work from home	0.022***	1.022**	0.041
Observations	42,161		
Wald chi-squared	480.61		
Pseudo R-squared	0.0245		

¹ The regression includes country fixed effects. ***/**/* indicates statistical significance at the 1/5/10% level.

Source: Authors' calculations.

Understanding the drivers of slack and the job-rich recovery

To understand how current labour market tightness could affect wage formation and inflation, one needs to consider the respective roles of the supply and the demand for labour, and their possible evolution going forward. While distinguishing the two may be conceptually clear and simple, in practice the lines separating supply and demand can be blurry. With these caveats in mind, we first provide empirical proxies for labour supply and demand, and then discuss their relative trends.

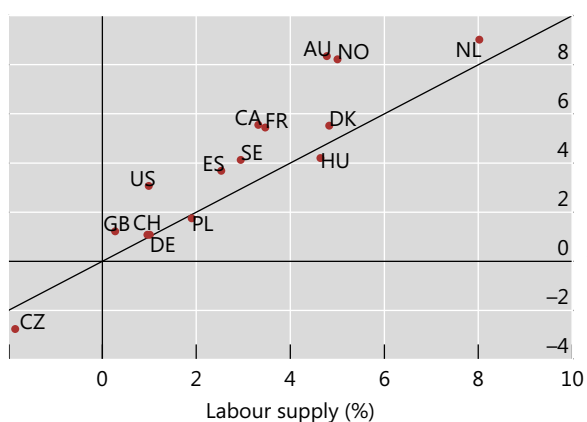
Proxies for labour supply and labour demand

Standard metrics of labour supply and labour demand offer a view of any imbalances in the market. To measure labour supply, we sum the labour force (the working age population that participates in the labour market) and marginally attached workers.⁹ In turn, we proxy labour demand by adding employment (satisfied demand for labour) and unfilled vacancies (unsatisfied demand for labour).

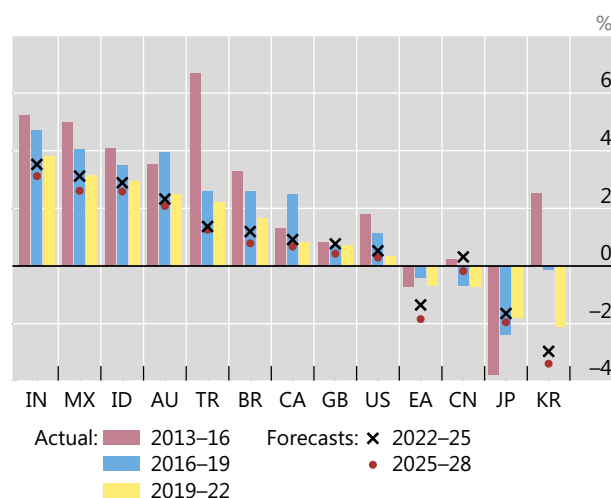
Based on these metrics, the demand for labour has expanded more rapidly than the supply of labour since 2019. This is true for several jurisdictions, most notably Australia, Canada, France and the United States (Graph 4.A). Labour demand outgrowing labour supply owes to a constellation of factors, which we discuss next distinguishing between supply and demand side developments.

⁹ Marginally attached workers are defined as those who are neither employed nor actively looking for work, but willing to work and available for taking a job.

A. Demand outstrips supply in most jurisdictions...²



B. ...as working age population growth slows down



¹ See technical annex for details. ² Change between the Q1 2019–Q4 2019 and Q1 2022–Q1 2023 averages.

Sources: OECD; United Nations; authors' calculations.

Developments on the labour supply side

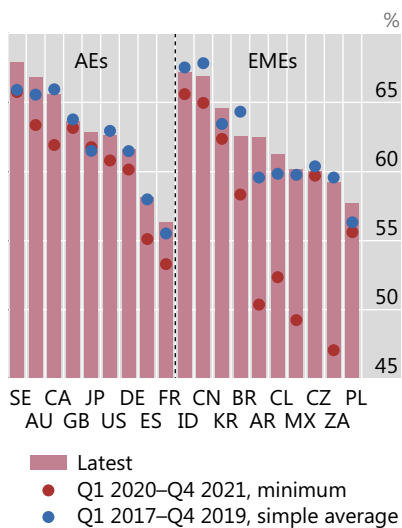
The working age population has grown more slowly since the pandemic than during the 2010s in many countries (Graph 4.B). In most European and some Asian countries, it shrank, intensifying pre-pandemic trends. In a few cases (eg Australia and Canada), reduced migration has been a key factor.

