



Severe Labor Shortage Puts Upward Pressure on Wages in Japan

— Stagnant labor participation rate may lead to the unemployment rate falling below 2% —

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<Summary>

- ◆ Labor shortages are becoming more apparent in Japan. One of the reasons for this shortage of personnel despite the lackluster economy is that labor supply has reached a plateau. The influx of foreign workers has decreased due to waterfront measures imposed after the start of the COVID pandemic. Another factor behind the stagnation of labor supply is that labor participation among women and the elderly, which had been strong before COVID, has stalled.
- ◆ If economic activity continues to normalize, Japan may find itself facing a serious labor shortage. The figure for surplus personnel (people who are seeking jobs or have been offered jobs but have not yet started them) has halved over the past 20 years, meaning that the potential labor participation rate can only increase by 1-2%. This is partly because of a significant decrease in surplus female personnel, as many women entered the workforce in the 2010s. If economic activity normalizes in the future and the labor participation rate stays the same, the unemployment rate is expected to fall below 2% in 2024, resulting in the first labor shortage since the early 1970s.
- ◆ Going forward, as the unemployment rate declines, pressure for higher wages may increase. In Japan, wage growth tends to increase rapidly when the unemployment rate falls below 2%. This reflects the fact that if there is a slight labor shortage, companies will refrain from raising wages as they will be wary of excessive payrolls in the future, but if they face a labor shortage to the extent that it hinders their operations, they will take aggressive steps to raise wages to secure workers.

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- ◆ Such moves are already occurring in some areas of the economy. In the face-to-face service sector, while demand is recovering, the labor force, which was depressed by the COVID pandemic, has not yet recovered, and personnel shortages are becoming more severe. This has led to a nearly 5% increase in wages in the sector compared to the previous year. In the future, this pressure for higher wages is expected to spread to a wide range of industries.

- This is a English version of “深刻な人手不足でわが国賃金に上昇圧力 —労働参加率の停滞で失業率2%割れも視野—” in JRI Research Focus (The original version is available at <https://www.jri.co.jp/MediaLibrary/file/report/researchfocus/pdf/13880.pdf>)

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1. Labor shortages are becoming more apparent in Japan

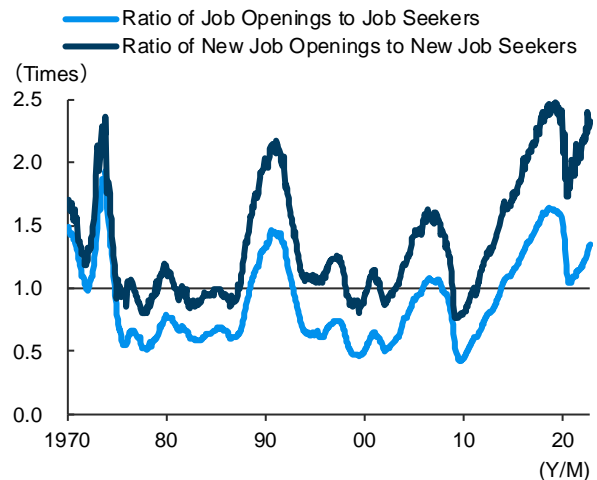
In Japan, labor shortages are becoming more apparent. According to the Ministry of Health, Labour and Welfare, the ratio of job openings to job seekers (the number of job openings per job seeker) exceeded 1.35 in October 2022 (Figure 1). In addition, the ratio of new job openings to new job seekers in the most recent month alone was 2.33, approaching the level of the pre-COVID peak and on par with the early 1970s and the bubble period, when there were serious shortages of labor.

The Bank of Japan's Tankan survey also indicates that labor shortages are becoming more apparent. According to the DI for employment conditions, the number of respondents indicating that employment is “insufficient” far exceeds the number of respondents indicating that employment is “excessive” and the index has risen to near its pre-COVID peak (Figure 2). Labor shortages are becoming increasingly apparent in more and more industries, especially labor-intensive ones. Among them, the face-to-face service sector, which includes lodging and food/beverage services, having seen excessive employment due to the COVID pandemic, has witnessed a rapid shift to insufficient employment since the beginning of this year, and the index has recently exceeded the average for all industries.

