

TECHNICAL NOTE

LinkedIn Hiring Rate

Pei Ying Chua

LinkedIn Economic Graph Research Institute

Kory Kantenga

LinkedIn Economic Graph Research Institute

MARCH 2024

EG TP No. #2

Summary

Hiring activity serves as a strong signal about the strength of the economy. The LinkedIn Hiring Rate ("LHR") measures hiring activity based on members changing jobs on their LinkedIn profiles. LHR is able to reflect changes in hiring activity during different macroeconomic events, as well as sector and talent-level nuances in hiring activity.

Introduction

Hiring activity serves as a strong signal about the strength of the economy. A higher hiring rate often indicates growing economic activity and demand for talent. A lower hiring rate may indicate economic uncertainty, slowed business growth, or challenges in finding workers with the appropriate skills for the roles.

The hiring rate for a country provides insights into the country's overall economy, while hiring rates at the sector level provide visibility into sector-specific dynamics. Many factors may influence the hiring rate, including economic conditions, technological advancements, consumer preferences, and industry trends.

In this methodology note, we describe the LinkedIn Hiring Rate ("LHR"), which measures hiring activity based on members changing jobs on their LinkedIn profiles. This dynamic measure provides real-time information about hiring activity and allows for timely insights about hiring trends to support policy planning and decision-making with minimal lag.

Methodology

The LinkedIn Hiring Rate ("LHR") measures the pace at which workers take up new opportunities. It is calculated as the percentage of members who added a new employer to their profile in the same month the new job began. This number is indexed to the average month in 2016; for example, an index of 1.05 indicates a hiring rate that is 5% higher than the average month in 2016.

Like most economic activities, hiring has seasonal patterns, e.g., hiring peaks in at the start of the year and during the summer. It is standard practice to remove seasonal patterns from the data to more easily spot new trends and understand how hiring is developing over time. Two common ways we adjust LHR to remove the influence of seasonal patterns are (1) year-over-year comparisons of the unadjusted LHR data series and (2) seasonal adjustment of the LHR data series:

- (1) Year-over-year comparison. This approach compares the hiring activity of the same month across two consecutive years (for example comparing the LHR in January 2023 and January 2023). If the change is less than 0%, this means that hiring activity is lower than it was at the same time in the previous year, and vice versa. This approach removes the influence of seasonality under the assumption that seasonality does not change over time. Even if it changes over time, it can be shown empirically that year-over-year comparison for LHR removes most seasonality.
- (2) Seasonal adjustment. This approach relies on statistical models to remove seasonal hiring patterns, allowing for comparisons across a longer period as well as comparisons between different months in the same calendar year. We use the X13-ARIMA-SEATS² program developed by the US Census Bureau to seasonally adjust LHR.

economicgraph.linkedin.com

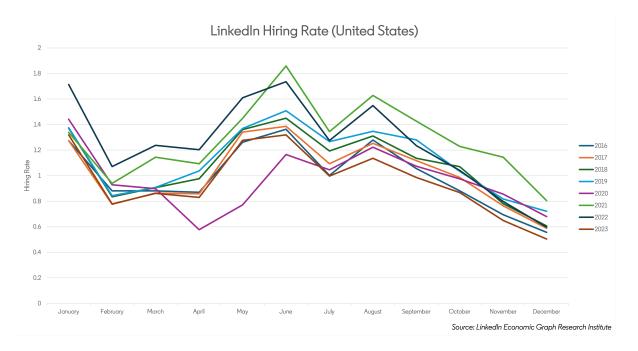
¹ We examine only the timeliest data to measure hiring to control for the influence of members who change their profiles at later dates.

² US Census Bureau. "X-13ARIMA-SEATS Seasonal Adjustment Program." Census.gov, www.census.gov/data/software/x13as.html.

Key Findings

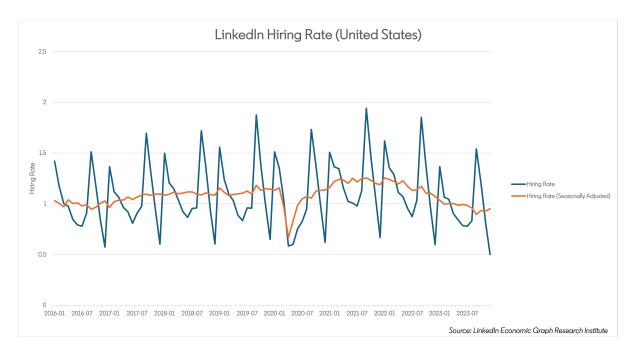
(1) LHR reflects seasonality in hiring activity across the calendar year

Hiring activity tends to be higher in January (when the new year begins), and lower towards the end of the year (during the holiday season). LHR reflects these seasonality effects across the calendar year.