Labour force participation rates have also faced downward pressure, from both cyclical and structural forces. After large declines during the pandemic, the labour force participation rate has generally recovered, but there are some notable exceptions (Graph 5.A, red dots compared with the columns). In Canada, the United Kingdom, the US and quite a few EMEs (including China), participation rates are still below pre-Covid benchmarks (blue dots compared with the columns). In part, this reflects cyclical forces, as the pandemic's legacy is still lingering. In addition to being held back by health concerns,¹⁰ participation has been recovering more slowly where pandemic-related fiscal support was larger (Graph 5.B).¹¹ Downward pressure could also stem from population ageing, which tends to imply a decline in labour force

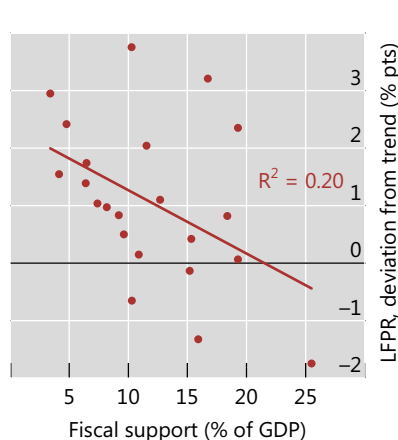
¹⁰ Abraham and Rendell (2023) estimate that health concerns, positive wealth effects due to higher asset prices, refinancing at record low interest rates and government cash payments account altogether for 60% of the decline in participation in the US, sometimes showing up as early retirements. In the UK, early retirement and long-term sickness played a key role in the 0.8% shift into inactivity of the working age population (Li and Mulas Granados (2023)).

¹¹ It is also worth noting that marginally attached workers – which standard measures of labour force participation rate tend to overlook – were drawn back into the labour force as labour markets tightened. As a result, the pool of marginally attached workers, which increased significantly during the pandemic, shrank back to pre-pandemic levels. This transition of marginally attached workers into the labour force has led to an overstatement of the recovery in labour force participation.

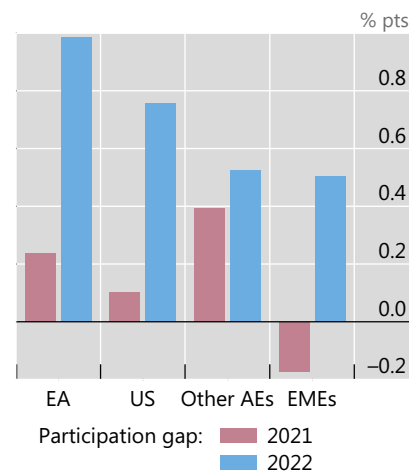
A. Labour force participation has recovered to varying degrees...



B. ...partly reflecting pandemic-era fiscal support...²



C. ...but is still above demographics-implied levels³



¹ See technical annex for details. ² Difference between latest (Q1 or Q2 2023) figures and country-specific long-term trends before Q1 2020. ³ Actual minus predicted labour force participation.

Sources: International Labour Organization; IMF; OECD; United Nations; World Bank; Eurostat; Refinitiv Datastream; national data; authors' calculations.

participation rates. The positive gap between current participation rates and demographics-implied levels should close in most jurisdictions (Graph 5.C).¹²

Developments on the labour demand side

Employment (the “satisfied” portion of labour demand) has grown rapidly since the Covid recession trough, in both AEs and EMEs (Graph 6.A). In EMEs, for instance, the rebound has been particularly strong, with employment expanding by almost 10% since the pandemic troughs. Compared with the typical past rebound, employment in AEs and EMEs has expanded 3 and 7 percentage points faster, respectively, in the current expansion (Graphs 6.B and 6.C).

In contrast to past experience, the current expansion has been “job-rich” as opposed to “job-less”.¹³ One indication is that unemployment rates have dropped approximately twice as fast than one would expect on the basis of historical experience and current output growth. Okun’s law estimates reveal that a 1 percentage point increase in GDP growth now corresponds to a 0.3 percentage point drop in unemployment, compared with only about 0.15 percentage points in past recoveries.