2. Plateau for labor supply has led to labor shortages

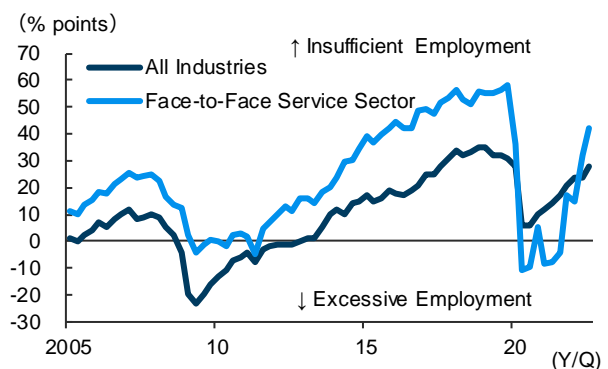
Labor shortages are occurring in parallel with tepid economic activity. In Japan, the recovery of economic activity has been delayed due to the effects of repeated activity restrictions being imposed since the beginning COVID epidemic. Real GDP in July-September 2022 was still below the pre-COVID (2019) level (Figure 3). Against this backdrop of

Figure 1. Ratio of Job Openings to Job



Source: Ministry of Health, Labour and Welfare

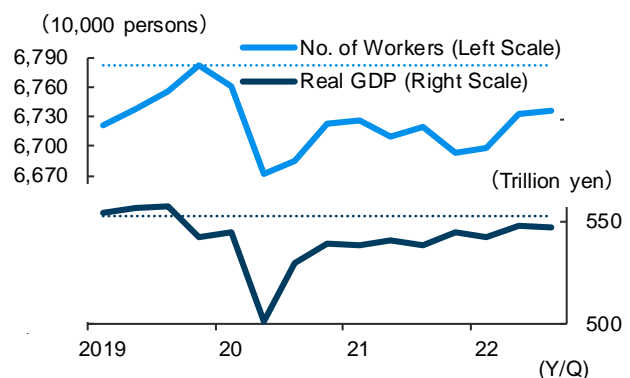
Figure 2. DI for Employment Conditions



Source: Bank of Japan

Note: Figures are presented with their signs reversed. Figures for the face-to-face service sector are averages of the lodging and food/beverage service and personal service sectors.

Figure 3. Real GDP and No. of Workers



Source: Cabinet Office, Ministry of Internal Affairs and Communications

Note: The dotted lines show the figures for the number of workers in October-December 2019 and average real GDP in 2019.

stalled economic activity, the number of workers has also stagnated, falling to 67.3 million in the July-September 2022 quarter, down about 500,000 from the pre-COVID October-December 2019 quarter.

One of the reasons for this shortage of personnel despite lackluster economic activity is that labor supply has reached a plateau. Japan's labor force currently stands at 69.1 million, down about 300,000 from the pre-COVID peak, and the increases seen during the 2010s have stopped (Figure 4). The weakened growth in the labor force can be attributed to a decline in the inflow of foreign workers and a lull in the increase in labor participation among women and the elderly. The number of foreign workers in October 2021 remained unchanged from the previous year at 1.73 million. Considering that pre-COVID increases were 100,000-200,000 per year, the decline in the labor force after the onset of the COVID epidemic was largely due to a decrease in the influx of foreign workers.