(2) LHR shows changes in hiring activity across different events and in different countries.

Looking at the historical LHR trends, we see that the seasonality-adjusted LHR captured various macroeconomic events including the COVID pandemic slowdown (early 2020), Great Reshuffle (2021), and the current economic slowdown (2023).



An independent validation was also conducted <u>in collaboration with Destatis</u>³ (the German Statistical Authority), and results found that the hiring rate reflected seasonality in hiring trends as well as hiring changes which corresponded to hiring activity during the COVID pandemic.

(3) LHR corresponds to changes in hiring activity measured by government statistics

Tracking macroeconomic hiring activity as measured by government statistical agencies is an important benchmark for the relevance of LHR. To learn whether LHR meets this benchmark, we tested the long-run relationship (cointegration) between US LHR and the Job Openings and Labor Turnover Survey ("JOLTS") hiring rate from the Bureau of Labor Statistics. We found evidence for a statistically significant, long-run correlation between LHR and the JOLTS hiring rate. LHR has also been used as a timely indicator for nowcasting the JOLTS hiring rate⁴. An independent validation was also conducted in collaboration with Destatis⁵ (Germany's Statistical Authority), and results found that the hiring rate reflected seasonality in hiring trends as well as hiring changes which corresponded to hiring activity during the COVID pandemic.

-

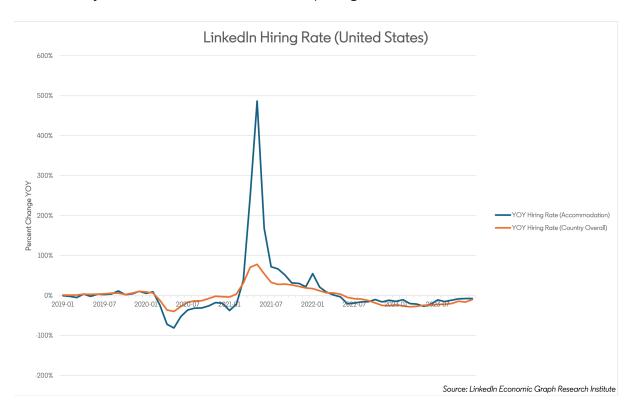
³ Statistisches Bundesamt. "Labor Market Indicator: LinkedIn Hiring Rate." Federal Statistical Office, www.destatis.de/EN/Service/EXSTAT/Datensaetze/labour-market.html. Accessed 20 Mar. 2024 (Destatis 2024).

⁴ For example, see https://www.linkedin.com/posts/kory-kantenga-ph-d-5729a07 linkedin-jolts-november-preview-activity-7147961594872791041-kZ6X?utm_source=share&utm_medium=member_desktop.

⁵ Destatis 2024.

(4) LHR reflects sector-level nuances in hiring activity.

While country-level hiring rates provide insights into the overall economic climate, hiring rates at the sector level provide nuance on sector-specific trends. For example, there may be sector-level differencing depending on the economic situation. One such instance is the Accommodation sector (which includes Hospitality and Food & Beverage), which showed a strong recovery in late 2022 and early 2023, when countries started re-opening and the travel sector recovered.



(5) LHR reflects changes in demand for certain talent and skills.

Hiring rates for certain talent segments can also reflect changes in labor demand and skills landscape. For example, the hiring rate can be studied for workers with AI skills and compared against the pace of overall hiring. This is called the Relative AI Hiring Index, and it provides a picture of whether the hiring of AI talent is growing at a faster, equal, or slower rate than overall hiring. This has been studied in collaboration with the OECD, and additional details and data can be found at the OECD AI Policy Observatory⁶.

⁶ OECD. "LinkedIn Data." Oecd.ai, oecd.ai/en/linkedin.

Conclusion

By tracking hiring trends, policymakers, business leaders, and economic analysts can gain insights into the current state of the labor market and economic conditions in order to support decision-making. Hiring rates may also be a useful barometer to estimate economic activity, business confidence, and labor market dynamics.

The LinkedIn Hiring Rate reflects hiring trends in the labor market at different levels of granularity (country, sector, and talent segment). Regular updates of the LinkedIn Hiring Rate provide timely and valuable information about different aspects of economic activity and allow users to identify emerging challenges or opportunities in order to make informed decisions to support economic growth and workforce development.

Acknowledgements

We gratefully acknowledge the contributions and feedback of many individuals for development of the Linkedln Hiring Rate and this report. These include Brian Xu, Guy Berger, Link Gan, Jacqueline Barret, Michael Lombard, Rosie Hood, and Casey Weston.