It is possible to shed light on the factors behind the current job-rich recovery by dissecting the employment-output nexus. To do so, we rely on a simple identity whereby GDP is the combination of output per hour, hours per worker and

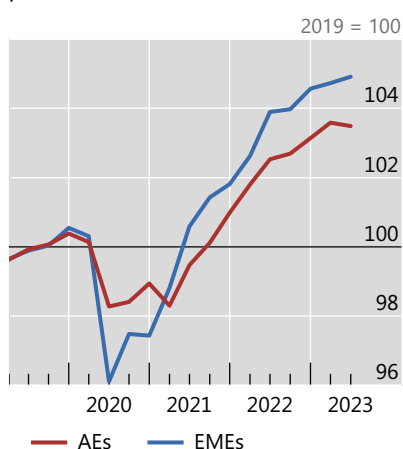
¹² Goodhart and Pradhan (2020) discuss the implications of such changes for inflation.

¹³ See Graetz and Michaels (2017) for cross-country evidence on jobless recoveries for AEs.

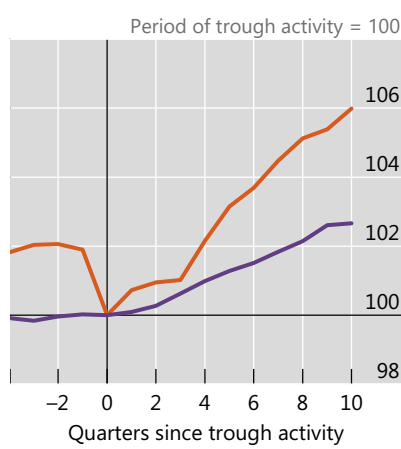
Employment growth looks strong by historical standards in both AEs and EMEs¹

Graph 6

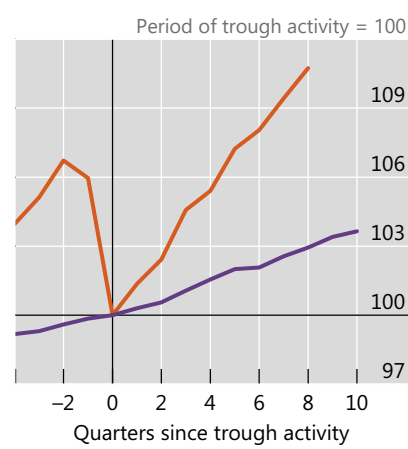
A. Employment grows strongly post-pandemic...



B. ...and much faster than in past recoveries in AEs...



C. ...and in EMEs



¹ See technical annex for details.

Sources: International Labour Organization; OECD; authors' calculations.

employment (Graph 7). We take GDP as given – determined by aggregate demand at cyclical frequencies – and consider the relative evolution of its components.

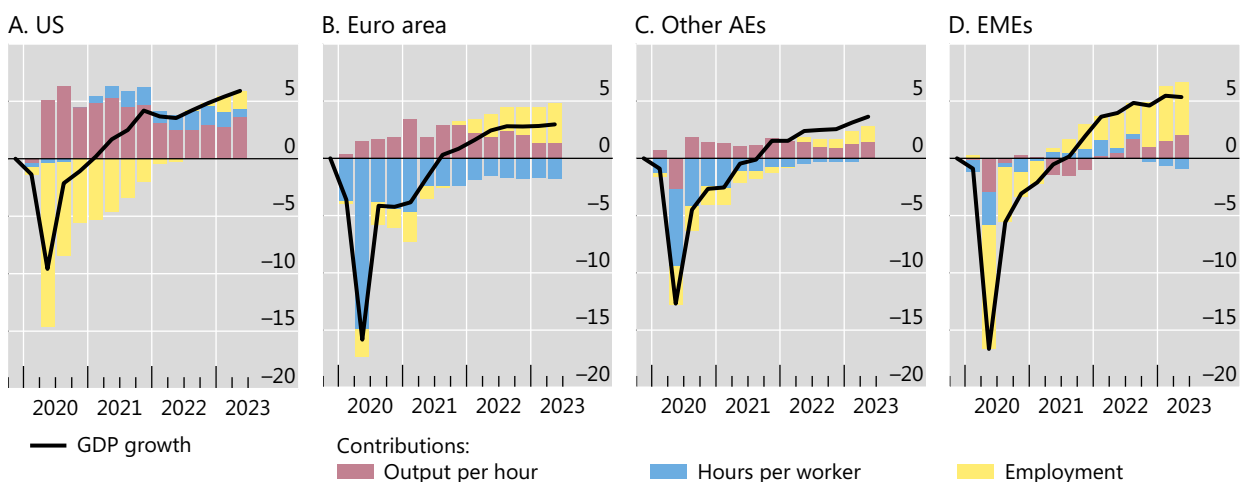
Four non-mutually exclusive factors could help to account for the recovery's job-rich nature. While some are hard to quantify, one can get a sense of their relevance.