Second, the stagnant growth of the labor participation rate has also weakened the growth of the labor force. According to the Ministry of Internal Affairs and Communications, the labor participation rate remained almost unchanged from its pre-COVID level of 67.7% in the July-September 2022 quarter (Figure 5). The active labor participation of women and the elderly was the main reason for the growth of the labor force up to the pre-COVID period, which occurred despite a decline in the population over 15 years of age. Between 2013 and 2019, the labor participation rate increased by an average of about 0.5 percentage points per year. Among the factors involved, demographic factors (the increase in the elderly, who have a lower labor participation rate, as a proportion of the population) pushed down the labor participation rate by nearly 0.4 percentage points, while the labor participation of women and the elderly boosted the overall rate by about 0.7 points (Figure 6). After the arrival of COVID, the downward pressure from demographic factors weakened as the pace of increase in the elderly population slowed, but the overall labor

Figure 4. Labor Force

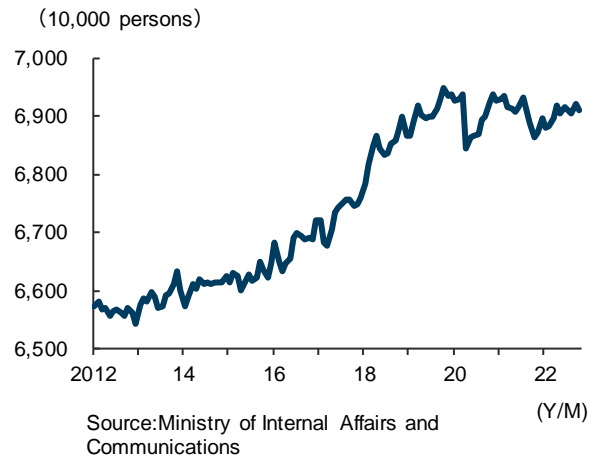


Figure 5. Population and Labor Participation Rate

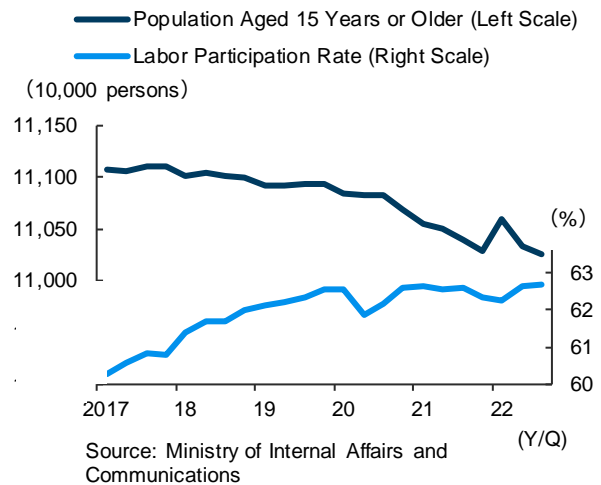
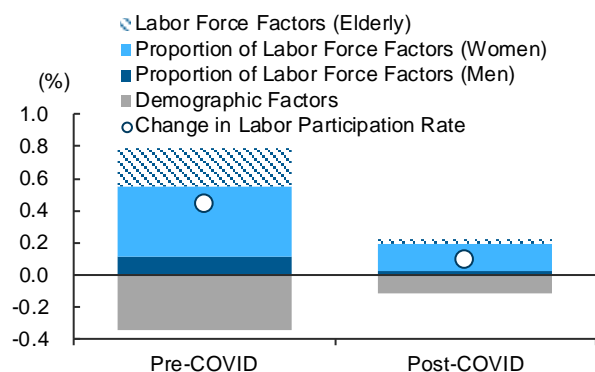


Figure 6. Change in Labor Participation Rate (Annual)



Note: Pre-COVID is the average change between January 2013 and December 2019. Post-COVID is for January 2020 to October 2022. Men and women are those aged 15-64 years. Elderly are males and females aged 65 years or older.

participation rate remained stagnant as the growth of the female labor participation rate slowed considerably and the labor participation rate of the elderly remained unchanged.