First, *output per hour* – a measure of productivity – has been subdued, especially in the euro area (Graph 7, red bars). One possible reason is the recovery's sectoral composition. As a result of large rotations in consumption post-Covid, much of the

Strong employment underpins output amid sluggish productivity¹

Cumulative changes since Q4 2019, in per cent

Graph 7



¹ See technical annex for details.

Sources: OECD; Refinitiv Datastream; national data; authors' calculations.

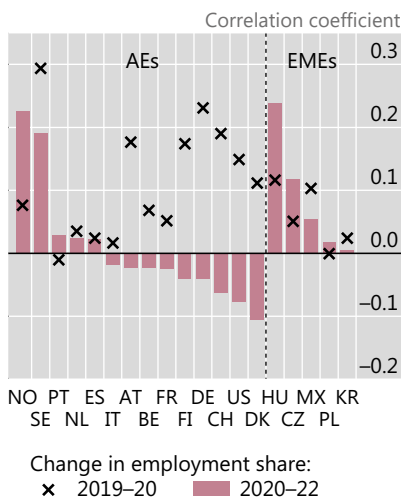
recent employment creation has taken place in lower-productivity sectors, such as the contact-intensive “services, recreation and accommodation” (Graph 8.A, red columns). That said, the magnitude of this effect seems small. Estimates reflecting AE data suggest that a service-intensive expansion implies around 0.15 percentage points lower productivity growth on average over two years than a manufacturing-led one. Another possible reason is a pandemic-induced erosion of skills. But again, this seems unlikely to be material, given that unemployment spells were short and employer-employee relations were maintained through furlough schemes in many countries.¹⁴

Second, firms may have been hoarding labour. Flat, if not declining, hours per worker coinciding with buoyant employment is consistent with this interpretation (Graph 7, blue bars). This development is, again, particularly visible in the euro area, in part reflecting the prevalence of worker retention programmes. One should also consider that a tight labour market can foster labour hoarding. The prospect of hiring difficulties materially limiting output induces firms to add labour as a precaution (Graph 8.B). If so, tightness may beget tightness. But hiring intentions also increase when firms face difficulties in sourcing their non-labour inputs. In the post-Covid recovery, these may reflect supply chain disruptions (Graph 8.B, blue bars). Such difficulties may lead firms to switch to more labour-intensive substitutes, including in-house production.

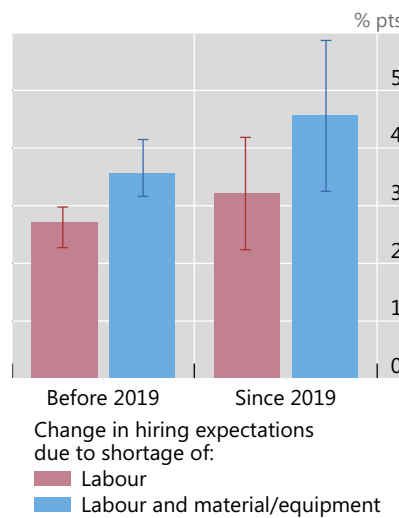
Changing labour demand accounts for some of the tightness

Graph 8

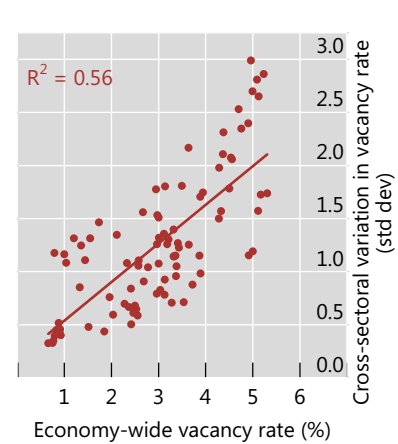
A. Low-productivity sectors drive the employment recovery¹



B. Labour hoarding and supply chain issues keep labour demand hot²



C. High vacancy rates come with more concentrated vacancies²



¹ Correlations, across 19 sectors, between labour productivity in 2019 and changes in employment share. ² See technical annex for details.

Sources: International Labour Organization; OECD; Eurostat; national data; authors’ calculations.

¹⁴ The impact of working from home on productivity is ambiguous in theory and too early to discern in the data. Managers and workers have varying opinions about how remote work affects productivity, depending, for example, on how commute time is considered (Barrero et al (2023)). On the one hand, fully remote work can lead to lower productivity because communication becomes less efficient (Emanuel and Harrington (2023), Gibbs et al (2023), Yang et al (2021), Emanuel et al (2023)). On the other hand, hybrid work arrangements may result in productivity gains as workers can tailor time allocation for tasks that require focus and for those that require interaction with others (Bloom et al (2015), Choudhury et al (2021, 2022), Bloom et al (2023)).

We estimate the extent to which hiring intentions relate to hiring difficulties and difficulties to source inputs (Box B). Our objects of interest are “net hiring intentions” (HI) – ie the fraction of firms planning to expand their workforce minus the fraction planning the opposite. On the basis of estimates using data from 2019 onwards, we find that HI increases by 3.2 percentage points in response to a one standard deviation increase in the fraction of firms reporting labour bottlenecks.¹⁵ This estimate rises to 4.6 percentage points if we add the impact from a one standard deviation increase in the fraction of firms reporting materials as a bottleneck. Translated into actual hiring, this could imply employment increasing by as much as 1.3%.

Third, workers may want to work fewer hours. Survey evidence suggests so, with the pandemic being one of the drivers.¹⁶ This would be observationally equivalent to labour hoarding since average hours worked would fall and employment would rise.

Box B

The relationship between hiring intentions and factors limiting production

To quantify how hiring intentions relate to hiring difficulties and difficulties to source inputs, we use data from the European Commission Survey on Industry Business Climate indicators. These data cover 24 (two-digit) manufacturing subsectors for 10 European countries: Austria, Denmark, Finland, France, Germany, Italy, the Netherlands, Portugal, Spain and Sweden).

The panel regression specification is as follows. We use as a dependent variable “net hiring intentions” (HI), defined as the fraction of firms planning to expand their workforce minus the fraction of firms planning to shrink their workforce over the next 12 months. Then we include, as explanatory variables, the fraction L of firms facing hiring difficulties, ie declaring labour as a factor limiting output, and the fraction M of firms facing input shortages, ie declaring material or equipment as a factor limiting output. Moreover, we include controls X for: the rate of capacity utilisation, the fraction of firms declaring demand as a factor limiting output and the fraction of firms declaring finance as a factor limiting output. Finally, saturating the specification with fixed effects, the empirical specification for sector s , in country c , at time t , is:

$$HI_{s,c,t} = \alpha_{s,c} + \alpha_{s,t} + \alpha_{c,t} + \beta_L L_{s,c,t} + \beta_M M_{s,c,t} + \beta_X X_{s,c,t} + u_{s,c,t}$$

We estimate this regression using quarterly data. We first estimate the regression over the full sample, ie from the first quarter of 2000 until the second quarter of 2023 (Table B1, first column). We then estimate two regressions: one using the sample period up to the fourth quarter of 2018 (second column) and another where we focus on the period between the first quarter of 2019 and the second quarter of 2023 (third column).

¹⁵ To be sure, changes in the share of firms reporting hiring difficulties or difficulties in sourcing input observed during the post-Covid recovery are one order of magnitude larger than the one historical standard deviation change considered here.

¹⁶ For instance, work-life balance considerations may have reduced preferred hours of work in Europe (Eurofound (2022)). Workers using more sick leave may also explain the reduction (Arce et al (2023)).

Dependent variable: net balance of hiring intentions¹

Table B1

Time period	Q1 2000–Q2 2023	Q1 2000–Q4 2018	Q1 2019–Q2 2023
Labour as a factor limiting output	0.322*** (0.0246)	0.347*** (0.0343)	0.200*** (0.0368)
Material as a factor limiting output	0.0800*** (0.0183)	0.0772*** (0.0247)	0.0589** (0.0244)
Change in capacity utilisation rate	0.0830*** (0.0285)	0.0825*** (0.0315)	0.0954 (0.0605)
Demand as a factor limiting output	-0.146*** (0.0122)	-0.144*** (0.0138)	-0.142*** (0.0233)
Finance as a factor limiting output	-0.123*** (0.0283)	-0.102*** (0.0289)	-0.107 (0.0708)
Observations	15,769	12,393	3,376
R-squared	0.646	0.659	0.726
Within R-squared	0.0482	0.0558	0.0677

¹ All regressions include the full set of sector-time, country-time and country-sector fixed effects. Robust standard errors are reported in brackets. ***/**/* indicates statistical significance at the 1/5/10% level.

Source: Authors' calculations.