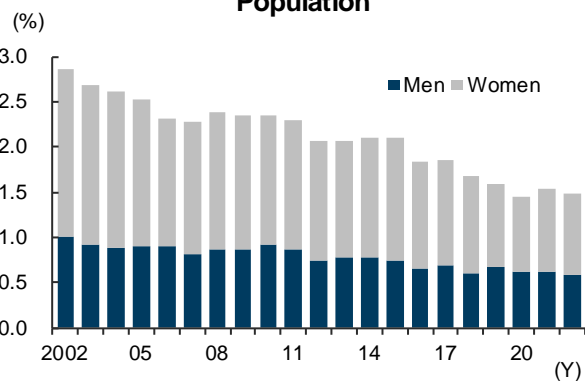
3. Economic normalization will lead to a serious labor shortage

It is expected that with-COVID lifestyles will take root and economic activity will further normalize. If the normalization of economic activity increases labor demand and labor supply fails to keep pace, Japan's labor shortage will become even more severe.

While the number of foreign workers is expected to recover to some extent with the easing of waterfront measures, the total population is likely to continue to decline. In addition, growth in labor participation may also be slower compared to pre-COVID. In recent years, there has been a substantial drop in surplus personnel in Japan, leaving scant room for an increase in the labor participation rate. Of the non-labor force population, “people who are seeking jobs” and “people who have been offered jobs but have not yet started them” are the leading components of surplus personnel, but the sum of the two has halved in the past 20 years to 1.63 million, and their share of the population aged 15 and over is only 1.5% (Figure 7). This could be seen as an indication that there is room for the labor participation rate to be boosted by the entry of surplus personnel into the labor market, but given that the labor participation rate was increasing at an annual pace of 0.5 percentage points before COVID, the potential room for the labor participation rate to increase is not very large.

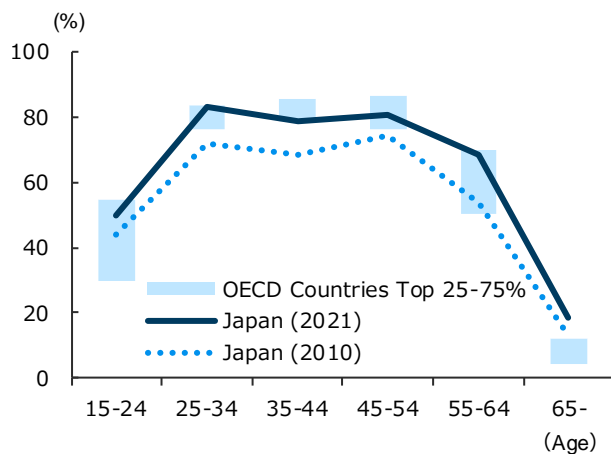
Among other things, the number of surplus female workers is declining. Female labor participation increased in the 2010s as women entered the workforce and the salaries of their male spouses stagnated due to the flagging economy. Companies have also created an environment in which women can work more comfortably, such as by offering a full range of childbirth- and childcare-related support systems. As a result, the labor participation rate for women in Japan, which was one of the lowest among developed countries, has now been raised to the average level of developed countries (Figure 8). The so-called M-shaped curve has been more or less eliminated, and the labor participation rate of the elderly is among the

Figure 7. Non-Labor Force Population



Source: Ministry of Internal Affairs and Communications
 Note: Among the non-labor force, the number of "people who are seeking jobs." Ratio to population aged 15 years or older. July-September 2022.

Figure 8. Labor Participation Rate for Women



Source: OECD

highest in the developed world. Given this, the room for women's labor participation is shrinking compared to what it used to be.

With labor supply unlikely to expand sufficiently, the normalization of economic activity could lead to a significant decline in the unemployment rate. As the population continues to decline and there are few surplus workers, any increase in demand for labor must be covered by the unemployed. According to the JRI's forecast, the future economic growth rate is expected to remain in the mid-1% range. Following past patterns, the rate of increase in the number of workers needed to support that rate of economic growth will be about 0.7-0.8% per year. Assuming that the total population declines at the pre-COVID pace (-0.1% year-on-year) and the labor participation rate increases at the pre-COVID pace of +0.5 percentage points per year (i.e., in the case of an increase in the labor participation rate), it is estimated that the unemployment rate will decline gradually to 2.4% at the end of 2024 (Figure 9).

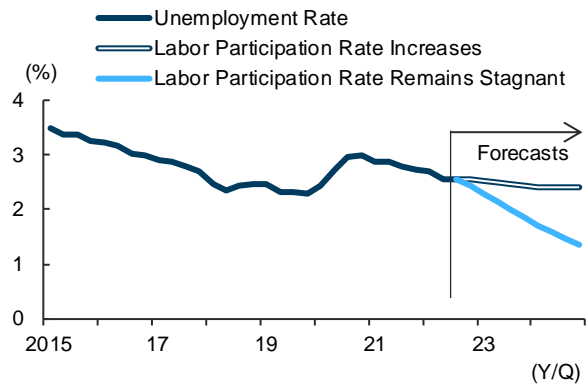
On the other hand, assuming that the labor participation rate increases by only 0.2 percentage points per year ((i.e., in the case of stagnation in the labor participation rate), the unemployment rate is estimated to fall below 2% and to the mid-1% range by the end of 2024. An unemployment rate in the 1% range would be similar to the labor shortage period of the early 1970s.

In reality, companies may respond to labor shortages by reducing production or increasing productivity, and the estimates here are based on extreme assumptions. In any case, however, once economic activity fully normalizes, the unemployment rate will likely drop to 2%, and the labor shortage will become even more acute.

4. If the unemployment rate falls below 2%, wages could soar

If the labor shortage becomes so severe that the unemployment rate falls below 2%, wages could soar. The Phillips curve, i.e., the relationship between the unemployment rate and the rate of wage growth, is known to be L-shaped in Japan, with wages tending to rise rapidly when the unemployment rate falls below

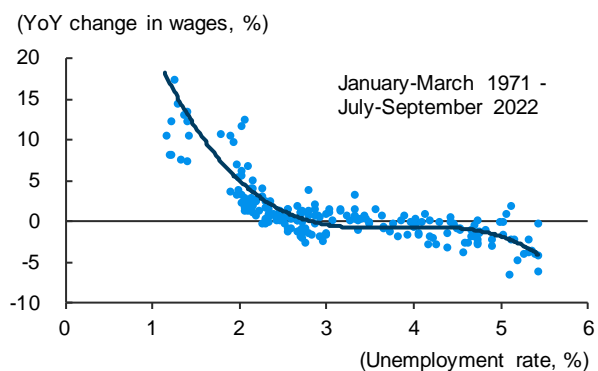
Figure 9. Unemployment Rate



Source: Prepared by the author based on data from the Ministry of General Affairs and Communications

Note: The forecasts are based on the assumption that the population aged 15 years or older will decline 1% YoY and that the number of workers will increase by 0.7-0.8% (based on JRI forecast for economic growth). In the case of an increase in the labor participation rate, it is assumed that the labor participation rate will rise at the same pace as pre-COVID (0.5 percentage points per year). In the case of stagnation in the labor participation rate, it is assumed that it will only increase by 0.2 percentage points per year.

Figure 10. Phillips Curve



Source: Ministry of Internal Affairs and Communications, Ministry of Health, Labour and Welfare

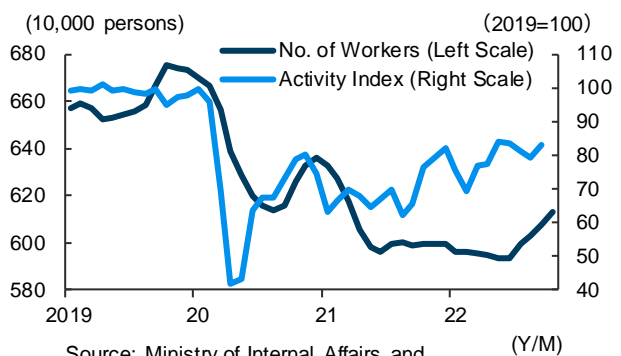
Note: Wages until 1990 are for businesses with 30 or more employees, and from 1991 are for businesses with five or more employees. Figures from 2016 are based on all businesses. YoY changes in wages exclude the effect of YoY labor productivity trends. Labor productivity is real GDP per worker. Trends are based on the Hodrick-Prescott filter.