Figures reported in the main text pertain to coefficients estimated over the latest period. Consider first a one standard deviation increase in the fraction of firms reporting labour as a factor limiting output, about 16 percentage points. Given $\beta_L = 0.2$, the net balance of hiring intentions would increase by 3.2 percentage points. Now consider a one standard deviation increase in the fraction of firms reporting material as a factor limiting output, about 23 percentage points. Given $\beta_M = 0.06$, the net balance of hiring intentions would increase by about 1.4 percentage points. The combined effect amounts to 4.6 percentage points. Based on the historical correlation between employment growth and the net balance of hiring intentions (about 0.28), this would amount to additional employment growth of about 1.3 percentage points.

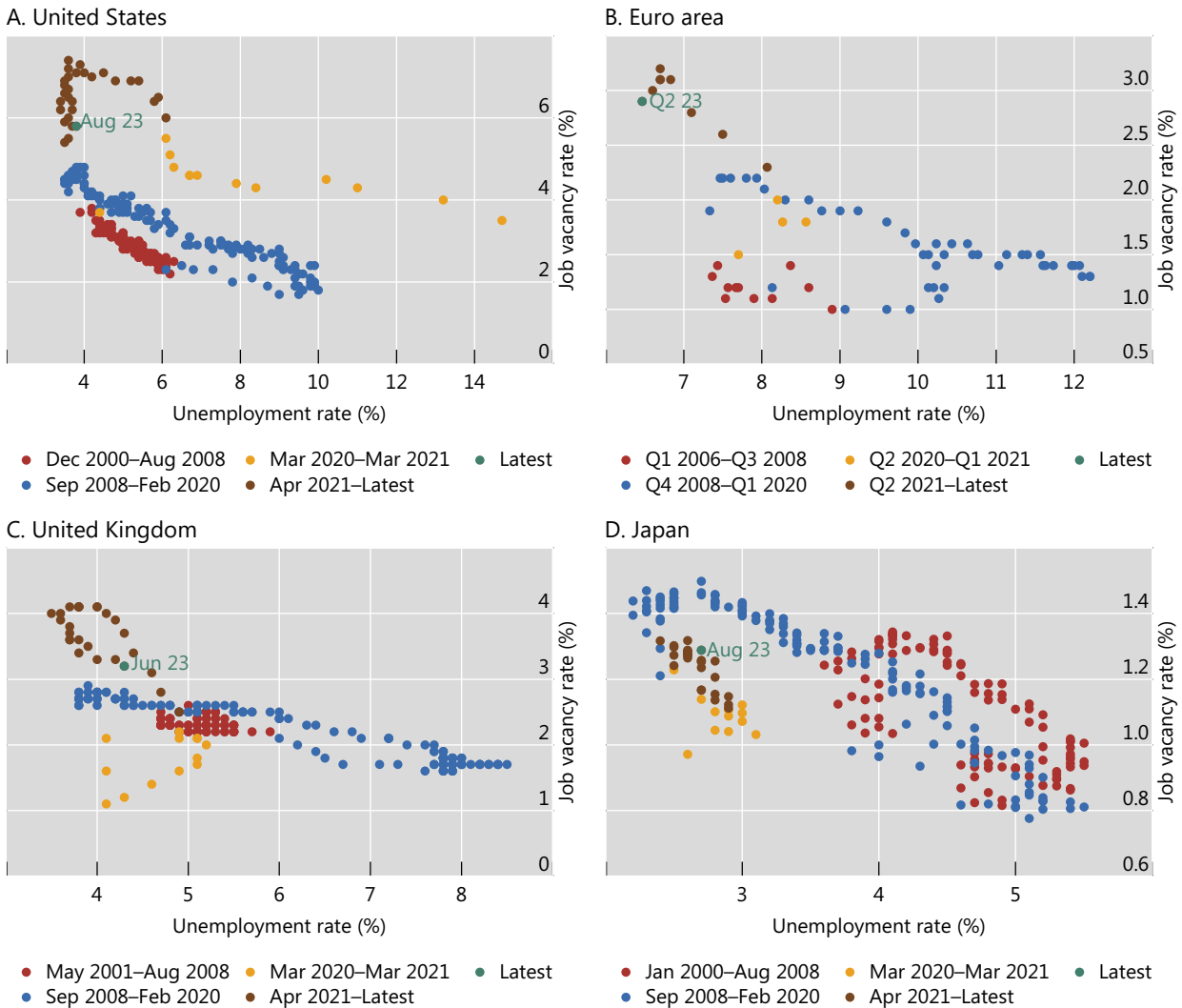
In turn, “unsatisfied demand”, as captured by vacancies, is unusually large. That is, there are more job openings on offer for the same level of unemployment than in the past – the Beveridge curve has shifted outwards (Graph 9). This is particularly visible in the US but also in the UK. Such a shift has therefore materialised even in jurisdictions where worker-firm relationships have remained in place. In these cases, the driver for the abnormal excess demand goes beyond the challenge of finding workers with the right skills or experience.