2% (Figure 10). Iwasaki, et al. [2022] demonstrate that these properties of the Phillips curve in Japan are due to the downward rigidity of wages. When wages are downwardly rigid, once firms raise wages, they cannot easily lower them. Therefore, even if there is a slight shortage of labor, it is rational for firms to forego wage increases in anticipation of the possibility of excessive payrolls during a future recession. However, when labor shortages become so severe that the company's survival is in jeopardy, the rational choice may be to secure labor by raising wages significantly. This gives the Phillips curve a shape in which wages remain unchanged when the unemployment rate is within a certain range, and wages rise sharply when the unemployment rate falls below a certain level. This logic is often cited as the reason that wages in Japan have not increased despite labor shortages. If this logic is correct, then wages will rise sharply as the prospect of labor shortages strengthens beyond a certain level.

Even today, wages are rising in certain parts of the economy where labor shortages are pronounced. In the face-to-face service sector, demand is recovering as restrictions on activity are lifted, and activity levels are steadily rising (Figure 11). Meanwhile, the number of workers, which slumped due to the COVID pandemic, has remained stagnant, and headcounts have yet to recover. Harsh working environments and concerns about future prospects have been identified as factors impeding the recovery of headcounts in the face-to-face service sector. In the face-to-face service sector, wages have risen to nearly 5% of the previous year's level as a result of labor shortages being more keenly felt (Figure 12). As the economy fully normalizes, this trend could spread to encompass a wide range of industries, increasing pressure for higher wages throughout the economy.

During the 2023 shunto spring wage negotiations, it is likely that base pay will be hiked more than it was the previous year as a result of the recent inflation. The average rate of wage increase during the 2023 shunto is projected to be +2.7% YoY, the biggest rise since 1997. If wages at large companies rise as a result of the shunto, labor shortages will become more severe at small and medium-sized companies, and pressure to raise wages will spread to encompass companies of various sizes. While wage increases are desirable for households, they also put pressure on firms' earnings. Labor-saving investments and other efforts to improve labor productivity will be essential for

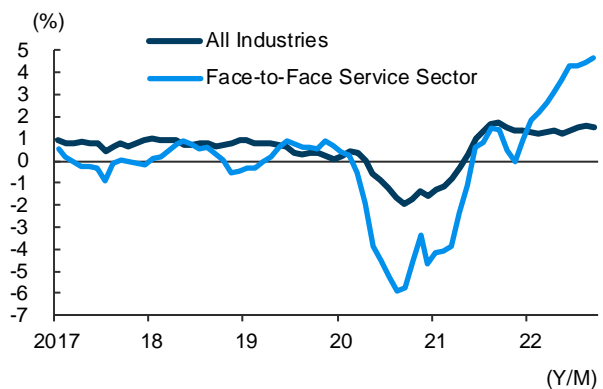
Figure 11. No. of Workers in Face-to-Face Service Sector Etc.



Source: Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry

Note: The face-to-face service sector comprises lodging, food/beverage service, living-related services, and entertainment. Numbers of workers are trailing three-month moving averages.

Figure 12. Wages (YoY)



Source: Ministry of Health, Labour and Welfare
 Note: Based on all businesses. Trailing six-month moving averages. The face-to-face service sector comprises lodging, food/beverage service, living-related services, and entertainment.

companies to overcome labor shortages. Appropriate price pass-on of cost increases with the understanding of consumers will also be important to ensure higher wages for employees and business sustainability.

References

- Iwasaki, Yuto, Ichiro Muto, and Mototsugu Shintani [2021], "Missing Wage Inflation? Estimating the Natural Rate of Unemployment in a Nonlinear DSGE Model," *European Economic Review*, Vol. 132, issue C.