There are several possible explanations for unsatisfied demand. One is the sheer speed of the recovery, as a more rapid return of GDP to its pre-Covid level has usually translated into larger increases in the vacancy-to-unemployment ratio. Another possibility could be that people have been shunning the sectors where labour demand has been higher. For instance, anecdotal evidence suggests that the experience with Covid-19 has reduced labour supply in contact-intensive sectors. Indeed, unfilled vacancies in such sectors – notably, recreation and accommodation – have been especially high in the later stage of the recovery. Furthermore, lingering health concerns from Covid could also be playing out. Yet another possibility is the sectoral reallocation. Additional labour demand in the post-Covid period has

emanated from a small set of sectors, as high aggregate vacancy rates have come hand in hand with more dispersed vacancy rates across sectors (Graph 8.C).^{17,18}

Beveridge curves¹

Graph 9



¹ See technical annex for details.

Sources: OECD; Refinitiv Datastream; national data; authors' calculations.

¹⁷ Furthermore, the interaction between labour demand and labour supply can exacerbate the difficulty of filling job vacancies. Specifically, the tighter the labour market, the more likely it is that the marginal worker is less productive. Ravenna and Walsh (2022) estimate that this labour demand and supply composition effect accounts for a 1.5% fall in measured labour productivity, even as total factor productivity stays constant.

¹⁸ This argument may be less relevant from a quantitative viewpoint. Previous recessions have also featured sizeable, and arguably longer-lasting, reallocations (eg out of the overblown construction sector in the wake of the Great Recession). And the sectors that have expanded most post-Covid are those that suffered most during the recession: the reallocation turned out to be much more limited than initially anticipated (crosses with positive values mostly correspond to columns with negative values in Graph 8.A).

Policy considerations

While by no means the only factor, labour market tightness is key to assessing future wage growth and possible related inflationary pressures. This is because, in tighter markets, there is a greater likelihood that bargaining power will shift in favour of workers and pass-through between wages and prices will gain strength (BIS (2023) and Borio et al (2023)). The evolution of the labour market will reflect the intensity and persistence of the demand and supply factors driving the job-rich post-pandemic recovery examined above.

On the one hand, the specific factors behind the unusually strong labour market tightness may quickly fade away. The pandemic's legacy has been, by and large, short-lived, and reallocation movements are now largely completed. In addition, changes in work preferences curtailing labour supply have proven mostly temporary and labour hoarding could easily dissipate if the global economy keeps slowing down. And, since willingness to work trails the business cycle, the recovery in participation rates is likely to continue even as the economy cools down (Hobijn and Şahin (2021)).

On the other hand, even if the pandemic experience does not leave a long-lasting imprint on the behaviour of workers and firms, structural, longer-term forces may keep labour markets tight. Labour supply may remain subdued because of adverse demographic trends, and the current reconfiguration of global supply chains – the so-called reshoring movement – could reinforce the shift in firms' business models from "just in time" to "just in case". This would lead firms to build extra buffers, including on the labour side, which could then generate upward pressure on wages and, in turn, prices. The implications for inflation would be even greater short of a pickup in labour productivity growth.

The balance of these forces, which naturally varies across countries, will be an important factor influencing monetary policy. There is an agreement that a stance committed to bringing inflation back to target is essential to limit the erosion of real wages. Sustaining this commitment will be particularly important in economies where labour market tightness is more persistent, the bargaining power of labour is stronger and/or wage adjustments take longer (eg because of multi-year contracts). In such economies, the monetary policy trade-offs will be starker.

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Technical annex

Graph 1.A–B: Seasonally adjusted series; semiannual data for ID. Definitions differ among economies.

Graph 1.A: For BR, percentiles over Q2 2012–Q4 2019; for CN, over Q1 2018–Q4 2019. Latest observations for Q2 2023 except CA and US (Q3 2023) and ID (Q1 2023).

Graph 1.B: Latest observations for Q2 2023 except CH (Q3 2023), DE, ES, FR, HU, NL, PL and SE (Q1 2023).

Graph 1.C: The job finding frequency is the fraction of the unemployed and inactive that become employed in the following quarter. The job separation frequency is the fraction of the employed that become unemployed or inactive in the following quarter. For the US, changes in job finding (hiring) and separation rates as defined by the Bureau of Labor Statistics.

Graph 2: The sample covers AU, BR, CA, CL, CZ, DE, ES, FR, GB, IT, JP, KR, NL, SE, PL and US.

Graph 3: Based on survey responses from the EU countries and CH, GB, NO and TR.

Graph 3.A: Survey question: "Which best describes your work situation – You can influence decisions that are important for your work?"

Graph 3.B: Survey question: "Would you say that for you arranging to take an hour or two off during working hours to take care of personal or family matters is...?" Plot shows the share of respondents saying that it is easy.

Graph 3.C: Odds ratio based on an ordered logit regression of pay satisfaction on the four variables listed in specification (1) in Box A using individual responses to the 2021 EWCS. An odds ratio above one signals greater likelihood of higher wage satisfaction when the explanatory variable takes a higher value. All estimated coefficients are significant at the 1% level.

Graph 4.A: Labour demand is the sum of employment and vacancies; labour supply is the sum of the labour force and marginally attached workers. Marginally attached are persons aged 15 and over who are neither employed nor actively looking for work, but are willing/desire to work and are available for taking a job.

Graph 4.B: Working age population is defined as those aged 15 to 64. Forecasts use data from the UN Population Division, medium fertility variant.

Graph 5.A: Aged 15 and over. Based on seasonally adjusted quarterly series, except for CN (annual) and ID (semiannual). Latest observations for Q2 2023 except for AR (Q1 2023) and CN (2022).

Graph 5.B: The sample includes 17 AEs and five EMEs. Fiscal support is defined as the additional spending or foregone revenues. The numbers are based on official estimates covering cumulative spending in 2020 and the first four months of 2021, estimates as of 27 September

2021. LFPR = labour force participation as a percentage of working age population, aged 15 and over; seasonally adjusted.

Graph 5.C: Euro area = euro 19 excluding LU. Other AEs = AU, CA, CH, DK, GB, JP, NO, NZ and SE. EMEs = BR, CL, CO, CZ, HU, ID, IL, KR, MX, PL, RO and TR. For country groups, population-weighted average across economies. Predicted labour force participation is computed using trend estimates of labour force participation by age cohort (15–24; 25–64; 64 and older) and the corresponding shares of each age cohort in working age population.

Graph 6.A: Median employment growth based on data for 16 AEs and 10 EMEs.

Graph 6.B-C: Median percentage change in employment across output recoveries relative to $t = 0$ across 16 AEs and 10 EMEs, from Q1 1960 to Q1 2023. $t = 0$ corresponds to trough activity according to the OECD classification of turning points in the cyclical component of real GDP.

Graph 7: GDP-PPP-weighted averages for regions. Euro area = AT, BE, DE, EE, ES, FR, IE, IT, LT, NL, PT, SI and SK; other AEs = AU, CA, DK, GB, JP, NO, NZ and SE; EMEs = CZ, HU, IL, MX and PL.

Graph 8.B: Change in the net share of firms planning to hire, given a one standard deviation increase in the fraction of firms reporting a particular shortage. The empirical specification controls for capacity utilisation, the fraction of firms reporting demand or financial constraints, as a factor limiting output, and is saturated with fixed effects. The sample covers AT, DE, DK, ES, FI, FR, IT, NL, PT and SE. Sector sample covers all two-digit manufacturing sectors. Vertical lines indicate the 90% confidence interval. Before 2019 refers to Q1 2000–Q4 2018. Since 2019 refers to Q1 2019–Q2 2023.

Graph 8.C: The scatterplot shows the standard deviation of the vacancy rate across sectors against the average. The sample covers BE, DE, DK, ES, FI, FR, NL, NO, PT and SE over Q1 2021–Q1 2023.

Graph 9: For EA, JP and US, job vacancy rate is computed as the number of job vacancies divided by (number of occupied posts + number of job vacancies) multiplied by 100. For GB, job vacancy ratio is computed as the three-month rolling average ratio of vacancies per 100 employee jobs. For US, job vacancy rate for total non-farm. For EA and GB, job vacancy rate/ratio for industry, construction and services (except activities of households as employers and of extraterritorial organisations and bodies). For JP, job vacancy rate for new job openings.